

Metaphors in Psychotherapy
From Affect to Mental Representations

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F o r e w o r d

The origins of this study date back to 1997. My arrival in Saarbrücken in 1999 was in great part a consequence of the creation of a short project on psychotherapy outcome research, which I developed in Ulm, Germany, during the summer of 1997. The project at that time was a single case study of a borderline patient from a well-known psychoanalyst, who had developed a technique and a manual for the treatment of this diagnostic entity. My three-month stay in Ulm was initially financed by the DAAD (Deutscher Akademischer Austausch Dienst; German Academic Exchange Service).

In the summer of 1998, I returned to Ulm to complete the study. This time I was financed by the IPA (International Psychoanalytical Association). I had sent the project to the Research Training Program, which offers grants for research in psychoanalysis. The second trip to Ulm was preceded by a rather difficult political climate in the psychoanalytical association of which I was part, with diverging opinions as to how to develop the project and how to apply the grant. Against storm and tide I flew to Ulm and finished the project with the psychotherapy transcripts of another patient. I required additional psychotherapy transcripts from the first patient, which were not available, but the theory and methodology had been defined.

The project consisted in an assessment of transference in a single patient by means of a text analysis computerized system from Mergenthaler (1996). Apart from the emotion-abstraction cycles as “key moments” in the psychotherapy process the software program commonly measured, the project contemplated measuring object relations and the emotion words that linked these repetitive dyads. Mergenthaler’s method selected “emotion” and “abstraction” words, which formed the therapeutic cycles to be detected, and which were constituted by the two computer selection lists. A third list remained, the “discard” list, which proved to be of great interest for me. The list to be thrown into the wastepaper basket contained, among other things, metaphors, metonymies, polysemy, and all the objects of reference that appeared in the transcripts. This third list I used for this project.

This same summer of 1998, I attended the IPA ten day research training summer course in London and brought the project that had been funded by this institution. Prof. Dr. Kaechele, head of the Psychotherapy Department in the Medicine Faculty at the University of

Ulm, recommended me to talk to Prof. Dr. Rainer Krause, psychoanalyst and expert researcher on facial affects, who is part of the Faculty of the Research Training Program for the IPA (International Psychoanalytical Association) in London and was going to teach a course precisely that summer. I listened to his work with great interest and discussed with him the idea of a project in which categories of affects in speech could be assessed together with the coding of facial affects. While working with Mergenthaler, I had realized his method, a computerized text-analysis dictionary that picked on emotion and abstraction words, measured what was defined as “affect” in the transcripts (see Fabregat, 2000); but did not give account of affect as it is defined in the physiological modules that open this study. If affect in language could be compared to affect in mimic, it would be possible to research affect and language and not only categorisations of affects in psychotherapy transcripts.

By the turn of April, 1999, I found myself in Saarbrücken. Before I had time enough to realize the magnitude of the change, I had mobilized my son and had rented my apartment in Mexico. I had moved to a charming small city (compared to Mexico City) and had a job as scientific assistant at the University of Saarland. Most important, I could go on with the project; which I wanted to transform into my dissertation. I believed the best ideas of the original project have been preserved and developed, presented in a totally different manner, style, and with totally different assessment instruments. I thank Prof. Dr. Krause for his invaluable help in every sense, and for his immense patience and listening capacity in the development of this project.

INTRODUCTION

Definition of the Problem.

For many therapists, changes in psychotherapy take place mainly on a cognitive, verbal level. From this perspective, good examples of clinical measures of therapeutic success are: that a patient can verbalize affects instead of acting them out or being able to find a parallel between repetitive relationship patterns with objects in the patient's psychic world and what happens in the transference with the therapist. These measures take into consideration symbolization, insights and make an emphasis on verbalization.

Other therapists propose that changes in the psychotherapeutic process take place mostly on a non-verbal level and that verbalization must not necessarily take place. Affective interactive regulation is stressed and the action of ongoing non-verbal unconscious thinking is implied. Merten & Krause (2001) measured this non-verbal interaction and interpreted it in terms of transference-counter-transference which can be measured through mimic patterns in patient and therapist. Before anything was verbalized, the „affect-regulation patterns“ in the interaction had appeared. They could be observed and used as predictors of success or failure in therapeutic outcome.

Because of contrasting views in literature on behalf of what sets predominantly in action the psychotherapeutic process and where to focus effectiveness; if in the work of affect or of cognition, a glimpse at the ways in which these two components differentiate, interact, and function might be convenient.

On behalf of Affect.

Most descriptions of thought disorders or mental pathology are related to combined affective-cognitive problems. Most forms of psychopathology whose diagnosis indicates altered thought processes or dysfunctional cognition would be difficult to understand without alterations in affect. From schizophrenia, affective psychoses, somatoform disorders, posttraumatic disorders, to learning disorders, affect and cognition appear in different manifestations and combined forms of expression.

Affect in its different forms of functioning plays an overwhelming role in psychic economy. We will list only some of them:

- (i) Affect invests the body with an “affective charge”. When increased in quantity, the augmented investment becomes “affective tension” that can produce physiologic discharges of the neuro-vegetative systems, which can translate into psychosomatic alterations or symptoms.
- (ii) Affect flows freely through mental representations, facilitating thought associations, and mental processes. When associations approach disagreeable or anxiety-producing thoughts or mental representations, affect acts at the service of the ego and its defence mechanisms against anxiety. In certain forms of neurosis, like in obsessive-compulsive neurosis, affect dismantles or isolates representations from their affective content, or may appear as an “interrupter” that hinders thought processes. Conflictive ideas can then lose their affective significance or connection to affect, sometimes even without having to be banned by the ego or repressed by the unconscious.
- (iii) When the amount of affect arises to levels which are no longer manageable and overflow the psychic system: a) affect “breaks” the mental representations that could contain it or bind it and/or; b) no mental representations are produced, because reminiscence in itself would be so painful and unbearable, that it simply could not be represented. Trauma and affect in holocaust belong to this category.

On behalf of Cognition.

Theories of thought processes deal in great measure with different memory storage models; that is, different formats both of verbal and procedural (perceptual) registers. Sequential memories are stored in ordered time patterns. The possibility of making judgements, differences, relationships, abstractions, and to think are highly dependent on what is stored in these registers and how it is stored. These are the “software programs” of the human mind. Whether conscious or unconscious, these inscriptions constitute the

structures that form the inner-world representation of the subject of the outer world. Codes, verbal and non-verbal languages, in their full symbolic value, constitutive of organisations and structures, are also part of cognitive working through.

A theory of affective processes without a logic or a structural cognitive organisation cannot be proposed without running the risk of falling into the description of emotional states of which only the person who experiences them can give account of. These emotional states would eventually fade away without leaving a trace. Even the most primitive affective physiologic memories that are stored in the body form some kind of peripheral memory trace. If this were not so, such memories would not be retrieved through certain non-procedural stimuli, like smells, rhythms, etc. Such a conception of pure “affect” would bring us back to the process of catharsis described by Freud (1895), in which emotion, when not accompanied by an idea or thought, serves only a discharge function, without the possibility of any other further psychic elaboration. An affect theory in which affects do not have a symbolic quality, whether in non-verbal sign quality and/or verbal modalities, would be difficult to be coined in any coherent organisation system and to be handled scientifically, in an empiric and/or in a theoretical manner.

Authors like Ciompi (1982) and Krause (1997, 1998), take a middle position when they propose affect appears as subordinated to an own inner logic (*affect logic*). The proposal is that affects have a cognitive structural quality, that makes them function as vectors that direct the organism: a) *towards* the object (as in the case of *interest* in its positive connotation or *anger-aggression* in its negative variant); b) *away* from the object as in the case of *fear*, causing a *flight* reaction; c) *becoming* the object; as in the case of sadness under the process of *assimilation*.¹

For Ciompi (1982), any logic can be understood in terms of how cognitive contents can be related to one another in coherent, consistent patterns. This conception understands affect as an organiser of affective worlds around which mental representations are bound. Associations are steered through affective meaning. Affective logic can also colour cognitive meaning and introduce affective biases. Affect is conceived in terms of a deviator, which

¹ Upon the loss of a beloved object, the mourning process is characterised by a first psychic attempt not to let the object go. The object is psychically preserved by means of the mechanisms of identification and introjection. Once the loss of the object can be psychically accepted, identification with the object is no longer necessary, and a new object can be affectively charged

alters the process of free association into pathways that make psychic and cognitive experience meaningful. Powerful nodes of affect concentrate around knots of affective and psychic conflict. *Affective appraisal*, describes how a very quick emotional reaction is triggered in a specific context, which organizes the immediate response to a particular situation, before a conscious cognitive process can be spelled out.

However, it is at the moment of verbalisation that many contents, which had not been made conscious before, reach consciousness. The process of verbalized free association enables the uncovering of pathways in which associative thoughts previously had not made contact or met. Taking consciousness of what was not conscious may have a quality of irreversibility. What was previously organised through affective meaning may cease to be and a radically new cognitive meaning may be created.

In psychotherapy, psychic processes are created through the combined effect of intra- and inter-psychic functioning, which results from the effect of dyadic interaction and inner psychic productions. Affects and cognitions follow interactive processes, influence one another, and are both essential for the working through of the psychotherapeutic process. Affects that can be observed in the dyadic interaction many times do not correspond to the semantic content of what is being said or are deviated into outer objects or mental representations through signalisation, such as avoidance of eye contact.

Researchers on affects and language have recently attempted to assess words that express conscious emotion in spoken language through automatised dictionaries or other markers of diverse nature. Such a form of assessment tends to become a discourse about affects in language, that is insufficient in describing affects, how they come into language, or what kind of language structures accept the initial passage of affects into speech, especially those that are not conscious.

Main Hypotheses.

This study parts from the supposition that metaphor is a linguistic structure or trope that can be conceived as a “matrix” or “bridge” that furthers the working through of thoughts and affects in their symbolisation before affects appear in language as conscious speech. Metaphors are particularly of interest to this study because they produce both affective and

cognitive meaning, and that their precise meaning is defined, in this case, in the psychotherapeutic interaction. Metaphors also facilitate the entrance of affect into speech, due to their particular construction and functioning. In this study, a good production of metaphors is assumed to be associated to good psychotherapeutic outcome.

A second assumption is that as affects can be coded, assessed, and classified; i.e. through EMFACS (Emotion Facial Coding System, Ekman & Friesen, 1978), if affects and metaphors were to be put on a time axis, a direct empirical observation of the number of affects and separated through time could be observed. Affect and a particular type of language could be directly studied, without only making a discourse about affect in language (see Mergentaler & Bucci, 1995).

A third assumption is that an ideal affective-cognitive timing is desirable between patient and therapist, to obtain a better outcome in a psychotherapy. This assumption is supported on Tomkin's (1962) theory of affects in which affects have differential neural firing rates in frequency (intensity) and density (across time). If Tomkins' (1962) theory is correct, certain affects, as well as the mental representations linked to them, would require a much longer time to be elaborated, in comparison to other affects of shorter frequencies. An ideal psychotherapeutic process would also be required to remain within a specific affective timing. No attempt could be found in literature to prove empirically Tomkins' (1962) theories. Authors like Freud (1895) and Green (1993) also sustain that an ideal affective intensity or quantity is required for the quality of consciousness, that is, the elaboration of mental representations.

Structure of the Chapters.

The thematic of metaphor in connection with affects, cognition, and speech is linked to difficult empirical and theoretical problems that arise from the fact that the range of topics related to the object of study is enormous. A complete coverage of every related topic goes beyond the possibilities of this dissertation. Without intending to be exhaustive, the theoretical part in this study attempts to make a general integration of the main theoretical currents, their differences, and some questions related to them.

Chapter 1 concerns itself with the theory of affects from a neuropsychological, psychological, and psychoanalytic perspective. A discussion on different theoretical developments and applications in the psychoanalytical and non-psychoanalytical field is followed.

Chapter 2 proposes to integrate a hierarchy of thought and affective processes from the proposition of different theories and authors, as well as a general outlook of the most often proposed memory storage formats. Psychoanalytical thought formats, like primary and secondary thought process are also considered.

Chapter 3 proposes a theory of intra- and inter-psychoic thought and speech processes. A brief review of linguistic theories is made, as well as of some pertinent psychoanalytic and semiotic theories leading to the theorisation of the theory of metaphor.

Chapter 4 makes a revision of the theory of metaphor from different perspectives. Approaches from different fields of study are compared in relation to the functioning of metaphor.

Chapter 5 is an attempt to develop an integrative, personal perspective of how metaphor works and how concepts can be interpreted and oriented into an empirical model.

Chapter 6 inaugurates the empirical part of this study. Objectives and question complexes in relation to the proposed conceptualisation and its empirical application that arose are discussed.

Chapter 7 describes the sample and data collection, as well as the “Method for Identifying Metaphors” and formats that were developed for the coding of metaphor. How interrater reliability was reached is also included. Methodology, instruments of assessment, such as EMFACS and *Theme*, a computerized software program, are described.

Chapter 8 presents hypotheses and operationalisation and Chapter 9 presents the obtained results in three parts: 1) Metaphor quantity, quality, and distribution; 2) Metaphor quantity and quality and psychotherapy outcome; 3) Affects and metaphors.

1. THEORIES OF AFFECT AND EMOTION:

1.1 Affects

Krause (1997) defines affect as „the process that directs and organises motor functions, physiology, thinking and communicative action. An affect is a process that displays one and the same thing in different “readouts”” (p.61).”

These different “readouts” are diverse manners in which affect displays itself in its flow through the different modules in the nervous system that act as pathways. At least six modules have been identified with the affective system. These modules usually work independently from one another in parallel fashion. Only in emergency or extreme stress situations do these modules function simultaneously.

Fig. 1 Modules of the Affective System (in Krause, 1997)

“OCCURRING EMOTION”:	“EXPERIENCED EMOTION”:
<p>1) MOTOR-EXPRESSIVE</p> <p>(As appearing in facial gesture mimic)</p>	<p>4) PERCEPTION (interoceptive)</p> <p>(From body correlates)</p>
<p>2) PHYSIOLOGIC (The secretion of neurotransmitters or neuropeptides as a result of affective and neuro-vegetative reactions)</p>	<p>5) SEMANTIC</p> <p>(Naming and differentiation from perceptions)</p>
<p>3) MOTIVATIONAL</p> <p>(“Action readiness” in voluntary motor function)</p>	<p>6) PERCEPTION</p> <p>(Of situational meaning)</p>

1.1.1 Dyadic Situations.

Krause (1997) describes in his book the flow of affects through the different modules he proposes, which later leads to affective regulation in dyadic interaction: Through mimic and tone of voice, which corresponds to the Motor-Expressive Module 1, partner A “signalises” his social partner B “anger” and makes clear there is something in their interaction he does not like. Let us suppose B is invading a territory that A considers belongs to him. The “anger signal” reflects his desire to get the object out of his way and openly announces he will attack if his wishes are not met. Changes in the Physiologic Module 2 in A set the Action Readiness Module 3 into functioning and prepares his organism for aggressive external action or attack. In this case, the three modules are set on almost simultaneously. They can be turned on without practically any conscious cognitive representation of any wish, other than the sudden arousal of an emotion perceived and experienced as coming from the body, which strikes the senses and provokes a reaction and perhaps a fleeting image of throwing the object out of the picture. The latter remits to Perception of Emotion in Body Correlates Module 4. How the perception of the latter situation takes place is still not well studied.

For Krause (1997), affects in themselves have an inbuilt meaning structure in which they act as *vectors* in physics--(italics are mine) that is, they direct an object towards, backwards, or outwards from another (Krause, 1997). Fridja (1996) defines a specific inner meaning structure in affects in terms of a proposition in which the self, an object, and a desired type of interaction between the self and the object is stated. Every form of primary affect (anger, fear, disgust, sadness, contempt, surprise, joy) can be differentiated as obeying to an inner logic. Anger can be understood as throwing out of the way an object that is not feared but that hinders a particular wish of the self. Fear would be the desire to run away physically from the object. Sadness would be the attempt to bring back the lost physical object. Disgust would strive to “expel” an object out of the organism that is experienced as involuntarily engulfed and internalized. Joy would be the signalisation of continuing with the ongoing activity, which is experienced as agreeable. Surprise remits to ignorance of a particular object or situation. Interest would be the recognition of any other kind of signalisation and of curiosity (Krause, 1997).

Most theories of emotion do not make the difference between „affect“ and „emotion“, and the proposals to differentiate these two terms by different authors do not always coincide. Krause (1997) proposes to leave the term “affect” to name those reactions that require no specific mental representation, and “emotion” to those that are linked to conscious mental representations. The Semantic Module 5 necessarily requires that the linking of emotion to mental representations take place. The expression of affect in words also requires a new capacity in which cognition and affects are linked.

The situational perception module implies that emotions experienced in relation to affectively related mental or equated representations are linked to a specific context, that gives a similar situation an equivalent emotional value. For Krause (1997), the perception of affects coming from bodily correlates is to be differentiated from context perception. The latter is linked to specific affects, which in turn are bonded to particular mental representations.

The fifth and sixth modules enter a more complicated field of social and verbal interactions. These last two modules are intrinsically related to the integration of the subject into a language and cultural interactive network of relations and interactions. In relation to Modules 5 and 6, two questions arise: do emotions change when there are situated in verbal, social, and cultural interactions? Do affects continue to preserve their original quality when relationships become triadic or multi-determined?

1.1.2 Triadic Situations.

In a dyadic interaction there is often a third object that comes in play. This object can be mentally represented, verbally and consciously expressed. The third object in play can also be not specifically mentally represented or named, as in the case of learned forms of interaction with other objects. The third object may not be physically present, but particular effects are usually produced. A change in the relationship of one of the two participants to the third object can produce effects in a dyadic interaction. A lack of agreement in relation to the referred third object could produce the change.

I will take as example a scene that Freud describes in his case Dora (1901). Dora is a sixteen-year old adolescent. She has a distant relationship to her own mother. Her relationship

to her father is much closer. Dora has “tolerated” or almost accepted the flirting and sexual advances of Mr. K, who, she knows, is a married man. She also knows that the wife of the same man (Mrs. K) maintains a love relationship with her own father; that is, Dora’s father. The scene Freud reports is the following: Dora and Mr. K are alone by a lake. Mr. K comes close to her and is about to kiss her. Dora allows him to come close and just before he kisses her, he pronounces the following words: “my wife means nothing to me”. Dora responds immediately by slapping the face of Mr. K. She leaves the scene, breaks the relationship, and shortly after threatens her father to make open and public the whole situation in which the five persons are affected. The latter also includes Dora’s mother, who is not supposed to know what is going on. Under these conditions, Dora’s father brings her daughter to Freud for treatment.

But why do Mr. K’s words produce such a reaction in Dora? Could it be that Mr K was the Oedipal substitute of the father and that these words would let her fall in an open quasi-incestuous situation? Could it be that Dora had a latent homosexual desire for Mrs. K, and Dora’s relation to her could only be maintained in terms of an unconscious love relation to Mrs. K, unknowingly enacted through Mr. K? If Mrs. K meant nothing to Mr K, she could no longer be chained in the relation *à trois*? Or, could it be that Mrs. K represented a unique possibility for a substitutive feminine identification, since Dora was so distanced from her mother? Whatever possibility might be correct, what calls the attention is that in all the possible mentioned relationships, the dyadic relationship (Dora-Mr. K) can only be maintained in its positive emotional valence in relation to a third object. The third object inaugurates a new dimension in relation to the two-body or two-plane perspective. In Gestalt figure relations, when the figure-background relation is transposed, two different figures can be seen, one at a time, one or the other, according to what part of the whole design appears in background. In a three-object relation, a change in one of the three related figures acquires a new value that gives the whole situation one or more possible meanings. Let us say that a change in the relationship of A to C, affects the relationship of A to B and of B to C.

In Dora, at least four forms of inter-subjectivity arise in the described dyadic interaction:

- 1) The real interaction of Dora with an interlocutor; that is, Dora with the object that sits physically in front of her, with real mimic and signalisations; i.e. Dora and Mr. K.

- 2) The relationship to someone or something in outside reality; i.e. Dora and Mr. K talking about Mrs. K.
- 3) The personal meaning the figure of Mr. K acquires for Dora in relation to her own phantasmatic life and constructions. Is Mr. K different in his behaviour towards Dora or does he resemble her father? Does Mr. K behave in a different way to Mrs. K than her father to Dora? Does Mrs. K “*mean anything*” to Mr. K?
- 4) Dora’s own object-relations or interactions with her own phantasmatic world or constructions. These relationship patterns could influence the interpretation of relationships in the outer world in favour of her own personal experience with primary objects; for example, the relationship between Dora’s mother and father. Probably Dora’s mother “*did not mean much*” to Dora’s father since he had chosen to be with Mrs. K.; or probably, Dora herself “*did not mean much*” to her own father, since he had practically handed her over to Mr. K in exchange for Mrs. K. What could she “*mean*” to Mr. K, to her father, to other men and to women?
- 5) The relationship Dora will develop to Freud when confronted to the above-described relationship to Mr K and to her own father. This fifth form is introduced additionally, but is also very important in terms of transference in the psychotherapeutic treatment.

Under these dynamics one can see that Dora was profoundly affected by Mr. K’s words. The emotional valence in the dyadic interaction between Dora and Mr. K suffers a drastic change which influences or extends to the other dyadic relations that are linked to the system in a chain. The affective “*signalisation*” in the Dora-Mr. K dyad pointed one way. One second later, the emotional meaning did not come from the interaction itself but from the report of the interaction of one of the participants in relation to another interaction (Mr. K and his wife). The relationship with the third produces a change in the relation between Dora and Mr. K and also between Dora and his father, and very probably to Freud, when she is brought to him under these conditions.

Dora's reaction takes place in a second. It is very unlikely that she had a conscious mental representation from which she concluded the appropriate thing to do was to slap Mr. K in the face; most likely, she only felt a sudden rage and the desire to get him out of her way. One question here is how the entrance of a third element, whether in form of language, as in the case of the utterance of a phrase, as a physical object, in a phantasized form, or through the production of a new meaning can modify the intersubjective interaction of a dyad. How can the entrance of a third element place one of the partners in a totally different subjective plane or in a different relation to other previous dyadic interactions? How are emotions organized in this case? Are these two scenes different in terms of emotion in the dyadic and triadic sense we referred to before?

Language can be an example of triadic relations. When we put two words together (two elements), a third word or element, can modify completely the meaning created by the first two words; i.e. a bank; a savings bank, a riverbank. Triadic relations can also function without language and have a grammar in which the reordering of the elements, like in the case of letters in a word produces a new signification. Let us see what theories of emotion in literature have to say.

1.2 Emotions

The term „emotion“ comes from the Latin „emovere“, which means „to move“. If we follow the semantic root, this „moving action“ refers to the emotional states an individual undergoes. Through these emotional states, the individual establishes a relationship with the surrounding reality with a particular, differential meaning and is compelled into a specific behaviour merely on the ground of feelings or subjective preferences. Emotion also refers to the emotional processes that underlie the automatic affective responses of organisms of varying degrees of complexity that throughout evolutionary history at the right time and through the correct appraisal of situations „moved“ into the direction that led to adaptation and survival.

For ethologists like Lorenz (1973), most of these „moves“ appear to have been preserved through genetic registers and transmitted as part of a phylogenetic inheritance

designed to preserve these species-specific behaviours. In his studies, he shows how these behaviours in animals, namely, mating dances or rituals, like in peacocks, sexual interactions within different sexes, like in spiders, or imprinting, as he observes in ducks, geese, among others—are related to biological cycles or patterns which can be triggered or activated through specific signals or cues.

1.2.1 Theories of Emotions

Theories of emotion can be classified in two pairs of competing approaches: first, between psycho-biological versus socio-psychological approaches; and second, between structural-modular versus componential-dynamic approaches (see Scherer, 2000).

1.2.1.1 Psychobiological Oriented Theories. (Ekman, 1984, 1992, Izard, 1977, 1993; Panksepp, 1982; Tomkins, 1962, 1984; Krause, 1997, to name major examples).

These theories highlight aspects such as the functions of emotion for biological adaptation, insisting on their neural basis and phylogenetic continuity. They originate from Darwin's pioneer work on facial expression between man and animals (Darwin, 1872). He did not systematically compare man with every species. What he found is that in the expression of emotion in the different species and non-human primates there is considerable variability but that some expressions made by non-human primates are very similar to those of man.

Emotional states are considered biological and neuro-physiologically founded. These ideas have their origin in James (1884) who maintained that discrete emotional experiences can be identified from unique patterns of bodily changes (Carcioppo, Berentson, and Klein, 1992) and that discrete emotional experiences stem from distinct somatovisceral patterns (Ekman, Levenson, Friesen, 1983).

Psycho-biologically oriented theories underline the central importance of emotional action tendencies and the specificity of response patterning in such domains as facial and vocal expressions as well as in physiological symptoms. These discrete or basic emotion theories suggest the existence of a limited number of pre-wired emotion categories in the form of neuro-motor programs or circuits. Ekman & Friesen (1978) developed the methodological instruments to measure emotions in the face (FACS), based on the assumption that typical

facial expression, conceived as a limited number of typical facial expression patterns, are based on innate neuromotor emotional programs.

For Panksepp (1982), neuro-physiological pathways are innate to man; and motivational factors are founded in localised neuro-anatomic structures under the form of neuropeptides, hormones, and neurotransmitters.

In terms of ontogeny, these theories postulate developmental pre-formation of emotions and view culture mostly as a modulating influence that might control at certain points the underlying psychobiological mechanisms or regulate rules of emotional display.

1.2.1.2 Sociopsychological Theories (Averill, 1980, 1992).

These theories highlight, on the other hand, the centrality of culture and language in the constitution and elicitation of emotion, often adopting a constructivistic approach. They assume that emotions convey meaning in specific cultural contexts and emphasize communicative function. They often claim non-specificity of response patterning and developmental plasticity.

Averill (1992) questions Ekman's Darwinist assumption on the universality of emotions. He states that particular forms of culture and socio-economic conditions create certain emotions. He gives the example of romantic love. "L'amour courtois" or courtly love starts in France towards the end of the eleventh century. It began with poets and noblemen, but unexpectedly grew into a social philosophy that shaped the manners and morals of the West. It was a relationship between man and woman, in which the objective was to make the other feel as the most worthy, precious, and loveable being and producing the same feeling in return. Love letters, flashing, fleeting encounters, secret glances, and a kiss that does not go beyond embrace were part of courtly love. Consummation of physical love could eventually take place or not. The pleasure was more in the mind than in the body²

² Andreas Capellanus wrote The Art of Courtly Love (1974). He lists highly desirable behaviour and characteristics in a lover: he should be generous and free of avarice, should not blaspheme against God. He should be in all things polite and courteous. He should not make promises readily that might bring him into falsehood; he ought to be courageous in battle; he should not be a revealer of love affairs, love only one woman, and in her name be devoted to the service of all women.

Courtly love arose in the context of feudal aristocratic society in which the need for family alliances and the joint economic and political power prevented free choice of mates to give way to pre-arranged marriage. The married upper class woman lost her economic value, and her gentleness and refinement became virtues at the service of social alliances. Capellanus (1974) closely describes how courtly love is never to appear among farmers and peasants, where the woman has an economic value as working force. Idealisation of the woman, prearranged marriage, and loss of the woman's economic working force tended to make the marriage relationship unstable and courtly love helped disruptive factors as sexual covetousness into constructive channels. Jealousy was considered adequate between lovers but not between husband and wife. (Averill, 1992). For him, courtly love was an emotion product of a particular socio-cultural setting. Here I would also add, that from Averill's perspective, jealousy would also be an emotion that was regulated socially.

Averill and Schweder (in Ekman, 1994) sustain that in some cultures certain western emotions are practically unknown. Levy (1973) reports in his observations that Tahitians do not name sadness, discourage its manifestation early in life, and do not recognize it. Upon the loss or rejection of a loved one, they interpret their behaviour as sickness and do not relate it to the loss. Levy (in Ekman, 1994) made allusions to possible "sadness" expressions; but unfortunately, no film or video recording was taken.

Averill (1992) also sustains that emotions are subjective. They involve judgements. Judgements can be either objective or subjective. An objective judgement is to be dispassionate, unbiased, uninvolved. A subjective judgement is evaluative and "values" are in the "eyes of the beholder". From Averill's logic, that which is subjective cannot be universal.

1.2.1.3. Static Structural-Modular Approaches (Zajonc, 1984; Panksepp, 1991).

These approaches insist on a strict separation and definition of independent systems of cognition, emotion, and motivation. Affect and cognition are conceptualised as separate and partially independent systems and although they ordinarily function conjointly, affect could be generated without a prior cognitive process. Emotional judgements are considered to be

pre-conscious and precognitive; that is, emotional processes can be totally unconscious to the system of cognition and do not require of secondary process logic (Scherer, 2000).

Both Ledoux (1992) and Panksepp (1994), neuro-psychologists that apply biological theory, suggest that brain circuiting sub-serving emotion and cognition are different. Cognition seems to be generated in the neocortex and in the hippocampus. Emotions continue to be present in organisms with extensive neo-cortical and hippocampus lesions. Panksepp (1994) states that cortico-cognitive processes are not essential for emotion. Ledoux 's (1992) discussion of the connections between the thalamus and both the amygdala and the cortex allows him to provide a neuro-anatomic explanation of why representations that activate the emotional system can be based on incomplete and fragmented information rather than veridical perceptions and why we are not always aware of why we respond emotionally the way we do.

Kunst-Wilson & Zajonc (1980) have demonstrated that subjects can be induced to favour objects that they have been exposed to through subliminal presentation. These experiments test the presence of “non-conscious affect” with non-conscious attribution. The effect can be obtained when the exposures are so degraded that the person is not aware that anything at all has been presented. The person experiments the liking of an object without being able to attribute differences in the liking. This is also true when the exposures are given at optimal viewing conditions, only that in this case the liking depends almost entirely on the objective history of the person's experiences with the object rather than their perception of familiarity of this object (Kunst-Wilson & Zajonc, 1980).

The second technique for observing “non-conscious affect” is non-conscious affective priming. A photograph of a smiling face is presented at very short intervals, say 4 msec, just before another neutral and unrelated stimulus, say a Chinese ideograph, is presented for one second. The Chinese ideograph receives a higher affective rating when nothing is presented before or when a face with an angry expression is shown. Curiously, the same procedure, performed when the subject is aware of the stimulus, even if the presentation of the same affective primes is optimal, produces no results. It seems the participation of prior cognitive appraisal gives a totally different result; the affect is no longer non-conscious (Kunst-Wilson & Zajonc, 1980).

1.2.1.4 Componential-Dynamic Approaches; (Frijda (1996), Ellsworth (1991), Lazarus (1991), Scherer (2000)).

These theories, in contrast, assume emotion consists of continuously changing configurations of component states, including cognitive and motivational processes. Some of these theories lean towards what one might call „fuzzy set“ approaches, postulating a large variety of different emotional processes with the more frequently occurring configurations amenable to identification and labelling (Scherer, 2000).

Frijda (1996) defines emotion as the complex of reactions that are produced by an emotionally meaningful event (physiological, facial expression, postural, behavioural, etc.). For him, emotion is a change in the action readiness of a person directed to change his or her relation with an object in the external world, an object in the world of thought, phantasy, or the world in general. An event can only be emotionally meaningful from a subjective perspective and in relation to personal interests. An emotion will be elicited when an internal or external stimulus is experienced as real; in relation to the psychic reality of the person. Emotions are elicited when there is a discrepancy between what is expected, in positive or negative sense. Changes bring about emotions; more than stable states of great satisfaction or difficulties. Great satisfaction tends to stabilization; as in the case of having a desired new partner or a great success. Traumatic or very emotionally negative events, like the loss of a child, tend to be very slowly elaborated or not elaborated at all. For Frijda (1996), every emotion has a secondary gain; rage many times provokes fear and obeisance in others; flight in fear prevents an attack; depression can be an excuse for procrastination.

Lazarus (1984) and Zajonc (1980, 1984) sustained a debate that became classic concerning the role of cognition and emotion. Lazarus argued that a minimal cognitive prerequisite is necessary for a stimulus to elicit an emotion. For Lazarus (1984), there is a relational meaning (a goal is at stake and there is an appraisal of whether action or inaction is necessary) and an adaptational encounter, in which some evaluations are automatic and unconscious and others are deliberate, complex symbolic, and conscious. Zajonc (1980) cited experimental evidence and maintained that affective reactions could be elicited through very subtle, subcortical processes. Nevertheless, Zajonc also points out that emotions more complex than “simple affective polarities”, such as pride, disappointment, jealousy, or

contempt require extensive participation of cognitive processes (Zajonc, Murphy & Inglehart, 1989).

Scherer (1994) is of the opinion that the problem is semantic and that it depends on the definition one makes of cognition. He states that for both Zajonc and Lazarus, stimulus processing or coding takes place and that this processing can take place at different levels of complexity. In terms of this model, any stimulus that is processed at the lowest level of sensory motor capacity would theoretically be capable of eliciting an emotion, regardless of its linkage to stored schemata or to conceptual-associative structures.

For Ellsworth (1994), the definition of “cognitive minimal prerequisite” also depends on the definition of cognition and of emotion. If sensory information processing is considered cognitive, then most, if not all emotions will show some “cognitive” contribution. If cognition is defined as involving conscious propositional analysis, then a larger proportion of emotional experiences will be defined as non-cognitive, at least in their onset.

For Izard (1993), cognition is a broad concept that includes several types or levels of cognitive process: automatic vs. deliberate, conscious vs. not conscious, explicit vs. implicit. To him, if cognition is to be understood only in terms of memory and learning, then it cannot be equated with information processing. (I would add here “*cognition as **conscious** memory and learning*”). In three of the four levels of information processes that activate emotions he proposes, which are described below, there must be a memory register of any form. If this memory register is unconscious, or inaccessible to consciousness, it does not really matter. These levels of memory register are: 1) *Cellular*; processes which have to do with the encoding and decoding of information that occurs within the cell; namely, genetic information. He hypothesizes genetic processes influence emotion thresholds and proneness to certain emotion experiences. 2) *Organismic*; this information processing involves sense data from interceptors that transmit signals from physiological drive states; 3) *Biosocial*; this information is based on interactions between genetic codes and acquired knowledge; 4) *Cognitive*. Cognitive information processes produce conscious memories or experience-learning-based memory.

What would be very interesting to see is if these four systems he proposes as activators of emotion would also have a systemic influence among one another and if these could be

altered by contents of affect or emotion; for example, changes in genetic code information as to cell growth in cancerous cells; registers of neurophysiologically created emotion states in the body.

To this respect, Leventhal (1982, 1984, 1987) also proposes hierarchical structures in emotional processing. Leventhal's schema proposes an order in emotional processing that clarifies many concepts. Other authors follow similar classifications; namely, Bucci (1997), following a Piagetian scheme.

1.3 Hierarchical Structures in Emotional Processing.

Leventhal (1982, 1984, 1987) proposes that the components which process emotion are organised at three levels of increasing complexity:

- 1) Sensory-Motor.
- 2) Schematic.
- 3) Conceptual

1.3.1. Sensory-Motor Level of Processing;

This multi-componential system is constituted by a set of innate expressive-motor programmes and cerebral activating systems which are stimulated automatically; without volitional effort, by a variety of external stimuli and internal changes of state (coming from the organism).

These component mechanisms comprise the organism's primary emotional response capabilities, i.e. vocalisation by stimulation from internal gastrointestinal activity; smiling during changes in cerebral activation (as in REM periods, Emde, 1984); or „interest responses“ like turning the head around upon sight or voice of the caregiver (Brazelton, 1984).

These „pure sensory-motor“ processes may be short lived due to the fact that these „unconditioned reactions“ are very likely to play a key role in associative learning. These

reflex-like reactions could be interpreted by some theoreticians like Zajonc as emotions, as they have adaptive significance, or could be also considered as pre-perceptual. Nevertheless, it would be an error to assume that neonatal reactions are stimulated by pre-perceptual processes and should be conceived as reactions to a neonatal perception. It is difficult to know if the expressive-reactions in the infant are accompanied by subjective feelings; and are most likely to be limited to the perceptual level of development. That is, we cannot interpret these reactions as one would interpret emotional expressions in the adult. Sensory-motor reactions intercede between sensation and response, are constructive and generate „emotional meaning“ (Leventhal, 1984), but are definitely of another sort of the socially defined meanings and more limited in content than those of adults. These are likely to be constrained to events that are perceptual and immediate (Leventhal, 1984).

1.3.2. Schematic.

The conclusions Dornes (1994) makes from contemporary baby observation and research seems to support Leventhal. Dornes disagrees with Piaget (1968) in that mental processes in images are a result of the interiorisation of actions. For Dornes (1994), thinking in images begins at 8 months of age as a product of perceptual development with the visual perception of an object that in a certain moment can be evoked, like in the typical game of the ball that is covered by blanket and suddenly disappears and appears. This is considered a pre-form of phantasying. It is totally dependent on visual input. A second phase between 9 and 12 months of age, comes with “empirical representation”, which is the possibility of evoking an image not dependent of visual input; but without differentiating it from reality. “Real” conscious phantasying comes until 18 months of age, when the baby can evoke an image and bind the evocation with changes in outer reality (Dornes, 1994).

We could then say that the schematic image level takes places before the apparition of language. In any case, after 12 months of age, the baby is already inserted into language; and after 18 months of age, when children begin to speak, an early access to the symbolic world is possible, (what Dornes calls “real” phantasying”). The former can also be observed in “symbolic play”, which has an “as if” character. That is, a pencil can be used to play “as if it were an airplane”.

This second level of processing integrates sensory-motor processes with image-like prototypes of emotional situations. They are conceptualised as memories of emotional experiences. They are concrete representations of memories of specific perceptual, motor (expressive, approach-avoidance tendencies and autonomic reactions), as well as of subjective feelings, which are components of the reactions during specific emotional episodes (Levenson & Gottman, 1983).

The emotion-provoking object will be perceived and registered in memory in accordance to the level of perceptual-cognitive development of the individual and may emphasize different features at different ages; i.e. vocal tone, face, touch, etc. Generalised schemata, in the form of prototypes, will emerge as similar, motor, and subjective states. They are evoked and combined in memory with the perceptual features derived from multiple situations.

Schematic processing is also automatic and does not require the participation of more abstract, conceptual-level processing (Levenson & Gottman, 1983).

1.3.3 Conceptual.

This final level activates propositionally organised memory structures which have been formed by the comparison of two or more emotional episodes. This conceptual level is embedded in a temporal framework which includes sequences, antecedence and consequence, which extend over a long, if not indefinite, time period. This temporal framework is typically part of a larger set of conceptual structures, such as that for the self system (Lewis & Brooks, 1975).

Tomkins (1984) proposes a theory of emotions in which every affect or emotion; i.e. sadness, rage, happiness, etc., acts as a binder or container of an own world of representations or related frames, which is activated by affective states.

These schemas of emotion processing, although very general and abbreviated, give us an idea of how emotions, cognitions, and perceptions originate and are later combined and registered in memories which constitute an „emotional archive“.

1.3.4 Discussion.

In this three-partite schema, the sensory-motor level of processing reacts in a simple reflex-like manner. If these reflexes can be classified as emotions, and in what progressive level of development is still under discussion. Yet, it is difficult to speak of full-formed emotions.

The second “schematic level” implies automatic or quasi-automatic responses with reduced passage of time and image-like thinking. Dornes reminds us that in the “appear and disappear” game of the baby, for the evocation of any image-like emotional prototype, it is necessary to have the construction in time of a rudimentary “past tense”. The image *was there in the past* (italics are mine) and can only be evoked here in present.

Lacan (1949, 1966) describes in his “Stade du Miroir” (Stage of the Mirror) the reaction of joy of the 18 month-old child who looks at his image in the mirror and recognizes his own self in this image. Before this age, the child is presupposed to not be able to recognize himself in the virtual image the mirror projects of him. Polansky, in his film about vampires³, plays with the idea of the self-image in the mirror and shows how during the great ball of the vampires, these mythical narcissistical figures do not reflect themselves in the mirror.

The conceptual schema implies the passage of time with antecedents and consequents. „Emotional meaning“ in the first two schemas is conditioned to perception, stage of psychic development and personal experiences. Rudimentary uni-linear time begins to be differentiated, in terms of past and present. The conceptual frame takes place in a time-oriented dimension, where two or more emotional experiences can be compared and the social context is taken into account. As to time, there is also the possibility of understanding an event “après-coup”, that is, looking back retrospectively in the opposite direction of uni-lateral progressive time; i.e. an event that occurred in adolescence can be interpreted retrospectively and understood years later in adulthood under a totally different light.

³ The Dance of the Vampires (1970).

1.4. Psychoanalytic Affect Theories

1.4.1. Freud's Theory of Affect.

Freud develops for more than 40 years his theory of affect throughout his writings. No basic Freudian concept (and the concept of affect is not the exception) can be rightfully understood from isolated citations, without proper contextualisation and follow-up in its evolution. Freud, as any researcher, had to develop, test, and elaborate his theory through a continuum of time.

Freudian theory has been most criticised for its emphasis on sexuality--concept which in Freud goes beyond the simple human sexual act—and for being out of date. Almost one hundred years later, researchers in psychoneurology work together with psychoanalysts and find amazing points of convergence between the neurosciences and the early Freudian theory. In relation to the affect theory, Solms & Necessian (1998), psychoanalysts and researchers in neuropsychology, state that the early work of Freud is nowadays much more modern than what Freud and some of his followers developed in later years. Other conceptions present in the early Freud about the unconscious, drive (both in its conceptions of life and death drive), language, and affect were neglected or simply not developed by the later American psychoanalytical schools of the forties and fifties, who centered their attention on the Ego (Kris, Hartmann, and Lowenstein, 1964), Hartmann (1972), the mechanisms of defence (Anna Freud, 1946), and the psychosexual developmental phases. The result of this form of understanding theory produces a detriment on the conceptualisation of the dynamic unconscious. The French school of analysis has made more recent attempts to relate the early Freud with modern theories of linguistics, semiotics, structural anthropology, and mathematics. The theory of affect in Freud is no exception and has also been newly brought to light.

The Freudian theory of affect by no means covers the whole body of theory and investigation which has been developed to our days, but this development definitely proposes issues to be considered.

Freud makes three developments in his “theory of affect”. They are more or less consistently worked through, together with other theoretical developments of his complete

works, although not in an orderly, chronological manner. However, most of his ideas concerning affects appear in his early writings—mostly in the *Entwurf* (1895), and are later developed through the years, sometimes related with one another, sometimes independently. I will try to summarize them briefly:

- 1) Affect as Discharge (first theory of affect).
- 2) Affect as Binder (second theory of affect).
- 3) Affect as Inhibitor (second theory of affect).
- 4) Affect as Disruption (third theory of affect).

1.4.1.1. First Theory of Affect. A “Discharge” Theory.

In his first theory of affect, Freud (1895) describes affect as a physiological reaction which is discharged into the body. “Affect” as a concept, appears as early as 1895 in his “Project of a Psychology for Neurologists” (Der Entwurf). The *Entwurf* is of particular richness because Freud’s ideas about affect and the fundamental concepts of the psychoanalytic theory appear in germinal form. Among other concepts, he deals with: affect in different relations of quantity and quality, hypotheses concerning mental economy; the role of symbolisation, the ego, defence, repression, theory of thought processes, both in primary and secondary formats; relation of language to thought processes and consciousness, trauma theory. In the first two parts, Freud proposes the reader to find a neurological foundation for the functioning of psychic processes. The third part proposes a theory of thought processes from a psychoanalytic perspective.

In the first part of this work, Freud (1895) differentiates three types of neurones, which function on different quantitative energy thresholds, and which are essential for the understanding of his theoretical system, which is based on the physics theory of energy of his time. The neurological entities they represent correspond on a general basis to actual knowledge of the nervous system.

(i)The Phi neurons: These are neurons that constitute sensory-motor peripheral nervous system. They can be identified with peripheral receptors and the spinal column. They receive sensory stimuli that come from the exterior and respond motorically. The arc reflex belongs to these neurological pathways. They tolerate

higher quantities of energy than other kinds of neurons. They also connect to others kinds of neurons in certain points; like the Psi and W neurons (see below), which tolerate only lower quantities of affect.

(ii) The W - neurons (Wahrnehmung or Perception neurons). These neurons also receive external stimuli and have the function of perception. Freud places “Consciousness” in this system of neurons; that is, they inform Psi neurons (which have no outlet to perception to the exterior) if an event takes place in outer reality. Thus, W neurons help Phi neurons to differentiate or make conscious what comes from outside from what comes from the inside of the body. These neurons retain no memory traces. They have high sensitivity and function with minimal amounts of energy. The possibility of consciousness is given by their *disconnected quality*. They are also interconnected with the other Phi and Psi neurones. Nevertheless, for certain inner processes, w cannot not transmit “conscious quality” to Psi, and these processes remain unconscious.

(iii) The Psi neurons. These neurons keep a memory or register of what goes through them. They have the capacity of keeping memory traces, reproducing memories, and remembering. They can be identified with the neurons in the grey brain matter, which have no direct contact to outer perception but depend on the transmission of the other Phi and W neurons. They only receive stimuli from “inside” of the body. They integrate “qualities” of consciousness. As they are highly sensitive to increased irruptions of affect from the other neurons, they are protected by the reception synapses which guard the entrance of larger quantities of affects. (Freud had also the merit of forging the concept of “synapses”, which did not exist in his time, and which is basic to the understanding of the nervous system). These neurons transform themselves through the process of learning, if the affect quantity is right. If affect were to irrupt in huge quantities, as in the case of traumatic experience or pain, the Psi neurons would lose their capacity to store and recreate memories and are transformed into Phi neurons, which function with greater quantitative energy on a sensory-motor function.

Central to this theorization of physics is the conception of the administration of energy. Affect is regulated by homeostasis, a mechanism with the function of

maintaining an ideal balance of energy. Freud proposes also of the principle of inertia, which is a force that directs discharge to zero levels. There is also a counterforce that directs energy outwards, in the form of attention and/or action towards the objects in the outer world, which run parallel to survival and life functions. (These he will call biological rules and later, sexual drives). The drive is a limit concept between the somatic and the psychic, followed by affects that propel the drive. He places pleasure–displeasure in the centre of his theory. Pleasure is the capacity of discharge; and displeasure corresponds to too large amounts of affect in the psychic system, which are experienced as highly disagreeable, tension or anxiety-producing.

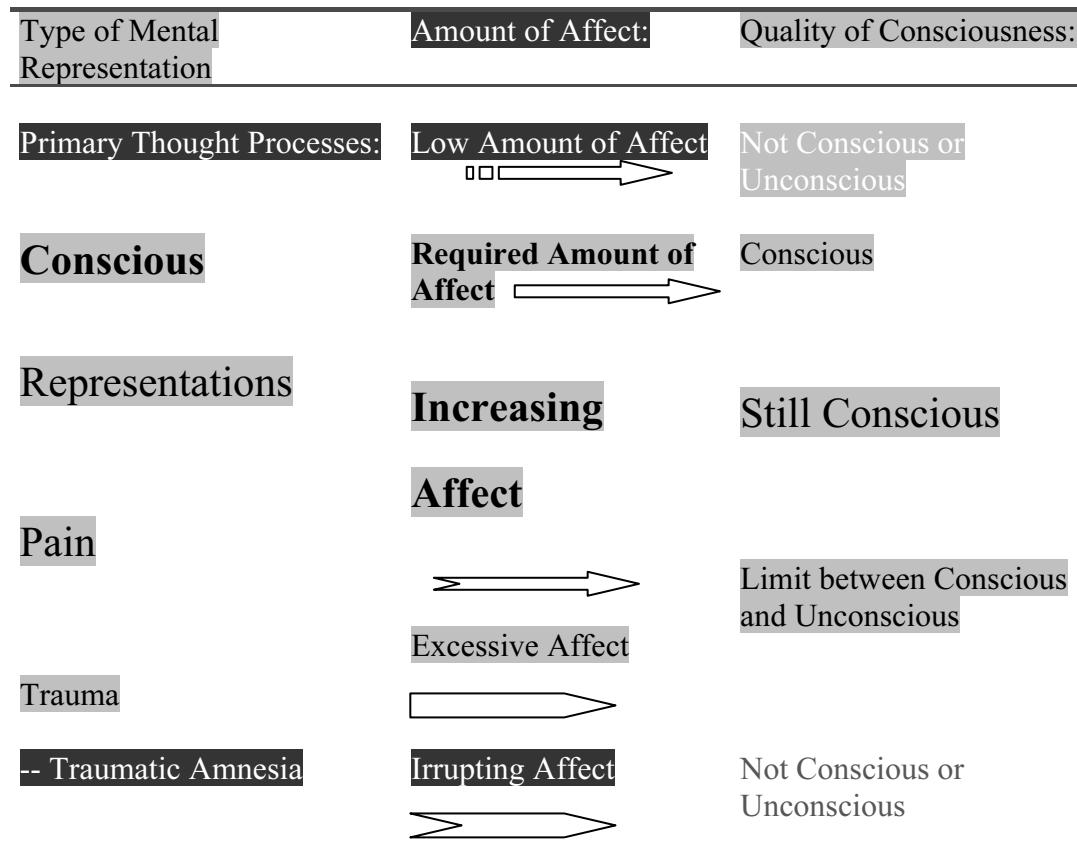
Freud (1895) refers to quantity of affect and quality of consciousness. In pleasure states, the affect corresponds to an experience of satisfaction. This quantity of energy is manageable and can be “bound” to the object that provides satisfaction, with the consequence that a certain degree quality of consciousness is made possible; i.e. when the mother breast feeds the baby, and she is capable of providing a stable, loving environment, the first object “mother” is charged with a series of rudimentary perceptions, the smell of the milk, the breast, the voice, the warmth. A first memory trace of the experience of satisfaction is created.

If the affect is marked by displeasure, affect states can rise to amounts of tension which are more difficult to handle. This is the case of pain. The energetic solution would be to produce a discharge, (in order to balance homeostasis and reduce tension). This discharge into the inside of the body, is endogenous, secretor. In psychosomatic illness, affective discharge affect body organs. The subject is not conscious of the meaning of his symptom.

In the case of displeasure-marked affect, the memory trace can be maintained, if the quality of consciousness allows; that is, if the amount of displeasure produced by the affect is not too great; i.e. the memory of a hostile object. It is difficult to evoke voluntarily experiences of extreme pain. These can be recalled when associated to a particular stimulus, like music or a particular scent. Traumatic situations are usually followed by repetition of the event and flashbacks, which can be understood as an attempt to psychically metabolize the very displeasure-producing event. In extremely traumatic situations, amnesia is the result of the incapacity of produce a memory register of the situation, of any extremely painful and irruptive affect quality, which cannot be worked through.

If we were to make an imaginary chart from what Freud (1895) proposes in his *Entwurf*, we would find that, for a mental representation to become conscious, a specific minimal quantity of affect is necessary. Amounts of affect that do not surpass the required threshold for consciousness cannot be made conscious, and increasing amounts of affect reach a point in which consciousness is no longer possible.

Fig. 2: Quantity and Quality of Consciousness



In Figure 2, primary thought processes remain unconscious because the affect that runs through them is too low. Conscious mental representations are supported by adequate amounts of affect. Representations bounded to extreme pain are still conscious and traumatic events may alter the quality of the representation or fall into amnesia.

In the *Studies on Hysteria (1895)*, the first theory of affect as discharge is valid for hysteric attacks and conversions, but with further elaborations in the light of neuroses and repression (Freud,1915). In hysteria, the quantity of affect is suppressed, migrates to other representations, and disappears from the consciousness of the patient. In place of the affect appears the “belle indifference”⁴, which seems to be the personal relation of indifference that the patient establishes to her “illness”. Under this appearance of indifference, the mental

⁴Descriptive psychiatric term coined by the French psychiatry designing the indifference to symptoms or illness.

representation of the mental conflict is repressed and given representation in motor actions or symptoms. The substitute has the form of a somatic symptom that represents a condensed compromise formation the two contending tendencies, which are enacted in some somatic, sensory, or motor part of the body (Freud, 1985). This is the “symptomatic solution” of the conflict. The symptom is an “economic solution” in terms of physical energy. Symptoms permit that equilibrium be established. It is more economic in energy terms to maintain a symptom than to confront permanently the psychical conflict. The partial representation of both parts of the psychical conflict not only spares psychic energy. A symptom has also a sense or means something. A patient from Freud develops hysteric attacks. The patient presents sexual inhibitions and repressed sexual wishes. Freud observes that the manner in which the attack is expressed in the motor activity seems to reproduce two simultaneously contradictory tendencies: an apparent attempt to undress and hug herself and a contrary movement that prevents the sexual scene from taking place. The patient is also not aware of how the symptom is constructed.

Although in hysteria the theory of affect as discharge seems to prevail, it includes a new development: the symptom is represented symbolically in motor activity put into scene. A simple discharge of emotion into the inside of the body would produce a psychosomatic and/or a physiological reaction. For William James (1884), (Cacioppo, 1992) affect is the product of physiological response, and that it is kept as a memory in the body. Even if the mental conflict has left a memory trace in the body, no symbolical representation of the affect has been made. That is, the affect trace cannot be linked with any other representation(s), and possible access to consciousness is still more difficult. There is no distinct phantasy linked to the affect, no “as if” quality.

1.4.1.2. Second Theory of Affect.

Freud proposes the ego as a mental entity that has the function of mastering affects by inhibiting their increasing quantities (1895). The ego constructs parallel facilitations for the passage of affects and thought processes that will decrease tensional pressure. Two great directions of activity of the ego are proposed: the relation to reality (making the difference between internal (hallucinatory) and external perceptions) and defensive activity (to constitute

another way of dealing with displeasure other than mere discharge through defence and repression).⁵

In the *Interpretation of Dreams* (1899), Freud remarks that the content of dream representations suffers transformations or deformations, while affects do not change. Affects can be transferred from one dream representation to another. For Freud, both in dreams and neurosis, representations and affect have different destinations: affects are suppressed (*unterdrückt*) while thought representations are repressed (*verdrängt*). He also states that the affective content of thoughts can induce a certain affective state and that an affect can also favour a representational content directly linked to the affect.⁶

Dreams and compromise formation in symptoms show how in psychic reality certain wishes, mostly those that are unconscious and forbidden, appear not as wishes but as if they had already been satisfied or consummated. In reference to dreams and the mechanism of censorship--to differentiate it from resistance--, Lacan (1954-55) cites the example of a novel from Queneau situated in Dublin during the Irish revolution. It is utterly forbidden to say the king of England is “an imbecile”. He who dares to say the king is “an imbecile”, will have his head chopped off”. Let us say it is an undeniable reality that “the king is an imbecile”. Nevertheless, the prohibited thought that the king is an imbecile as well as any association linked to it must be also repressed. Let us suppose that someone had a pressing affective need to express things that are related with the fact that “the king is an imbecile”, but he cannot say or think about them. What would come into the dreams of this subject? He would certainly dream that his head is chopped off.

Freud discovers that affects appear as contrary pairs. The human relation to objects, even to loved ones, is always ambivalent. This concept of affective ambivalence can be particularly traced in the *Rat Man* (a case of obsessive-compulsive neurosis) and throughout his other Five Psychoanalysis. (*Dora (1901)*, *The Rat Man (1909)*, *Wolf Man (1917)* , *Schreber (1911)*, *Hans (1909)*).

⁵ The ego is not always successful in achieving so much work. Here would come the concept of neurosis, which will not be further dealt with.

⁶ Later, in other affect theory developments, like in Tomkins, affect appears in this sense, as an organisator of representations related to a particular basic emotion

Repression becomes a ground concept for the differentiation of internal and external reality, of unconscious-preconscious, and for mastery of affect (Freud, 1915). As an effect of repression--to avoid anxiety-evoking thoughts--, affect is separated from its representation (*Vorstellung*). The representation is repressed; that is, becomes unconscious. The affect is suppressed or separated from the representation to which it was originally linked and transferred to another representation which can be handled with less psychic displeasure. The substitute representation has some relationship or connection to the first one that was repressed (*Die Verdrängung*, 1915). This happens in neuroses, in general, but in different combinations. In *The Repression (Die Verdrängung)*, Freud (1915) proposes there are different forms of transformations of affects and their representations in neurosis:

- a) In hysteria, the mechanism of conversion suppresses the affect and *condenses* and acts out the representations into a somatic symptom--the process has been described above.

- b) In obsessional neurosis, the separation from affect and representation follows various paths:
 - (i) The representation is separated from its corresponding affect and *displaced* to the insignificant—that is, to an apparently unimportant detail; i.e. a subject walking down the street might be extremely preoccupied not to step on the lines of the trottoir instead of thinking of a disagreeable but very important thing; i.e. a complicated ritual (such as washing the hands several times, perfectly ordering the cushions on the bed, and going back and forth several times) might be a necessary pre-requisite that antecedes any possible sexual relation.
 - (ii) Affect and representation may also be separated in time and lose the affective significance they would have if they were connected; i.e. a patient cannot shed a tear on the burial of his father, but cries inconsolably when he visits the tomb of *Pushkin*, a Russian poet whom his father loved to read.
 - (iii) Affect and representation may be separated as a result of particularly marked affective ambivalence. Freud describes how the *Rat Man* (1909) awaits the chariot in which the lady of his dreams will come. He has an aggressive thought against her and puts a stone on the road so that the

wheel of the chariot rolls over the stone and turns over. He has the phantasy that she dies in the accident. The affective ambivalence turns over to love and guilt for having such thoughts. He runs down the road and takes the stone away.

(iv) Affect and representation may be separated in such a way that the unconscious idea is not substituted but comes into consciousness without any affective significance; i.e. a man razing himself in the morning before the mirror can have the sudden idea of cutting his throat with the razor and later feel horrified at the thought that came out without any apparent affective content or feeling.

- c) In phobias, the representation of a very severe fear is substituted by a more manageable object but that has some relation to the repressed thought; i.e. the fear of a too dominant mother can be transferred into fear of spiders.

In *Inhibition, Symptom, and Anxiety* (1926), Freud states anxiety appears as an anticipatory signal before a menace internal or external.

1.4.1.3. Third Theory of Affect.

The third affective theory is linked to affect that appears in an irruptive manner. The amount of affect is sufficient to produce traumatic affect or anxiety. Excessive affect can also produce alterations in thought processes (*Denkstörungen*), as thoughts and actions that do not seem to follow a logical sequence. Traumata may be characterized by the appearance of an irrational fear which cannot be logically explained from the narration of the patient. Freud in his *Proton Pseudos* (1895) explains that a traumatic event is constructed in two times. The first time corresponds to the occurrence of the traumatic event. The second time corresponds to an event which may not be traumatic in itself but which contains a stimulus that is related to the traumatic event of the first time. The traumatic event of the first time is repressed. When the second scene takes place, the traumatic affect of the first scene becomes signified and attached to the second. What appears then is a great quantity of anxiety that is attributed to the second scene but which cannot be justified by what really happened. Freud calls this an *a posteriori* elaboration (*nachträglich or après-coup*), in which the meaning that is attributed

to an event occurs on a second time of mental elaboration. In this case, what is overloaded with anxiety is the memory of an event and not the response to the event when it occurred as an outer experience.

Freud describes a typical case. His patient Emma, as an eight-year old child, comes into a bakery. The owner of the store pinches her genitals through her clothes and laughs. Four years later, when she is 12 and at the beginning of puberty, she enters a food store. She looks at the two attendants who sustain a conversation. The first one laughs loudly. Emma feels herself sexually attracted to the second one. Immediately after, Emma runs out of the store in panic and develops phobic anxiety. She cannot return to the store alone again. She explains herself the situation as follows: the sound of the laughter made her feel afraid, and she had a sudden thought that something was wrong with her clothes. She cannot give a logical explanation of her phobic anxiety.

Freud establishes a new logic: the traumatic scene, “pinching of the genitals” of the first time is repressed. Second time: entering the store and listening to “the laughter” of one of the attendants connects her to the traumatic scene. The first scene is also invested with unelaborated sexual excitation which is transferred onto the second: she is in the puberty and feels attracted sexually to one of the attendants. The traumatic anxiety that should have appeared during the first scene and does not appear and does not acquire signification until the second scene takes place through a link with the first memory; that is, the laughter of one of the attendants. From that moment on, Emma is no longer capable of entering the store without suffering a phobic attack.

The other kinds of traumatic anxiety are the result of irruptive quantities of affect that come into the ego from the unconscious or from an external source, *Inhibition, Symptom, and Anxiety* (1926). If the anxiety is too strong, the memory may be repressed, erased, or come under amnesia; i.e. children who are repeatedly abused by one of the parents and must continue to live with the abusive father or mother develop dissociative phenomena or amnesia.

In cases of torture, the remembrance would maybe be even more painful as the event itself. The ego becomes that so disorganised that the person falls into a state of helplessness (*Hilflosigkeit*) similar to that of a very young child totally dependent on his mother and does

not make any attempt to escape the situation. In these cases, the possibility of elaboration or reduction of the affect through mental representations is almost impossible.

In conclusion, affect can have the following destinies: 1) discharge; 2) suppression; 3) separation from the mental representation and displacement to a related substitutive representation; 4) transformation into the contrary, symmetrical or complementary formations.

Mental representations can be: 1) repressed (made unconscious); 2) “bound” to affect; 3) or “unbound” from affect.

Freud’s conceptualisation of affect has been revised and developed in different directions by contemporary authors. The theories of Krause (1997, 1998); Bischoff (1989), Panksepp (1994), Solms and Nersessian (1998) are revised.

1.4.2. Tomkins’ (1962) Theory of Affect as Increased Intensity and Density of Neural Firing.

Although Tomkins (1962) theory is not psychoanalytical, I have included him in this section because there are important points of congruence with Freud’s theory. Tomkins (1962) defines affects as innate programs that are located in inherited sub-cortical structures, which control and instruct a variety of muscles and glands that respond to *unique patterns of intensity and duration of activity*, each of which is characteristic of a given affect. Innate affect programs are activated by stimuli, internal or external, which in turn activate the corresponding muscles or glands; i.e. pain activates crying in the human infant. For Tomkins (1962), modifications in affect program activators are possible through learning; i.e. the baby which smiles at any human face at two months of age will only smile at a familiar face at 5 months of age. Affect motor messages are transmitted from sub-cortical sites to motor nerves distributed throughout the body. From the activated muscles and glands comes a sensory feedback, which may be conscious or not; i.e. a smile programmed from the cortical joy centre. Past experiences of affect produce memory traces. Such a process of registration of affect is independent from affect. Retrieved affect images come from memory and may be conscious or unconscious.

For Tomkins (1962), the affect system is activated by a variety of innate activators; such as drive signals. Other activators are affects and external stimuli. Differences in affect activation regulate the density of neural firing or stimulation. *Density* is the product of the number of neural firings per unit time or duration in time. Three discrete classes of activators of affect, each of which further amplifies the sources which activate them, are: 1) stimulation increase; 2) stimulation reaches a plateau level; and 3) stimulation decrease. If neural firing or stimulation suddenly increases, the person will startle, become afraid, or even become interested in the stimuli, depending on the rate of increase in stimulation. If stimulation increases and maintains a high constant level of stimulation, the person will respond with anger or distress. If internal or external sources of neural firing suddenly decrease, pleasure will be experienced and the person will laugh or smile. Negative affects are thus activated by continuing a relieved level of stimulation (distress, anger) and positive affects are activated by stimulation decrease; namely, laughter or joy. Startle is activated by a critical rate of increase in the intensity of neural firing; i.e. a gunshot. If the stimulus is then recognized as familiar, startle may not be followed by interest; i.e. a gunshot is recognized as shooting exercises in a shooting sport club or as fireworks. In other cases, startle can produce interest; i.e. unexpectedly meeting an affectively significant person that had not been seen for many years. Meeting unexpectedly a horrible monster may cause startle and fear, augmenting heart rate and pulse.

For Tomkins (1962), startle, fear, and interest, with respect to activation, differ essentially only in the rate at which stimulation or neural firing increases, which can account for the unstable equilibrium which characterises them. Anger is an affect which is product of an absolute high intensity of stimulation and density across time. Pain can activate distress. Pain and distress together over a period of time can activate anger; in the same manner that frustration can also lead to anger. For Tomkins (1962), as well as for Freud (1895), it is quantity that is critical in stimulation, production, and differentiation of affect, rather than quality. For Freud (1895), no quality of consciousness; that is, of representation, is possible when quantity is exceeded. For both authors, decrease in intensity and density of stimulation is lived as characteristic of pleasurable affects. Constant levels of increased stimulation provoke negative affects, like anger and distress. An unexpected sudden increase in inner or external stimulation provoke startle, fear, or interest. Both of these theories are particularly important for the development of this study.

Figure 3 presents Tomkins' (1962) graphical representation of this *theory of innate activators of affect*.

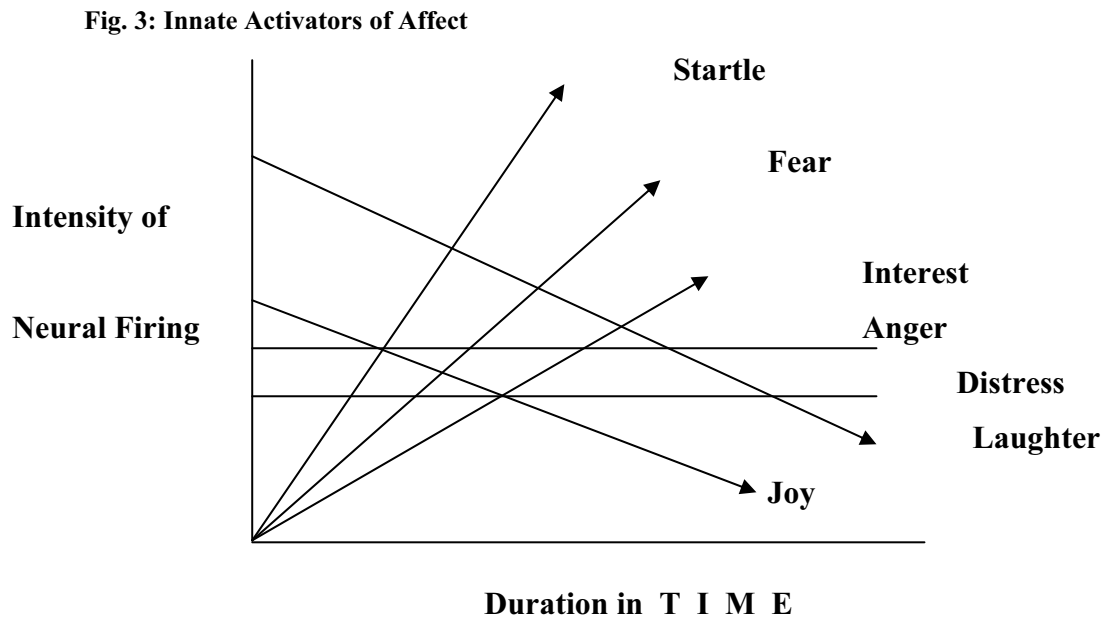


Figure 3 presents Tomkin's (1962) theory of affects. A very sudden increase in affect intensity provokes startle. When intensity decreases, the person descends to the level of fear or interest. Anger and distress have a relatively high intensity exhibit a particularly high density or duration over time. Decrease in intensity and density are experienced as pleasurable, as in laughter or joy.

1.4.3. Psychoanalysis and Biology—Drive and Affect Theory: A Double Integration Theory (Krause, 1998); (Bischof, 1989).

With research on ethology as a theoretical frame of reference, Krause (1983, 1998) and Bischof (1985) propose a biologically oriented model which combines the theory of affects, a psychoanalytically-oriented model, and a motivation system that affectively propulses an organism into the search of objects that gratify bio-psycho-social needs and defines its general behaviour.

According to Krause (1998), when an organism makes an appraisal of his own inner state or of the surrounding environment, the perception of this appraisal is perceived as feelings (*Gefühle*).

Together with the above-mentioned base conceptualisation that every specific affect or emotion has an inbuilt cognitive structure, Krause (1983, 1998) proposes that emotions are signal configurations that further information processing, attachment (*Bindung*), or interruption (*Unterbrechung*) of undesired activities that take place. Whether in an action or experimental form of acting modality (*Probehandlung*), the motivational system that directs toward a relation with the object is called motivational theme (*Antriebsthematik*). The organism must perform by itself the innate action potential that leads to the preferred object. The choice of a specific object is called appetence (*Appetenz*). The purpose of both actions is the satisfaction of the somatic need.

From a developmental perspective, emotions are pre-wired neurological innervations that are activated through the affective stimulation of primary caretakers; usually the mother. Certain emotion themes are then stimulated or inhibited in accordance with the culture and/or with the caretaker that function as containers and selective emotional developmental matrixes.

Fixation or changes from one object to another is determined from a repertoire of interchangeable affects; (see the *Appetenz* model developed by Bischof (1985, 1989), Krause (1983, 1998): i.e. an *Appetenz* for security--as in the case of solitude, as security deficit (*Sicherheitsdefizit*)--leads to the attachment of a love object. After a time, this kind of *Appetenz* could be transformed and substituted by boredom, as an excitement deficit

(*Erregungsdefizit*). For Krause (1998) and Bischof, (1985, 1989), aggression would also eventually be directed towards the object, as a hindrance to further attachment.

Under this theoretical frame, Krause (1998) gives a definition of affects as “the mental representation of hierarchically organized body memories and their activation through an object-oriented motivation system that responds to external stimuli”. This motivation system (*Antriebsthematik*) is the successor of instincts, which is to be understood as the inherited programmed behaviors that regulate object-relations; i.e. mating in animals. Affects constitute a specific proto-cognitive perception of object-relations and provide a specific meaning structure, as well as a rudimentary program through which physiological, cognitive, motor and motivational resources are available for action.

In this schema, drives, in their inherent silent and invisible quality, can be defined as particular forms of appetite (*Appetenz*) that do not have an organizational power and can only be inferred through affects. As the drive is swallowed by the affect, the drive representative (*Triebrepräsenz*), which later becomes “representative of the representation” (*Vorstellungsrepräsentanz*), as the part of the drive that corresponds to the psychological representation or memory trace component disappears. The repressed drive representatives which are at the source of the chaining of unconscious phantasies (Freud, 1915) are no longer available, nor is the construction of unconscious phantasies and of entire parts of the dynamic and linguistic unconscious. Freud’s (1920) death drive is not taken into consideration. Partial drives are parts or elements that are subordinated to sexuality, which is considered as a higher order structure of psychosexual development; i.e. oral, anal, genital phases. These partial pre-genital drives attain genitality once they are integrated through development into what certain object relations theorists in psychoanalysis name the genital principle or genital love (Balint, 1965). Characteristic of this genital phase is that the individuum is capable of having a gratifying, consistent, and mature love relationship.

In the case of consummatory actions, in which satisfaction through the object is no longer possible; i.e. anorexia or addictions; the criterion would be that more than an orientation towards an object that gives satisfaction, the general orientation towards the object would go in direction of an attempt to put an end to unbearable negative affects. Another possibility would be that terminal reactions inhibit action centers of affect programs that function as organizers, and the existing affective state is propelled into another affective state.

1.4.4. Neuroscience and Freud's Theory of Affect.

Solms and Nersessian (1998) are orthodox psychoanalysts who have worked on Freud's classical theory of affects. Following Freud's early attempts to find neuroanatomical substrates of his theory in his *Project of a Psychology for Neurologists* (1895), they set themselves to the task of localising the anatomical and physiological correlates of the most basic ideas and concepts of psychoanalysis with the actual neuroanatomical advances of our time.

For Solms (1998), felt emotions are a form of perception; that is, conscious emotions are perceptual representations of deeper mental processes, which are in themselves, unconscious. "The affective modality of consciousness differs from the other perceptual modalities (visual, auditory, somatosensory, gustatory, olfactory) in that affect perceptions register the internal state of the subject whereas the other forms of perception reflect aspects of the external world" (Solms, 1998). Felt emotions would then be a "subjective response" to the event; and not the perception of the external event itself.

For Solms (1998) affect reaches perception and stands in place of the representations linked to affect, when the representations are not conscious. He proposes that Freud distinguishes between "quantity" of excitation in the mind and "qualitative" aspects linked to representational processes. This would be the only difference with the Freudian text, which does not make such a distinction (Freud, 1895, Green, 1999). For Freud (1985), quality is linked to the possibility of consciousness; that is, the possibility that a perception, an idea or a representation is made conscious, not to a certain type of representation; that is, conscious vs. unconscious representations. The possibility of consciousness is linked to quantity (Green, 1999).

For Solms, affects have also a *motor* aspect, which have a discharge function in:

- 1) secretor and vasomotor processes;
- 2) motility proper (muscular-skeletal discharge)

Affects are also expressed in:

- 3) Patterns of representations or memories that are bound by “basic emotions”
- 4) Communicative functions in discharges like crying, blushing.
- 5) Anxiety, which functions as an alarm signal, and helps to identify danger situations or to delay motor discharge when the situation is not adequate.

For Solms (1998), Freud believed that fixed patterns of affective motor discharge are, for the most part, innately prewired, although some basic emotions are apparently forged during early development by momentous biological events of universal significance, which bind the sensations of the affect and its motor innervations firmly together.

Affects produce a situation of dynamic tension. When bound energy can be handled in lower quantities, it can also be used in the service of thinking. Thinking is a delayed discharge in the form of an expedient action designed to serve a useful purpose in relation to the current real situation. Thinking appears then as an “experimental form of acting”. Solms (1998) also maintains the Freudian theory of drive, as the somatic limit between the somatic and psychic, with affects as propulsors of the drive; and the drive with an affect quantity (*Affektbetrag*) and linked to a substitutive representation (*Vorstellungsrepräsentanz*), as the drive in itself has no possibility of representation. This conceptualisation of drive is a main difference with the before-exposed theory from Krause (1998) and Bischoff (1985, 1989).

1.4.5. Panksepp’s Neuropsychological Research and Freudian Theory.

Panksepp (1994), an empirical investigator of neuropsychology, links Freud’s ideas of neuroanatomical and physiological substrates to neural systems. He works with animals and transfers his findings to man as in the case of homologous anatomical structures and neurophysiological dynamics. This might be a point of critique which has often been mentioned, but his work is of great importance.

Together with Freud and Solms (1998), he also places affect--as equivalent to pleasure-displeasure--at the centre of his schema of psychic functioning. He explains that

emotional systems of the brain are based on neuropeptide secretions (1994). These neurochemicals are mainly of two types:

- 1) Those that generate positive affect, like endorphins and oxytocine; and
- 2) Those that generate negative affect, like cholecystokinin (CCK) and corticotrophin (CRT).

Glutamate appears to construct the skeletal form of every thought and emotion. Stimulation of different brain areas with glutamate has been proved to provoke a large range of diverse emotional responses—anger, fear, or separation-distress. Augmented glutamate in the brain might also cause epileptic attacks. This is the basic excitatory neurotransmitter of the brain and Panksepp envisions it as a facilitator of both qualitative and quantitative excitatory components of emotional responses. Gamma-Aminobutyric acid (GABA), on the other side, is the per se inhibitor, controls inhibition of emotional responses. Sedatives and alcohol reduce glutamate activity and increase GABAergic activity, and if quantities are increased to degrees of intolerance, the organisms become unconscious. Dopamine is another neurotransmitter that helps regulate generalized appetitive arousal function, which could be related with the SEEKING function or even the Freudian concept of drive.

FEAR (as emotion) can be located as emotional memories within very specific brain circuits in the amygdala (McGaugh, Cahill, and Roozendall, 1996 in Panksepp, 1999). PANIC, which is related to separation anxiety, can be activated in animals with corticotrophin (CRF). A female rat can be persuaded into a high state of sexual receptivity for a third of a day by infusing miniscule amounts of leutinizing hormone which releases hormone (LH-RH) into the brain.

Other parts of the brain are located as the centres of many distinct emotional centres. Epicentres of these are: 1) the PAG (periaqueductal grey), which can account for most pleasure-displeasure sensations, as it is connected with most spinal sensory and motor systems. Motor maps of coherent bodily movements—especially of orientation and simple rhythmic locomotive variety—are nestled between massive senso-motor convergences. For Panksepp, these could account for a primal SELF, understood as a basic form of self-identity, based on body image and perception.

One massive system runs also from the central amygdala to the PAG, which governs bonding processes throughout youth, and is probably a key ingredient in establishing a secure base that permits the growth of psychological functions such as adaptive and maladaptive social attachments (Panksepp, Siviy, and Normansell, 1985).

For Panksepp, basic emotions are fundamentally generated in many of the sub-cortical systems of the brain. Cortical inhibition of lower processes actually suppresses the conscious experience of affect in humans. Affective reactions can actually take place without consciousness; what remains to be discussed how these affects are psychically integrated, as “pure affect” reactions, as affect with the cognitive component as part of the affect, or as cognitive and affect separate systems that interact on each another.

1.5. Discussion on Affect Theories.

1.5.1. Cognition and Affect.

On a first glimpse, the different theories of emotion reveal a common theme of debate: what is the role of cognition in affect? Most authors agree it is necessary to have a “cognitive minimal pre-requisite”. The manner in which these two elements--affect and cognition--are understood, combined, distributed, or integrated leads to diverging conceptualisations.

A conception of pure “affect” would bring us back to the process of catharsis described by Freud (1895), in his first theory of affect in which emotion, when not accompanied by an idea, serves only a discharge function, without the possibility of any other further psychic elaboration. Such a view would be closer to a stimulus-response, arc-reflex conceptualisation of affect.

A theory of affective processes without a logic of structural cognitive organisation or integration cannot be proposed without running the risk of describing emotional states only measurable by the person who experiences them. These emotional states would eventually fade away without leaving a memory trace. Even the most primitive affective physiologic memories which are stored in the body are stored in some kind of peripheral memory trace. If this were not so, such memories would not be retrieved through certain non-procedural stimuli, like smells, rhythms, etc. Izard (1993) proposes four levels of information processes that activate emotions: cellular, organismic, biosocial, and cognitive. In regard to them he comments, “there must be a memory register of any form. If this memory register is unconscious, or inaccessible to consciousness, it does not really matter”.

Even if affective reactions can be elicited through subtle, subcortical processes, more complex emotions—such as contempt, pride, jealousy—definitely require the presence of a cognitive component (Zajonc, Murphy & Inglehart, 1989). Experimental data shows that both in subliminal suggestion to foster the liking of an object and in priming, even under optimal conditions, when the subject is aware of the stimulus, no results can be obtained (Zajonc, 1980). These experiments also seem to point to the fact that it is possible to develop a degree of consciousness in affective processes where initially there was no consciousness.

In contrast, a human theory of cognition without affect would be difficult to sustain, as affect has the before-mentioned binding and stoppage functions. Without affect, there would be no psychic-transportation energy that binds cognitive representations and provides affective meaning.

If the problem is semantic and the definition of cognition is based on sensory information or defined as involving conscious propositional analysis, as Scherer (1994) suggests, the problem could be resolved by the definition of terms. In the first case, all emotions would show some “cognitive” contribution. In the case of conscious cognition, a larger amount of emotional experiences will be defined as noncognitive, at least in the beginning (Scherer, 1994; Ellsworth, 1994).

More difficult to settle are differences between theoretical currents that postulate that cognition is part of emotion, with inbuilt meaning structures (Krause, 1983,1997, 1998), Bischof (1985, 1989), and Ciompi (1982)--and others that establish that emotion, cognition, and motivation function in a coordinated, integrative manner, but must be conceptualised as separate elements (Panksepp, 1998); (Solms & Nersessian, 1998). Both affect theories part from similar principles but the conclusions they lead to mark stricter differences.

1.5.2. A theory of logic of affects with cognition as part of the affect vs. Affect, Cognition, and Motivation as Integrated but Independent Systems.

In the theory of the logic of affects, affects function as subordinated to an own inner logic and gain their vectorial energy from an inherited motivational system that directs the organism in relation to objects (Krause, 1987; Bischof, 1989). This kind of conceptualisation can be very attractive in terms of empirical research and observation. It permits to conceive the functioning of behaviour and motivation towards objects as inherited affect or emotion structural modules that can be described, assembled, and interchanged through different combinations and substitutions with affects as building blocks. To this respect, developmental psychologist Stern (1995) comments that this phase proposal of the motivational system could not be so fortunate, in the sense that, as in all motivational systems, all phases must be constantly in function from the beginning until the end of life of the organism.

Under the theory of affect logic, affects can be defined as “the psychic representation of hierarchically organized body memories, which are activated through external stimuli and through an object-oriented motivation system” (Krause, 1998).

This systematically well-integrated conceptualisation in which innately constituted affect modules with inbuilt structural cognitive propositions could also be thought as a non-verbal signal (semiotic) language that allows interchange of affects and reading of affects between at least two persons or organisms before a word is uttered. The affective signs, as shown in mimic or voice tonalities, can come to have an own grammar with differing meanings when contextualised.

In the case of other levels of psychic elaboration, specifically when affects bind more complex mental representations, as in Tomkin’s (1984, 1995) theory, the double integration theory (Krause, 1987; Bischof, 1989) does not make clear if the specific affective signification corresponds to the representation or to the affect itself. Even if all memory traces of affective experience were subordinated to affects, would all mental representation logic be logic of affects? Do mental representations acquire at a certain point a degree of independence? How do they come into being?

Fridja (1996) makes a statement that can be easily clinically corroborated: “great satisfaction tends to stabilization and traumatic or very emotionally negative events tend to be very slowly elaborated or not elaborated all”. If the mental representation is inherent or integrated to affect and is not dependent on amounts of energy for its constitution, a substitute inner representation of the affect would always be available. The risk of being destroyed or affected by excessive amounts of affect, like in the case of pain or traumatic experience, would be minor. The object would be avoided, rejected, fled from, or attracted, and an affect substitute module would come in place. Nevertheless, the clinic of extreme, difficult negative affective situations, usually shows reduced affects and scarce possibilities of producing mental representations, which aid in the elaboration of an event. The question also remains open as to resignifications or new meaning given *a posteriori* to the representation itself, as in the case of a remembered event, as in the case of the *après-coup* (*Nachträglichkeit*) (Freud, 1895), in which a part of the mental representation is repressed and later resignified through the passage of time. The event is re-understood in a different manner not only substituted by an affect module not necessarily leading to a new object relation. In the example given by

Freud, it is the suppression and transferring of the affect to a new representation, in a sort of “mistake in thinking” that produces the patient a panic attack upon entering a store.

1.5.3. Affect and Psychoanalysis.

Coherent with an assembled one part affect-cognition conception is the modification of the concept of drive. The Freudian drive is swallowed by the concept of affect and retains only a secondary importance. Drives are treated as silent entities that only further specific forms of appetite (*Appetenz*). The early drive concept described by Freud as “the limit concept between the somatic and the psychic” is no longer operant. The constitution of mental representations is not clearly conceptualised and the Freudian death drive is a left-over piece that does not fit any longer into the finished construction.

Freud (1895) did not make a differentiation of primary affects nor did he develop a conceptualisation of the importance of them. Nevertheless, in his *Introductory Lessons to Psychoanalysis, Lecture XXV* (1916-1917, p.410), he seems to be aware of the ontogenetical origin of certain affective states and expresses “these are the repetition of a particular significant experience. This experience could only be a very early impression of a very general nature, placed in the prehistory not of the individual but of the species”. Freud (1915) refers to his drive concept in the *Unconscious (das Unbewußt, 1915, p. 275-276)*, he defines his “drive” (*Trieb*), as constituted by a quota of affect (*Affektbetrag*) and a representation of the drive (*Vorstellungsrepräsentanz*). I quote: “a drive can never be object of consciousness, only the representation that represents it. In the unconscious, drives can also only be represented by their representation. If the drive would not attach itself to a representation or make appearance in the form of an affective state, we would not be aware of its existence” (*Ein Trieb kann nie Objekt des Bewußtseins werden, nur die Vorstellung, die ihn repräsentiert. Es kann aber auch im Unbewußten nicht anders als durch die Vorstellung repräsentiert sein. Würde sich der Trieb nicht an eine Vorstellung heften oder nicht als ein Affektzustand zum Vorschein kommen, so könnten wir nichts von ihm wissen.*)

Can the concept of affect as quota of affect (*Affektbetrag*), as Freud (1915) uses it to describe quantity of energetic excitation in the mind linked or set in relation to qualitative (conscious) mental representation, be equated with the Darwinian conception of ontologically

inherited affects of the species? It would be difficult to deny that affect energy that proceeds from biological sources has nothing to do with psychic quotas of affect (*Affektbetrag*). Nevertheless, the question of human man's insertion in culture and language in relation to affect from the conceptualisation of affect theory remains unanswered.

What Freud (1905) proposes is also surprising as the two predominating types of drives (*Triebe*), as manners to go about with objects: 1) active sadism (*Grausamkeit*) and its passive opposite, masochism; and 2) voyeurism-exhibitionism, proposing the gaze or eye-contact as perceived from the other as a constitutive element of the self. Freud advances in this peculiar form of logic in which he proposes civilised man is propelled through unconscious motives into relations with objects that many times go beyond what would be on the line of correctness and sanity for drives that should act at the service of survival. Freud (1920) seemed to be obsessed by this unconscious-wish procedure, which in many occasions unknowingly led his patients beyond pleasure and appeared as a “devilish”⁷ compulsion to repeat.

Averill's citation of courtly love also advances in a Freudian direction although in another manner. A whole affect configuration is dedicated to falling in love with an object that from the beginning is known will give no “real” satisfaction other than a phantasized one. In this case, an additional logic of sublimation takes place. In courtly love and in other forms of sublimation, a drive that would have been normally repressed to conform to a social standard suddenly becomes pleasurable and easy-going in itself. How can we make these phenomena compatible with a predominantly survival-oriented, biological conceptualisation?

The mentioned debate in affect theory regarding the assimilation of cognition into affect or conceiving both entities as two separate elements that interact continues in another level in psychoanalytic theories that accept or reject “drives”.

The object-relations theory of Balint (1935, 1949, 1952) is a post-Freudian development that strolls away from the original Freudian drive theory. The object relations theory, like some ethological theories, postulates that the object precedes the organism or is integrated as an inborn image. Not satisfied with the Freudian conception of the psychic

⁷ Freud (1920) refers to the compulsion to repeat as devilish. This compulsion refers to repeating maladaptive relationship patterns but also implies the presence of a drive that goes in a direction opposite to life-oriented drives.

apparatus, the object-relations theory embraces a psychological theory proposed by Rickman that considers that the organism should no longer be considered in isolated state, like Freud's mental apparatus conceptualization, but in constant interaction with the surrounding world, namely, a world constituted of objects. Balint (1935, 1949, 1952) enthusiastically adopts Rickman's idea and proposes to emigrate from a *one-body psychology* to a *two-body psychology*. The word *Object* refers to the person or persons with whom the organism sustains a relationship or interaction. For Balint (1935, 1949, 1952), an object relation is the manner in which a person relates to his or her surrounding world, by means of one or more objects. Object relationships can be complex and presuppose a certain organization of the personality and are constituted by particular phantasies and characteristic forms of defense.

When Freud (1915) develops his drive concept (*Trieb*), he proposes the drive (*Trieb*) has a somatic source (*Quelle*), an Object (Objekt), and a goal (Ziel)—which is to obtain pleasure or satisfaction. For the object relations theory, what is important is the search for the object. This theory considers that it is the object that produces satisfaction, in contrast to what Freud establishes as goal of the drive (*Ziel*); that is, to obtain *pleasure*. For Freud, drives are “pleasure-seeking”; for the object relations theory, motivation is “object-seeking”.

Freud writes (1905, in Laplanche & Pontalis, 1967): “the object election is a reencounter with the object” and “the object is variable in terms of drive”. For the object relations theory, the object takes then a specific place in the history of the subject, in that only one specific object or its substitute will be adequate to give satisfaction, given the person has reached the psychosexual phase of sexual maturity and is capable of “genital love”. This object election in the outer world will be made according to the characteristics of the original object, which gave satisfaction before. It is in this manner that the “reencounter with the object” is understood by the object relations theory. As to the “variability of object in terms of drive”; if a person has remained fixated to a pregenital sexual drive organization, the object of choice will be consistent with the hierarchical point of fixation. In this sense, the chosen object will be predominantly oral, anal, etc. The relationship to the object will also correspond to the point of psychosexual fixation and maintain and an oral or anally colored form of relationship will be developed. Specific or combined forms of fixation correspond to specific pathologies, which can be treated through specific forms of interpretation.

Appetence (*Appetenz*), is then determined by characteristics of the inner object, even when the motivations for the election are not conscious. In here psychosexual development is also understood in a more biological sense and not as the phantasmatic world that is built around partial objects. It is true that in the end it is only the physical object which will give the subject satisfaction to his *biological need*⁸. The question of the desire for object variability, real or phantasized, when the object has been previously satisfying, remains open.

If we were to define the difference of these two conceptualizations from a philosophical perspective, we could say that: 1) the object-relations theory maintains a position that would remind us of the Philosophy of *Plato*. The object is a pre-formed type of *reminiscence*, which will be searched for and found when the correct object comes by. The object is then unique, gives satisfaction; and in this sense, can also be more or less developed, according to the personality development. The modality of the object election can be oral, genital, etc. This system is regulated from the exterior, by an external object that provides satisfaction. 2) Freud maintains a posture that reminds us of Kierkegaard. The drive searches an object outside that has left a memory trace but has been lost. This search is characterized by a constant repetition in which total long-term satisfaction is never reached. It is the loss of the object itself and the nostalgia for the lost object which creates the motor of search and creation of new objects. This system is internally regulated and guided by mental representations that are activated by a negative or minus valence, in the center of which inhabits an absence or inherent deprivation.

From Balint's (1935, 1949, 1952) object relations perspective, it is difficult to explain the self-directed intentionality of the psychic system, especially when the wish and the drive perspective come into second term. In this sense, once the right object-relations could be found and enacted, the danger would be the system could come to a stand.

For Freud (1920), it is not in the subject-object relationship that development takes place; it is from the perspective of the lost object, that the possibility of creating a presence in the absence exists. Like in the play of Freud's grandson, the well-known *Fort-Da*, the absence of the mother is elaborated by the child through a game in which the child holds a string tied to a spool. He throws the spool behind his bed making the spool disappear shouting O-o-o-o-o! which meant *Fort!* (Gone!) and pulling the string towards himself

⁸ As mentioned before, Freud does not identify biological need with wish.

making the spool reappear with a *Da!* A word or a representation comes in place of the absence and this is the manner in which a psychic world is constituted and that new objects are sought.

The object relations theory allows to reconstruct dyadic interactions which can be very useful in clinical work. It also leads to a communication model oriented by a system of affective interaction with others. On another level, the whole concept of dynamic unconscious described by Freud (1915) as the repressed representation of the drive (*Vorstellungsrepräsentanz*) and its ramifications or substitutions is eliminated or damaged. In the English version, the term “drive” is translated as “instinct”⁹ and the conceptualization of “drives” as “instincts” takes a totally different direction in the object relations theory. Coherent with this change of “drive” into “instinct”, it is not surprising to find by object-relation theorists the reassurance that what is repressed in the Unconscious are “instincts”. In the Freudian drive conceptualization, what is repressed are mental representations that can be made conscious when coming in contact with affect and words. These “repressed representations” will later acquire a connection with language (see Chapter 3), which allows the possibility of a “linguistic unconscious”, as the suggested by French authors, like Lacan.

In the drive theory, the internal world is scaffolded or supported by a network of phantasies, as a result of the development of the representational part of the drive (*Vorstellungsrepräsentanz*). An example of this is the relationship of the child to his mother, which would be conceptualized by the object relations theory as attachment-seeking. Drive theory theorists (Lebovici, 1990) do not deny biological attachment, but insist that the mother-child relationship is necessarily mediated by the phantasies and representations of the relationship and experiences of the mother with her own mother, and of the former with her own mother; that is, the grandmother of the baby, in a trans- or intergenerational dimension. The biological mechanism of attachment in humans can be further defined into different forms (secure, ambivalent, or enmeshed attachment) and even modified, when mother-child trans-generational conflicts are present, transmitted or worked through.

One has also the impression that the “object” to which both theories relate is different. One is a physical outer object that corresponds to a well-defined inner object. The second object is a half-phantasized, half-forgotten, fugacious internal object. This second object can only be reconstructed through its effects. It also produces chains of phantasies of unconscious

⁹ Error in the translation of Freud into English, done by Strachey; which can still be found in the English version.

or conscious character that will later transmute into substitute thoughts and words and guide actions.

The attempt I would suggest in order to coordinate these two difficult theoretical positions, if it can be done at all, is present in the theoretical chapters that follow in relation to a hierarchy of thought processes and through the introduction of language and semiotics, the language of signs.

2. HIERACHICAL STRUCTURES IN THOUGHT PROCESSING.

2.1. Introduction.

Thought processes are related to the transmission, reception, processing, and integration of information at different levels throughout the neuronal network of the nervous system.¹⁰ Thought processes have different levels of complexity, transmission speeds, and qualities of consciousness.

Cognition can be defined as a conscious process and be related to diverse information-processing functions, including sensory processing, perception, imagery, attention, memory, reasoning, and problem solving. Nevertheless, the regulation of cognition and of other forms of automatic thought processes is not conscious. There are theoretical and empirical divergences in literature as to the boundary between what is conscious, not conscious, and, for psychoanalytical theories, unconscious. An example of this is selective attention. The perception of objects through purposeful attention is conscious, but the inner mechanism that regulates *selective attention is not voluntarily operated*; i.e. through selective attention, a subject that comes into a room may immediately “register” the presence of a certain person. The observer may not consciously notice some other person, even if the unnoticed person is known to him or her and/or perceived at a pre-conscious level. It is also possible that a perception of something during the day escapes our conscious attention and that this same perception may, nevertheless, later appear as part of a dream to be elaborated during the night.

Freud (1895, 1900, 1925) explains the difference between conscious and unconscious thought processes partly through the formulation of two kinds of logics or formats that regulate thinking: primary and secondary thought processes. These two formats exhibit different forms of organization and functioning. Secondary process logic is closer to conscious thought processes. Primary process logic is linked to unconscious, regressive thoughts, processes, and actions. Primary thought processes also correspond to a specific type

¹⁰ A thorough revision on cognition and thinking exceeds the limits of this work, so I will remain by those concepts that we consider fundamental to the understanding of our theme; that is, mental elaboration and working through linked to thought processes, affect in language, and metaphor. My theoretical frame is mostly based on psychodynamic theory, although other important modern research proposals are included and compared.

of organization, classification, registration, and repression from consciousness of thought representations and the affects linked to them. Freud refers to them as “the Unconscious”. Primary and secondary processes will be further described below in detailed form.

How unconscious affective and cognitive thinking and processing take place at different levels of complexity also concerns this field of study. In the previous chapter, cognition and affect were defined as interacting processes. Leventhal’s (1982, 1984, 1987) structural model of components which process emotion in levels of increasing complexity was reported. Whether affect and cognition are theoretically conceptualised as separate or conjoint, I agree with Panksepp (1994) that both processes should be defined independently in order to study them. This chapter contemplates a proposition of a hierarchical structure of thought processes, which I have derived from Freud’s (1985) Project of a Psychology for Neurologists (*Entwurf*), although the text does not propose such a scheme.

Memory formats in modern research give account of how mental representations of different sorts and origin are registered and processed. An attempt will be made to relate the Freudian conceptualisation of thought processes, including conscious-unconscious, primary and secondary logic modalities to memory formats and to the hierarchical structures of emotional processing of Leventhal (1984) that are described in Chapter 1.

2.2. Primary Process Logic:

2.2.1. Time.

From a developmental perspective, primary process logic is based on early, primary thought forms and perceptions. The first radical difference in the functioning of this system in contrast to the more developed secondary process is that it is not embedded in rational time-space coordinates. In the secondary logic model, time is sequential and uni-linear, with a clear distinction between present and past. Time progresses and can be measured by a clock. In primary process logic, time can be conceptualized as an ever-lasting present. Things and events do not gain importance in terms of being present and objective, but rather constitute their importance in terms of inner emotional experiencing, of subjective interpretation of outer events, or intensity of an experience; i.e. an adult can continue to experience enormous emotional effects from something that happened 25 years ago in

childhood, like the separation from his or her mother, even if at present it is no longer relevant nor conscious. Primary process time, can be referred to as “the time of the unconscious ” in contrast to secondary process time, which is time measured by the clock.

2.2.2. Absence of Contradiction.

In primary process, there is no negation, no „no“. Ideas co-exist, even if they are contrary or contradictory. They can merge; touch, without limits of differentiation. As in dreams, totally illogical or atemporal contents can appear contiguously in apparently illogical sequences or following an inner logic.

2.2.3. Condensation and Displacement.

Two mechanisms are responsible for the organization of primary process grammar: condensation and displacement. In condensation, one element can represent more than one object at the same time. This is called multi-determination; i.e. in a dream an unknown person could have the lenses of the father, a beard that looks like that of a friend, and represent both figures at the same time. Another example would be that a dream takes place in the house in a small village where a patient grew up during childhood but the people that live in the house in the dream are his own children of the present. Elements of time of past and present are condensed into one dream. It can also be that a part stands for the whole. An unknown character which appears in the dream can be identified through a singular element; i.e. a characteristically extremely long nose, that could also be associated with Pinocchio and a liar status.

In displacement, one object or image appears in place of another. The element onto which the displacement takes place is either contiguously placed or associatively related (from the point of view of content) to the substituted object or image. An example of displacement through contiguity would be a *Deckerinnerung*. In this kind of memory, what is remembered with immense clarity and intensity is the image of a contiguous element; i.e. the desk of the father in a room instead of the event that took place in the room where the desk was part of the furniture. In displacement through association, there is a relationship or

common denominator between the original and the element onto which it is displaced. An obsessive-compulsive neurotic could displace a major psychic conflict into a small detail and might worry intensely about not touching door knobs because of fear of bacteria, instead of realizing there are unconscious thoughts related to non-cleanliness he cannot confront. Non-cleanliness would be the associative element. Displacement is possible because the elements that constitute an associative chain of thoughts or network can permute their affective valence.

For Freud (1901), all psychic products, like dreams, symptoms, phantasies, and failed acts follow this primary process grammar and are constituted through this condensation (analogy or similitude)-displacement (contiguity) process.

2.2.4. Pleasure Principle.

Primary logic process functions under the pleasure principle. Freud (1900) places pleasure–displeasure in the centre of his theory. Pleasure is the capacity of discharge; and displeasure corresponds to too large amounts of affect in the psychic system, which are experienced as highly disagreeable or displeasurable. The idea of a stable system that seeks an equilibrium or homeostasis stems from the physics of Freud’s time. Loss of homeostasis would be lived as threatening and displeasurable. In an attempt to maintain homeostasis, the representational or thought contents of elements that are too intensely cathexised (affectively charged) are repressed and their affective charges are diminished. This is what Freud calls, “the repressed unconscious”.

2.2.5. The Construction of Early Memory Traces, Thoughts, Conscious and Unconscious Phantasies.

Early perceptions and memory traces of unconscious nature have the quality of memory registers, but do not “re-present”, nor do they stand for another similar object, which can be evoked or remembered. They cannot be voluntarily evoked in place of the object in outer reality. They are not „objectified,, or recognized as separate. They stand simply as images, as presentations of an original.

The unity of functioning primary process logic is defined as *identity of perception*. For Freud (1900), the identity of perception strives to reencounter the original *perception* bound to the image the first object or objects that provided *satisfaction*; i.e. the baby that is breast fed. For Freud (1900), this experience of satisfaction produces the first primitive memory trace, which has a blurred, half-forgotten quality, but which has left behind a feeling of longing. Every time the biological need reappears, the psychic perception of what was lived as pleasurable reappears. For Freud (1900), this psychic wish for satisfaction continues to reappear throughout life and is not extinguished with the satisfaction of the biological need.

Freud (1900) does not identify biological need with wish. He suggests the creation of this first memory of satisfaction opens two registers: 1) the biological register, in which a biological need is satisfied; and 2) the psychical register of the experience of satisfaction and the further search for this object that at first provided satisfaction.

In the biological register, the main goal will be the satisfaction of the biological need by means of the object. Biological needs propel the organism into an interaction with the exterior world. In the psychical register, memory traces (*Erringerungsspuren*) of primary process quality reproduce perceptions of memory images in a hallucinatory manner (like in dreams) in the above-mentioned manner. This is what Freud (1900) names wish-fulfillment (*Wunscherfüllung*). For Freud (1900), wish fulfillment can be *conscious*; i.e. as in a wish to do something or possess something in particular; or *unconscious*, in which the motor of the motivation or thoughts that drive the person towards a conscious or unconscious object or goal is unconscious. This desire or attracting force towards the object is usually experienced as something intense, strong, and attiring. For Freud (1895) this kind of unconscious wish would be linked to the unconscious early memory traces of wished for objects or thoughts, already forgotten but that have remained strongly invested with affective charges.

For Freud (1900), the search for the lost object not only gives account of how the system generates its own movement and motivation from within, in contrast to a theorization in which only objects in outer reality attract the organism. It also explains how primitive thought representations (*Vorstellungen*) are originally created, and how these early perceptions, which once came from outside, in its new internalized form create new memory traces (*Gedächtnisspur*). These early memory traces, product of an experience of satisfaction,

are the beginning of primitive thought representations. Memory traces (*Gedächtnisspuren*) are the building blocks of later constituted unconscious phantasies, thoughts, and representations (Rapaport 1951). Through dynamic drive propulsions, the so-formed memory traces will then start a new “serial binding process”, in which drives (see below), drive representatives, and new mental objects are created, to continue the formation of the representational world of the inner psychic reality. In this dynamic, some phantasies can also have anxiety-filled contents. If the affect is displeasurable--but not too extreme in quantity (*Affektbetrag*)--it could be bound to the memory of a hostile object or phantasy¹¹.

For Freud (1915), the “drive” is a limit concept between the somatic and the psychic; that is, an energetic impulse that strives from a body source (usually erogenous zones, organs, or systems) to reach an object, first in its psychic representation and then in reality. For Freud (1915), the drive is constituted by: an affect and a psychological representational or memory trace component, the drive representative (*Triebrepräsenz*), which later becomes a synonym for *Vorstellungsrepräsentanz* (representative of the representation) (Laplanche & Pontalis, 1967). Affects provide propulsion to the drive, going through the psychic register or memory trace of the object. Sometimes, when the ideational contents of the representative of the representation (*Vorstellungsrepräsentanz*) are censured, drive representatives are repressed and become part of the unconscious. The affect that accompanies them is suppressed or separated and linked to other associatively related representations (see Chapter 1).

For Freud (1900), unconscious wishes and drives do not have an own form of representation (representability), and therefore; must seek substitute images or objects to express themselves. These images or objects to which unconscious thoughts have linked themselves constitute chains. These chains constitute associative networks. This explains why the mechanisms of condensation (compounding several representations into one image) and displacement (shifting the drive cathexis or image onto another equivalent idea) are necessary to give representation to the unconscious wishes and drives. This memory-trace organization constructed around drives and repressed representations sets up the first structural matrix of primary thought processes (Freud, 1900, Rapaport 1951).

¹¹ In the previous chapter, the question of affect quantity and representation has been dealt with.

2.3. Secondary Process Logic.

2.3.1. Time and Space.

Secondary process logic is the product of a different type of thought organization. Secondary thought process is embedded in linear, clock-measured time. Events are organized in points in time, which occur in sequential, before or after perspectives. Present, past, and future; as well as other combined time forms, are clearly defined. Space operates in three-dimensional coordinates: up, down, depth. In child development, it is possible to observe how these space dimensions are constituted in children's drawings, as children advance in psychic and emotional development.

2.3.2. Secondary Logic Quality and Reality Principle.

Thoughts are linked to consciousness, mental images function as mental representations that can be voluntarily evoked. This kind of logic detects the presence of contradiction and attempts to function in a coherent manner. The unity of functioning in this system is *identity of thought*. This implies that a conscious mental representation will be checked against the presence in the outer world of the object it stands for. This validation that the inner representation (*Repräsentanz*) corresponds to the external object, or reality proof, is the basis of what Freud called "reality principle".

Freud (1925), without having known modern constructionism, was very conscious of individual differences in the appraisal of "reality" and thus coined the term "psychic reality", to give account of the possible differences in the interpretation of outer reality. He states, "the reproduction of a perception as an image is not always a faithful one. It can be modified by omissions or by the fusion of a number or elements. The process for testing the reality of a thing has to do with the capacity of evaluating the extent of the possible distortions. An essential pre-condition for the institution of the function for reality testing is that objects which have formerly afforded real satisfaction are objects which have been lost." „*Die Reproduktion der Wahrnehmung in der Vorstellung ist nicht immer deren getreue Wiederholung; sie kann durch Weglassungen modifiziert, durch Verschmelzungen verschiedener Elemente verändert sein. Die Realitätsprüfung hat dann zu kontrollieren, wie weit diese Entstellungen reichen.*“ *Man erkennt aber als Bedingung für die Einsetzung der*

Realitätsprüfung, dass Objekte verloren gegangen sind, die einst reale Befriedigung gebracht hatten; p. 14., (Freud, Die Verneinung, 1925).

For Freud (1925), it is the loss of objects that brought real primary satisfaction that drives the psychic system toward „reality proof,“. For Freud (1925), the intense search for objects to be found in outer reality can only be explained by the fact that these objects had already been known before and re-found (*wiedergefunden*). Loss, deprivation (*Mangel*), and absence continue to constitute the motor of intentionality and of an internal unconscious desire (*Wunsch*), which makes the psychic system develop internal representations and search for objects coupled with memories of intense satisfaction.

2.3.3. Pre-Requisites for the Construction of Mental Representations.

For Freud (1915), a mental apparatus that can create secondary mental representations has to be more developed and differentiated. A separation between conscious and unconscious as structural systems has to take place. The mechanism of repression establishes a border between conscious (secondary) and unconscious (primary) thought processes. An intermediate preconscious system separates the conscious from the unconscious system. The preconscious enables the psychic representations to be evoked voluntarily, as it is impossible to have every available representation conscious at all time. A more flexible censure lies between the conscious and the preconscious. Through repression, anxiety producing thoughts are attracted into the unconscious, while censure, which is a function of the ego¹², although not always conscious, pushes unwanted contents out of the conscious field of the ego (1900, 1915).

A clear differentiation between self and others (*ich-nicht ich*) must be established. From the mother-child developmental point of view, the child is expected to have an inner whole object representation of his body and of himself as a separate object from the mother.

¹² Freud develops a second topic which is included into this first conscious, preconscious, unconscious topic. The second topic is constituted by the ego, the super-ego, and the id. The first two instances have conscious and unconscious parts; the third is unconscious. Very generally, the ego constitutes the self of the subject, the super-ego corresponds to moral conscience and cultural and ideological introjections, and the id, the repressed contents and drives of the unconscious.

2.3.4. Construction of Mental Representations.

The creation of secondary process inner representations (*Repräsentanzen*) also follows the principle of constituting a presence in the absence of an object. In contrast to primary process presentations and representations, secondary process representations can be voluntarily evoked and are conscious. To explain the creation of representations which are later linked to language, Freud (1920; *Jenseits des Lustprinzips*) describes the typical play of his eighteen-month grandson, an intellectually well-developed child who was starting to speak. The child reacted to the absence of the mother, who had gone away to work, with a particular form of play. Freud (1920) comments it took him some time before he could decipher the symbolism of his play. The child played with a wooden spool with coiled wrapping string (*Holzspule mit entwickeltem Bindfaden*). Holding the string, he threw the spool behind his bed and made the spool disappear shouting O-o-o-o-o! which meant *Fort!* (Gone!). He pulled the string towards himself making the spool reappear and saluted the spool with a *Da!* (There!). This play he repeated again and again. For Freud (1920), the game with the spool, allowed the child to symbolically master the absence of the mother in an active way. The child could make the spool appear and disappear, which is something he could not do with the mother. Most important, a word or a representation (*Repräsentanz*) came in place of the absence in this absence-presence interaction (*Fort-Da!*).

2.3.5. Primary and Secondary Thought Processes Combined.

The constitution of secondary logic does not imply that primary logic ceases to exist or function. The early facilitations or neural pathways for thought processes were created by primary thought processes. They cannot be simply erased. Freud (1895) reflects that if primary thought facilitations were to be totally substituted by secondary thought, objective reality would also be altered. Therefore, primary process thinking scaffolds and provides a support or basis for secondary thought processes. However, although thinking from a secondary process perspective may be voluntary and conscious, secondary process thinking has normally little consciousness of what happens at primary process logic levels.

According to Freud (1895, 1925), primary process thoughts can and do come into secondary thinking process, even if their presence is not conscious to the ego. The former is

possible under certain conditions. I will mention the two most frequent. One would be the typical failed acts (*Fehlleistungen*), in which the person does or says something he or she did not intend. Another would be the passage of primary processes contents into secondary process or into speech, but preceded by a sign of negation or under the form of denial.

Primary thought processes can come into conscience when preceded by a “no”. Freud (1925) compares denied primary process thoughts which come into secondary process consciousness to an article with the legend “*made in Germany*”, that indexes and marks place of origin (the Unconscious). Freud gives the example of the patient who tells him, “Now you will probably believe I mean something insulting, but really, I’ve no such impression”; or “You ask who the person in my dream can be. It was certainly *not* my mother”; or “ I had a obsessive thought, which I believe could be related to so and so; but it can’t be true. That could *not* have occurred to me”; (*die Verneinung*, Freud, 1925).

Freud (1925) comes to the rather surprising conclusion that secondary-process thinking is constituted as a consequence of the negation of primary thought processes. For Freud (1925), the function of secondary thought only becomes possible when a first degree of independence can be acquired as a result of the function of repression and away from the sway of pleasure principle, in order to follow “reality principle”. For Freud (1925), negation (*die Verneinung*) becomes some kind of symbol or marker which characterizes thoughts from primary thought process that enter the realm of secondary process. It is the negation (*Verneinung*) of primary process which allows the function of judgment to emancipate.

To resume, Freud (1895) defined thinking as an “experimental form of acting” (*inneres Probandeln*); i.e. imagined internal activity of an external event. Thinking requires less quantities of energy than motor activity and takes place through the discharge of small quantities of affect (Freud, 1895). Freud (1895, 1900) describes thought processes as follows: a) as psychic processes and memory traces differentiated from perceptions and motor activities; b) as very early psychic traces originally created in the baby as a result of a first experience of satisfaction, that later continue to generate craving and wishing as mobiles in the construction of a network of facilitations, representations, and memories; c) as a search for identity of the inner representation of objects existing in the outer world and with the outer perception of them (1895).

2.4. Hierarchical Thought Processes as Extracted from the “Project for a Psychology for Neurologists” (*Entwurf*, 1895).

The Project for a Psychology for Neurologists (*Entwurf*, 1895) is an early Freudian text, which was finished in 1895, but not published until 1950, after Freud’s death. The German Fischer Edition did not publish it until 1987 and the German edition of the Collected Papers (*Gesammte Werke*) does not include it. For a long time this text was unknown to the public that read Freud in German. Laplanche (1967) comments that Freud always had doubts that this text should be published. In this text, Freud (1895) proposes a theory to explain psychic phenomena in neuro-physiological terms. Freud wrote to Fliess¹³ commenting on the difficulty of the theme and his doubts about its scientific value. Freud sent the difficult text to Fliess, who never returned an answer or comment. The final result was that the text remained in a drawer, unpublished.

When the text was finally published, it produced great interest and debate in the psychoanalytic world. The text was used as a basis for new readings of Freud and to ground new theoretical propositions. The neuro-affective research sciences have used the *Entwurf* to make a liaison between neurosciences and psychoanalysis. Solms (1998) comments that, in general, the early Freud is much more interesting and contemporary than the later Freudian developments of the late twenties and thirties. Lacan (1959-60) uses the *Entwurf* and other texts that belong to the “early Freud” to fundament his theory of the linguistic unconscious. Despite the difficulty and complexity of the *Entwurf*, most of the concepts and theories that were later developed by Freud exist in this work in recognizable form. In no other text does Freud refer so specifically to thought processes. Although Freud (1895) does not present a systematized categorisation and hierarchy of thought processes, a quasi-developmental or chronological trend of thought processes in his description of the development of the psychic apparatus can be traced through the *Entwurf* (1895). Some of the categories Freud (1895) uses begin as simple modalities that gradually evolve together with primary and secondary processes, acquiring an increasing degree of complexity. Other categories remain predominantly under primary or secondary process modalities.

¹³ Freud had a close friendship to Willhelm Fliess, a medical doctor who also functioned as interlocutor of many of Freud’s ideas and writings. The epistolary correspondence has been published and is considered as part of the development of psychoanalysis.

Following the *Entwurf* (1895), thought processes can be listed in a hierarchical structure according to the following categories:

- 1) Cognitive Thinking (*Erkennendes Denken*).
- 2) Judgmental Thinking (*Urteilendes Denken*).
- 3) Reproductive Thinking (*Reproduzierendes Denken*).
- 4) Imitative Thinking (*Imitatives Denken*).
- 5) Associative Thinking with and without Attention (*Assoziatives Denken*).
 - a) Observing Thought (*Beobachtendes Denken*).
 - b) Conscious Observing Thought (*Bewußtes Beobachtendes Denken*).
- 6) Practical Thought (*Praktisches Denken*).
- 7) Remembering Thought (*Erinnerendes Denken*).
- 8) Critical Thought (*Kritisches Denken*).

Before going into the discussion of these thought categories, it is important to comment on some fundamental aspects. Freud (1895) proposes a model of thought processes, which supposes the creation an identity between inner and outer objects. In this model, the wished-for object in outer reality--which follows an early memory trace of satisfaction--does *not* correspond or tally with the wished-for representation. This pre-requisite is valid for Freud (1895) for all forms of thought; conscious and unconscious. It is only in the absence or dissimilarity with the object that thinking or creation of a mental representation can take place, even in most primitive or early forms. If the object is found and the searched-for identity is completed, discharge takes place, and the thought process has come to an end.

The difference between the representation and the incoming outer perception is what allows the thought process to be triggered and to reach its goal, when facilitation is found through the network of representations.

Some categories designed for primary thought processes (here designed as Categories 1 to 4) continue to function in secondary thought processes in more complex manners.

2.4.1. Cognitive and Judgmental Thinking (*Erkennendes und Urteilendes Denken*).¹⁴

Through Cognition (*Erkennendes Denken*), the organism strives to find an *identity* between a *body cathexis* (*Körperbesetzung*) and an outer object; i.e. hunger and the object to satisfy the hunger.

2.4.2. Judgmental Thinking (*Urteilendes Denken*).

In this level, Judgmental Thinking (*Urteilendes Denken*) is a simple form of thought process that involves the capacity to find a *primary differentiation* with the perceptual quality given by an external object.¹⁵ There is an expectation to be fulfilled in an external object and when what is expected is *not* exactly found, a *first primary thought quality* is created through the possibility of establishing a differentiation (*Entwurf*, p. 422-425; p. 328-329 in Strachey).

2.4.3. Reproductive Thinking (*Reproduzierendes Denken*).

Beginning with a low level of differentiation, this thought category provides the possibility of establishing an identity between a first own *psychical cathexis* (*mit einer eigenen psychischen Besetzung*) and an outer object. It later provides the possibility of reproducing an image or an element (*Entwurf*, p. 425-428; p. 328-329 in Strachey). “The struggle between the established facilitations and the changing cathexes is characteristic of the secondary process of reproductive thought, in contrast to sequences of association, characteristic of primary thought processes”(Entwurf, p. 428; 329 in Strachey).

At this level of thought, judgmental thinking (*Urteilendes Denken*) operates in advance of reproductive thinking (*Reproduzierendes Denkens*) and when other ready made facilitations exist, it also provides ready-made facilitations.

¹⁴ The terms in English I have taken from the Strachey translation and in German from the original text in the Fischer Taschenbuch Verlag version. Strachey made the official translation of the all the Freudian work.

¹⁵ This possibility presupposes at least a rudimentary memory trace of the first object that produces satisfaction.

2.4.4. Imitative Thinking (*Imitatives Denken*).

Making use of reproductive thought (*Reproduzierendes Denkens*), imitative thinking (*Imitatives Denken*) performs an action by means of reproducing an image in movement that has been cathected (invested with mental energy). It is “an imitative value of perception”, in which the action of the perceived object is copied or imitated not only in the action itself but also on a rudimentary identification level with the object (*Entwurf*, p. 428); i.e. a perception of somebody’s distress may evoke the corresponding distress in oneself, as in the form of compassion or empathy; i.e. a child may cry if another child falls down and cries or may touch in his body the place where the other child hit himself (*Entwurf*, p. 427-430; p. 332-335 in Strachey). The reproduction, at least in the beginning, is on body level, with a rudimentary symbolic value that will later give passage to more developed psychical representations level. It is a phase of mirror-like interactions (Lacan, 1966, Winnicott, 1967).

2.4.5. Associative Thought (*Assoziatives Denken*) without and with Directed Attention.

2.4.5.1. Associative Thought without Attention: Observing Thought (*Beobachtendes Denken*).

Freud defines attention as an important biologically regulated mechanism that establishes the psychical state of expectation, included perceptions which do not coincide in part with wishful cathexes. It is guided from the indications of quality in “psi memory neurons” to the outer perception. (Psi Neurons are those that are responsible for memories and mental representations; see Chapter 1, p. 20). The association flows freely without purposeful attention and reaches the point allowed by the available mental energy. Up to this point, the thought process is not conscious. However, when the associative flow stops, it does touch or hit upon memories, which translate themselves into conscious thoughts. Conscious links are created through automatic attention, which arouse mnemonic cathexes (*Erinnerungsbesetzungen*). This kind of thought is compared by Freud with the floating attention of a researcher who suddenly realizes something and asks he, “where does this lead to?” This kind of thought he calls Observing Thought (*Beobachtendes Denken*), (*Entwurf*, p. 451-454; p. 360-363 in Strachey). Freud says: „It is our ordinary thought, unconscious, with

occasional intrusions into consciousness—what is known as conscious thought with unconscious intermediate links, though these can be made conscious.” (*Es ist unser gemeines Denken, unbewußt, mit gelegentlichen Einfällen ins Bewußtsein, sogenanntes bewußtes Denkens mit unbewußten Mittelgliedern, die aber bewußtgemacht werden können*); (*Entwurf*, p. 464; p. 373 in Strachey).

2.4.5.2. Associative Thought with Attention: Conscious Observing Thought (Bewußtes Beobachtendes Denkens).

In Conscious Observing Thought, the same pathways of Associative Thinking are taken but this time *with* attention. The difference is that the thought process is now *conscious*. More and remoter neurones are cathected through this kind of thought than through associative thought without attention. This associative thought with attention can then become linked to cognition (Erkennen), in which the quality signs of the outer perception will be proved by judgment (*Urteilen*) and motor neurons are cathected. This is the case of speech association (*Sprachassoziation*), in which psy neurons (memory) are linked to sound-presentations (*Klangvorstellungen*), which also have a close association with motor speech-images. What is important here is that indications of speech-discharge put thought processes on a level with perceptual processes, lend them reality, and make memory of them possible (*Entwurf*, p. 454-456; p. 363-366 in Strachey). The link of thought-process indicators (*Denkzeichen*) to speech indicators (*Sprachzeichen*) by means of the mechanism of attention, allows the thought process to acquire a quality of consciousness. Speech indicators (*Sprachzeichen*) in themselves are reality indicators, not of external reality, but of psychic reality. Freud states: “Thus thought accompanied by the cathexis of the indications of thought reality or of the indications of speech is the highest, securest form of cognitive thought-process” (*Das Denken mit Besetzung der Denkrealityszeichen oder Sprachzeichen ist also die höchste, sicherste Form des erkennenden Denkvorganges*) (*Entwurf*, p. 464; p. 376 in Strachey).

2.4.6. Practical Thought (*Praktisches Denkens*).

This is a more goal or action-oriented kind of thought. The objective in this kind of thought is also to reach identity. This identity can be reached by various paths and can be

diverse in the case of different individuals. When the thought process is led by conscious attention, a thought process can usually find a certain difficulty in the action of thinking. From a purely biological point of view (attaining the goal of satisfaction of the need in outer reality) and in difference to cognition (*Erkennens*), the need for thought can cease, when a full innervation of the motor images is achieved across the pathway. These images usually represent that which is necessary to meet the specific action (satisfy the need). Facilitations are then created and the whole thought process is able to separate and become independent from the expectation process, which derives from the wishful thinking and from reality.

In practical thought, the action must not necessarily take place. Practical thought is a consciously imaged, practical representation of the action, which does not lead to action, unless the ego makes a voluntary decision to make it (*Entwurf*, p. 467-469; p. 377-379 in Strachey).

2.4.7. Remembering Thought (Erinnerendes Denken).

This is the secondary process version of reproductive thought. This kind of thought process implies that a psychic trace has produced memories of a perceived external object which have a corresponding object memory image in the psychis itself; that is, the perceptual integration the subject has made of the perceived object. In this case, it is possible to evoke or reproduce in a voluntary or quasi-voluntary manner a memory, image, or verbal representation. There is an inner representation which finds correspondence in the external world; even if they are not exactly alike.

Remembering thought could be included as a part of practical thought but does not exhaust it. Remembering thought is a pre-condition for all testing by critical thought (*Entwurf*, p. 469; p.379 in Strachey).

2.4.8. Critical Thought (Kritisches Denken).

For critical thought to take place, the precondition is that Remembering Thought already exists. Critical thought is a form of thought that advances backwards or in opposite

regressive direction in relation to other forms of thought; i.e. cognitive or practical conscious thought advances from inner perception towards the exterior of the organism or into motor action. Critical thought *does not* have a goal *nor* does it search identity (*Entwurf*, p. 469; p.379 in Strachey). It does have a function, which is to trace and prove thought errors that are normally caused by false perception of outer reality (W-Wahrnehmung); lack of attention, logical errors, or partiality in appraisal of outer conditions. It is through the repetition of previously taken thought pathways in this regressive, reverse direction that false appraisals or errors in thought processing are located. Intermediate mnemonic links, which until before had remained unconscious, are hit, and new associations are created in a subsequent, “après-coup manner”(*nachträglich*).

Freud (1895) proposes that thought processes that transit in a direction opposed to that of the main stream of the “perception – action pathway” produce displeasure. Conscious logical errors and contradictions with outer reality are lived as displeasurable. Memories of events that were very displeasurable or painful at the moment they occurred also tend to follow regressive processes or pathways. These painful memories attract a high degree of attention onto themselves, but their possibility or quality of representation is very reduced due to the high intensity quantity of the affects attached to them. The passage of thoughts is interrupted by the intense affect, which invades and comes into the place in which a representation should have been taken form. The affected perceptions are then forced into a regredient thought process. Extremely painful memories may sometimes acquire a quasi-hallucinatory quality. Vividly lived images regress to the extreme of the mental apparatus where perceptions are located. They can be compared to dreams, in which images acquire similar perceptual qualities. These memories will not be “tamed” until they stop generating affect. Only when excessive affects are “bound” by the ego can new representations be created (*Entwurf*, p. 470-77; p.380-87 in Strachey).

2.5. Discussion of Thought Categories and Comparison with Contemporary Theories.

The purpose of this section is to compare the above-described thought processes categorisations with more modern research with objects of study which seem to be closely related to what Freud proposes in the *Entwurf*. These ideas are Freudian elaborations which were also influenced by thinkers of the beginning of the 20th century. From the field of medicine and empirism, Freud was notably influenced by his professors, Meynert, brain anatomist, von Brücke, physiologist, and Hughlin Jackson, neurologist and contemporary of Freud who worked on the questions of aphasia. From philosophy, Freud was certainly influenced by Brentano's philosophy, whose courses he followed at University of Viena, as well as Nietzsche. Charcot, in relation to hysteria and hypnosis, is certainly to be taken into consideration.

2.5.1. Cognitive and Judgmental Thinking (*Erkennendes und Urteilendes Denken*).

Freud (1895) proposes a thought model based on positive-negative, one or zero values. If the valence is positive, discharge and identity are reached. It is on the negative valence, in which the absence or inadequateness of the searched-for object becomes evident, that early mnemonic traces are created in place of the wished-for object.

Other contemporary authors have made research on conceptualisations which could be compared to what Freud (1895) proposes as interaction of cognition and judgement. Rosch (1975) inaugurates research on the study of prototypes and categories. Rosch (1975) defines a *basic level* of categorization across taxonomies as the level in which all or most members of a category share perceptual and functional attributes. What is important is the category that gives identity to elements, not the element in itself; i.e. chair. In the *subordinate level of categorisation*; i.e. kitchen chair, attributes are likewise shared by all or most members of contrast categories; i.e. living-room chair. In the *super ordinate level of categorisation*; i.e. furniture; few, if any attributes are common to the members of the category. The super ordinate categories are internally organized around a few prototypical members (e.g. chair, table), which alone share significant numbers of attributes with other members of the category. Thus, the basic level is the level at which attributes common to members within a

category are distinct from attributes of other categories. The basic level is also the level at which objects are most usefully and naturally categorized.

An important question is if perceptual differences in categories are necessarily ruled by language or if these differences in categories can be established when there is no capacity of naming things. Whorf (1963) had proposed before that any differentiation in conceptual systems is determined by language; that is, one cannot think what one cannot say or put in words (in Lakoff, 1987). With a simple experiment, Rosch (1975) put into question Whorf's hypotheses.

Rosch (1975) made an experimental design in which her subjects were members of a tribe in New Guinea who speak Dani. In the Dani language, there are only two categories for color: mili (dark-cool, including black, green, and blue) and mola (light warm, including white, red, and yellow). In a set of remarkable experiments, she demonstrated that Dani speakers could identify differences in tones of colour, despite the fact that in the Dani language there were no specific words to express these differences in colour tonalities; i.e. focal vs. non-focal colours. Moreover, her experimental subjects were also able to learn new arbitrary names that were given to colours, which could not be named in their language. The conclusion was that perceptual differences could be established also in the absence of verbal language to name them or put them into words. Symbolic qualitative differences could be established in terms of very simple elements, like colour tonalities, which could be ordered in a simple or elementary grammar.

For Paivio (1983), alexithymia, which is a clinical disturbance related to the incapacity of recognizing or naming feelings, can be considered to be close to psychosis. The impossibility of distinguishing most primary perceptual forms can provoke deep disturbances in the evaluation of outer reality.

Peirce (1893-1913, published in 1998) developed in his philosophical writings on epistemology of science a theory which has lately acquired great importance. The Peircean conceptualisation was way ahead of his time and was badly understood by his contemporaries. More recently, Uexküll (1996) has made a successful application of Peircean theories in the field of Psychosomatics.

Peirce (1893-1913, published in 1998) proposes three levels of functioning in trying to define “reasoning” or what he calls “states of mind”: the “firstness”, which is a state of feeling in which something is present, without compulsion or reason and where no differentiation is possible; the “secondness”, or sense of reaction, which is the point in which the breaking one feeling by another feeling takes place. In this “secondness” state, a dimension is established in which one feeling is strong and the other is weak, “a sense of brute force”(1894). The thirdness, or thinking, as an awareness of learning or of going through a process in which a phenomenon is governed by a rule or has a knowable way of behaving, implies the presence of more than two elements. In Peirce’s (1893-1913, published in 1998) system, judgmental thinking or category differentiation, would correspond to “secondness”, in which a pair of elements tends to differentiate. The creation of a representation or some sort of symbolic language, would imply “thirdness”. In Rosch’s experiment, her New Guinea subjects had no words to name differences in colours, but different colour tonalities could be differentiated as symbolic “second” or “third” elements.

Following the assumption that emotion and cognition function in a complementary, integrated manner, Leventhal’s (1982, 1984, 1987) hierarchical structures could be compared with the before-describe Freudian categories. Cognitive Thought (*Erkennendes Denken*) could be placed in the sensory-motor level. In relation to the affect modules cited by Krause (1983) in Chapter 1, the finding an “identity of perception” could be compared to the discharge of neurotransmitters or neuropeptides in the Physiologic Module, as a result of an affective reaction. In the category of Cognitive Thought, when the “identity of perception” is reached, no further “thinking process” is required. In both cases, affect and thought processes are triggered and discharge without further development.

Judgmental Thought (*Urteilendes Denken*) enables the possibility of a first primary judgment. Judgmental Thought precedes and enables the enactment of Cognitive Thought and of a very primitive or primary “identity of thought”. Judgmental Thought is further developed by Freud in his more elaborate thought categories. The possibility of a basic differentiation in the recognition of an object that does not fall within the basic level of the created categorisation or perceptual form implies the production of an early form of thought development. In Leventhal’s (1982, 1984, 1987) hierarchical affect structures, the presence of Judgmental Thought or the capacity for “appraisal”, which is related concept in theory of affect, would be basic in the transition from a somatic-motor level in which innate expressive-

motor programmes and cerebral activating systems are stimulated automatically to the beginning of the schematic level, in which when the baby can evoke an image and bind the evocation with changes in outer reality. In the Affect Modules proposed by Krause (1983) (see Chapter 1), Judgmental Thought would set the basis for the first motivational behaviours, “action readiness” in voluntary motor function, as when searching for an object, in an early, automatic quasi-reflex like manner, which does not exhibit voluntary, conscious functions. The key word for this primary form of thought would be “*differentiation*”.

2.5.2. Reproductive Thinking (*Reproduzierendes Denken*).

For the first time, a rudimentary “re-production” of an image takes place. Whether conscious or not, the possibility of cathexing or investing an own psychic memory register implies the beginning of a internal psychological world of traces, phantasies, memories, and representations, conscious or unconscious at this primary level.

Researchers of the early parent-child interactions work on the interchange of affects, expressed through non-verbal facial gestures, tones of voice, body contact, etc. These affective interchange will later evolve in the baby, in a *après-coup* modality, into psychically integrated mental representations. In the case of troubled, conflict-prone mother-child interaction, transmission of transgenerational conflicts takes place through the transmission of unconscious phantasies or registers, which are consistently repeated from one generation to the other (Lebovici and Lamour, 1990, 1998; Cramer, 1990, 2004; Fraiberg, 1987; Bick, 1964; Lebovici, 1990; Fonagy, 2001).

In Leventhal’s (1982, 1984, 1987) conceptualisation of hierarchical structures of emotion (see Chapter 1), the possibility to cathect first psychic presentations, even if rather primitive, would mark the entrance into the schematic level. For Leventhal (1984), in the schematic level, “image-like memories” of emotional experiences are first registered. They are concrete imaged representations of memories of specific perceptual, motor (expressive, approach-avoidance tendencies and autonomic reactions), as well as of subjective feelings, which are components of the reactions during specific emotional episodes. The memory of early emotional experiences in images also implies the possibility of reproductive thinking, in

which an early psychic register of an emotional experience can be produced, without a clear differentiation between cognitive and emotional memory registers.

Taking into account the model for Modules of the Affect System proposed by Krause (1983) (see Chapter 1), Reproductive Thought would give the possibility of reproducing in a first level perception of emotions coming from body correlates (Perception Module). Emotions as pre-wired innate programs are best activated and perceived by the child as something that comes from the inside of his organism, and reflected or reinforced by the mother or by early caregivers. No perception, integration, or register of emotional experience is possible without at least an elementary psychic reproductive capacity of that which is perceived. For Freud (1895), Reproductive Thought fulfils this function.

2.5.3. Imitative Thinking (*Imitatives Denken*).

This thought process has to do with the early production and rudimentary reproduction of images in movement. It integrates motor neurones and movement(s) associated to them. Imitative thinking presupposes reproductive thinking, which implies an early symbolic capacity.

Piaget (1968) describes the sensory-motor stage in child development, which takes place during the first 24 months of life. For him, this stage precedes the use of language and thought. The child's sensations, perception, and motor movements become organized into what Piaget calls "action schemata". Although by 18 months there is a beginning of symbolism in the "as if" modality; i.e. the child can play with a pencil as if it were an airplane; when the child has difficult problems to resolve he still cannot detach himself from his behaviour in order to comprehend it. What we can observe is that the child symbolically mimics the anticipated action; e.g. when he has difficulty in putting a little chain into the opening of a match box, he opens and closes his mouth in imitation of the intended action before enlarging the opening of the box to put in the chain. This form of play is also an example of his inability to detach thought from action or of assimilating experienced situations through action, images, and movement (de Ajurriaguerra, 1980).

Lakoff (2001) in an internet article concerning the attack on America of the 11th of September, gives account of the “power of images”. Lakoff (2001) explains how the image that was played over and over again in television of the jetliner hitting the World Trade Centre is an image that produces effects of intense fear, precisely because it is a message transmitted only through images. “The Trade Centre is metaphorically an image of a bullet going through someone’s head, the flame pouring from the other side blood spurting out; each tower falling, a body falling”. Lakoff (2001) proposes these images transform themselves later into self-images, in which the spectator sees him or herself in inner phantasies of being hit and falling onto the ground. Lakoff (2001) sustains that the possibility of augmented extreme panic and horror reactions is totally intensified. Lakoff (2001) relates this effect to the functioning of the “mirror neurons” in the prefrontal cortex of the brain, which fire either when an action is performed or when the same action is seen as performed by someone else. Such neural circuits are believed to be the basis of empathy (Lakoff, 2001). An imitative imaged action potential having negative affect as a base can also be immediately triggered, as in the mechanism of identification with the aggressor.

Kernberg (2000) describes in borderline patients the presence of characteristic forms of identifications with parental figures that are automatically enacted when triggered by a stimulus. These identifications are maladaptive patterns that constitute an identification with the aggressor, whose source remains unconscious to the patient. Kernberg (2000) calls these interactions “dyads”; i.e. a child who was battered by his parents will probably batter his own children. The child will also tend to reproduce the double dyad of the identification, in which he acts sometimes as victim and sometimes as victimizer. The child acts in identification with the parent and in identification with the child, switching back and forth from being the abuser to becoming the physically abused child. The memory register of the identificatory dyad is constituted by the described circular interaction between self and object in this turn-taking quality plus the affect that links each interaction with the object; i.e. an abusive mother with great anger towards the child and an abused child with extreme fear of the mother.

Kernberg (2000) recommends in his treatment manual for the psychotherapy of borderline patients, to identify, in a first moment, together with the patient, one part of the dyad, plus the affect linked to the interaction. In a second moment, the remaining part of the dyad with its characteristic affect can be uncovered. The dyad must be clearly identified when enacted by the patient in the transference to the analyst or psychotherapist. The two parts of

the double dyad can later be put together. Only then can the unconscious triggering of the identification be avoided and the maladaptive pattern of relating that extends to the relationship with significant others be solved.

Stern (1995) also proposes the presence of whole “dyadic interactions“ in early-learned patterns of “being with another”; i.e. relating to mother during meal time. The introjections are registered in the memory systems as mother-child interactions in which no independent self, from a psychic perspective, can still be evoked.

In Winnicott’s (1956) concept of “maternal preoccupation”⁴, mother and child function in interactive dependency and not only in passive dependency of the child to the mother. The mother influences the baby in the interaction and the active response of the child influences the mother. Lebovici (1990) continues to develop the concept and states that through his early competence the baby has a very active role in the interaction and “creates” his parents. It is possible that this double interactive quality may be characteristic of early identifications.

The category of *Imitative Thought* in Freud (1895) describes how registers of dyadic forms of interaction remain in identifications as memories of an interaction, usually in movement. Imitative Thought usually underlies unconscious identifications. Imitative thought can also be conceived as the basis of “thinking in images”, as a symbolic code or grammar that was used at a time in which verbal language was not developed and interactions with first objects could not be totally related to an independent self.

For Leventhal (1982, 1984, 1987), the schematic phase in his model of hierarchical structures of emotion integrates sensory-motor processes with image-like prototypes of emotional situations. The emotionally provocative object will be perceived and registered in memory in accordance to the level of perceptual-cognitive development of the individual. Visual memories of emotional experiences are privileged and registered through perceptual-cognitive images. Schematic processing is also automatic and does not require the participation of more abstract, conceptual-level processing.

⁴ „primary maternal preoccupation“ is a normal biological „psychiatric-like state“ which appears in the mother shortly before childbirth and that continues for several weeks after post-partum. It is a state in which the mother is totally identified with the baby and regiments her existence through the baby’s needs; i.e. she wakes up when the baby groans but not with the roaring sound of the railroad that rushes near her house. In mothers with maladaptive maternity patterns, this state often does not appear.

The Freudian category of Imitative Thought can be located in the schematic structure of Leventhal's hierarchy. Krause (1983) proposes an affect modular system to give account of affect processing (see beginning of Chapter 1). If we were to locate Imitative Thought in the affect modular system, Imitative Thought could function in the Motor-Expressive Module, in those interactions in which a clear differentiation between the self and the identification with a dyadic interaction has not taken place, as in the case of maladaptive patterns. In the positive affective human semiotics modality, it takes place under the form of affective induction (*Affektansteckung*); in which affect regulation is integrated through facial gestures, tones of voice, and in the register of the interaction itself.

2.5.3.1. Associative Thinking without Attention or Observing Thought (*Beobachtendes Denken*) (*Assoziatives Denken*).

This thought category could correspond to what Freud later named "free association". When a patient in psychoanalysis succeeds in engaging in free association; the automatic thought process begins to evolve in an automatic manner and is ideally accompanied by the verbalisation of everything that comes into the patient's mind. Freud (1895) proposed that the acoustic motor images produced by speech itself tend to produce an affective discharge. The mechanism hits representations associated with the corresponding emotion and provokes memories to pop up. Free association then becomes a possibility of acquiring quality of conscience of the thought process itself, which otherwise, would have remained unconscious.

Green (2000), in his article about free association, proposes that borderline patients exhibit a central incapacity that prevents them from engaging in free association, situating them in a "phobic position". According to Green (2000), the phobic mechanism prevents the establishment of connections or bridges between different traumatic constellations. Any attempt to bring these constellations into contact with another would provoke the invasion of uncontrolled anxieties. The phobic mechanism is then a defence against the anxieties.

For Green (2000), associative discourse is marked by *effects of irradiation*. Free association produces an irradiation or infiltration of thoughts that had previously been unconscious or not conscious and that move into conscious discourse. Irradiation effects take

place because previously repressed thoughts acquire a new connection to associative chains of thought, which are part of the associative thought network. Irradiation effects can be observed in the form of insights but also in wishes and defences, which have indirect, mute, and invisible effects upon words (failed acts, particular expressions, affect-laden words). Free-association is forced through the high pressure of the flow of affects. In borderline patients the above-described process is experienced with high contents of fear and anxiety (Green, 2000).

Other automatic thought processes fall into the category of Associative Thinking. Problem solving, creative ideas, instant appraisal of situations with emotional reaction; dreams in which experiences lived throughout the day are elaborated are some examples of automatic, non-conscious (without attention) thought processes. Other examples are failed acts (forgetting something or errors in speech), the chained movements of choreography a dancer has forgotten but remembers when simulating the movements.

Krause (1977) and Rapaport (1951) sustain that creative thinking processes have to do with primary thought processes and are linked to multiple forms of secondary thinking. Creative thinking is related to the capacity to solve problems, in a manner, which is persistent, unusual, and new, overcoming difficulties in the formulation of complex problems and bringing about new meanings. Creativity is defined as “creative” from the perspective of a particular socio-economic discourse (Krause, 1977).

Niederland (1969), in his research of biographies of the “highly creative”, proposes the hypothesis that many of these creations are an unconscious, repetitive attempt to elaborate certain early childhood traumatic events. Creative thinking implies that the “creative idea”, product of repressed ideational-representations, must be at the service of the defense against a forbidden striving. Only in this manner can the creative idea come into conscience (Rapaport, 1951). What remains enigmatic is why or how the “highly creative” manage to transform traumatic experiences into creative productions, while for the less creative others, such experiences are a source of inhibition, symptoms, and recurrent unelaborated conflicts.

The key word for automatic associative thought process would be a displacement, which takes place through an associative network of facilitations or schemata.

2.5.3.2. Associative Thinking with Attention or Conscious Observing Thought (Assoziatives Bewußtes Beobachtendes Denken)

For Freud (1895), quality of conscience in thought processes is given by verbalization. In contrast to other thought processes that are not conscious, quality of consciousness is characteristic of Associative Thinking with Attention. A discharge on motor neurones associated with sound production and with motor-speech images takes place. Verbalization not only links attention to the thought process itself, making it conscious, but also integrates sound images with word images. A very similar theory of how the linguistic sign or words are created was later developed by Saussure (1916, 1999), which will be described in the next chapter.

Conscious Observing Thought has still other advantages: as the verbal production is conscious, it is possible to establish a verbal memory or representation of verbally described events.

On Leventhal's (1982, 1984, 1987) hierarchical scale, the before-described thought category would correspond to the conceptual level. In the affect modules proposed by Krause (1983), the Semantic Module, characterised by the naming and differentiation from perceptions, would be represented here.

2.5.4. Practical Thought (*Praktisches Denken*)

Practical thought is the conscious or secondary process version of identity of thought. Practical Thought organizes consciously imagined actions that can lead to y acts performed in a practical manner, in order to reach a determined goal or as an "experimental form of acting" (*Probehandlung*). Practical Thought is the result of the combined action of previously mentioned thought categories; namely, Judgmental Thinking, in which an anticipatory appraisal of reality is made. In Reproductive Thinking memories are consciously reproduced,

and in Conscious Associative Thinking with Attention, in which images are linked with words.

Practical Thought is used in every-day life. Practical Thought is commonly used as a working tool in psychological research, in cognitive-behaviour psychotherapy, or bio-feedback; as in applications related to image flooding or directed imagination exercises. Previously-made, primary-process facilitations underlie secondary practical thought. These early facilitation pathways serve to perform automatic associative facilitations or thoughts of mechanical quality. Although behavioural theory does not have a theory of the Unconscious, from a psychoanalytical perspective, primary process facilitations could be also influenced through consciously directed thought or through self-induced reinforcement.

Practical Thought can be situated in the conceptual level of Leventhal's (1982, 1984, 1987) hierarchical scale. In the affect modules proposed by Krause (1983), Practical Thought could be placed mainly in the Motivational Module, which prepares Action Readiness in conscious, secondary, voluntary motor function.

2.5.5. Remembering Thought (*Erinnerendes Denken*).

This thought modality has also a conscious, voluntary quality. It is inscribed within time and space coordinates. Its evocative quality relates this thought modality directly with learning processes.

Evocative thought is related to the creation and evocation of symbols. A symbol can be very simply defined as an element that represents another element (Löchel, in Mertens, 2000). In language, words are arbitrary symbols that through conventionalised meaning acquire a new meaning, when combined with other words. Conscious Remembering Thought presupposes symbolisation, in verbal or non-verbal modality, which is a pre-condition for the reproduction or evocation of that which has been symbolised. In Peirce's system (1893-1913, published in 1998), this would remit to "thirdness"; or the possibility of "thinking in words". For Peirce (1893-1913, published in 1998), for any symbolic process or symbolisation to take place, three elements must be in play; i.e. a flag is a symbol of a nation. The colours and emblems of the flag stand for or represent the nation. Up to here, two elements are present.

The third element would be the subject for whom the flag has a meaning or who can recognize to what country the particular flag belongs.

Remembering Thought is the prototype of conscious, voluntary thinking. Remembering Thought is indispensable for any possible retrieval function in conscious memory. A great spectrum research on memory functions and conscious memory function storage formats has been conducted. Most relevant memory formats, conscious and unconscious, are described below.

In Leventhal's (1982, 1984, 1987) scale, Remembering Thought can be located in the conceptual category. In the affect modules proposed by Krause, it would work at the service of perception of situation meaning in a conscious manner, in the Module of Perception.

2.5.6. Critical Thought (*Kritisches Denken*)

For Freud (1895), critical thought is capable of correcting logical errors or finding contradictions in reality. It has the possibility of stopping or interrupting other more "spontaneous", biologically guided, automatic thought processes that direct thought processes or motor sequences toward the exterior of the organism. An example of Critical Thought would be not eating when there is a doubt about the quality of the food, even if hungry; or suspending a longed-for activity or project for which there is great interest or motivation, if something does not "sound right".

Biological rules have two purposes: 1) to direct attention towards outer reality, proving the perception against factual reality. More attention is given to external stimuli, and the amount of attention is defined in relation to the importance of external objects; and 2) to follow the pleasure principle with an overall tendency to avoid displeasure or of unpleasant thoughts.

For Freud (1895), when thought processes are not conscious, "biological thought processes" regulate attention towards the exterior. Critical Thought advances in a reverse direction to all other biologically-regulated thought categories. Critical Thought creates displeasure, in the same manner that memories of painful or traumatic experiences do. Such

traumatic memories also advance in reverse fashion. Research on trauma shows that the treatment of these patients presupposes an understanding of mental functioning that differs greatly from other types of psychopathology and requires specific treatment techniques (Kirsch, 2000). Critical Thought does not work directly at the service of survival, but provides the individual with mechanisms that balance or compensate disordered or overloaded exterior-oriented survival mechanisms; i.e. post-traumatic disorders or dream processes that are also regredient and that provide repose or discharge to other parts of the psychic apparatus during the night. Critical Thought in its conscious, critically intellectual modality can be classified as conceptual in Leventhal's (1982, 1984, 1987) hierarchical scale. Critical Thought as conscious, intellectual modality that could be partly situated in the Semantic Module in the Modules of Affect proposed by Krause (1983), as naming and differentiation of perceptions. The modules do not provide a particular scheme for this particular kind of "retrogressive thinking". Critical Thought, under specific circumstances, can acquire an important degree of independence in relation to affect and to biological survival.

2.6. Memory Storage Formats

The following section has the purpose of describing the most commonly used memory storage formats and to relate them to the above-discussed categories of thought processes. Thought processes require learning formats in which to be stored and registered. The possibility of situating thought processes in comparison with modern memory-storage formats could indicate the relevance of the proposed thought categories:

Thought processes can be much better understood when placed in relation to memory storage formats. The latter constitute a rich field of modern research. Following Engelkamp (1997), memory storage formats in the brain can be classified in three general lines of study. Experiments designed to find out under what conditions learning, retention, and recall of lists or tasks take place point in general to these three major divisions:

- a) Item specific vs. relational processes;
- b) Automatic vs. controlled;
- c) Verbal vs. Non-Verbal.

2.6.1. Item Specific vs. Relational Processes.

Item specific processes refer to single goal-oriented processes. Practical Thought would be a good example of item-specific processes. Research on learning defines item-specific formats as linked to the evocation of specific or single elements.

For Craik and Lockhart (1972), *item-specific* information is of central importance in thematic episodic memory. In difference to the early imitative or reproductive thought, memories are coded in sequential patterns that imply the passage of linear time, as in sequential episodic memories.

Sequential episodic thought is also necessary for decodification and conscious comprehension of stored information. Many perceptions are stored in images and are constituted by many simultaneous, condensed elements. The process of unpacking the item-

specific description enhances the understanding of the perception (Tulving, 1972, in Paivio 1993).

For Tulving (1972) episodic memory refers to memories of specific events that occurred in a particular place at a particular time. Thus, an example of episodic memory would be the recollection of breakfast in the morning, what one ate, the persons that were there, and the conversation held. Episodic memory is mainly conscious and declarative. It can be narrated verbally.

As for retention in the memory, Mandler (1967) demonstrated that better retention is based on *relational processes*. Lists of words could only be long remembered by his subjects as long as these were bound to categories, which functioned as organizers that constitute the core of the encoding process. Objects are then easier to be perceived and/or remembered (Engelkamp, 1997) in terms of categories and not of individual items.

Images function in much the same way as words. The encoding of images is also related to categories or relational processes. In an experiment, (Bower and Glass 1976, in Paivio, 1981), gave their subjects a series of line drawings of nonsense figures, which the subjects later tried to draw from memory. On some trials, subjects were shown a fragment of each figure as a recall cue. The fragments were good or bad in terms of whether they comprised a natural sub-unit in the original drawing. The good cues were highly effective in cuing memory for the whole pattern. The “reintegrative power” of good cues was more than five times that of the bad ones. Paivio (1981) concludes that elementary images tend to become organized or merged into compound ones, like the items of a face. To the extent that this occurs, referential relations are then created.

2.6.2. Controlled vs. Automatic.

Controlled processes are directed through attention. They are conscious and require a certain amount of mental effort. Under conditions of stress or tiredness, controlled processes may become inaccessible to voluntary effort, and can also be influenced or interfered by other automatic processes.

An example of controlled processing is what has been called declarative memory. Declarative memory is defined as a conscious representation, product of mental processing and its functions (Cohen, 1984 in Bucci, 1997). Declarative memory can be linked to a specific memory of something that happened in the past which can be recalled or evoked. Declarative knowledge concerns *what* we learn and *what* we know. Schachter (1989) refers to this kind of controlled encoding as explicit.

Empirical research on learning and memory has been for a long time a common theme; but surprisingly, it is only after the 80's that discussion and empirical research of automatic processes began (Engelkamp, 1997). In terms of learning, automatic processes are particularly relevant because they are more difficult to be forgotten as other processes which require conscious performance.

Automatic encoding processes can function without attention and are less prone to be influenced, precisely because they are automatic. Automatic encoding offers the possibility of making "old information" immediately available, and retention is much more successful than in controlled processes. An example of automatic encoding are automated habits, skills, or "*know how*".

Automatic encoding is also referred to as "procedural information processing". This distinction originally emerged from the artificial intelligence field, in which the human information-processing system was viewed as analogous to a computer program that includes both a database (declarative memory) and a production system. The production system (procedural memory) is constituted by a series of functions that manipulate the database (Winograd, 1975 in Bucci, 1997).

A stored memory which is not retrievable or cannot be remembered, but that affects one's functioning, can be classified as procedural knowledge. Changes in the ideas that constitute the procedural memory can produce a reorganization of the thoughts in the declarative memory, without the subject being conscious of what changed in the procedural process. Procedural encoding organizes the registration and integration of perceptual and behavioral experience, which is not accessible to retrieval.

Procedural memory could be related in a certain manner to the psychoanalytical notion of the Unconscious, in that “thinking” that is not conscious takes place. Procedural memory is related to non-verbal registers in images (see below); i.e. smell, visual forms, sounds, etc., in which “thinking” takes place through images or forms that, like in dreams, constitute a form of thought and elaboration that is not fully conscious until it can be verbalized.

2.6.3. Different Encoding Formats: Non-Verbal and Verbal.

Non-verbal encoding has to do with a conscious modality of specific memories linked to sensory-motor systems (visual, auditive, gustatory, olfactory, kinetic). They are related to images and to other above-described sensory stimuli. Paivio (1969, 1971) proposed the distinction of these verbal vs. non-verbal systems before any researcher did. Nevertheless, Paivio (1969, 1971) does not make a distinction between semantic and non-semantic, like most authors. To him, the systems are verbal semantic and image semantic. This means that symbolic processes also regulate non-verbal encoding. The non-verbal signs can acquire meaning in relation to a relational network and can also be handled as conceptual.

Engelkamp (1997) shows that information is better learned and preserved when non-verbal image encoding takes place, particularly in the case of motor acts. Tasks, which are „done“ or “done and heard”, are much better encoded than tasks that are only verbally “heard” or “learned”.

Verbal encoding has also to do with auditory-motor systems; that is, the phonemic memory of the sounds of words and of words themselves. Engelkamp (1997) differentiates between “word marks” (Wortmarken), which are the mental lexicon representations in the verbal system; and “image marks” (Bildmarken) which trigger visual-sensory processes. Verbal-acoustic information is stored and organized through repetition before it goes into the semantic (meaning) system. According to Engelkamp (1997), the word- and image marks and their meanings are represented in a conceptual system. However, what Engelkamp (1997) remarkably proposes in his research is that these modal specific systems can and do interact with one another, influencing memory activity, independently and differentially, before the information reaches a level of consciousness.

There is another level of verbal encoding which is linked to automatic processes. For Tulvin (1972), semantic memory is the memory necessary for the use of language. It is based on the phonologic and phonetic memory of language. As to the phonologic aspect, semantic memory is the organized knowledge a person possesses about words and other verbal symbols, their meaning and referents, and the relations among them. Semantic memory implies an automatic or not conscious internalization of linguistic rules, formulas, and algorithms that are necessary for the manipulation of language. A native speaker knows if a particular linguistic construction is correct; if it “sounds” right, even if he does know the grammar rules. As to the phonetic aspect, it is the storage of sounds and sound-patterns specific to each language. When a word is repressed or cannot be remembered, what comes to the memory is the repetitive reproduction of words with similar phonetics or homophony. This kind of memory is mainly automatic and unconscious.

2.7. Discussion.

2.7.1. Memory-Storage Formats and the Proposed Freudian Thought Categories.

The memory formats which are described above evidently work in a complex, integrated, and combined fashion. Differentiations are proposed for didactic reasons, although in certain points, the systems work conjointly.

Item-specific formats imply the recognition or differentiation of single elements or categories. Item-specific formats enable the evocation of single-elements in the decodification of stored memories. The retrieval of memories under this type of format can be done in an intentional manner, producing conscious declarative (representational) contents; but automatic appraisal of categories is also possible. On the level of category recognition, item-specific formats could be related to Cognition (*Erkennendes Denken*), Reproductive (*Reproduzierendes Denken*) on non-conscious or automatic modalities and to practical thought (*Praktisches Denken*) on conscious, second-process thinking.

Relational Formats are crucial in establishing links among different types of information storage and their reproduction. The functioning of relational formats is usually automatic and non-conscious. The absence of attention gives the associative flow a limited

capacity of connecting. Relational formats can also function in a pre-conscious manner, like in free-association; in which certain memories that were not conscious are hit along the thought network pathway and made conscious. The Freudian categories of associative thought without attention or observing thought (*Beobachtendes Denkens*) fit into this category.

Controlled Formats. These formats have to do with conscious memories in their different modalities, imaged or verbal. For contemporary researchers, the possibility of consciousness is also linked to attention. Associative Thought with Attention and Practical Thought (*Praktisches Denken*) fall into this category.

Automatic Formats. Research results suggest that the best retention possibilities are encoded in automatic formats. A number of thought processes and intellectual performances, i.e. problem solving, can take place without the subject being conscious of them. Following the Freudian schema, secondary thought processes seem to be built upon more primary or primitively constituted forms of thought. Cognition, Reproduction, Imitative, and Associative Thought (*Erkennendes, Reproduzierendes, Imitierendes und Associatives Denkens*) are thought categories which also have the possibility of functioning in this automatic modality, when they belong to “unconscious” processes. The hypothesis that primary process thought facilitations are more deeply engraved seems to be confirmed. Procedural encoding formats belong to automatic formats.

Verbal Formats. Although verbal formats are usually associated with processing that is conscious and explicit, as in the capacity of verbalizing a memory, writing down a word, or remembering a name, the regulation of verbalization is usually automatic and unconscious. One can “forget” something one did not want to do; speech production can be accompanied with “failed acts” or mistakes; or one can maybe remember a name that “sounds” like the name we have forgotten but cannot retrieve the wanted one. Semantic memory is related with unconscious automatic verbal processes. Verbal formats are related with the thought categories of associative thinking with attention.

Non-Verbal Formats. They are related to the images words produce or the objects to which they refer. They are linked to sensory-motor perceptions and images of movements. For Freud (1895), in their non-conscious modality, they can be related to image imitative

thought (*Imitierendes Denken*) and reproductive thought (*Reproduzierendes Denken*). In their conscious modality, to associative thinking with attention and to practical thought (*Praktisches Denken*).

2.8. Summary.

For Freud (1895), the possibility of thinking can only be fundamented on the possibility of making a psychic differentiation between what is expected and what is perceived. A first psychic register can only be constructed in the empty space left by the missing object or in relation to category differences in relation to what is expected within the object.

The force that thrusts the system is given by a wishing system that does not find total satisfaction and strives to achieve it. When the apparatus can find an identity with the searched-for object, the thought act is finished. The possibility of thinking stems out from psychic registers created in a reencounter with the absence. What is searched for in the outside is regulated from the inside of the apparatus. Thinking is the creation of facilitations, memory networks, and the associations among them.

Thinking can take place without consciousness. There are unconscious and conscious thought processes. For Freud (1895), man is in great part regulated by unconscious thought processes of which there is little awareness. Unconscious processes have to do with primary process and conscious processes with secondary process. The first primary process facilitations are most firmly engraved and secondary process facilitations are constructed upon them.

There are mixed forms of thinking in which there is associative unconscious thinking with intermittent periods of consciousness or conscious thought processes with irruption of unconscious ideas.

Secondary conscious thoughts can enter consciousness when denied or preceded by a “no”. Conscious secondary logic is the denial of primary process logic.

The possibility of making an idea or thought conscious is given by attention and speech processing. Attention links reality with thought indicators and speech indicators, with the consequence that a thought that could have been unconscious becomes conscious.

For Freud (1895), most thought forms are reality- and biologically oriented and move in a progressive direction. Biological rules orient attention towards outer events, in interest of the survival of the organism. Critical thought, painful experiences, and thoughts in dreams during sleep follow a regressive movement. This regredient tendency is lived in arousal or vigilant states as displeasurable. High intensity charges of affect in painful experiences make the binding of these memories by the ego difficult, and their representation through thoughts is broken by excessive affect. Painful experiences take a regredient movement. For the above-mentioned reasons, these can only be elaborated with great difficulty, for as long as they continue to produce affect.

Secondary thought and perception is the result of what the apparatus can perceive. There is no unique reality to be shared by all persons, although there may be a general consense of what “reality” is. Differences between psychic and outer reality are commonly found. Apart from the personal interpretation of reality events, there is something in perception that remains as a rest that is not perceived, but that, nevertheless, produces effects. Freud calls this remainder (*Rest*) “the thing” (*das Ding*).

On comparing Descartes¹⁶ form of reasoning with that of Freud, Descartes started from the following proposition: “I think; therefore, I exist”; The Freudian logic, in contrast, arrives to the following conclusion: “I think where I *do not exist*”.⁷

¹⁶ Descartes (1637) is a French philosopher of the 17th Century from whose thinking derives empirical thought of our days. His main book is: Discourse of the Method.

3. LANGUAGE IN PSYCHOTHERAPEUTIC INTERACTION: A THOUGHT PROCESS MODEL OR AN INTERACTIVE COMMUNICATION MODEL?

In the previous chapters, affects and thought processes have been discussed in relation to how they interact in the creation of specific psychic productions. In this chapter, an initial attempt will be made to bring together affect, cognition, and language as three important elements in the psychotherapeutic interaction.

Linguistics, psychology, and psychoanalysis have different objects of study. Linguistics is concerned with the study of language, psychology with the study of behaviour, perception, thinking, language, among others. Psychoanalysis differentiates from the two above-mentioned disciplines in that it makes of the Unconscious its main object of study.

Frequently, concepts from different fields have been shared or imported from one field to another under the assumption they can function equally or can be considered as equivalent. A concept that stems out from a different field of study may enrich or complement the field into which it is imported, but many times cannot be directly compared or transposed as if it had originated in the field of application, precisely because of differing objects of study.

Some psychologists or psychoanalysts have made applications of the linguistic theory into their own field that not all linguists would approve. An example of this is Lacan's (1966) application of linguistic concepts into the field of psychoanalysis. Following Freud's ideas, he made a linguistic conceptualisation of the Unconscious. He proposed the Unconscious is structured "*like* a language" and made a reading of the "linguistic unconscious". He based his work on structural linguists, like Jakobson (1959) and B nveniste (1966). The former reacted positively to Lacan's application. Other linguists were not so enthusiastic. Lacan claimed he was not doing linguistics and called his application "linguisterie". For some psychoanalysts, his conceptualisation brought about a new understanding of psychoanalysis and a revolutionary contribution to psychoanalytic technique and interpretation¹⁷. For others, his

¹⁷ Among other innovations, Lacan finished the psychoanalytical sessions of his patients not according to the usual, regimented 45 minutes, but in a determined point of the patient's speech, under the theoretical assumption that the patient would be forced to further elaborate by himself the point where he was stopped. The former is grounded in the Zagarnik effect, in which the mind has the tendency to complete a Gestalt (configuration) when

new theory provoked heated rejection and debate, to the point he was thrown out of the French Psychoanalytic Society, and he had to create his own school.

Affect, thought processes, and language in psychotherapeutic interaction can be brought under the light of two models of study: an “intra-subjective” thought process model, and an interactive or “inter-subjective” communication- process model.

Although Alexander (1957) had already described the “corrective emotional experience”, which is described below, I propose to run the risk of mentioning a few concepts imported from the field of pragmatics in linguistics and from the theory of communication, that perhaps might be useful in further describing “inter-subjective” interaction in psychotherapy. An attempt will also be made to describe how “intra-“ and “inter-subjective” processes take place in psychotherapy, viewed as interactive phenomena. How these two fields play upon one another has to be carefully considered, as both have an own theoretical development and the process can be in certain points quite complicated. A very general description of the different fields of linguistics will be made as starting point, which I present it in a brief and schematic manner, as a complete revision exceeds the limits of this study.

3.1. General Description of the Different Fields of Linguistics.

Studies in linguistics are divided in the following dimensions:

- 1) **Semantics**; is “the study of the linguistic meaning of morphemes, words, phrases, and sentences” (Fromkin, 1998; p.158). Semantics is, therefore, the study of meanings. Subfields of semantics are lexical semantics, which is concerned with the meanings of syntactic units larger than the word.

- 2) **Morphology**; is the study of the internal structure of words and the rules through which words are formed. A morpheme is the smallest unit of linguistic meaning; words are formed in the combination of free morphemes and bound morphemes, like prefixes and suffixes; i.e. in the word “un-believ-able”, “-believ” is the *morpheme* that gives meaning, “-able” is the *suffix* that allows the word to be

left unfinished. Lacan considered important to produce new significations, through a new manner of punctuating the patient’s speech through interruptions, trying to produce new phrases, sentences, and mental elaborations.

derived into different forms, and “-un” is the *prefix* which gives the morpheme (and the word) a new meaning; that is, not to be believed.

3) Syntax has to do with the study of the rules that govern the sequence in which words in a sentence are ordered in a grammatical sense or the sentence patterns of language. When the words in a sentence conform to the rules of syntax, we say they are grammatically correct. When they do not conform, they are said to be ungrammatical.

4) Pragmatics is “the study of all those aspects of meaning not captured in semantic theory” (Levinson, 1983; p.12). This definition points to the context-dependent aspects of language in which meaning takes form. Meaning is contextual and is not given by what is being said in words; that is, meaning is independent from semantic features. In pragmatic meaning, the linguistic signs remit to the interpreters or speakers and not to the objects the signs refer to”; i.e. First speaker: “it is cold here” (what the first speaker feels); second speaker answers: “I will close the window“. Pragmatics is also referred to as “the study of those relations between language and context that are grammaticalized¹⁸ or encoded in the structure of a language” (Levinson, (1983, p.9).

5) Phonology. Phonology is the study of the ways in which speech sounds form systems and patterns in human language. Phonology, like grammar, is used in two ways—as the mental representation of linguistic knowledge and as the description of this knowledge. Unconscious phonological knowledge permits a listener who is a native speaker to recognize a ”foreign accent” when he or she is not a linguist, to make up new words, recognize if a linguistic construction “sounds” correct, etc.

6) Phonetics. Phonetics is the science of speech sounds, which are classified according to their point of articulation in the phonologic apparatus; i.e. “t”, “d”, are alveolar, the airstream is stopped by the tongue making a complete closure at the alveolar ridge; “p”, “b”, “m” are bilabial, the air stream is stopped at the mouth by complete closure of the lips. Phonetics is a part of phonology.

¹⁸ Grammaticalization is the encoding of meaning distinctions—in a wide sense—in the lexicon, morphology, syntax and phonology of a language.

3.2. An Interactive Communication Model: an Inter-Psychic Perspective.

An interactive communication model implies an event or interactive process between two persons in external reality, which can be filmed, coded, or observed. Dyadic interaction takes place in what I will call a horizontal modality, in which two persons interact face to face. For this kind of interaction, the field of pragmatics in linguistics can be of particular interest to this study. The following points of interest will be enlisted and further commented, according to a pragmatic and a psychotherapeutic model.

- 3.2.1. Meaning is not semantically determined.
- 3.2.2. Meaning is context meaning or what the context gives as meaning.
- 3.2.3. Meaning remits to the participants of the interaction.
- 3.2.4. The interaction is capable of changing the linguistic structure of the message.
- 3.2.5. The message is sent with a certain intention but what comes back may be different to what was expected.

3.2.1. & 3.2.2. Meaning as: Non-Semantic and Context-Determined.

For pragmatics, meaning is not produced by the words themselves, as in semantics, but is brought about by the context in which they are produced; i.e. Sender: “Have you seen Catherine?” Receiver: “I saw a red car parked at the entrance of the library” (From a semantic perspective, the answer is illogical, but if both know that Catherine has a red car, the answer, which is implicated, makes sense within the context). This contrasts particularly with the semantic perspective. We could think of an example in which a sender might ask an interlocutor while sharing a meal: “can you pass me the salt?” The receiver might answer semantically, “yes, I can” (with no act of passing the salt) and continue to talk about something else. Such an answer would violate one of the rules of conversational implicature¹⁹. The receiver might even be considered rude by the sender. The sender gives a semantic answer without considering the pragmatic context. In psychotherapy, many of the

¹⁹ Conversational implicature refers to the fact that two speakers that are implicated in a socialized conversation or interaction must respect certain conversational codes, so that the communication can take place. These refer to: *quantity*; the conversational interchange should be as informative as needed; not more informative or less than required; b) *quality*; (i) do not say what you believe to be false; (ii) do not say that for which you lack evidence; c) *relevance*; the contribution should be relevant; d) *manner*; the utterance should avoid ambiguity or obscurity (Levinson, 1983).

patient's communications also acquire a particular meaning which can only be understood within a specific context; that is, an act is produced in response to a statement that was not a direct command or plea.

Applied to psychotherapy, the first definition given by Levinson (1983), which is cited above; ("the study of all those aspects of meaning not captured in semantic theory") would imply that a certain grammar of interaction is created between patient and therapist, which is dependent on context and, more than often, is *not* put into words, but relates to certain patterns of interaction.

Face-to-face psychotherapy is an interactive process in which two forms of non-verbal signalization systems regulate the interaction. One is related to hearing and remits to tones of voice and other forms of affective sound interpretation. There is an interaction not only of *what* it said in the psychotherapeutical process but also of *how* it is said. The same phrase emitted in different tones of voice can acquire a total different meaning. The other form of signalization is related to the visual-motor system and is transmitted through affect in facial gestures. The codification of the latter has been systematized and can be empirically assessed. Many times, the semantic meaning, or what the speakers enounce, does not correspond to the mimic signalization; that is, affects that are transmitted through facial gestures in the dyad and speech do not have the required redundancy to produce coherent meaning. In dyadic interaction, both forms of communication become evident.

In psychoanalysis, the patient lies on the couch and the interchange of facial expressions is controlled. Interactive signalization is greatly reduced; but other semiotic indexes can and do produce a specific effect on the interaction; i.e. tones of voice, the text of the patient in which the analyst shows interest, chooses to comment on, makes questions, or interprets. In any case, the idea in psychoanalysis is to maintain these aspects as controlled as possible and not to promote this type of interactive signalization. The psychoanalytic process is oriented on the recognition and analysis of phantasies and inner representations of the patient.

3.2.3. Meaning remits to the participants of the interaction.

In pragmatic meaning, what is communicated does not adjust to the semantic meaning of the message or words. In the example, in which A says: “it is cold” and B answers, “I will close the window”, meaning remits to what is happening to one of the participants of the interaction, who has felt chilly.

Face-to-face psychotherapy interaction is different to every-day interactions. Successful psychotherapists do not react with their patients in psychotherapy as persons that take part in every-day interactions. Krause (1997, 1998) proposes that in every-day interactions the speakers, in order to achieve a socialized interaction, tend to follow a process of adaptation in which negative affects tend to be avoided or regulated. When the interaction is charged with negative affects, three things can happen: 1) The *acting-out* of aggression or of negative feelings can come into the relationship; 2) A descent in the communicative level takes place as a result of the adaptation or neutralization of negative affects. The latter is a defensive measure in order not to fall into the acting-out of negative feelings possibility and to enable the socialized interaction to take place; 3) Negative feelings are displaced or directed to another object or mental representation to avoid their coming into the interaction. A semiotic signalization takes place in which negative affect mimic is expressed but signalized as directed or belonging to someone or something else, usually by the avoidance of direct eye contact with the partner when negative affect signalization emerges. In these three possibilities, meaning remits to the mutual value of the participants of the interaction; i.e. in Option 1, the “face-to-face other” acquires an enacted “negative-feeling valence”. In Option 2, “the face-to-face other” is perceived as threatening and the interaction is “socialized”. In Option 3, the aggression is signalized as referring to some other object or person.

In relation to the coding of interactions, Birdwhistell (1968) proposed to create the science of *kinesics*, parting from the conception that body motion and facial expression belong to a learned, coded system which forms a “language” of movement, that is comparable to spoken language, both in its structure and in its communicative value. Shefflen (1973) proposed to apply kinesics in clinical work to create a method for the analysis of a psychotherapeutic interaction.

For Birdwhistell (1968) the social meaning of human behaviour is culturally variable. For kinesics, gestures, body movements, and the minimal elements of non-verbal behaviour with social meaning (kinemes) were isolated and combined; i.e. nod of the head. The idea was to form kinesic semantics, in the same way that phonemes are combined to form words with semantic meaning. A kinesic notation was also developed; i.e. (bb^h), meaning eyebrow raise with head nod. The movement of kinesics had little success and has been widely criticized. This “contextualized analysis”, from my view, remains merely in the “contextualized interaction”, precisely because the gestures do not always “mean” something; that is, there is not a consensual or arbitrary meaning of what each gesture means. Although certain patterns could be identified as “culturally determined”; i.e. certain rituals, women not glancing directly into the eyes in a patriarchal society, etc.; raising a hand and looking up has not always “cultural semantic meaning.” If every gesture, even if meaningless, as a phoneme by itself, when in different combinations had a conventionalized or arbitrary²⁰ “cultural or communicative meaning”, then it would be possible to make the analysis of a semiotic code or system. In Ekman’s FACS system (1978), in contrast, to every emotion correspond a coded facial gesture or blend of innervations; i.e. sadness, anger, etc.; which later, in the interaction, can be combined to form a semiotic system. In the latter, we can observe that the two axis of “intra- and inter-subjective processes” are at work.

In successful psychotherapy, the above-described processes function in a different manner. A successful therapist avoids responding and signaling to the patient in the same way as in every-day interactions. A well-trained therapist maintains neutrality (shows very reduced signalization) or enters the patient’s affective regulative system in order to perceive an affective process and has the capacity of coming out of it. The latter is called “observant participation”. The therapist, in contrast to every-day or pragmatic interaction, intervenes in the interaction as an interlocutor who suspends and puts into parentheses his own personal history. To intervene as an active every-day participant in the psychotherapeutic interaction would bring the therapist into contra-transference actions, which are his emotional reactions to the material of the patient and which interfere with the psychotherapeutic work. The same contra-transference feelings, if not acted out, can also help in the work with the patient.

²⁰ For definition of “arbitrary”, see Paragraph 3.3.1. in this chapter below.

3.2.4. The interaction is capable of changing the linguistic structure of the message.

In pragmatics, changes in the linguistic structure can be generated by the interaction; i.e. in the field of linguistics, observations show that when a child is in the phase of language acquisition, interactions with an adult that does not promote “baby talk”, modify and develop the previously used structures of language; promoting an evolution in language structures and language acquisition.

In psychotherapy, maladaptive forms of relating can be also modified by means of an interaction. Alexander (1957) coins the concept of “corrective emotional experience”. When the therapist in a particular context reacts emotionally towards the patient in a way different from what his primary inner objects have always reacted, corrective emotional experience can take place. Interestingly enough, changes in verbal and non-verbal interaction take place during psychotherapy (Krause, 1997, 1998). Mimic patterns of non-verbal interaction in the form of choreographies have been measured (Merten, 2000, Schwab (2001), which tend to remain consistent when treatment is unsuccessful and modified in successful treatments.

3.2.5. The message is sent with a certain intention but what comes back may be different to what was expected.

Pragmatics is also of special interest to our study because a dimension of intersubjectivity slips into the creation of the meaning of a communication between two persons. The *locutionary act* (utterance of a sentence with a defined sense and reference) takes the form of an *illocutionary act* when the sender utters a sentence and associates it with a conventional *force* or intention, through a statement, offer, promise, etc. The *perlocutory act* is the message that returns as a result of the effects produced in the audience or receiver by the utterance of the sentences (illocutory act). Such effects are special to the circumstances of the utterance (Austin, 1962 in Levinson, 1983); i.e. “Shoot her!” Such an utterance has an illocutionary force in ordering, urging, advising, etc. Nevertheless, the perlocutionary effect of persuading the addressee, frightening her, or producing laughter on an audience is specific to the circumstances of issuance. Figure 4 presents a communicative model stemming from the field of Pragmatics.

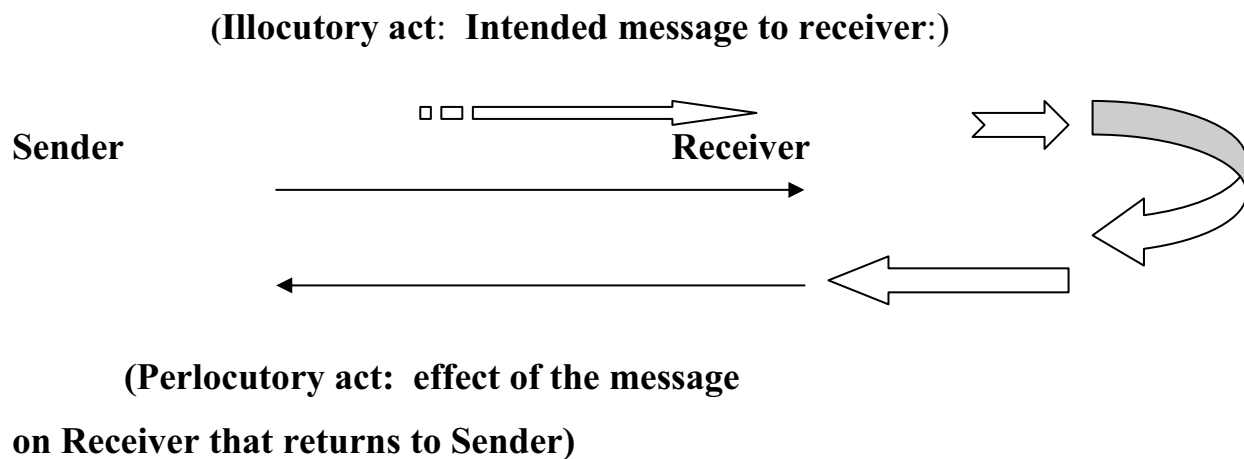


Fig. 4: A Communication Model (Austin, 1962)

Totally successful control of illocutory and perlocutory effects in psychotherapy are difficult to be reached. In face-to-face psychotherapy it is much more difficult to maintain the signalisation processes under control.

In relation to the difficulties that stem out in interactive communication, Lacan (1966) ironically comments that what the sender obtains from the receiver is his own message (sender's) in an inverted form. In this interpretation of the model, every sender of the interaction that later becomes a receiver when the message returns, only receives what he is capable of listening, according to his own intentions and projections.

3.2.6. A Communication Model.

Bühler (1934) was the first linguist to integrate an interactive communication model. Jakobson (1960) analyses Bühler's (1934) schema, maintains the first three phases Bühler (1934) proposes (the referential, the emotive and the conative level) and adds three levels more of analysis to the communication model can take place; on a single or on a multiple simultaneous event basis. Jakobson's (1960) model is presented below.

3.2.6.1. The referential function of the message.

This level refers to the destinatory to whom the communication is directed. In psychotherapy and psychoanalysis, although the destinatory is the psychotherapist that sits in front of the patient, the phenomenon of transference shows that many times the patient reacts

towards the therapist as he reacted to his internalized primary figures; i.e. Avoiding direct gaze contact with the interlocutor indexes that the negative affect refers to someone or something else and not to the speech partner. Direct eye contact implies the negative affect goes directly into the interaction²¹. (Merten, 1996, 2000).

3.2.6.2. The emotive function.

The emotive function concentrates on the speaker's state. It is the attitude of the speaker in relation to the addressee. Emotive function is many times transmitted through interjections, tones of voice, mimic or combined phonological and mimic configuration; i.e. Stanislavski asked a theater actor to transmit 40 different messages from the simple expression "tonight".

In psychotherapy, research on the complementarity or differences in leading affect in patient and therapist (*Leitaffekt*) proved to be, from the first session, a predictor for better psychotherapeutic outcome (Merten, 2000).

3.2.6.3. The conative function.

The conative function refers to what the speaker desires that the speaker think or do. It gives no place to the doubt of if something is meant or not. The conative function finds its most important expression through the vocative (asking) and the imperative (ordering); i.e. "drink!" No specific research on this level is reported.

3.2.6.4. The metalinguistic function.

The metalinguistic function makes reference to the code being used. This is the language that speaks about language itself, making language itself an object of conversation; i.e. "Mr. Jourdan spoke in prose without knowing it." We also practice metalanguage without realizing we are doing so. Consider the following conversation in which discourse is centered in the code; i.e. "This guy thought he was cool." "What is a guy?" "A man in informal

²¹ In certain psychoanalytical techniques, the relationship with mental representations is analyzed through the direct transference relationship with the therapist. The situation becomes problematic when the negative affect pattern is enacted and takes control of the therapeutic relationship.

terms”. “What do you mean by “cool”?” “He had no social fears”. In non-verbal language, there is no metalinguistic function.

3.2.6.5. The phatic function.

The phatic function on the channel refers to the means that are used to establish and maintain contact with the partner. It often serves to confirm if the circuit functions; i.e. “hello, can you hear me?” In Malinowski’s terms, the phatic function, gives place to the most ritualized forms, even to whole dialogues, whose only purpose is prolonging contact or maintaining a conversation.

When phatic function prevails over the others, the communicative level tends to be fixed on forms; i.e. In psychotherapy, “social smiling”, proved to be a manner in which the patient maintains contact predominantly through smiling, but in which other interactive significant affective interchange is reduced (Schwab, 2001).

The coding of the mimic of agoraphobic panic patients also showed an elevated phatic function, in which, instead of showing a fear pattern, they consistently presented a repetitive smiling pattern, which very probably is related to the fear of losing the object, if acting in another way (Benecke & Krause, 2004).

3.2.6.6. The poetic function.

The poetic function has to do with the way in which the message is encoded. Poetic function is not reduced to the sphere of poetics, although poetry can be a characteristic example. The poetic function does not only refer to language as an art. The poetic function refers to the choice of the best selection and combination in a communicative sequence that allows the message to arrive to the destinatary in a successful manner. In its verbal form, it retains phonological forms and rhythms that strengthen it; i.e. “veni, vidi, vinci”; this is an excellent example of the laconical message that the Cesar addresses to his soldiers that leads them to victory.

In psychotherapy, many times maintaining the code in which the psychic productions of the patient are encoded can make a whole difference in that the clarification, confrontation, or interpretation (message) of the therapist arrives onto the patient.

3.3. A Thought Process Model: an Intra-Psychic Perspective.

An intra-psychic thought process model would necessarily go more in the direction of the semantic model, in which words or symbols have a meaning by themselves and/or when they are combined or opposed (placed one before another).

Under the semantic perspective, semantic representational structures of the world in the mind of the speaker, which underlie every interactive dyad, also remit to both affective and psychic interpretations of the world. It is difficult to separate intra-psychic from inter-psychic mental functioning. Both processes complement one another and at the same time, present problems in their functions that are specific of each modality. In the intra-psychic modality, the coupling of speech and thoughts leads to the production of linguistic signs or words. How words and phrases come to the production of signification or meaning concerns the field of semantics in linguistics, which will be commented as follows:

3.3.1. The Concept of Linguistic Sign.

Saussure (1916), contemporary of Frege (1892, 1952), is considered to be the father of modern structural linguistics. In his pioneer book, “General Course of Linguistics”, Saussure (1916) exposes his famous conception of the linguistic sign.²²

$$S = \begin{array}{l} \underline{S} \text{ (signifier) (acoustic image)} \\ s \text{ (signified) (concept)} \end{array}$$

Through this equation, Ferdinand de Saussure (1916) proposes that every linguistic sign or word is constituted by two parts: the signifier, which is physically the phonetic or motor image of a word, (which can also be written), and the signified, which is denotative,

²² This mode of conceptualizing the linguistic sign: signifier/signified is proposed by Saussure and is widely used in structural linguistics.

points to the concept or mental image of the object it refers to. For Saussure (1916), words in their origin do not have a meaning. Only when the meaning of a word is agreed upon (within the system of language) or conventionalized, the linguistic sign is created (the word or signifier and what it signifies). The exception to the former is the case of onomatopoeic words that resemble in sound what they represent; (e.g. sizzling when referring to the sound of food frying in a pan on the fire). The acquisition of meaning of linguistic signs through a conventionalized agreement and use is called “arbitrariness”. The term “arbitrary” is maybe not so fortunate; but it only refers to the fact that the meaning has been defined through a conventionalized use. Furthermore, the exact meaning that a word acquires is given by the sentence or context in which it is found. Saussure (1916) coined the term “value” to refer to the meaning a word acquires when placed in a sentence or in a linguistic context; i.e. the word “bank” has different “value” (meaning) when placed within a sentence: “We stood before the riverbank” or “We stood before the Deutsche Bank”.

Saussure (1916) also realized that although there is a general agreement that a dog is a dog, when the word “dog” is pronounced, the image different persons would have of “dog” would be different, in size, color, and pedigree. The word would also have a different emotional connotation to every person; for someone it could have a menacing, phobic, aggressive character, while to another it might have the affectionate, familiar meaning a man has for his puppy. Affect also blends into words and language.

3.3.2. The Problem of Meaning.

The concept of meaning originates in the field of philosophy of language and has a stormy history, largely because “meaning” is a slippery idea that has proved difficult to define. The problem might stem out from the fact that verbal signs or words in themselves do not have meaning unless they are set in relation with something outside of the language or through their relation with other units of language (Paivio, 1981). The above-mentioned Saussurean concepts of “arbitrariness” and “value“ refers to this feature design of language. The “meaning” of a word cannot be established until this word has been set in context with other words. This conceptualization has immediate effects in the theory of knowledge of the world.

Aristotle²³ proposes the oldest and simplest definition of “meaning”. According to him, knowledge of the world comes through the creation of mental copies or images of the things in the world, which are shared by all people. If each language unit “means” something, then it everyone would understand the same thing when a word or a sentence is spoken.

Unfortunately, things are not so simple and the Aristotle’s theory is greatly questioned. The “common meaning” in this modality does not exist and the world is not conceived in the same way by speakers of all languages (Paivio, 1981). The problem of meaning also concerns directly our field of study in psychotherapy.

The problem of meaning can be described by the use of a metaphor in which meaning can be discussed as the difference between a dictionary and an encyclopedia. A dictionary defines each word in the language in terms of other words that can replace it. If we follow the word substitutions proposed by the dictionary, we would eventually find that we would come back to our original word, in a circular tour of meaning. An encyclopedia relates each entry to events or things outside the language producing links between conceptual fields. Some views of meanings have models that resemble dictionaries, others have models that resemble encyclopedias, others try to establish a balance between the two.

Frege (1892, 1952), from the field of philosophy of language, worked with the problem of meaning establishing parameters that later became a historical source of grounding concepts for the field of modern semantics and structural linguistics. Frege (1892, 1952) was also a pioneer in what I will call the “logic of representations” which functions in a different manner to what Ciompi (1982) proposes as “logic of affects” (see Chapter 1). Together with Frege (1892), other important pioneers in this field preceded the era of modern logic, computer languages; and information processing; namely, Peirce (1893-1913, published in 1998). his semiotics, or science of signs, and Saussure (1916, 1999), with the linguistic sign. Frege (1891, 1994) is also relevant to this study because he proposes a theory of how mental representations are created, basic for the understanding of the “intra- and inter-subjective” process revised in this unit, and for analyzing meaning and reference (see below) in language on a “phrase” or “sentence” level (before Saussure worked on a “word” level).

²³ Greek philosopher who gave the basis of realistic thinking.

In his book, *Sinn und Bedeutung* (Frege, 1892, published in 1952), he explains how a phrase or a sentence most of the time has a *referent*, that is, an object to which the word refers or points to. This referent to which a linguistic expression refers, he calls “*Bedeutung*”, which in English has been translated as “*reference*”; that is, the object to which a word or phrase refers to. In a famous example, he says, “the star which we see in the sky in the morning is also the evening star”. If we think that Venus might appear in the morning and in the evening, from the point of view of the referent (*Bedeutung*), the star that appears in the morning star and the star that appears in the evening is the same one; that is, Venus ($a = b$). A relationship through the referent is established and the phrase may be considered true. Nevertheless, if we say that „the morning star is the evening star”, our phrase is incorrect or false, from the point of view of sense (*Sinn*), which is the content or thought that constitutes the sign, word, or sentence. (The morning star is not always the evening star). When naming a referent, it is possible to have more than one word or signs that point to the same object; i.e. child, youngster, or toddler are different words that point to the same object. Just one word can also point to more than one referent; i.e. vertebrates.

Frege (1892, 1952) also demonstrates that it is possible to construct phrases or sentences in which only a *sense* (*Sinn*) is present, but no *referent* (*Bedeutung*) exists. This would lead us to pure abstract constructions that cannot be applied to objects in outer reality or objects that cannot be found in reality. Frege, (1892, 1952) cites several examples: “that heavenly body which is most distant from the Earth”; “the least convergent alignment”, or “Odysseus was set on land deep in sleep” The phrases in themselves can convey some sense, i.e. one could find alignments that are more convergent, but we do not know exactly what they refer to. Odysseus is also a mythological figure that does not exist outside the Odyssey, and the phrase refers to no one or no object in particular; nobody has met Odysseus. Other examples of how speech, thought, and communication processes can be decoupled when sense and reference (*Sinn* and *Bedeutung*) do not act as two axis that work at the same time could be: a paranoid delirium, based only on sense (*Sinn*) having a systematized, inner sense or logic without no reference; that is, no relation to the outer reality; or as in a communication system, like the one described in kinesics, with a highly developed reference function (*Bedeutung*); with notation of signs that show how the interaction is combined, but in which the signs themselves do not have not have a consistent inner semantic meaning, sense, or content (*Sinn*).

Frege (1892, 1952) defines a representation (*Vorstellung*) “as an internal psychic image which arises from the memories of sensorial or perceptual impressions (*Sinneseindrücken*)²⁴”. Frege (1892, 1952) discusses the problem of creating mental equivalences of objects or concepts. For Frege (1892, 1952), a representation and a verbalization are not the same thing. A representation is created as a result of how the representation differentiates itself from the sign (word) in which this *Sinn und Bedeutung* (sense and reference) are knit together. Thoughts, when put into words, are approximations or substitutions of the representation, but cannot be considered as exactly alike.²⁵ The internal psychic image (the representation) is saturated with affects and the distinctness of its constitutive parts can be varying and oscillating. Frege (1892,1952) states that a mental representation, even within the same person, has different tonalities and is not always linked to the same sense (*Sinn*). Frege (1892, 1952) also maintains that the use of the same words for one person can evoke totally different representations (*Vorstellungen*) in another and does not produce the same sense (*Sinn*). If the sense (*Sinn*) could be grasped, the representation (*Vorstellung*) would be different in two persons. Two persons could sit together and establish differences in relation to a certain representation but they would never achieve the comparison (*Vergleichung*) of this representation. For each person, each representation would be built in different contexts of consciousness (*Bewußtsein*).

Frege (1892, 1952) establishes in this way the differentiation between words and mental representations. For Frege (1892, 1952), during the process of putting thoughts into words, the exact translation of the primary or original text (*Urschrift*) is not possible. Only approximations are possible. Totally precise communication is not possible. Even if thoughts are closely related to sense (*Sinn*), colorfulness, tonality, and metric may be lost. It is the affect within the inner mental representation that provokes variations and oscillations in the sense (*Sinn*). For him, there is fortunately a kinship, a relatedness, or affinity in human representation; otherwise, art would not be possible.

In the psychotherapeutic process, staying on a mere dyadic interactive (referential; *Bedeutung*) process without any symbolization of mental representations (sense; *Sinn*),

²⁴ Perceptual impressions (*Sinneseindrücken*) should not be confused with “sense” (*Sinn*), which is the thought which is constitutive of a phrase or sentence.

²⁵ Some authors match representation with reference, although the term „representation“ is not totally defined in semiotics. Both pictorial and conceptual representations are possible. Bunge (1974) distinguishes representation from reference in that reference refers a construct to a thing as a whole, while the representations matches a construct with some aspect or property of the thing. (Nöth, 1995)

whether conscious or unconscious, would perhaps imply staying on a maladaptive dyad level or on the contrary, only producing mental representations that are not directed to anybody and without affective tonality, which would not allow cognitive working through. The concept of transference would also be no longer operant.

Psychoanalysts and clinical psychotherapists work with language, and a good part of the therapeutic treatment is based on verbalization. Standard verbal interpretations are many times theoretically adequate but not helpful to the patient; mainly because they are out of timing or because they disregard the way in which the symptom was originally coded, constructed, and integrated. A therapist that makes an interpretation to a patient may transmit his own colorful affective *sense* and *reference* (in Frege's terms). Yet, it might be that that which is meaningful for the patient is felt and understood in a different manner. The whole meaningfulness of *sense* cannot be reached and the representation that can be transmitted as reference may be subjective. For this reason, some theoretical currents propose that the therapist interpret as little as possible or orient interpretation only in the direction in which the patient himself can catalyze the "meaning" he is capable of constructing. Aulagnier (2001) proposes that psychoanalytic or psychotherapeutic interpretations can perform a form of "violence" experienced by the patient as a transgression that hinders all possibility of further free association whenever a therapist assures "a= b".

3.3.3. Construction of Meaning and Linguistic Levels.

The production of a new meaning necessarily implies the passage from a lower significant linguistic unit to a higher one. To this respect, Beneveniste (1966) proposes the concept of linguistic level or unit, as an operator that allows the entrance from a less complex unit of signification into a higher one and to define the relations among elements in the same level of signification. An example of a simple or less complex level of signification would be a word. The next complex unit of significance would be a phrase.

Beneveniste (1966) describes the relationship among units belonging to the same level as DISTRIBUTIONAL. On the other hand, when the elements in the previous level are transported into the higher one, they are said to be INTEGRATIVE. This means that in order to come into the next higher level of meaning, the lower level of organization is presupposed, taken into account, or integrated into the new higher level of signification; i.e. the possibility

of giving signification to the syllable “tra-“ in the lower syllable level of signification is transported and integrated when entering a new word level of signification; i.e. “trapeze”. Only when the lower level unit is integrated into the higher level one can a new MEANING be produced; i.e. life is a trapeze (new entrance into a higher phrase-level of signification). Any possibility of entering from a lower-level unit into a higher-level unit requires the production of a new MEANING.

When going in the opposite direction, that is, from a *higher* into a *lower* level of meaning, Benéveniste (1966) refers to this process as FORM. Any linguistic analysis requires the possibility of FORM; that is, the capacity of dissociating or dismantling elements that constitute a higher level into its lower level units.

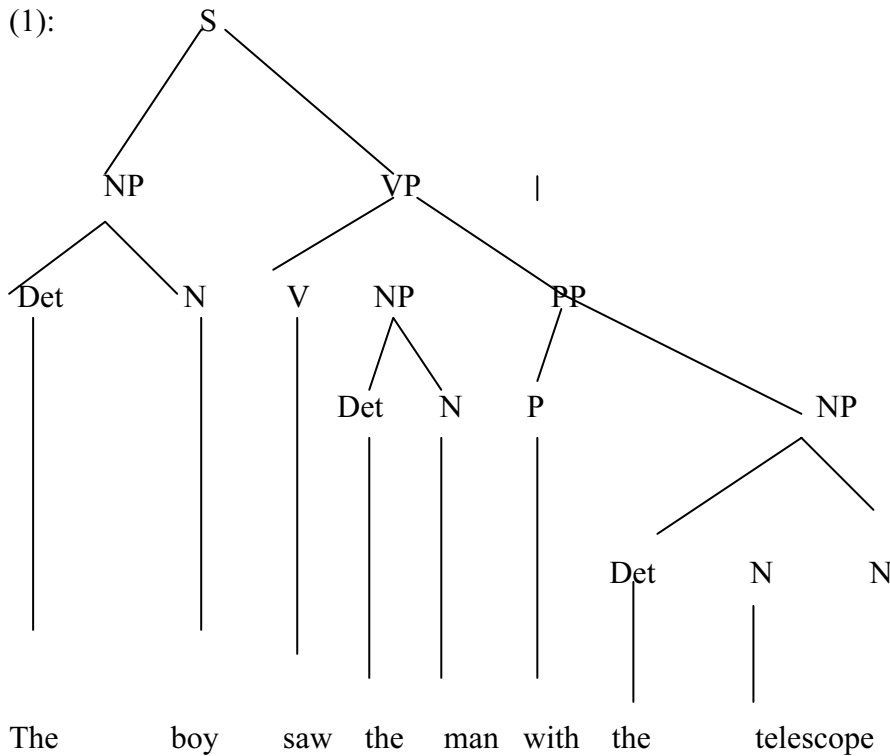
FORM and MEANING appear as joint properties that appear in language. Their mutual relations discover ascending and descending operations; as in the case of grammatical or syntactical analysis, that are possible due to the articulate nature of language.

In linguistics, trees for structure analysis of phrases are of common use. The following phrase is an example not only of FORM but also of MEANING analysis. Apart from the usual grammatical analysis into the smallest meaningful parts, the phrase also exemplifies how syntax that is ambiguous can change meaning. The sentence is the same, words are not modified, and meaning is dependent on how the structures of syntax are combined, in relation to what elements of the sentence function as modifiers.

Example: “The boy saw the man with the telescope.”

The first meaning refers to: the boy used the telescope to see the man (See below Fig. 5, Phrase Structure Tree 1.

Fig. 5: Phase Structure Tree 1



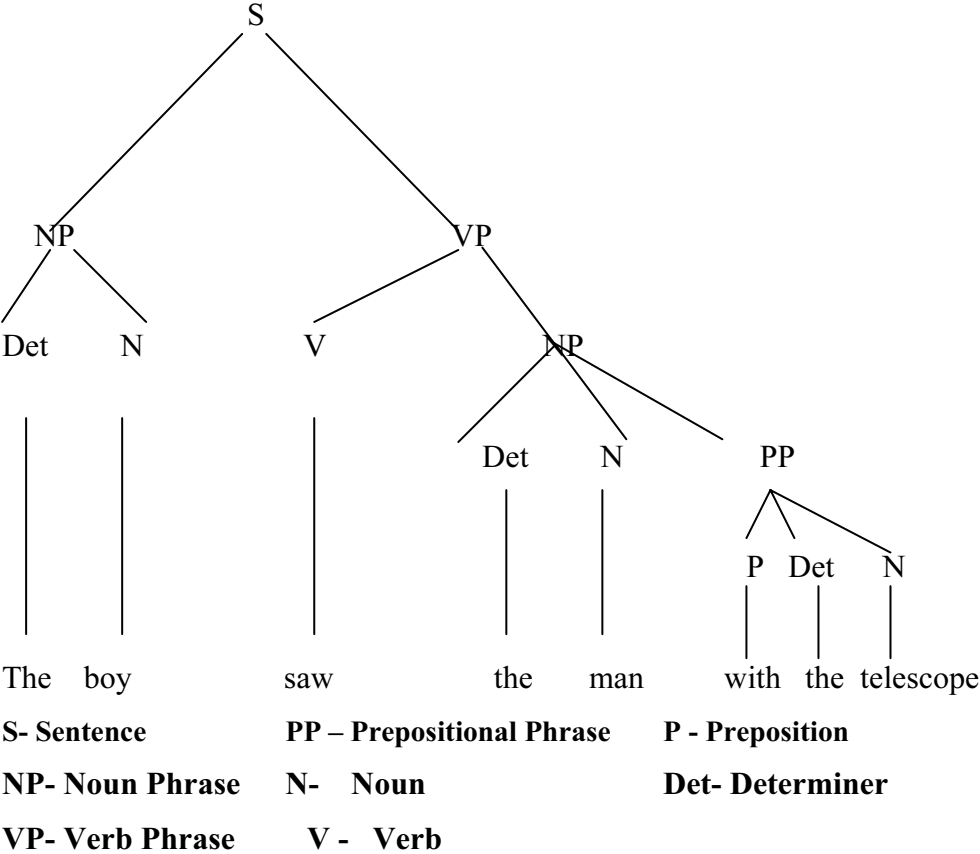
S- Sentence **PP – Prepositional Phrase** **P - Preposition**
NP- Noun Phrase **N- Noun** **Det- Determiner**
VP- Verb Phrase **V - Verb**

The key element is the PP (prepositional phrase) directly under the VP (verb phrase), where it has an adverbial function and modifies the Verb saw.

The second meaning (see Fig. 6): “the boy saw a man who had a telescope”, the PP (prepositional phrase) *with the telescope* is positioned under the NP (noun phrase) direct object, where it modifies the Noun man. Two different interpretations are possible because the rules of syntax permit different structuring of the same linear order of words, as shown by the phrase structure trees below (Fromkin & Rodman, 1998).

Fig. 6: Phrase Structure Tree 2

(2): The boy saw the man with the telescope.



These two structure trees illustrate how locating different underlying linguistic structures organize the meaning of the same sentence, giving two completely different senses. It also shows how a sentence can be dismantled into the smallest word units but also how different linguistic levels, in this case defined by prepositional phrases, construct different meanings.

This typical example has been imported from linguistics, with the idea of demonstrating that other “meanings” can also be created in relation to “higher linguistic levels”. In this example, meaning cannot remain on a unitary semantic-word level and must be traced to higher linguistic levels in which words are combined among themselves; i.e. previous text-analysis systems have privileged the detection of isolated “emotion words”

(Mergenthaler, 1996)²⁶ or “referential activity” words (Mergenthaler & Bucci, 1995) (see description below). In this case, words in sentence context and higher levels of meaning are lost or not detected.

Lévi-Strauss (1958 et 1974b) in his analysis of myth structures affirms that myths are forms of language which function at high linguistic levels, with high cognitive and emotional meaning. Lévi-Strauss (1958 et 1974b) comments that the significant value of language is not due to the meaning of the sounds or phonemes in words themselves but to the different combinations that produce words, and the meaning produced by combinations of words in sentences. The concept of arbitrariness in Saussure (1916,1999) is contrary to the position of certain philosophers of language that believed for some time that sounds in words had “a meaning” of their own; i.e. big or heavy objects were named with long vowels and smaller ones with short vowels, etc. In high linguistic levels, semantic level, although existing, can come to the point of being abandoned. This argument prepares the terrain to explain why metaphors produce meaning in phrase or sentence levels in which the figurative meaning that is produced is no longer semantic (see next Chapter).

Form and Meaning can also be applied to psychoanalytic or psychotherapeutic work. A patient may work through or create a *new meaning* when linking together two or more events that were before dissociated. An interpretation can be considered correct or helpful when it produces associations and new meanings in the patient. In relation to *form*, a therapist, after listening to global, generalized narrative or therapy material can come down to simpler structural elements; i.e. how identifications in the patient have taken place or how an unconscious message travels from one generation to the next in a three-generational genealogic tree representation, which includes grandparents, parents, and children.

²⁶ In Mergenthaler’s (1996) theory, emotion and abstraction words can be coded combined through a computer software system to detect “clue” moments and cycles in psychotherapy sessions.

3.3.4. The Concept of Mental Representation in Freud (1895, 1915, 1923): Thing Representations and Word Representations.

For Freud (1895, 1915, 1923) thought processes and contents as well as the mental elaboration and reproduction of perceptions are explained from the concept of mental representation (*Vorstellung*). For him, mental representations (*Vorstellung*) have the following characteristics:

- (i) They can be *conscious* or *unconscious*.

Representations can be *unconscious* as an effect of repression. Freud (1915) opposes representations and affects because both have very different procedural destinies. Before repression takes place, representations are repressed (*verdrängt*) and affects are suppressed (*unterdrückt*), which means they are no longer conscious and may migrate and associate to other representations. In obsessional neurosis, affect that is linked to a painful event or representation can be displaced to another representation, of insignificant affective value to the patient. In hysteria, affect is discharged into the body and the repressed representation is symbolically represented through a somatic symptom (see Chapter 1).

- (ii) Representations are repressed under two types of repression: primary repression and secondary repression. In primary repression (*Urverdrängung*), the elements that are repressed are of early, pre-verbal nature and never have come to light. Primary repression is characterized mostly in relation to the effects it produces. Repressed elements can be inferred from the associations of the patient but cannot be made conscious. These repressed thoughts most probably remained as memory traces that were not represented. Primary repressed elements function also as a source of attraction for other related representations that, in consequence, are also repressed. Secondary representations can also have an unconscious quality, but were repressed *après-coup*; that is, the representation was once conscious and was later repressed. Secondarily repressed thoughts can become conscious through psychoanalytic work.

- (iii) A mental representation is constituted by the association of a word representation (*Worrvorstellung*) and a thing representation (*Dingvorstellung*). Mental representations are conscious, when the word representation (*Worrvorstellung*) is associated to the thing representation (*Dingvorstellung*). Word Representations (*Wortvorstellungen*) derive

from the auditory memory of a spoken word. Thing representations (*Dingvorstellungen*) derive from the *visual* perception of things. Word representations can be associated with secondary process (consciousness) and thing representations--when not associated to word representations--with unconscious representations or primary process thinking.

Freud (1915) defines “*thing representations*” as an investment, when not of the direct mnemic images of the thing itself, of those mnemic traces of which they are derivatives and that maintain a distance from “the thing” (*das Ding*)²⁷ (the *Unconscious, das Unbewußte*, 1915). Thing representations are *not* to be understood as a mental analogue or duplicate of “the thing” in itself. They are related to the inscription in the psychic system of particular aspects of the object and to different systems or associative complexes related to drive libidinal circuits. The thing (*das Ding*) cannot be totally pictured or presented (*dargestellt*). The thing (*das Ding*) could be referred more as a “presentation” than as a “representation”, as in word representations, in which there is an attempt to reproduce in memory a copy of perceptions originating in the external world. The thing (*das Ding*) cannot be put totally into an adequate discourse either, because there is an inherent difficulty in verbalizing that which cannot be represented or consciously thought. For Freud (1937), images that reach consciousness that are linked to the thing (*das Ding*) retain such an amount of increased affect, in its discharge dimension, that the remembered image presents a quasi-hallucinatory quality; i.e. this is the case of childhood screen memories (*Deckerrinerungen*), in which one apparently insignificant element, aspect, and/or a scene are vividly remembered with colors and luminosity, as if in a film, but which in truth are a displacement that conceals the original memory, leading to a repressed unconscious phantasy.

Word representations are stored as auditory memory, with sound quality that remits to word forms, and thing representations are closer to images. The closer thing images are to inner perceptions of hallucinatory quality; i.e. half forgotten dreams or hypnagogic images; the more difficult it is to evoke them voluntarily or consciously.

As for optic or visual memory traces, thinking in images and visual thinking is possible, although the quality of consciousness is imperfect; i.e. the evocation of dreams and preconscious phantasies can illustrate this aspect (see Chapter 2). For Freud (1925), thinking

²⁷ “Das Ding” is defined by Freud as rests of perceptions that are not integrated but that are charged with enough mental energy to produce effects in the psychic system.

in images is closer to unconscious thinking and takes place earlier in terms of onto- and psychogenetic development than thinking in words.

Word representations (*Wortvorstellungen*) are not privileged representations of the auditory over the visual systems. They are closer to consciousness because they were constituted in a phase of development in which language was present. Word representations, when repressed, can be also be treated like thing representations; as in dreams or as in the language of schizophrenics, undergoing the laws of primary process (condensation and displacement).

When the verbal image (*Wortvorstellung*) is associated to the memory of the image of the thing representation (*Dingvorstellung*), quality of consciousness is acquired (Project, *Entwurf*, Freud, 1895), and verbalization is also possible.

(iv) Representations become a part of or are inscribed in the memory network. Representations become part of memory associative series. Repressed associations tend to attract other related chains of associations. For this reason, free association turns out to be not so free, is over-determined and steered by unconscious complexes; i.e. associative series, representations coordinated with other representations and not to a particular sensorial quality, unconscious phantasies. From this perspective, Freud's (1915) *Wortvorstellung*, can be related to the linguistic notion of signifier (see Saussure above). In Saussure (1916, 1999), word forms (signifiers) relate to one another and produce meaning; in Freud, representations also appear as chains of thoughts that relate among one another, not having a particular sensorial quality.

(v) Representations differ from memory traces in that the first are the mental energetic investment of memory traces.

Freud's (1915) description of "thing representations" (*Dingvorstellungen*) and particularly his differentiation of "traces" and "representations" brings to mind how Wittgenstein (1967) uses the term *Vorstellung* (as image or representation). For Wittgenstein (1967), the *Vorstellung* takes the form of "presentation", not centering it on a referent or on referentiality (*Bedeutung*). For him, there is *no bridge* between a „*Vorstellung*“ and the virtual image that represents an object. The image is the object and does not need to be

reproduced regardless of who is there to interpret the image; i.e. to this respect, one could think of the realism of images in a nightmare. For Freud (1915) memory traces can also have this presentation quality, which could turn to “re-presentations” when evoked. Both for Freud and Wittgenstein, “presentations” or “traces” maintain their constitutional nature in terms of original inscriptions.

Interesting to the linguistic perspective of this chapter is the amazing similarity between Freud’s (1915) theory of thing and word representations and Saussure’s theorization of the linguistic sign. Both for Freud (1915) and for Saussure (1916), there is a material acoustic word that remits to the image of the word. Freud (1915), in a necessary difference to Saussure (1916), uses his representational theory to give account of unconscious and conscious representations; but both coincide in how representations, signs and symbols are constructed; an auditory register that remits to an image. It is not known if the work of Saussure was known to Freud or the work of Freud to Saussure. Freud’s (1891) conception of “thing representations” (*Dingvorstellungen*) and “word representations” (*Wortvorstellungen*) begins as early as his article on aphasia, *Zur Auffassung der Aphasien, eine kritische Studie*(1891.)

For Freud (1915), when “thing representations” and “word representations” come together, they refer to some object in outer reality. In comparison with Frege’s theory of the philosophy of language, Freud (1915) also maintains a differentiation between an *internal signification*—that is, when word representations are charged with all the corresponding affective connotations that thing representations give them, and with—and an *external signification*—when the “thing representation” remits to an object in outer reality, in a denotative manner.

Other authors, like Lacan (1966), develop this representational theory further. Lacan (1966) proposes an image can remit to another image or a word to another word, producing effects of signification or creation of new meaning. Lacan (1966) refers then to signifiers that remit to other signifiers; which he expresses as: s/s.

The former refers simply to the conception that any object or idea can be represented by another object or idea to which it is equivalent, can create a new meaning. In Melanie Klein’s (1930) theory of symbolization and symbolic equations, children, without the use of

language, express their inner objects, phantasies, and early mental representations through play. Klein (1930) proposes that objects in the beginning are perceived as partial²⁸ and related to the body; i.e. the breast, feces, penis. Initially, the child only disposes of his own body to express symptoms. Anxieties are often represented through corporal symptoms. The child also plays with external objects in reality and makes them function as if they were equivalent to his internal objects; i.e. a piece of paper can be used as an airplane and can represent anxieties when the airplane bursts in flames or cannot fly. One could think there is a difference between Klein and Freud in that Klein refers to symbol formation in relation to objects and phantasies and Freud to words. Even so, both maintain a similar position in relation to the structural psychic movement of unconscious thoughts and representations. Freud conceptualizes condensation and displacement as mechanisms in the production of psychic products to which ideas and words are subjected and Klein conceptualizes how the formation of symbols (symbolization) can be observed in play, acts, and symbolic use of objects.

3.3.5. The “Psychoanalytic Treatment” of Linguistic Concepts: how Words are subjected to Psychic Mechanisms.

For Freud (1900), verbal language also suffers the transmutations of psychic mechanisms. Words can also undergo the effects of primary process mental mechanisms, condensation and displacement. Freud (1900) exemplifies this phenomenon in the manner in which thoughts, images, and language are handled in dreams. Under condensation, one whole chain or several chains of thoughts can concentrate in a single ideational element. Intermediate ideas in the form of compromise formations and composite structures are also constructed under the sway of condensation; i.e. the image of an uncle with the lenses of the father. Ideas transfer their intensity from one to another on the basis of mutual relations, which in language can be compared to associations made on the basis of homonyms or verbal similarities. Under the effect of displacement, the intensity of a representation in a chain of thoughts can be suppressed and transported to other chain of thoughts and substituted (*die Traumdeutung*, 1900; i.e. a king can stand for a father image). Freud also maintains the same condensation-displacement mechanisms are involved in all psychic productions; that is, phantasies, speech production, formation of symptoms, failed acts.

²⁸ For the Kleinian theory, a person chosen as object of love (i.e. the mother) can be identified by a part of the body that corresponds to the dominant drive of the baby or small child; i.e. breast, feces, penis. This object is also related to all the symbolic equivalences it stands for.

When language appears in the dream itself or in the narration the patient makes of the dream, the mechanisms of condensation and displacement touch the “thing representations”, which have no manner of representing themselves other than when they are attached to substitutive words. As a result of the former, new word substitutions and formations are made, forming chains of related meanings and substitutions (Freud, 1915).

Freud (1900) in the *Dream Interpretation (die Traumdeutung)*, illustrates how words can be treated in dreams. He cites Artemidros of Daldis, who gives account of the most complete and careful work on behalf of dream interpretation in Greek-Roman times from the beginning of 2000 A.D. Artemidros narrates what he considers to be a most assertive interpretation of a dream in these remote times: “Alexander the Great of Macedonia had Tyros under siege but the city opposed great resistance. Somewhat worried about the situation, Alexander has a dream: a satyr dances on his shield. Aristandros, well known for his talents in dream interpretation, was fortuitously a part of the escort of the monarch. He is brought to Alexander. Aristandros simply splits the word “Satyr” in two: “Sa-tyr”, which in Greek means “yours is Tyros”; thus counseling Alexander to intensify his attack, so that he would become the Lord of the Syrian city.” (Freud, 1900, p. 104).

It is difficult to know through this example if Artemidros understood something about Alexander’s unconscious. In any case, Freud (1900) develops a theory of word transformations that commonly appear in the narration of dreams and in slips of the tongue²⁹. Dreams are so closely dependent on verbal expression, that one could think every language has its own dream language. The translation of verbal expressions that take place in dreams to a language other than that in which the dream is dreamed is also very difficult. In long-term analysis, the dream language of a patient sometimes acquires an individualized form of language that translates into characteristic and/or personalized forms of grammar.

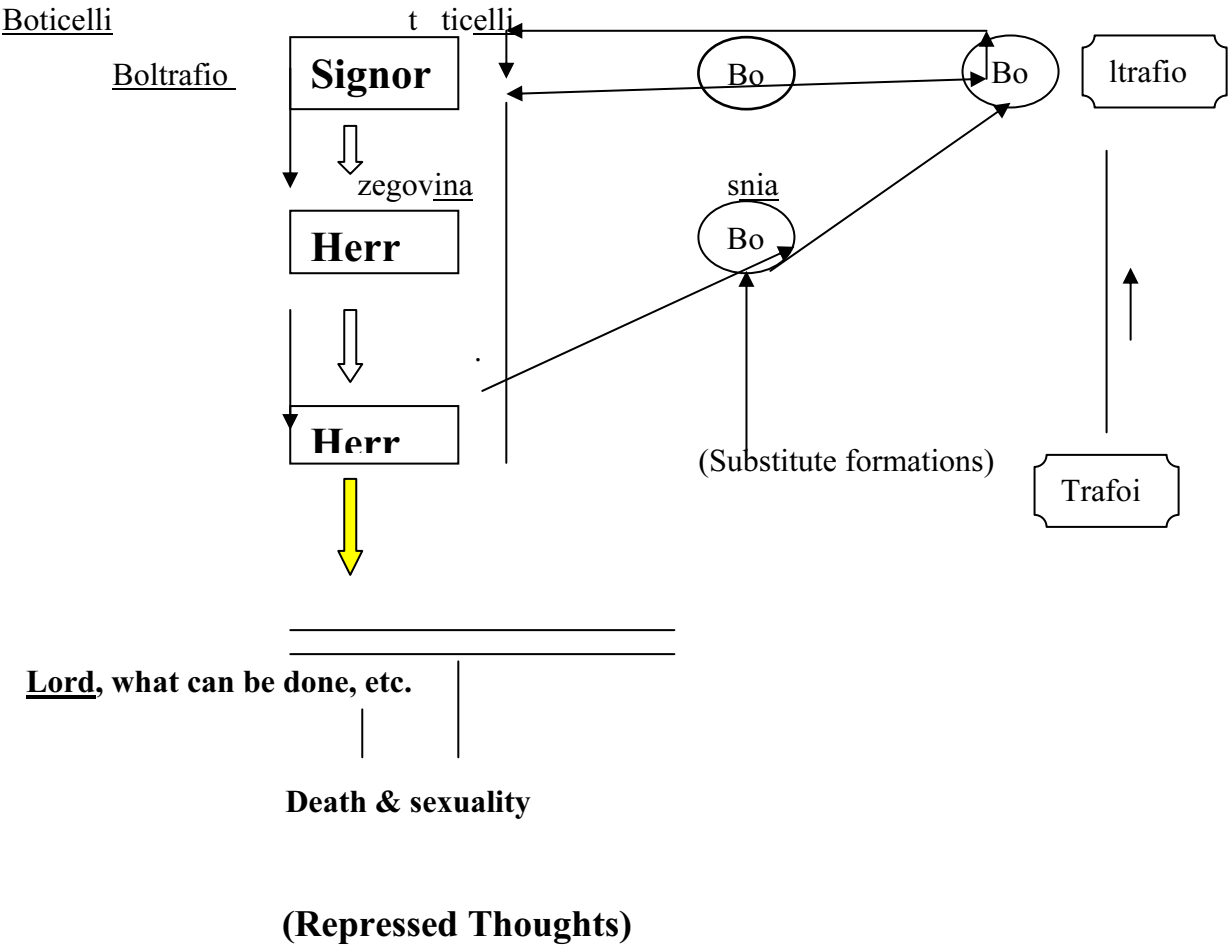
Freud (1904), explains in his *Psychopathology of Everyday Life*, that in the forgetting of proper names, the psychic phenomenon of repression also acts upon words in similar ways. Freud travels to Italy by train and talks to another passenger, whom he sees for the first time. Freud wants to make allusion to Signorelli’s frescos in Orvieto, but he cannot remember the name of the author. Two other names spring into his memory in the form of false memories:

²⁹ This kind of “linguistic dream narrations” appear mostly in neurotic patients, rather than in borderline or psychotic personality structures.

Boticelli and Boltraffio. When an eye-witness refreshes his memory and confronts him with the name “Signorelli”, Freud recognizes instantly the forgotten name. In order to understand how he had come to forget this name, Freud makes a series of interesting associations.

The whole failed act is based on associations related to the word “Signor”, which is the Italian word for “Herr”, “Lord”. The wall paintings from Signorelli picture a religious motive, which does not seem to be casual: the final judgment day, when all the dead arise from their tombs to be judged for their sins. Freud lists related associations that run on three lines of thought: a) The conversation he maintains with the stranger in the train. This person comments on the customs of Turks that live in *Bosnia and Herzegovina*, their extreme trust on medical doctors, and their resignation before destiny. When a medical doctor announces the death of one of their relatives, a common reaction would be to say: “Lord (Herr), there is nothing to be done! If it had been possible to save him, you would have done it”. b) A medical colleague of Freud comments that the Turks place extreme importance on sexual pleasure and that a Turkish patient of his college had said: “Lord (*Herr*), when *that* is no longer possible, life loses all its value”. This association Freud decides not to comment to the stranger in the train. c) A third chain of thoughts related with “death and sexuality” arises in Freud’s mind, which he tries not to think about and to repress: a piece of news that had affected Freud emotionally during a short stay in *Trafoi*. A Turkish patient whom Freud had treated for a long time had committed suicide because of an incurable sexual dysfunction. In the forgetting of the word “Signorelli”, Freud comments (1904), words are separated and handled by memory as if they were graphic images of a hieroglyphic.

Fig. 7: The Forgetting of Proper Names (a Repression Model) (Freud, 1904)



Freud refers to what today is known as “false memory syndrome”, in which a false association comes in place of the forgotten memory, as in the above-mentioned example, Boltraffio and Boticelli. The association retains the quality of “clang association”, through the production of what in linguistic terms is referred to as “minimal pairs”³⁰. The morpheme “Herr”, blacked out by repression, also produces a “repressing effect” on the subsequent associations, extending so far as to reach the translation of “Herr” into “Signor” in Italian. The resulting false memory is a compromise formation produced by condensation and displacement: “Signor”, the repressed morpheme, disappears into oblivion and parts of the repressed noun are condensed into new formations that constitute the false memory. Through the same mechanism, Freud explains the formation and construction of neurotic symptoms.

³⁰ Homophony of two words or syllables with changes of consonants; i.e. mare, dare, pair.

Freud in “The Joke and its Relation to the Unconscious” (1905), illustrates how the same mechanisms that operate during dream construction, condensation and displacement, are also used to build up word games, double meanings, jokes, failed acts.

3.4. Differences between Animal Language, Semantic and Spoken Language.

Sebeok (1972) coined the term “zoo-semiotics”, to refer to the language of animals, in the form of messages emitted and received by animals; including important components of human nonverbal communication, but excluding man’s language, and his secondary language-derived semiotic systems, such as sign language or the Morse code. In zoo-semiotics, through signalization, one organism influences another on chemical, physical, social, or behavioral levels. Particular forms of signal language intervene in the triggering of biological cycles, mating dances, or imprinting; i.e. Konrad Lorenz (1973) demonstrates how ducks react to specific signals that activate imprinting. The dance language of the bee shows through flight but also through olfactive and tactile channels, the direction and distance of food (nectar, pollen) or water (von Frisch, 1965). Several messages can be transmitted; the creativity of the used code is restricted to the ecological needs of each species.

Animal language functions at a “signalization” or “message level”. It provokes responses of “yes” or “no”, “attract-reject” action or quality. Human language preserves some of these “signalization” interaction levels. However, the phonemic patterning, in which minimal but meaningless elements are combined to form new messages, seems to be a prerequisite of human language. This type of patterning seems to be absent from animal communication systems (Nöth, 1995).

Semantic language implies abstract ideas, dialogue, metalanguage, and meta-symbolism. In semantic language, words or verbal expressions are arbitrary, which is the linguistic term that indicates there is no necessary relationship between the choice of a particular word and the object it refers to (see Saussure above). Semantic language is a substitute of experience in time and space: No conscious logical thought processes can be built without the concepts of time and space. Conscious thought can only be caught and

actualized through language. Language seems to be an instrument of conscious thought, but any attempt to capture thought will only reveal categories of language.

Semantic language is not reducible to identifiable and fixed elements. New alternatives or a radical modification of the received message are possible. Meaning is created depending of how words are combined, ordered, contextualized, and is sometimes also through intonation or prosody. The same sentence can have more than one meaning. The enunciation can be dismantled or dissociated into smaller parts; i.e. the grammatical analysis of a sentence.

In humans, signalization language is usually given by facial gestures, prosody and voice intonations, as well as eye-contact interaction. These paralinguistic features that function as code will be referred to as human semiotics. The common view to these paralinguistic features is that, when a child acquires speech, language superimposes on the already-existing signalization language. In difference to animal signal language, human semiotics has the possibility of combining with spoken language. Spoken language is a combination of signal or semiotic and semantic language. Signification is usually given by the combination of signalization or semiotic language (the above-mentioned paralinguistic elements) and semantic language (what the words mean in themselves). For a message to be understood as coherent or clear, a certain degree of redundancy; that is, repetition and agreement between signal and semantic language must continuously take place.

Studies on speech and affect interaction, as measured by facial gestual mimics (see Chapter 5), show that what can be read on the face as affective language many times does not correspond semantically with is expressed verbally by the patient. Significant interchanges in inter-subjective gesture signalization together with verbal speech production defines whether the affect goes directly in the relationship with the interlocutor (operationalised through direct gazing, (Merten, 2000) or is directed to the mental representation or to a different referent (operationalised through no direct gazing; (Merten, 2000). This brings us directly into the field of semiotics, which gives account of different possible combinations of signal and semantic language.

3.5. Semiotics or the Science that Studies Signs.

Semiotics is the science that studies signs and what they signify; in their different forms and modalities. Semiotics is also engaged in the analysis of the structures and codes that underlie different forms of verbal and non-verbal languages. An example of the former could be Egyptian hieroglyphics, in which ideas or thoughts are presented in both pictographic and in phonetic form, which can be read in the two formats at the same time (Kristeva, 1981). Champillon demonstrated that in some hieroglyphics that represent important characters; like pharaohs and queens; the cartouches represent consonants that phonetically spell out the name of an important person, as well as the pictorial image. The phonetic image refers to words in the ancient Egyptian language. Chinese hieroglyphics are more oriented on the inscriptions of concepts or logos. Direct mention of words, although these could be considered as abstract terms, is not made. In mathematics, algebraic expressions and logarithms express thought in numeric and alphabetic expressions.

Semiotics is usually oriented on linguistics; but strictly speaking, linguistics can be considered a part of semiotics, because linguistics deals only with written and spoken linguistic signs. Semiotics is a broader term in that it studies signs in general, including images, tones of voice, facial mimics, symbols; anything that has a signification or that produces meaning. Most language systems are a combination of the above-described signs, both linguistic and semiotic.

The work of Peirce (1893-1913, published in 1998), founder of semiotics, is long and complex. To cover even the main concepts goes beyond the possibilities of this work. Only certain basic concepts which are related to this theme of study will be included.

For Peirce (1893-1913, published in 1998), the study of signs is important because it proposes a theory of how thoughts are expressed in language, verbally or non-verbally. He also states the importance of signs for reasoning. A sign is a thing that serves to convey knowledge about some other thing, for which it stands. The thing is called the object of the sign. The idea it depicts in the mind, which is a mental sign of the same object, is called the **interpretant** of the sign Peirce (1893-1913, published in 1998).

According to Peirce (1893-1913, published in 1998), signs can be divided in three classes: 1) Symbols; 2) Icons; and 3) Indexes. A symbol is a sign which acts as a substitute for another sign with which it is synonymous.

An icon is a sign that stands for its object and can be related to the likeness of its object. “Iconicity” leads to images, natural resemblance, geometrical forms, or functionality between the sign and its object. Photographs are icons, and a piece of mimicry, too. A diagram of a house or a machine is a particular kind of icon that sets its parts in relation. In this case, the likeness consists in this relationship, even if physically the diagram and the house or machine do not look the same. Moreover, certain details may be suppressed, allowing the mind to understand more easily the most important features. Even an algebraical sign (which in itself is not an icon) may function as an icon in that it illustrates the relations of the quantities concerned.

Iconicity appears also in onomatopoeic words imitating sound; i.e. owl, in a hieroglyphic in a graphic medium, or in words that denote movement; i.e. crawl, quiver, slink; or words with moral or physical character, usually unfavorable, as, in gloom, grumpy, grouchy.

For Peirce (1893-1913, published in 1998), *an icon is a non-arbitrary sign* because “it possesses the character which renders it significant”. It is in itself the interpretant. The term **interpretant does not** refer to the person that interprets the sign. **The sign is the interpretant of the image of the object** itself. In Saussurean terms, in icons, the significant and the signified would be the same or inseparable, without any referentiality or reference to another object. An icon exists even if the object it portrays has no existence; for example, a lead-pencil streak is a line ----- , a dream is a dream. We all recognize a unicorn in a drawing, although nobody has ever seen a real one.

A pure icon does not draw any distinction between itself and its object. (Wittgenstein, 1967) maintains a similar thesis when he talks of representations in the form of presentations). “It is merely an affair of suchness”, Peirce (1893, edit. 1998) will say.

“An index is a sign that stands for its object by virtue of a real connection with it because it forces the mind to attend to that object.” Peirce (1893-1913, published in 1998);

i.e. smoke indicates the presence of fire and it also conveys the information that fire is the source of smoke; a weathercock is an index or indication of the direction of the wind. The north star is an index or pointing finger directs towards the north.

Abercrombie (1967) distinguishes indexes which indicate membership to a certain group, such as a cockney accent characterizes individuals that come from a certain part of London.

The connection with the object, occurs in language through certain forms, like in the case of demonstrative pronouns (i.e. “this” or “that”); as when somebody asks “what house is on fire?” The interlocutor would respond: “The one with the verandah and green blinds.” “Which one? “(the answer is quite inespecific). “*That* house behind the river; this house which stands at the foot of the hill”. (“This” and “that” are indexes that connect the apprehension of a particular object). Pronouns are indexes; i.e. “he” stands in place of a noun; “I” in place of a person.

An index serves as a substitute of a part-object, while the other is an involved icon that represents the representamen only. It is the “real” connection an index gives to its object which gives it its value as **representamen**. Peirce (1893-1913, published in 1998) states, “an index is a sign which would, at once, lose the character which makes it a sign if its object were removed, but would not lose that character if there were no interpretant” (1893-1913, published in 1998).

Icons can also be composite in the same way a photograph is a composite or innumerable particulars. Let an icon be compounded of two icons. Let one be the icon of a Chinese and the other of a woman. Then, the combined icon will be a Chinese woman. The two signs are then said to be combined or conjoined.

An index can also be composite and point to two or more objects; i.e. If I say, “Frank or John came to visit me when I was not at home and he left me a note”. “He” can refer to any of them. The indexicality in this case is disjoint.

Icons and indices (plural of index) by themselves assert nothing. If an icon could be interpreted through a sentence, it would merely say, “suppose a figure that has three sides, “

etc. If an index were to be so interpreted, the mood would be indicative or exclamatory, “See there!” or “Look out!” (In here we find amazing resemblance to Frege in his “pure Sinn (sense) phrases” or in phrases only having reference (Bedeutung), which are cited above. In these phrases, there is a sense but there is no real object to which this sense refers. In icons and indexes which stand by themselves this is also the case. They present no arbitrariness (consensual meaning) nor do they refer to a particular object unless they become combined in pairs or are of composite binary nature. If an icon is combined with an index, then it can refer to a particular object in reality and acquire a particular meaning; i.e. the diagram of an apartment (icon) begins to have a meaning when it refers to the construction located in 18 Boulevard du Temple; third floor; Paris, France 75011 (index) in a map of the city of Paris. (It becomes a representation).

A symbol refers to an object or to a particular concept and **re-presents** it; i.e. The word “tree” (which is a symbol) can also be expressed as = Baum= árbol) and there is a conventionalized agreement of what it means.

A symbol is a sign which acts as a substitute for another sign with which it is synonymous³¹. A symbol is a representamen which fulfills its function regardless of any similarity or analogy with its object and equally regardless of any factual connection therewith, but solely and simply because it will be interpreted to be a representamen.

A symbol acts always within a set of at least three elements, with indices (plural of index) that point to objects and icons that are associated with it; i.e. a flag is the symbol of a country. The colors or emblems that constitute the flag stand for some particular idea or concept that has a meaning to somebody (three elements) and that could be further expressed through a language or code (fourth element).

In Freud’s (1900), the Sat-yr dream (see above), the dream functions like a rebus (*Bilderrätzel*). A word functions as a hieroglyphic, cut up and pasted, which creates a new meaning. In the before-given examples, signs under the form of icons, indexes, or symbols, create different grammars that produce meaning.

³¹ The definition of „symbol“ in Peirce is totally consistent to his system of thought in his three-element structures. The Duden Dictionary (1992) gives a more common definition of symbol, as an emblem or allegory of something, usually repressed or expression of unconscious words, acts, or dream images.

In the Freudian Unconscious, from a Peircean perspective, thing representations could also be thought as pure icons that find no meaning until they are indexed to a word representation, creating a symbol. In the example of the repression of the word “Signorelli”, the missing word “Signor” has an “iconic”, but not an “indexed- representation” in language (from Herr to Signor), which appears in the false memory, produces forgetfulness and other “effects” in the associations, but which cannot be identified as meaningful.

3.6. Semiotics and other Fields of Application.

3.6.1. Psychosomatics;

Uexkuell (1996), inspired by the work of Peirce, created a model based on semiotics which explains how psychosomatic symptoms are created. Psychosomatic disturbances usually appear in early phases of development, in which language has not yet been acquired, and changes in the systems of the organism usually take place through signalization language. Dermatitis, asthma, failure to thrive, etc. correspond to this category.

Uexkuell (1996) comments that one of Freud’s greatest achievements was the creation of a language that allowed to link concepts and processes described in the field of chemistry and physics with other equivalent concepts that belong to the psychic system. The concept of drive (Trieb) is a clear example. Freud defines “drive” as the border concept between the somatic and the psychic. Uexkuell (1996) takes from Jakobson (1971) the concepts of: a) interpretation (translation into one and the same language), b) translation (from one language to another); and c) transmutation (translation from one non-verbal language into a verbal one or from one non-verbal to another non-verbal language) to explain how transmission and exchange of signals and information take place, as in the case of genetic codes, psychic and somatic events, or reactions the organism to the outer world. In this sense, a language which corresponds to every integrative event in the system hierarchy must be developed;. i.e. Languages that originally come out from biology, psychology, or sociology through non-verbal signal processes transmute into verbal language.

This is also the case of Pavlov’s conditioned responses in which the “meaning” of one stimulus-response can be conditioned to another stimulus, which produces the same response through coupling; i.e. the bell that is presented together with the food will later produce

salivation in the dog by itself without the food. In the case of immune system reactions, the response is usually related to individual psychology, which can be biographically understood.

3.6.2. Affect Regulation Contemplated as a Semiotic Model.

Gergely (1996) presents a model of early mother-baby interaction which can be considered an application of semiotics in psychology and/or psychoanalysis. Gergely (1996) conceptualizes a natural social biofeedback model provided by the different modalities of the parent's affect mirroring on the infant. The biofeedback model parts from the supposition that innate emotion displays in the infant are regulated through facial and vocal affective reflections of the parent. Gergely (1996) proposes that in a manner similar to biofeedback training, the detection and maximizing of the mechanism of contingency is also the underlying learning mechanism that mediates the influence of affect-mirroring. Contingency detection is the relationship the infant makes between his responses and external stimulus events and the ensuing experience of causal control over the external event; i.e. high degrees of contingent control results in social responses such as smiling and may trigger early social attachment.

Gergely (1996) also proposes affect mirroring as an affect-regulation model. Fonagy (2001) uses Gergely's (1996) model to support his conceptualisation of affect regulation in relation to pathological forms of self development. Fonagy (1996) refers mainly to Winnicott's (1965, 1967) theorization of the development of the false self in relation to parental mirroring. In the same article, Fonagy (2001) also compares deviated affect mirroring with the development of the borderline personality. The Gergelian model contemplates the following "parent mirroring" combinations:

(i) *Marked Mirroring which is categorically congruent.* When a mother is able to recognize correctly the affective signalizations of her baby, she can respond adequately with affects or affective signs in the interaction. The child learns that it is "correct" to feel the affect he is feeling and can function accordingly. The affect or emotion will be then positively "marked". Marked mirroring which is categorically congruent leads to the development of a real self. Markedness and contingent additional behaviors, such as "soothing by mirroring", enables the baby to produce secondary representations, and to locate causal efficiency as an inner state.

Gergely (1996) uses the concept of “markedness” also referring to an exaggerated version of the parent’s normative emotional expression. Emotional “markedness” happens in the “as if” of pretend play; i.e. the parent acts “as if” he were angry. Emotional “markedness” also appears in “soothing by mirroring”, in which the parent empathically reflects the negative emotion, like anger or fear; followed by contingent phases of holding or caressing. In soothing by mirroring, “markedness” acquires a referential property, whose similarity to the parent’s normative emotion allows the infant to recognize the feeling of anger or fear first in the parent and later within himself, making the identification of his own emotional state, producing a mental representation of the emotional state. The process through which the infant realizes that the emotion the parent marks and mirrors corresponds to the infant’s inner emotion, is called *referential decoupling*. The perceived emotion will be “decoupled” from his agent (the parent). When the emotion is decoupled from the parent and the emotion is identified as expressing his/her own self-state, *referential anchoring* takes place. The features of this “as if” mode of communication will emerge in the ability to produce pretend play during the second year of life (Fonagy & Target, 1996).

(ii) *Mirroring without Markedness (“unmarked”), which is categorically congruent.* When the mother is emotionally disturbed or simply cannot read the emotional signals of his child, no “marking” of the emotional reaction takes place. A mother with a borderline disturbance would have difficulty in differentiating her own negative affect eruptions from those of her child. Such parents react to their infant’s negative affect-expression by producing the same (categorically congruent) emotion expression but in an *unmarked, realistic manner* (Gergely, 1996); i.e. if the baby child cries in desperation, she cries and becomes even more desperate. This kind of deviant mirroring style brings about distorted affect-regulation. As there is no “markedness”, affect cannot be “decoupled” from the agent (recognized in the other) nor will it become anchored to the infant (recognized as an inner emotional state) nor have a mental representation. Far from providing a “containing function” (Bion, 1997) and achieving the regulation of the infant’s negative affect, in “*unmarked categorically congruent mirroring*”, the production of negative affect in the mother or in the child will tend to escalate potentially to traumatization levels (Fonagy, 2001). The baby will experience his or her own negative affect as belonging to the other rather than to himself. The latter will cause a deficiency in self-perception. Consequently, the child will also have a

certain difficulty in differentiating himself from the parent. This kind of unmarked congruent mirroring is characteristic of borderline personalities.

(iii) *Marked Mirroring without Categorical Congruence.*

In this kind of mirroring, “markedness” does take place. The affect is “decoupled” from the agent. “Anchoring” takes place, but as it is categorically incongruent, the secondary representation of the self that takes place is distorted. This means the image of the anchored emotion or self (in Winnicott, 1965) will be incongruent with the child’s actual (primary) emotional state. According to Winnicott, (1965), this will lead to the creation of an identity which is sustained on a false basis, which very often ends up with a false self. “The infant’s capacity to cathectize the external objects is deficient. In practice, the infant lives but lives falsely. The false self will appear through a false compliant behavior, in which introjections or “imitations” of the people that surround him (aunt, brother, mother) are played back whenever necessary “.

The “marking” or “indexing” of specific affects or events in affect regulation in the mother-baby interaction makes the difference as to the possibility or impossibility of creating second representations, which are based on referential decoupling and anchoring of signs and affects. Gergely’s (1996) and Fonagy’s (2001) conceptualization can be seen as a semiotic model that explains how emotions take the forms of icons (vivid emotional images through gestual mimics or tones of voice), which the first object, normally the mother, “indexes” or ceases to “index” or “mark” to the baby. The parental mirroring in this phase comes from the outside although it refers to the recognition of the baby’s inner emotional world. Two elements are in play, the emotion of the child and the reflection or mirroring the mother makes of it. Referential decoupling of the emotion or “secondness” in Peirce’s language takes place. The anchoring in the child of that which the mother reflected and how the child interprets or integrates his own emotional experience gives way to initial secondary representations. Peirce (1893-1913, published in 1998) will call this “thirdness” when the child makes a mental representation of the experience (mother, child, and the ³²representation of the code), which is essential for the formation of symbols or thinking.

³² I would definitely add affect combines with these cognitive systems.

3.7. Putting Thought Processes into Words.

3.7.1. Paivio's Dual-Code Theory.

Paivio (1979) assumes that language behavior is mediated by two independent but partly interconnected cognitive systems that are specialized for encoding, organizing, transforming, storing, and retrieving information. The *image system* is specialized in dealing with non-verbal objects or events. The *verbal system* is specialized in dealing with linguistic information. Paivio does not make a difference in the processing of images and words, except for the fact that they are two different forms of representational units. Therefore, the image system can refer not only to visual stimuli, but also to auditory, kinesthetic, or other sensory components of non-verbal information. In this case, “image” is the representational unit of non-verbal objects and events. “Image” could be understood as “icon” Peirce, 1895, 1998), (previously described in this chapter), in the sense that even a sound creates an image or can be described as the “image” of a sound. Similarly, the “verbal system” deals with linguistic information in various modalities (writing, talking, reading, etc.).

For Paivio (1979), both verbal and non-verbal processes can be *symbolic*; which means that they include representations and processes that refer to other representations within the system, which are rule-governed, and which generate an infinite array of meaningful units from a finite set of elements. Both images and words can function as symbols when they refer to other representations within the system and have a significant value. In this sense, Paivio (1979) refers to “image semantic” and of “verbal semantic”.

According to Paivio (1981), the image system organizes information in a *synchronous* or spatial manner, so that different components of a complex thing or scene are available at once in memory. If we were to look at a face, we normally see a head together with hair, eyes, nose, mouth, etc. The components appear available to perception in the visual field at once. Probably a minimal amount of sequentiality is required to perceptually integrate an image, but it contrasts with verbal information that requires large amounts of sequentiality. On behalf of cognitive comprehension, verbal information must be organized *sequentially* into higher order structures, in which verbal information is “unpacked”. The former has to do with the characteristics of the auditory and motor systems used in the hearing and speaking of language. Linguistic units unfold sequentially over time, and the assumption is that the

cognitive system that deals most directly with speech is similarly specialized for sequential processing.

The difference between spatial and sequential organization can be observed if we imagine any letter, say E, and mentally rotate it in clock ward fashion. This would prove to be much easier than trying to change sequentially organized information, like trying to recite the alphabet backwards.

For Paivio (1981), concrete and abstract information can be expressed in both image and verbal systems. Although images represent better objects or concrete events, imaginary clocks, horizontal or circular time designs can represent abstract concepts as time. Nevertheless, the verbal system is particularly useful in expressing relations, abstract concepts, and symbols.

Paivio (1981) proposes that there is a long-term memory in which the distinction between non-verbal and verbal is not directly represented; but rather that the register is *amodal*; constituted of propositional representations; which like in logic, describe the relationships between things, their attributes, and relations to other propositions. Such entities are organized into networks that constitute the long-term memory of the individual. Both verbal and nonverbal systems would then be integrated by a *common-code theory* that integrates all kinds of representational units into memory networks which are capable of integrating with each other.

Paivio's conception arises from the previously conceived linguistic theory of Saussure (1916) which states that language production develops through the conjoint functioning of two axes: the synchronic and diachronic (synchronous and sequential in Paivio). By means of this double axis, information is processed and transformed symbolically. In difference to the above-described formats, images have also the status of representations. Paivio borrows the word *imagens* from Morton (1969, in Paivio, 1981) to describe the imaginal representation unit. *Logogens* refer to the cognitive representation of words. Logogens are phonemic (auditory-motor) and are connected to word representations.

During the process of speech production, *imagens* or image representations become connected to *logogens*, verbal representations. This is *referential meaning*. Through this

process, things can be named, referents of words can be imagined, and images can be translated into words. As images and words come together, Paivio (1981) proposes to measure words for their imagery value along a scale he creates, which extends from low to high imagery. Paivio (1981) measures the time interval between the presentation of a word and the point in which a subject begins to draw a picture in association to the word. High imagery ratings were associated with short reaction times. In Paivio's scale, which ranges from 1 to 6, meditations marked with 1 indicate words which require a long reaction time and produce low imagery. Meditations marked with 3 require a medium reaction time and produce medium imagery. Meditations marked with 6 indicate there is high imagery within a very fast reaction time. For example, the noun "necessity" received a rating of 3.00 (which implied a medium reaction time) and "mermaid" received 6.0 (a quite short reaction time); the adjective "significant" received 1.38 (a long reaction time) and "yellow", a short reaction time of 5.97.

Associative meaning refers to associations of higher order structures within each system. Associations can be performed either through images or through words. Therefore, a word can produce other words in associative relation, or an image can create a stream of associative imagery. Images have also associative meaning. Paivio (1981) cites an experiment by Bower and Glass (1976) in which their subjects were given a series of line drawings of nonsense figures which they then tried to draw from memory. On some trials, they were shown a fragment of each figure as a recall cue. The fragments were good or bad in terms of whether they comprised a natural sub-unit in the original drawing. The good cues were highly effective in cuing memory for the whole pattern, as "reintegrative power". Good cues were five times more effective than bad ones. Representational meaning in images also merges into associative meaning.

The process of language production normally evolves in continuity and presents an automatic procedural quality. The utterance of a sentence is a very complex process: it involves the automatic, procedural combination of affects, thoughts of diverse levels and qualities (conscious and unconscious), and words.

3.7.1.1. An Empirical Computerized Method for Measuring Referential Activity; (Mergenthaler and Bucci, 1995).

Bucci (1997) proposes her theory of referential activity based on Paivio's work. In her book, *Psychoanalysis and Cognitive Science* (1997), Bucci proposes to create an operationalised index of referential activity that allows to code and identify good psychotherapeutic sessions, in which unconscious contents have been symbolized, put into words, or "made conscious". She defines referential activity as "the capacity of expressing all types of non-verbal experiences, particularly emotional experiences, in verbal form". Bucci (1997) takes Paivio's ratings of imagery of words, as described above, operationalises four scales which can be coded according to a manual or coded through a computerized text-analysis system (Mergenthaler, 1995, 1996). The scales are: concreteness (perceptual or sensory quality); specificity (amount of detail); clarity (in terms of images); and imagery (which the language evokes in the reader or hearer).

Bucci (1997) maintains Paivio's schema of Non-Verbal and Verbal Symbolic Codes (Representations), but proposes to link her referential activity to a multiple-code theory, in line with memory-storage models reported in literature and with three levels of transformation of information: the sub-symbolic, non-verbal and verbal.

She defines "sub-symbolic processing" as a single underlying common code that governs both verbal and non-verbal processing and that could be expressed in some kind of proposition in which "organization is not categorical, processing occurs simultaneously in multiple channels, higher level units are not generated from discrete elements, and explicit processing rules cannot be identified." (p.88). She gives as examples of this level of functioning: a) the automatised sequential movements of dancers which have been stored in a motor format and for whom breaking down the movements is hard; b) understanding somebody's emotional state through facial expression or posture or; c) what brings about the triggering of emotional schemas as in the case of maladaptive emotional schemas. (p. 174).

In contrast to sub-symbolic, Bucci gives a definition of symbol taken from Fodor & Polyshyn, (1988): "symbols are entities which refer to other entities and have the capacity to be combined in rule-governed ways; so that an infinite array of meaningful units can be

generated from a finite set of elements. Symbols can be images or words". She cites further: "symbolic codes are structured like a language" (Fodor & Polyshyn, 1988).

From a theoretical point of view, Bucci's concept of sub-symbolic poses problems both in terms of Paivio's (1971, 1981) theory and from a psychoanalytic conceptualization. In her example of the dancers, motor non-verbal memory, which is included in sequential time, remits to automatic pre-conscious processes. The fact that a dancer experiences difficulty in breaking down the fluid sequence of movement or finds easier to imitate the movement itself, does not mean that every sequence is not built of steps or movements that can be identified in images or even by name. A dancer can take "verbal dictation" of movements in a choreography if the choreographer chooses not to perform the steps. Sequences of movements can and are usually inverted from right to left to work both sides of the body. They are, therefore, symbolic, even if in a certain moment, automatic or pre-conscious or not conscious. Nevertheless, Bucci (1997) describes an integrated movement process or sequence.

Bucci's (1997) example of perceiving and interpreting the emotional state of someone from posture or verbal expression, can be remited to the concept of "appraisal", at to quick emotional reactions and decisions of which cognitive motives are not always conscious at the moment; also a sequential process.

In her third example, concerning the triggering of emotional schemas as in the case of maladaptive emotional schemas, (p. 174), a complex interactive process is inferred. The "elegant jump" from sub-symbolic to the unconscious trigering of emotion schemas is also not clear.

As to the operationalisation of referential activity, Bucci (Mergenthaler & Bucci, 1995) only takes the first part of Paivio's theory, that is, referential meaning; that is, putting together non-verbal activity with words. Nevertheless, Bucci omits associative meaning. For her, symbolizing is "connecting the sub-symbolic to symbols once again (p.203)." but how these symbols relate to other detected words or symbols or how associative meaning is produced is not to be found in her theory nor in her operationalisation.

Her interpretation of what happens with the detection of “referential activity” markers remains at the level of a language-immanent theory but does not explain how the automatic processes she refers to or the “corrective emotional experience” (in the case of maladaptive dyads) take place. Her theory lacks indexicality and divorces from her data. Bucci (1997) jumps from an isolated “word identification marker level” to the conclusion that higher level processing has been explained. Her theory does not give account of après-coup (*Nachträglichkeit*) either (see Chapter 1). Bucci (1997) describes a theory of how affects are integrated into language, but does not research affects nor speech.

It is in this context of a complex semantic thought process model and an interactive communication process that psychotherapy takes place. It is difficult to think one can take place without the other. A semiotic model would be welcome to give account of the possible forms of grammar. For our next chapter, it is important to investigate if certain forms of communication are composite forms of semantic and pragmatic communication. The theory of metaphor in our next chapter can also propose some answers.

3.8. Summary.

This chapter proposes that the psychotherapeutic process is constructed on the basis of intra- and inter-subjective processes that translate into interaction and production of affective signalizations, psychic productions and mental representations, and/or speech production between patient and therapist. Both processes work simultaneously, interact and influence each other, with the possibility of producing change from one axis to the other.

The interactive, inter-subjective process is transported to a very basic modality of analysis based on pragmatics in linguistics and the theory of communication proposed by Bühler (1934) and further developed by Jakobson (1960). The intra-subjective process is initially studied from the perspective of ground concepts of semantics and a simple description of the problem of meaning.

In the previous chapter, Ciompi (1982), Krause, (1997, 1998) and Bischof (1989) propose a “logic of affects”, in which the former are subordinated to an own inner logic and gain their vectorial energy from an inherited motivational system that directs the organism in relation to objects. In this chapter, an attempt is made to follow a “logic of representations” from the very basic conceptualizations of Frege (1892, 1952), which later have developed into modern logic, computer languages; and information processing, from the linguistic sign theory of Saussure (1916, 1999), and from the theory of mental representations in Freud (1915). Very basic assumptions are described. A thorough development of the last three topics fall beyond the scope of this work. The analysis ends in some basic, related concepts of Peirce’s semiotic theory and his logic of signs.

Two practical applications from contemporary literature are illustrated; namely, Uexkuell (1996), in relation to a theory of the creation of psychosomatic symptoms, and Gergely (1996) and Fonagy (2001), in a model of early mother-baby interaction dyad, in which a mental representation of self and affects is proposed. Mergenthaler’s and Bucci’s (1995, 1996, 1997) method for measuring referential activity and the computerized version are commented.

4. THEORY OF METAPHOR AND POLYSEMY.

4.1. Theory of Metaphor.

In recent times, metaphors have been considered more than just literary and linguistic tropes that constitute poetic language. Metaphors have acquired the status of matrixes for the elaboration of cognitive and affective contents, as well as for the creation of mental representations. For many authors, metaphors structure thinking and actions. (Lakoff, 1980, Black, 1993, Paivio, 1993).

Linguists, philosophers of language, psychologists, and sociologists have differences and points of convergence in their understanding of the metaphoric process. The existing differences reflect mostly the approaches that characterize and differentiate one discipline from another, varying theoretical and philosophical understanding of the world, different objects of study, and emphasis on determined elements. I will first attempt to define the structural mechanisms that take place in the functioning of a metaphor and later describe differences due to varying theoretical interpretations.

4.1.1. The “Nature of Metaphor”.

(i) A metaphor is an unstated comparison between two different words or things in which an analogy or similitude can be found. Metaphors produce images, which is also known as iconicity. Metaphors have a literal and a figurative meaning. Usually the literal meaning is absurd and does not fit into the context.

Example: Lies have short legs.

In a metaphor, a *comparison* between two analogous terms takes place.

- a) a liar compared with someone who travels through life.
- b) “legs” with a road to be traveled with short or long steps.

Images or Iconicity.

Although a lie or a liar cannot be so easily represented pictographically in an abstract or symbolic manner, this metaphor does produce a particular image, maybe because the literal meaning is particularly absurd.

Literal and figurative meaning.

The figurative meaning falls out of context, but produces a concrete image that makes the content easier to remember.

(iii) *Metaphors undergo specific transformational processes in relation to language as a system.*

Metaphors can be creative or conventional. In relation to the production of a new meanings and of creative ideas, the ideal metaphor is the creative metaphor. I will cite what Romeo declares in Shakespeare's *Romeo and Juliet*; i.e. "Juliet is the sun". It expresses in a novel form that Juliet has some of the qualities of the sun or that she makes daylight. Metaphors may undergo the following processes:

- a) Lexicalization or conventionalization; metaphors can also go through a process of demetaphorisation. Sometimes metaphors become part of everyday language and speech and lose their productive or creative potential. They are assimilated into the system of language with the result that their meaning becomes conventionalized; i.e. bottleneck (a narrow place); take a stand.
- b) The literal meaning may disappear. In opaque metaphors, a particular type of lexicalization provokes the disappearance of the literal meaning; i.e. in "radical"; which means literally from the root, this "from the root" becomes something that is "total" or "complete". The literal meaning is lost, however, the figurative meaning remains.
- c) The meaning of the metaphor changes in relation to its etymological root. In the case of dead metaphors, the metaphor is also integrated into the language system, but the original meaning of the metaphor changes. The original meaning is known only to the etymologist, and the metaphoric expression takes a new literal meaning; i.e. in

“news magazine”; “magazine” originally meant a storehouse and now “magazine” has transformed into an illustrated publication.

Conventionalized metaphors can, however, be remetaphorised, as when used in poetry in different ways or when a patient uses it to express an individual experience. A dead metaphor remains always a potentially revivable image that goes unnoticed in our everyday use of language but which may be linked to a related cognitive domain and still create a new meaning.

(iv) *Metaphors are constituted by different qualities and complexities* (Levinson (1983), Nöth (1995).

a) Object or attribute metaphors; also referred to as “nominal”. They are centered on objective or physical-appearance qualities; i.e. the lamp of heaven (the sun).

b) Relational or predicative metaphors. They set in relationship two elements in two different realms, which can be analyzed as analogies. They usually have a “predicate” verb-like quality; i.e. her life wasted like water from a running faucet.

c) Sentential metaphors. These are metaphors in which the referent is totally excluded or non-existent (Miller, 1979, Levinson 1983); i.e. John has lost his marbles; a stitch in time saves nine. The “referent” is the concept or object that is nominated, and the “relatum” the concept to which the referent is compared (In the metaphor: “Juliet is the sun”; Juliet is compared to the sun (referent); and she is also compared to the related concept (the relatum); that is, she makes sunlight.

Lakoff (1980) classifies metaphors in a similar form but in terms of the psychological cognitive structures that enable information processing. This form of classification is adopted for this work and is exposed below:

a) **Ontological metaphors.** They arise from basic bodily experiences that are related to matter, inanimate objects, machines, or things; i.e. I turn on automatic.

b) **Orientation metaphors.** They provide orientation in changing dimensions or coordinates; i.e. over-under, inside-outside, front-back; I feel under pressure; I stand over the situation; I was feeling really down; we'll make it through the crisis.

c) **Emotion metaphors.** These are metaphors that function as matrixes that allow expressing emotions and affective states; i.e. I steamed with rage; the situation was killingly funny; I stood before the coldness of his eyes.

d) **Structural or Creative metaphors.** They compare abstract concepts, such as love, freedom and are a mixture of ontological and orientation metaphors; i.e. the marriage had quivered and was not on the way to recovery.

(v) *Metaphors are recognized as actors of a dynamic process in the evolution of language.*

Metaphoric extensions produce changes of meaning in language. This dynamic quality has been known for many years. For the Stoics and their successors, metaphors, metonymies, and synecdoche³³ were used to account for the allegedly natural extension of meaning from an original or basic sense to a secondary related one. More recently, the interpretation that the Stoics made of metaphor has been used to codify historically documented changes of meaning in language (Bréal, 1897; Stern, 1931, in Lyons, 1977). This evolution in language is also explained through an operative factor known as *secondary iconicity*. The nature of metaphor allows the possibility of associating the sound image (primary iconicity) with the meaning of a word; i.e. in the word “owl”, “owl” comes from the sound of the bird (primary iconicity) and the word “owl” is later associated with wisdom, as a symbol.

³³ Metaphor is based on similarity whereas metonymy expresses simple contiguous relations between objects, such as part-whole, cause-effect, etc. When the part-whole relationship takes place (brain as part of a scientist), the metonymic expression is often referred to as synecdoche (Lanham, 1969, in Gibbs, 1993).

(vi) *Metaphors maintain their structural quality from culture to culture.*

Contents may change but the structure of the metaphor remains. In trans-cultural psychiatric group consultations, metaphors are often used. I will cite an example. The group was constituted by an African family that sought consultation, three African co-therapists, two occidental co-therapists, and the main occidental therapist that conducted the session. To close, the occidental main therapist used the following metaphor, which she knew had been used before by an African patient, “let’s make the blood flow”. The occidental co-therapists were somewhat shocked by the enunciation, because the metaphor immediately moved in them aggressive images of killing and murder. For the African participants, the same metaphor provoked no inner conflict. For them, on the contrary, it had the figurative connotation of purification through sacrifice, as promoter of group union. The example shows how the same structural matrix catalyzes and allows the passage of totally different culturally determined contents and emotional reactions.

Some metaphors are universal and can be simply translated from one culture to the other; others have equivalents in other cultures, and others seem to be culture specific. Nevertheless, what is important is that in all cultures metaphors maintain their structural quality; that is, they:

- a) Produce images;
- b) They compare two different words, perceptions, things or concepts;
- c) They have a literal and a figurative meaning.
- d) The literal meaning falls out of context.

4.1.2. More about the Structure of Metaphor.

4.1.2.1. Metaphors maintain a structure of mappings across cognitive domains.

For Lakoff and Johnson (1980), metaphor brings together the combination of two different conceptual trends of thoughts to produce a new signification. This phenomenon of mapping one whole cognitive domain into another cognitive domain is performed through a fixed set of entities that part from a *source domain* and that “transfer” qualities of the former

into a *target domain*. Such mappings are asymmetric and partial. When the fixed correspondences are activated, mappings can project source domain inference patterns onto target domain inference patterns.

To this respect, Black (1993) describes the same entities that constitute a metaphor in terms of “*primary*” and “*secondary*” subjects. The *secondary subject* is to be regarded as a *system* rather than an *individual thing*; i.e. in “society is a sea”, the remark refers not so much to the sea (considered as a thing), but to society as a system of relationships. In this example, the sea (a concrete image) acquires characteristics, which are also characteristic of society (the system). For Lakoff (1987), the super ordinate level is also mapped into the basic target level, which is usually the level of rich mental images and rich knowledge structure.

For Lakoff (1993) metaphoric mappings from a source to a target domain obey the “Invariance Principle”. This principle states that the cognitive topology of the source domain is preserved; that is, for container schemas, interiors will be mapped into interiors, exteriors into exteriors, trajectories into trajectories, and so on. The former implies:

Path inference. If you are going directly from Saarbrücken to Paris, you have gone through Metz but not through Frankfurt.

Linear scale inference: If you have \$50 Euros in your account you also have \$40 or \$30 but never \$70.

For Lakoff (1993), metaphoric mappings are organized according to the following principles:

- (i) Mappings are not arbitrary but grounded in the body and in everyday experience and knowledge.
- (ii) A conceptual system contains thousands of conventional metaphorical mappings, which form a highly structured subsystem of the conceptual system.
- (iii) There are two types of mappings: conceptual mappings and image mappings; both obey the Invariance Principle.

4.1.3. Understanding Metaphor from a Cognitive, Sociological, Linguistic, and Psychoanalytic perspective.

4.1.3.1. The Linguistic Perspective.

The different approaches in metaphor comprehension vary in accordance with the objectives of study of linguistics as a discipline. A brief description of these fields has been made in the previous chapter. It goes beyond the scope of this work to comment more. The description will be centered on aspects related to our theme of interest, metaphor.

Two views are traditional from the point of view of semantic theory of metaphor:

4.1.3.1.1. Theories of Metaphor Based on the Semantic Theory:

(i) *The Comparison Theory;*

Metaphors are similes with suppressed or deleted predications of similarity. In this sense, “Iago is an eel” would be semantically equivalent to “Iago is *like* an eel” .

(ii) *The Interactional Theory;*

Metaphors are special uses of linguistic expressions where one “metaphorical” expression (or *focus*) is embedded in another “literal” expression (or *frame*), in such a way that the meaning of the focus interacts with and changes the meaning of the frame; providing the frame with some of the characteristics of the focus.

The last two theories are based on the Katz & Fodor (1963) semantic feature theory. Such a semantic theory proposes that the meanings of lexical items are specified by a set of features, each of which is an atomic concept or irreducible semantic prime, which is drawn from a larger but restricted set. The members of the latter should be in principle sufficient to jointly define all the complex senses in the possible combinations in the actually occurring lexical items. For example, in the word “stone” the traceable semantic features would be the following:

- physical object
- natural
- non-living
- mineral
- concrete

In the expression, “the stone died”, the sentence would be immediately marked as not interpretable, because the feature “non-living” does not correspond to the word “die”, which requires that its subject be living.

In this application of semantics to metaphor, the feature-mapping schema is too limited. Coming back to Iago, it might be that Iago is slimy (metaphorically hard to catch or to have some kind of attachment from an emotional point of view), eats offal (metaphorically, he stoops to dirty deeds), and has the ability of wriggling out of hooks (comes out of difficult situations). Nevertheless, none of these described features is really a semantic feature in Katz & Fodor’s sense: an unslimy, non-offal-eating, non-wriggling eel would, nevertheless, still be an eel.

In this study, metaphor *cannot* be interpreted from a semantic perspective.

4.1.3.1.2. Theories of Metaphor Based on Pragmatics.

For linguists within the field of pragmatics (see Chapter 3 for definition), *metaphor is a violation of conversational rules*. Grice (1975) in his theory noted that much of the information conveyed in conversation is implied rather than asserted. In order to maintain a rational conversation, the speakers must follow the *cooperative principle*. This principle implies that four conversational maxims be respected: a) *quantity*; the conversational interchange should be as informative as needed; not more informative or less than required; b) *quality*; (i) do not say what you believe to be false; (ii) do not say that for which you lack evidence; c) *relevance*; the contribution should be relevant; d) *manner*; the utterance should avoid ambiguity or obscurity (Levinson, 1983). Listeners determine the conversational inferences (or “implicatures”) that underlie a conversation; i.e. if I ask, “how many acres does your ranch have?” (the underlying implicature is that I do not know and I would like to

know”). When the utterance is non-literal, the listener usually first reacts by trying to analyze the literal meaning of the sentence. Second, the listener assesses the appropriateness and truthfulness of that literal meaning against the context of the utterance. Third, only when the literal meaning is defective or inappropriate to the context, does the listener derive a figurative meaning.

In semantic theories of metaphor, the feature-mapping process is both too limited or too determinate to give account of the metaphorical force of the expression. Philosophers of language treat meaning in terms of reference and truth. Natural language semantics are modeled through mathematical logic and propositions are judged as either true or false. Consequently, poetry and other uses of figurative language then become treated as something bizarre or different from the rest of language usage.

The pragmatic approach to metaphor differs from the semantic and is based on the assumption that the metaphorical content of utterances cannot be derived by principles of semantic interpretation. According to pragmatic principles, even if semantics can provide the literal or conventional meaning of the expression, the context is what finally defines the metaphorical interpretation. For pragmatics, metaphor is a violation or flouting of conversational rules, particularly of the maxim of *quality*, because metaphor exceeds the expected pertinence or “to the point” communicative interaction, inasmuch as meaning is concerned.

Pragmatic principles assume that something can be said (with a literal meaning) and but something else will be meant or signified (with a different, but nonetheless literal meaning). Authors of pragmatics like Searle (1993) object to drawing a line between “literal” and “figurative” meaning. For pragmatic oriented authors, literal meaning is the only real meaning. Grice (1975) and Searle (1993) assume metaphorical or figurative meaning is no more than the literal meaning of some other sentence, which can be arrived at by some pragmatic principle; that there is no metaphorical meaning; that is, meaning is not fixed, and that most metaphorical utterances are either trivially true or trivially false.

Levinson (1983) gives an example of a metaphor that can be at the same time literally true and metaphorical,

Freud lived here.

This could be said of a place where Freud literally lived. The expression also portrays figuratively that his theories were kept there alive after his death.

The final objection to both semantic and pragmatic theories is that they offer only partial criteria for the recognition of metaphor. Rhetorical questions and understatements also share the same property of the flouting of a conversational maxim and moreover, the step from recognition to interpretation of the metaphor remains totally unclear.

4.1.3.1.3. Metaphor as Stemming from Language as a System or as Individualized Spoken Word (parole).

Kovecses (2000), based on Lakoff's theory, does research on metaphors as they appear in cross-cultural settings and describes how metaphors can be "filled" with physiological, emotion, or culturally-determined contents. Some conventional metaphors have been found to be used across different cultures to "construct" related emotional or body processes; i.e. anger can be linked to "steam" (as in "steaming with anger" (in comparison to a tea kettle) or "warm" with friendship.

As I mentioned above, in creative metaphors, a new meaning is produced, when the metaphor has not been assimilated to the system of language; i.e. "the machine gun of my spirit"; (Patient X)³⁴. Creative metaphors are constructed "bottom-up" into the language system and not "bottom-down", as in the case of conventional metaphors in which the starting point is the language system itself. The relationship between symbols or words used as universal, conventionalized or as individualized can be understood in the manner proposed by Freud (1900) in his *Dream Interpretation*. A symbol can be understood as having a universal meaning that has the possibility of acquiring an individual meaning (that derives from the universal meaning), when interpreted individually or contextualized within the history of the patient; i.e. an umbrella as a phallic symbol that continues to maintain its status of phallicity,

³⁴ This metaphor was so unconventional, that the meaning it had for the patient had to be constructed in the interaction with the therapist.

but interpreted within the context of the associations or personal story of the patient acquires a new related meaning. Better still, the interpretation should come from the patient himself. Creative or individual metaphoric construction is closer to the application of metaphor in clinical use, as it remits to the symbolization of psychic contents. Conventionalized metaphors have become a part of language as a system. They are closer to the linguistic approach and are also closer to the symbolization of specific cultural contents. Lakoff's (1980) analysis of metaphors is psychologically oriented. Metaphors are considered to integrate and give form to certain thoughts and cognitive processes; but the analysis of metaphor, as in his metaphor databank³⁵, still remains linguistically oriented. Metaphors are analyzed as elements of language as a system, under the form of conventionalized symbols. From the psychotherapeutic clinically-oriented perspective of this work, Lakoff's analysis is helpful, but does not substitute the associative work that must be done with the patient.

4.1.3.2. An Application of Theory of Metaphor from a Sociological Perspective.

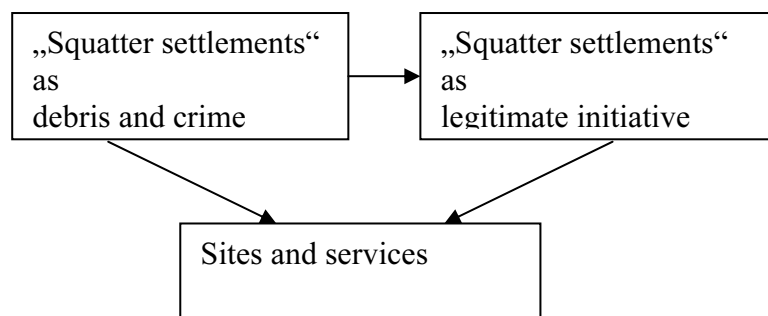
(a) Metaphors as frames that present solutions for conflicts through reframing.

Schön (1993) uses metaphors as an instrument of diagnosis in the field of social policy. He considers metaphors are “man made” and involve a social network of human interactions. He proposes that the framing of problems in a social situation often depends on the metaphors underlying the stories, which generate problem setting and also set the direction in which a problem can be solved; i.e. in a community with “fragmented services”, the diagnosis of something “shattered” calls for a solution of “integration” and “coordination”.

For Schön (1993), it is important to detect the “deep metaphor”, through which the centrally important features of a story run, even if certain elements of the situation are omitted. “Deep metaphors” express the structural elements of the whole situation, in contrast to “surface metaphors”, which refer to elements that remain more in the periphery.

In sociological diagnosis, many of these metaphor frames are often embedded in conflicting situations that make it impossible to construct any compatible meaning or solution to the situation; i.e. Schön, (1993) cites Turner (1976) and relates the case of a “barriada” in

Caracas, Venezuela. A “barriada” is a squatter settlement in major cities in developing countries. Very often these sites have deficient services, unsanitary conditions, and are plagued by malnutrition and disease. Governments frequently consider these settlements as concentration sites of debris and crime. The sociological proposal was to produce a new “frame-forming” of the concept of “barriada”, which changed “squatter settlements” into “legitimate initiative sites”. The government would further the action by providing building materials, low-interest loans, and consulting, when necessary. The inhabitants would have to take the responsibility for the renovation of their houses and services. The “metaphor frame” was changed in the following manner:



The misery and neediness that characterized „barriadas“, squatter settlements, causing delinquency and debris, implied there was only one solution: that their inhabitants unite in conjoint effort to solve their imperious needs and problems together with the government.

4.1.3.3. Metaphor from a Psychological Perspective.

In contrast to the linguistic perspective, the understanding of metaphor from a psychological perspective would bring about the following differences:

(i) Metaphor is not merely a linguistic phenomenon. It is a conceptual mechanism through which we comprehend abstract concepts and perform abstract reasoning. Although a good part of our conceptual system is metaphoric, a significant part is non-metaphoric (Lakoff, 1993). Metaphor allows us to understand a relatively abstract subject matter in terms of a more concrete, or at least more highly condensed form.

(ii) Mappings in metaphor are **not** mathematical algorithms. (In mathematical terms, P is uniquely correlated with P'; a with a'; R with R', etc. The two systems have the same structure and are isomorphic). The difference is that P is linked with G

with a “mixed lot” of projective relations that can bring about more than one association and does not have one and only one meaning, as in mathematical systems (Black, 1993).

(iii) Point (ii) does not mean that the above-described static correspondences might not be used in language processing that involves sequential steps.

(iv) Metaphor is mostly based on correspondences in our experiences, rather than on similarity.

(v) Metaphor provides a compact way of representing the subset of cognitive and perceptual features that are salient to it and allows large chunks of information to be “transferred” from the vehicle to the topic.

(vi) A metaphor enables us to talk about experiences that cannot be literally described (“inexpressibility” hypothesis).

(vii) Through imagery, metaphor provides a vivid and, therefore, memorable emotion-arousing representation of the perceived experience (metaphor as matrix of affect and emotion).

4.1.3.3.1. Psychological Research and Theories.

For Paivio (1993), metaphors are to be understood as cognitive processes that take place within a cognitive representational and memory network. Comprehension of the metaphor involves the retrieval of long-term memory information which is associated with the terms of the metaphor. The attributes of the topic and vehicle which constitute the metaphor will be likely to enter into or mediate the metaphorical relations with appropriate retrieval cues.

The different elements that constitute metaphors have been researched from a psychological perspective; that is, a) imagery; b) verbal associations; c) abstract representations; and d) language production; as in the dual-coding approach that combines imagery and verbal processes in systematic analysis.

a) Imagery-based theories.

These theories stress the structural similarities in perceptual memories. the symbolic function of images is revealed in their tendency to become metaphoric. This can be understood as “abstractive seeing”. These symbolic images which are comprised not only of

visual elements but also of more complex elements more appropriately described as “phantasies” (Langer, 1942, in Paivio, 1993).

Visual perception becomes paired with abstractive process, as shown by Arnheim’s experiments (1969). Observers were asked to describe their impressions of two paintings in quite different style, shown side by side. One painting was replaced by another and the effects of this new combination were registered. These changes had strong effects, often leading to distortions in the perception of the remaining picture. The pairing of two images, like in metaphor, throws into relief a common quality and thereby accomplishes a perceptual abstraction without giving up the context from which the singled out quality draws its life. The confrontation of the two images “presses for relation”, which produces changes in the related items—changes in keeping with the structure of the context. This phenomenon also occurs in single pictures, particularly in regard to movement indicators in static pictures. Postural cues, lines of motion, and the like, are essentially pictorial metaphors that elicit sensations, or images of movement.

Not referring explicitly to imagery, some words that remit to the vocabulary of sensations (“warm”, “hot”, “dull”, “sharp”) acquire a metaphorical quality when they are “transferred” to personality and social manners. This quality is called “metaphorical extension” (Brown, 1958).

Osgood (1953) relates metaphor to the intersensory experience of “synesthesia”, which he defines as a form of imagery. For him, the basis of similarity or transfer in metaphor (and synesthesia) is produced by the common *affective* reactions that are aroused by different sensory stimuli and by words. Osgood (1980) showed how the semantic differential model could be applied directly to the analysis of metaphor comprehension (see Chapter 5).

Walsh (1988) used a measure of metaphoricity derived from Searle’s distinction between literal and metaphorical meanings, and found that high imagery proverbs were more likely to suggest metaphorical meanings than low imagery proverbs.

For Paivio, cognitive abilities that integrate imaginal processes with verbal ones may be related to metaphor.

b) Verbal Association Theories.

Traditional verbal associative theory assumes that the relation is mediated by the structure of verbal associations. Verbal interpretation of metaphor attributes the similarity relation between the key terms to common verbal associations. The key terms in a metaphor are vehicle (referent) and topic. The vehicle is usually prevalent at the figurative processing stage, when its properties are to be conveyed to the topic. The vehicle is usually concrete, and this is crucial, because a concrete term provides rapid access to information-rich images; i.e. life is a journey. The common associations may vary in their remoteness. The more remote an association, the more difficult it would be to understand a metaphor and the longer it would take to “find” the relation. The metaphor would also appear as extremely difficult.

A similar analysis can be applied to associative priming effects that occur when associations to a target word are modified by the presence of a preceding context. When the order of topic and vehicle is reversed in a metaphor, meaning is also changed; i.e. “his house is an old shoe” with “his old shoe is a house”. This is a challenge for associative models and their new realizations in connectionist models of information processing. Hinton (1981, in Paivio, 1993) proposes that the activation of particular associations that are appropriate for metaphor interpretation changes when the order of the terms of metaphor is reversed.

c) Abstract Representations Theory.

Other theories stress overlap in abstract semantic representations, which may be organized into networks or hierarchies. Paivio cites Tulving (1972, in Paivio, 1993) and stresses that comprehension also involves episodic memory. For Osgood (1953, 1963), the mediating process and the “transfer” quality of the metaphor has to do with the different sensory and affective reactions aroused by images and words. For Osgood (1953, 1963), the representational affective reactions are abstractions of reactions originally made to things, which differentiate among classes of meanings.

Johnson and Malgady (1980) stressed the perceptual basis of metaphor processing, without necessarily implying that the perceptual process “spills over” into conscious imagery. Other authors have proposed that the conceptual basis in metaphor comprehension is abstract and imagery-free, just as in semantic processing of sentences (Brewer, 1975; Anderson &

Ortony, 1975). Verbrugge and Mc Carrell (1977) stress the perceptual origins and relational nature of the common abstract representations that emerge in metaphor processing. They made a series of experiments with the following metaphor:

“Billboards are warts on the landscape”.

The prompts: “billboards” (topic), “warts” (vehicle), and the (implicit) ground, “are ugly protrusions on the surface” were defined. A list of irrelevant prompts was also given to the subjects. One experiment showed that all effective prompts (topic, vehicle, and ground) produced recall levels that far exceeded levels obtained by irrelevant prompts, since they contained no words that appeared in the related sentences.

Other experiments showed that the ground was a more effective prompt for the entire metaphor than for either topic or vehicle alone, and that the prompting effects should not be explained in terms of pre-experimental verbal associations between grounds and metaphoric components.

Verbrugge and McCarrell (1977) concluded that metaphor processing involves the recognition of an abstract relation between the vehicle and topic domains, which is more than the sum of the attributes of each constituent.

d) Speech Production and Dual-coding Theory.

Paivio (1986) describes dual-coding as the process in which independent but interconnected systems are specialized for picking up, storing, organizing, retrieving, and the manipulation of stimulus information. Both imagery and verbal systems are involved in language processing—including metaphor. The imagery system deals with information concerning concrete objects and events, the verbal system with linguistic information. Independence implies that the systems can be active separately or in parallel. Interconnections between the systems permit information to be transferred from one system to the other or, more accurately, for one system to initiate activity in the other. The imagery system presumably constructs synchronously organized, integrated informational structures, analogous to the continuous, structural layout of the perceptual world. Thus, image representations (not necessarily experienced in the form of conscious imagery) are assumed to

have just those properties that account for the integrated representation that appears to emerge when a metaphor is understood. The verbal system organizes discrete linguistic units into higher-order sequential structures.

(i) Dual coding enhances the probability of finding a common ground in long-term memory. Two independent but interconnected sources of information in long-term memory increase the probability of finding a connection between topic and vehicle. The mechanism is simply additivity of independent systems.

(ii) Integrated images make for efficient information storage. A large amount of information becomes quickly available when it is stored in the form of integrated images, as in perception. However, the simultaneously available image concepts may have to be processed or described successively. The “image” part presents many elements in an “integrated representation” and the verbal system organizes discrete linguistic units into higher order sequential structures.

(iii) Imagery ensures processing flexibility. The synchronous nature of imaginal representations also promotes efficient memory search, because such information can be processed in a way that is flexible and relatively free from sequential constraint. Paivio (1986) has experimentally demonstrated by measuring the time required to process mental images and verbal strings in different manners. Things can be put together in various ways in a meaningful image, but words do not enjoy the same freedom in sentences. However, the term “relevant” is here crucial. Relevance has to be ensured by the retrieval cues provided from topic and vehicles of the metaphor and the constraints associated with verbal processes.

(iv) The connection between topic and vehicle is enhanced by two independent connections in long-term memory. Pictures are recalled better than words and concrete words that evoke images better than abstract. Vehicle and topic have additionally a semantic, conceptual sense. Imagery helps to the comprehension.

(v) In images, integration implies also disintegration because just one part is available (like in perception). Simultaneously available components have to be processed simultaneously; as in low-space memory storage with images (*Bildspeicherung*)).

(vi) Topic and vehicle are retrieval cues for relevant information. Vehicle and topic are key terms, and the vehicle is usually prevalent at the figurative processing stage, when its properties are to be conveyed to the topic. The concreteness of the vehicle (referent) is crucial, because a concrete term provides rapid access to information-rich images.

(vii) Verbal processes keep search and retrieval on track. Imagery contributes specifically to the speed of accessing long-term memory, and to the speed and flexibility of the search for information that would provide the basis of a relevant interpretation of a metaphor. Relevance itself is highly determined by the verbal system. The sequential nature of verbal processes contributes to an orderly logical sequence in the flow of ideas.

(viii) Advances in the study of metaphor have greatly contributed to a better understanding of basic problems of language comprehension and memory.

4.1.4. “The Interactive View”. (Intersubjectivity View).

To account for the construction of meaning in metaphor, Black (1993) emphasizes the “interactive view”; which states meaning can only be constructed in the sender-hearer interaction itself.

For Black (1993), metaphors cannot be replaced by literal translation, like many followers from Aristotle have suggested. For him, they produce a *resonance*, which in human interaction produces a creative meaning.

(i) A metaphor has a “*focus*”, which remits to the word or words used figuratively; and a “*frame*”, which is the surrounding literal frame.

(iii) In the context of a metaphorical statement, the two subjects “interact” in the following ways: a) the presence of the primary subject incites the hearer to select some of the secondary subject’s properties; b) invites him to construct a parallel implication-complex that can fit the primary subject; and c) reciprocally induces parallel changes in the secondary subject. Such an outcome is produced in the minds of the speaker and hearer: It is they who are led to engage in selecting, organizing and projecting. A metaphoric statement can be

thought as a verbal action essentially demanding uptake, a creative response from a competent reader. Shifts in meaning of words belong to the same family or system as the metaphorical expression. This remits to a shift in the speaker's meaning and the corresponding hearer's meaning (Black, 1993).

4.2. Metonymy

Metonymy seems to be similar to metaphor because both describe a connection between two things, where one term is substituted for another. For theorists of pragmatics, metonymy is a sub-type of metaphor (Searle, 1993). For others, metaphor and metonymy are opposed because they are generated according to opposite principles (Bredin, 1984; Jakobson, 1971a). For these last authors, metaphor is based on similarity whereas metonymy expresses simple contiguous relations between objects, such as part-whole, cause-effect, and so on. In metaphor, one conceptual domain is understood in terms of another; i.e. Sally is a block of ice. In here, Sally is compared in her personality to the physical properties of ice. Metonymy involves only one conceptual domain in that the mapping or connection between two things is done within the same domain. If we say, "new brains have come to the University"; the salient quality of one domain, a brain, meaning intelligence, is transferred to the whole domain, a scientist or professor. When the part-whole relationship takes place (brain as part of a scientist), the metonymic expression is often referred to as synecdoche (Lanham, 1969, in Gibbs, 1993).

Many of these metonyms depend on conventional cultural associations, which allow that a thing may stand for what is conventionally associated with it; i.e. the White House made no commentaries.

For Lakoff (1993), metaphors are conceptual structures that define an outlook on reality and function as matrixes that mold our thoughts and actions. Metaphors have targets that vehicle the production of meaning.

Freud states that thing representations are primitive unconscious thought forms that do not have representability. Therefore, the unconscious thought must link itself to some related

representation, through which it obtains a possible expression. Usually this representation is a word or a phantasy. This could be compared to the metaphor mechanism.

In the same line of thought, both Paivio (1993) in his dual-coding system and Jakobson (1959, 1971), a structural linguist, propose that the production of language takes place in the vertical (synchronous or simultaneous) and horizontal (diachronic or sequential) axis through metaphoric and metonymic transformations. When thoughts are put into words, thoughts are transferred associatively to referents, objects, or representations that translate into words. Jakobson (1959, 1971) proposes the Freudian mechanisms of condensation and displacement as equivalents of the before described metaphoric and metonymic productions.

As mentioned before, traditional rhetoric defines metonymy as a figure of speech in which the name of one entity is used to refer to another entity that is contiguous to it (Gibbs, 1993). This process of “transferred reference” or displacement is possible in virtue of what Nunberg (1979) defines as a *referring function*. With the exception of sentential metaphors, all metaphors have direct referents and/or themes with which the referent is related.

A metaphor with a referent has more possibility of functioning as a cognitive concept under the supposition that the abstract association produced through the image and change of cognitive domain lands on a referent with concrete characteristics and produces a specific meaning. In this work on psychotherapeutic interaction, no metonymy was coded. This would have created difficult operationalisation in terms of language production. In turn, referents or objects of the metaphor which were shared in the interaction between patient and therapist were considered to be the equivalent of metonymic production. Referents of the metaphor were often sustained in the speech of the patient for further metaphoric elaboration, with a meaning acquired during the interaction.

4.3. Theory of Polysemy

Polysemy is traditionally the production of two or more meanings, either semantically, a word with more than one meaning; i.e. bank (river, credit institution) or syntactically, in a phrase or sentence; i.e. I see the man with the telescope.

For Lakoff (1993), polysemy involves the mapping of one element into two or more conceptual domains. The two or more different meanings occur in two or more different contexts simultaneously. Freud (1905), in *The Joke and its Relation to the Unconscious* illustrates how condensation and displacement, the same mechanisms that operate during dream construction, are also used to build up word games, double meanings, jokes, and failed acts. In dreams, certain elements are *overdetermined*, which means the same element can represent diverse ideas or representations. In language, it is this overdetermination that allows the possibility of multiplicity of meanings, which are brought about by word games. Language itself goes through the processes of condensation and displacement, in which words are split and rearranged, reordered, and intonations suggest new connotations. For Freud, repressed thing representations link themselves to parts of or to complete words, enabling the expression of repressed thoughts, which are transferred or transported into the creation of a new meaning, for the one that is capable of listening.

Affects and thought processes are also conducted or transmitted through polysemy. A patient that verbalizes a polysemic sentence and realizes by himself or with the help of the therapist that what he or she has said in a session remits to a new meaning other than the consciously intended one, may gain a clear insight into some process related to his or her unconscious knowledge of his or herself. Nevertheless, a therapist that gives polysemic interpretations in a non-intended manner is likely to produce ambiguity or ambivalence. Some therapists use calculated irony to provoke a particular effect. I am referring to polysemy that is produced not consciously, in the same way as counter-transference in the sense of resistance. For Racker (1959), counter-transference is the acting out of affects in the therapists linked to unconscious effects produced by the material of the patient. Freud (1900) defines resistance in the patient as anything that hampers the analytic process of free-association. Lacan (1954-55) refers to counter-transference as “the resistance of the therapist” to therapeutic work.

From the field of philosophy of language, Wittgenstein (1967) coins the concept of “word games” (Sprachspiele). In his late work, *Philosophical Untersuchungen*, Wittgenstein (1967) no longer questioned himself as to the importance of defining if a word or a sentence had a referent (in Frege’s sense) or what a word or sentence meant. He assumed that meaning was given by the *use* each sentence had, that meaning could oscillate according to use, and a word or a sentence could have as many meanings as ways in which it could be used.

Wittgenstein (1967) proposed word games or “ways of speaking language” were also related to living forms (*Lebensformen*) and were closely interwoven with activities or acts. Examples of word games could be: 1) Commanding and acting according to commands; 2) to act in a theatre piece assuming the “as if” manner; 3) to tell a joke; 4) to ask, to greet, to pray. Word games become a part of those that enact them.

Other primitive speech forms; like those that children use when they are learning to speak, are also closely interwoven with word games. Examples of these could be a substitutive name for the mother when the child could not pronounce her name and after which the mother is still known in the family. The former is of psychological importance because these forms of speech contain the essence of primary relations. These forms refer to coined expressions filled with emotionality that could not be expressed in another manner at that time and that are still present forms of relating.

Wittgenstein (1967) goes even farther and attaches these word games to sociological, anthropological, or culturally identifiable forms of living (*Lebensformen*), which appear captured in particular uses of language and which can only be understood by the members of a particular community; i.e. dialectal language forms or colloquial language of a particular sub-culture. These word games are naturally related not only to the concept of living form (*Lebensformen*), but also accentuated by non-verbal behaviours.

Wittgenstein (1967) stretches his reflection consequently and concludes that there are forms of speech that have been developed through use in such a way that only those who have developed and lived through them are capable of understanding. To this, Wittgenstein refers to as “private speech”. Such forms of speech do not respond to the semantic use of words in a sentence. Word games are not constructed according to the laws of arbitrariness of language nor is there a general agreement onto what these forms mean. They are simple part of “private speech”.

5. FROM METAPHOR AND AFFECT TO AFFECTIVE MEANING, AND MENTAL REPRESENTATIONS.

The theory on metaphor gives many reasons to support the hypothesis that metaphor acts as a “matrix” or “bridge” that furthers the working through of thoughts and affects in their symbolisation. Following the conceptual literature on metaphor which has been exposed in previous chapters, the main hypothesis of this work is that in psychotherapeutic treatments metaphors also promote the working through of both affective and cognitive contents. The proposal of this study is to attempt the empirical validation of such a question through the analysis of psychotherapy sessions and the assessment of treatment outcome. A review of theoretical and empirical results in recent literature in themes related to affect, metaphor, and affective meaning follows. Some authors emphasize affects, others, cognition. The reported results come from different fields of study.

5.1. Review of Literature Empirical Research on Affects, Metaphors, and Affective Meaning.

5.1.1. Research on Facial Affect by the Saarbrücken Team on Dyadic Affective Therapeutic Interaction.

Sustained, systematic research on facial gesture affective dyadic interaction in various scenarios has been conducted by the Department of Clinical Psychology and Psychotherapy at the University of Saarland. In 1987, the DFG (Deutsche Forschungsgemeinschaft) financed a large-scale project, which centered on psychotherapy research: “The Multikanale Psychotherapie Prozeßforschung” (Krause, 1987; 1997; 1998).

In this project, eleven experienced therapists took eleven patients in a short fifteen-session psychotherapy treatment. All patients had been previously treated without success by other therapists (See Marten, 1996, 2000). Video films from all treatments were registered. The patients were treated under different treatment techniques (psychodynamically oriented, cognitive-behavioral or client-centered). The idea of the project was to prove that, independently from the technique and theoretical orientation of the therapists, the

„maladaptive affect-regulation patterns“ in the interaction would appear and could be observed, assessed, and used as predictors of success or failure in therapeutic outcome.

5.1.1.1. Results from the Saarbrücken Research Group.

The measurement of facial affects through EMFACS (Emotional Facial Action Coding System; Ekman and Friesen, 1984) enabled the empirical measurement of repetitive, maladaptive patterns. The former can be defined as repetitive affect-regulation patterns of unconscious nature that appear in the dyadic interaction. Krause & Merten (1998) measured this non-verbal interaction and interpreted it in terms of transference-counter-transference which can be measured through mimic patterns in patient and therapist. Facial gestures from both patient and therapist were coded separately with EMFACS (Emotional Facial Action Coding System; Ekman and Friesen, 1984) and analysed as “affect coreographies”, in which negative affect irrupts into the interaction, “repeating” an inadequate manner of relating to others; the therapist, in this case. The results were compared with a rating of treatment success, which was made up of assessment questionnaires that measured goal attainment and satisfaction with the treatment and the psychotherapeutic relationship (see Merten, 2000 and Chapter 6).

The FACS (Facial Action Coding System, Ekman, P.& Friesen, W. V., 1978) was developed through the classification of all muscle innervations in the face, which provide for movement and affect expressions. These enervations are numbered and are referred to as “action units”. In contrast to FACS, the EMFACS, which derived from FACS, takes only those action units which are more potentially related with the expression of affects. The EMFACS specificity was developed by Ekman and Friesen through diverse intercultural studies. Other differences in the coding of both systems is that FACS is coded in slow motion and takes an assessment in linear time before and after the Apex, which is the point where the affect is most explicitly represented. In EMFACS only the Apex is coded. The Apex is the point where the chained affect pattern reaches its maximum level. EMFACS can be coded in normal time and what remains is the main expression of the leading affect. The coding of facial gesture affects has been standardized through a manual, in which possible differentiations and combinations are established. The primary affect categories that are measured are: anger, disgust, contempt, fear, sadness, surprise, and joy. Different blends are

possible; i.e. in the case of joy, differences in smiling can be established, as “true” or “social smiles”.

The above-mentioned Multichannel Psychotherapy Project concentrated on the research on facial gesture affect in patient-therapist affect regulation dyads, without any analysis of the patient-therapist psychotherapy verbal transcripts. A rating of treatment success was done. The results are as follows:

5.1.1.2. Psychotherapies with good outcome succeeded in modifying maladaptive relationship patterns.

A previous pilot study to the psychotherapy project, had shown that when a disturbed patient sustains a conversation with a healthy subject, despite the neutrality of the selected theme, maladaptive dyadic patterns began to appear. The disturbed relationship patterns came predominantly from the side of the highly disturbed patient. The healthy partner was not informed of the emotional disturbance of his or her partner. Upon meeting the partner for the first time, healthy partners only reported that they had found the other person somewhat strange and had felt somewhat uncomfortable, although they could not exactly explain what was happening in the interaction.

What was found was that disturbed patients usually tend to a reduction of affectivity. Negative affective signals, when they become interactive, can be dangerous because they can lead to open aggression. The reduction of affectivity in the disturbed patient can also be interpreted as a low capacity of interacting or sending affective signals to the outer world. The healthy partner intuitively reacted reducing his or her own signalization activity, in compensation to the facial patterns of his or her disturbed partner. The former can be explained as a joint unconscious defensive pattern in both partners to avoid conflict.

What the research project proved was that a successful therapist functions in a totally different manner from an interaction partner in an every-day relationship. The therapist maintains an abstinent attitude to the patient's transference offer or reacts in an unconventional manner to what the patient commonly tends to provoke; i.e. reacting to disgust in the patient with curiosity, helping the patient understand the way in which he or she constitutes his or her conflictive relationships, not reacting to anger in the patient with more anger or with fear, as his internalized figures probably did. Interactive relationship patterns

tend to be reactivated in the therapeutic relationship as part of the transference process. The “turning-point” in the direction of a curative treatment can be found in the completely different way in which a successful therapist reacted to the unconscious affective enactment offers of his or her patients (Merten & Krause, 2001). When the therapist does not follow the maladaptive dyadic pattern offer of his patient, the former is forced to change the signalization of his patterns, if he wishes to continue within the interaction.

Patients from psychoanalytic, cognitive-behavioural, and an equivalent to Rogerian therapy (*Gesprächstherapie*) appeared as part of the good outcome group. The common denominator was the reduction of maladaptive dyadic patterns.

In the case of unsuccessful treatments, the maladaptive facial gesture pattern continued to prevail as the predominant interaction modality. Surprisingly, neither the patient nor the therapist was conscious of the kind of facial exchange that was taking place. Krause (2001) comments "patients with mental disorders superimpose unconsciously their “standards” of affective relationship-patterns to their social partners”.

5.1.1.3. In terms of reduction of affectivity, therapists exhibited the most reduced affectivity; patients less reduced; and healthy partners exhibited practically no reduction.

When therapists were compared with their patients, therapists usually showed less facial affect than their patients. Only joy appeared percentually higher in therapists than in patients. This phenomenon could be attributed to the effect of psychotherapeutic training on therapists. Patients also showed more social smiling than their therapists. Affect blends and masking commonly appeared both in patients and therapists. In the “every-day encounter design” with a healthy and a disturbed partner, healthy subjects showed more facial affect, and the disturbed patients almost a 50% reduction of facial affects” (Merten, 2000).

5.1.1.4. Certain affective indicators “mark” the appearance of maladaptive patterns.

Some forms of social smiling in the patient-therapist interaction prelude the apparition of the maladaptive facial pattern. When these interactive “cues” are followed and reciprocally

answered, the maladaptive pattern tends to be preserved (Merten, 1996). S. Fraiberg (1987) described changes in tones of voice or sudden emergence of negative affects as indicators of the appearance of maladaptive patterns in mother-baby dyads. These affective markers or indicators could be affect dissociations which form part of the unconscious identifications that are characteristically constitutive of maladaptive patterns.

The filmed, EMFACS-coded sessions of the project and their transcripts continued to be a source of new research. I cite some of the most important results which were produced after the conclusion of the DFG project:

5.1.1.5. “Leading affect” as Outcome Predictor for Psychotherapy from the First Session.

The “leading affect” was defined as the relativised most frequently expressed primary affect(s) in the affective display of patient or therapist. The more an affect appears and differentiates itself from the others, the more the percentage of “leading affect” augments. The “dyadic leading affect” (*dyadische Leitaffekt*) is the measurement of the “leading affect” (*Leitaffekt*) of both patient and therapist in a combined manner. Three categories can be described in relation to “dyadic leading affect”: a) both patient-therapist leading affects are positive; b) both patient-therapist leading affects are negative; and c) one leading affect is positive and the other one is negative (Merten, 1996, 2000; Benecke, 2000).

Leading affect was measured both in patient and therapist during the first session and correlated with therapy outcome. Outcome was rated by a patient and therapist evaluation of the therapy plus a symptom checklist, the Freiburg Symptom-Check List (*FBL*) (FBL-G; Fahrenberg, 1975, CIP, 1986). In good-outcome therapies, the “leading affect” percentages of the patient during the first session correlated negatively with that of the therapist ($r = -.66$; $p = .027$, 2 sides) (Merten, 1996, 2000; Benecke, 2000). Surprisingly, the highest correlation was found between the frequency of negative affect expressions in therapists during the first session (anger, contempt, and disgust) and good outcome measurement ($r = .81$) ($p = .05$) (Merten, 1996, 2000; Benecke, 2000).

5.1.1.6. Maladaptive Dyadic Interaction Patterns in Bad Outcome Treatments Appeared from the first Session and were Preserved until the End.

Maladaptive patterns in bad outcome treatments that came out in the first session tended to be preserved and remained unchanged at the end of treatment; while in good outcome treatments, they were reduced. (Merten, 2000).

5.1.1.7. “Social Smiling”.

A high frequency of smiles and joy during the first session when started by the therapist, correlated highly with bad psychotherapeutic outcome. When social smiling was begun by patients, this correlated negatively with the success rating made by the therapist (Schwab, 2001).

Panic patients characteristically presented many more sustained patterns of repeated real and social smiling, instead of the fear facial expression that could be expected. This was interpreted as a compensation or as a defense mechanism to avoid the real fear, which was fear of separation or of being left alone. The compensatory mechanism assured that no breaking of contact with the other would take place (Benecke & Krause, 2004). The former remits to the “phatic function” described in Chapter 3.

5.1.1.8. Interactive and Object-Directed Affects: Gaze and Speech Combinations.

Merten (1996, 2000) proposes that negative interactive affects³⁶ can be empirically differentiated from those that are directed to other objects, through the signalization system of gazing. When the signalization of negative affect comes into the therapeutic interaction, in its corresponding threatening quality, the partners of the interaction look directly at each other in the eyes. When the object of negative affects is another object or referent to which a negative commentary is directed, the sender does not look at his receiver in the eye, but tends to turn away his glance and look away.

³⁶ Interactive affects are those that come into the dyadic therapeutic interaction.

This could be interpreted as follows: negative affect is directed to an object that is represented by a mental representation and not to the interaction partner. Negative affect would then tend to go into language and mental representations rather than being directed into the interaction. The former is conveyed through signalization: “I do not look at you; I mean something or someone else”.

5.1.1.9. Object-Oriented Affects and Speech Content.

Benecke (2000) investigated the difference between interactive and object-oriented affects. His results pointed in the direction that good outcome treatments had more object-oriented interactions than bad outcome treatments. In unsuccessful treatments, as the psychotherapeutic process developed, interactive affects tended to remain as maladaptive dyads that were not transformed into verbal object-oriented interactions.

The above-described results are summarized in Fig. 8, which proposes a graphic presentation of the research conducted by the Saarbrücken team, under the light of the theoretical frame of this study.

Fig. 8: Further Research of the Saarbruecken Team.

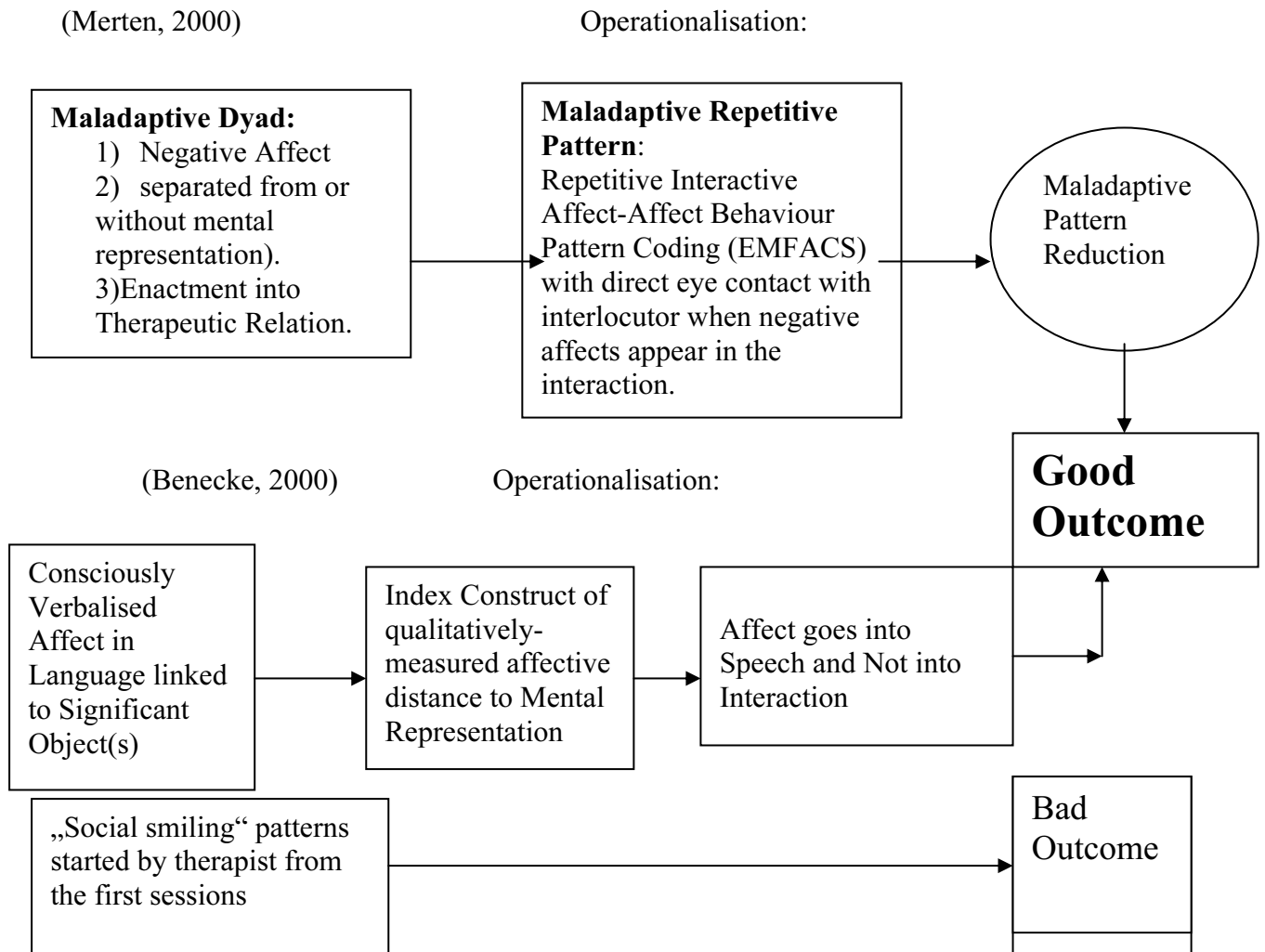


Figure 8 shows bad outcome treatments are characterized by direct eye-to-eye enactment of negative affect in maladaptive repetitive patterns in which the affected is not linked to another conscious mental representation other than the interaction partner. Good outcome treatments present more affects linked to objects or mental representations. Certain “cues”, such as “social smiling” are indicators of maladaptive patterns and of bad outcome.

5.2. Literature Review on Research on Metaphor.

5.2.1. Cerebral Lateralisation, and Neurophysiological Substrates.

From the fields of neuropsychology and neurology, empirical evidence confirms that the above-described functions and conceptualization have neurologically grounded correlates. From the days of Jackson (1880; in Engelkamp, 2000), this pioneer neurologist reported that patients with left-hemisphere brain damage were incapacitated in the production or understanding of words and speech, with the exception of words with affective valence

(Borod, Bloom & Haywood, 1998 in Engelkamp, 2000). Words with affective valence seem to be processed in right cerebral hemisphere.

In his work with aphasic patients, Jakobson (1959), a Russian linguist, found that patients with aphasic lesions could be classified into two groups, according to the symptoms they presented: the first group developed a “telegraphic style” speech, deficient in the use of prepositions, with very concrete thought patterns. This first group of patients could only understand literal meaning and *could not* understand metaphors. (This phenomenon has also been observed in certain forms of schizophrenia). Patients in this first group tended to omit the grammatical subject (“I”) and to produce phrases in which objects were related concretely and directly with their use, synonym, or association; i.e. “pencil-to-write” or “house-hut”. Jakobson (1959) diagnosed this first group as patients with alterations in the axis of synchrony (metaphor production or vertical axis). To compensate for the lack of production of metaphoric thought, this first group increased their use of concrete, functional, literal language.

The second group of patients produced an enormous amount of metaphors, but showed altered syntax in their construction of sentences. They presented a phenomenon Jakobson called “idiolect”, which is a single linguistic reality in which no interlocutor, referent, or object seemed to be present to whom the message could be directed. The metaphor could not be “landed” in an object or referent. These patients talked in “pure, abstract metaphors”. This second group was diagnosed by Jakobson (1959) as having alterations in the axis of contiguity or sequentially. The alteration in their capacity for objective, concrete speech compensated with the production of highly abstract, “pure” metaphoric language without referents.

Buchinger (2000) investigated the role of the right hemisphere of the brain in the processing of metaphoric stimuli. Twenty healthy subjects were acoustically presented with a series of sentences which they had to judge as either literal or metaphorical. General cerebral activation was measured through cerebral blood flow velocity in both left and right middle artery, as the subjects completed the task. The means of the lateralization assessment were compared for significant differences in metaphoric and literal language processing in both hemispheres. Results showed that increased left lateralization occurred during literal language processing, while metaphoric language processing elicited weaker left hemispheric

lateralization and increased with right lateralisation. The conclusion was that figurative language processing requires additional right hemispheric cortical activation to the usual left hemispheric activation, characteristic of literal language processing.

Hillekamp (1996) reports a study with 51 aphasic patients with left hemisphere damage, 18 patients with right hemispheric lesion, and 12 healthy control group patients. Metaphor assessment tests were used. The activation of both right and left-brain cortical hemispheres was measured. Right hemisphere activation was also reported as fundamental in metaphoric understanding, as well as in communication capacities that require the recognition of emotional intonation, connotative aspects and understanding of humour, and jokes.

Spitzer et al (1994) investigated the understanding of metaphoric meaning in 35 schizophrenic and 83 control group healthy subjects. The subjects were presented acoustic sentences with metaphoric meaning. These metaphorical sentences were then to be matched by the subjects with a visual multiple choice word selection task. In the first part of the study, the reaction time of healthy subjects in the understanding of literal and figurative speech was measured. The obtained results for healthy subjects were the following: 400 ms (thousands of a second) after the end of a phrase that had only literal meaning, and 1200 ms (thousands of a second) after the end of a phrase that had literal and metaphorical meaning. When schizophrenic subjects were tested, these patients presented in their reaction time over-increased firing of associations, as well as mistakes in the activation or understanding of literal content meaning. Results can be related to the question of conceptual activation in schizophrenics (over- or under-generalisation) and coincide with results from associative and working-memory proposed by neurobiologists. It can also be concluded that schizophrenic patients had difficulty in understanding metaphoric meaning.

5.2.2. Words with Affective Valence in Spoken Language.

Words as basic representations can also be also laden with affect or emotion. Words with affective valence differentiate clearly from words with neutral valence (Jackson, 1880). Davitz (1969) took the affective valence of language as a starting point and realized the difficulty of finding exact equivalents in descriptions of affective experiences from one person to another; i.e. what for somebody is depression, for someone else is deep melancholy, and the intermediate affective tonalities are often lost. Davitz (1969) proposed to create a

dictionary of emotional experience and started with 400 words that referred to emotional experience in the Roget's Thesaurus. From the 400 words, 50 subjects chose the terms, which they believed referred to emotional experience. From the 400 words, 137 remained, as more representative of emotional experience. The subjects then proceeded to match the remaining words with definitions provided by Davitz (1969), which were ordered in a checklist. Once every word was matched to a definition, the subjects also graded the proposed definition through a four-point scale in which the degree of adequateness was measured. The four degrees were: adequate, fairly adequate, fairly inadequate, and inadequate.

The obtained results showed that certain emotions were easier to differentiate linguistically than others. Those emotions which were easily differentiated, were classified as adequate or fairly adequate. Those that were difficult to define were classified as fairly inadequate or inadequate; i.e. anger was easily matched to the corresponding definition(s), while other emotions were more difficult to differentiate one from another; like contempt from irritation, or resentment. The former was marked as fairly inadequate or inadequate in relation to the definitions.

The dictionary of emotional meaning is not only an instrument constructed empirically through the report of emotional experiences of subjects who associated their emotional states to emotion words that defined them. It is also the basis of the development of an assessment instrument related to each emotional state; i.e. anxiety, depression, love, etc.

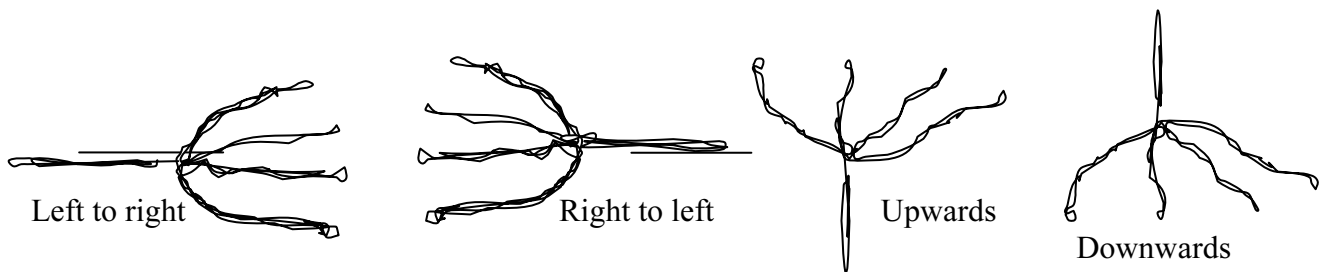
In addition, Davitz (1969) performed a cluster analysis that revealed 12 predominant emotion groups. Davitz (1969) nominated these clusters "structures of emotion". The "structures of emotion" exhibited qualities which were centered predominantly around movement or absence or movement (Activation), pleasure or displeasure (Hedonic Tone), moving toward or away from an object ((Relatedness), and feelings of competence, enhancement, satisfaction or lack of them (Competence). The "structures of emotion" defined by Davitz (1969) also find equivalence in various theorists of emotion (see Chapter 1).

5.2.3. Metaphor as Categorical Memory that Structures Time and Space Dimensions

Metaphor can be thought of as a trope that furthers the correspondence of categorial memory into other cognitive systems. Fenk (1994,1998) reports a simple but interesting experiment that illustrates the effect of metaphors on the production of image representations. Fenk (1994, 1998) also suggests that metaphor has a structuring function in behalf of time and space dimensions.

Sixteen experimenters asked a total of 84 subjects to choose one of four given diagrams (see Fig.9), which in their opinion, would combine with a given text on the evolution of Hominoidea. The diagram, which referred to the evolution of the Species, was presented together with the metaphorical expression "*phylogenetic tree*", and other associated expressions in the given text. The text was expected to transmit the concept of tree growth and induce a tendency towards an upward ordering of the time axis; i.e the characteristic view of trees growing vertically in an upward fashion.

Fig. 9: Diagrams of "Phylogenetic Trees"



Fenk (1994) cites Tversky and comments briefly (1991, p. 529, in Fenk 1994) that there is a strong tendency in English speakers, in contrast to Hebrew and Arabic speakers, "to portray temporal concepts from left to right". The former could be related to left to right writing in occidental languages and right to left writing in Hebrew and Arab. An example of the spatial metaphors that Fenk (1994) used in his experiment and gave to his subjects is the following: "the phylogenetic tree evolution and differentiation to the present".

During the experiment, it was hypothesized that the upward-orientation would be preferred, followed by the downward-version, which is a form used for genealogical tables in some history books. The right-to-left version was assumed to be improbable, because neither

trees (nor their root-stocks) nor texts “grow” from right to left. The results were the following: the hypothesized upward-downward rank order proved to be valid. Nevertheless, the left-to-right version surpassed the downward version.

The subjects produced the following results: upward (42); to the right (20), downward (16), to the left (6). 69% percent of the subjects chose one of the vertical orientations (50% the upward version and 19% the downward). The vertical orientation predominated, despite the fact that the upward-downward order neglects the normal left to right format, characteristic of the usual text-processing directions, or of the direction in which time is normally graphed in linear time axis diagrams. The experiment also shows a choice of the left to right orientation in 23% of the subjects, which Fenk (1994) did not expect.

I have the impression the metaphorical expression which was used inevitably also includes a time dimension, which accounts for the unexpected choice in the “left to right” format (“the phylogenetic *evolution and differentiation to the present*”). In any case, the spatial metaphor undoubtedly influences the imaged-text direction and orientation. In the same experiment, Fenk (1998) also validates the hypotheses that spatial metaphors reduce cognitive text-processing costs when logical pictures (graphic format) and spatial metaphors (linguistic format) are used in precision mappings.

5.2.4. Metaphor, Affect, and Learning.

As to affective states and learning, experimental work shows that affective states and emotions have a definite effect on learning and perception. Engelkamp (2000) demonstrated in an experiment that subjects presented with words projected on a screen recognize faster words with a positive affective valence; i.e. sunshine; than words with neutral affective valence; i.e. “table”. Negative affective valence words; i.e. “death”; required the longest recognition time (Graumann, 1956); (Engelkamp, 2000).

Studies on word retention showed similar results. Eysenck (1976); (Engelkamp, 2000) demonstrated that agreeable conceptual content is better remembered, even after re-test, than disagreeable one. Affects also seem to have an effect on cognitive processing. Evocation of memories is conditioned by emotional state, which is well known as “mood state dependency”. Encoding congruency is also influenced by emotional state. Subjects in a

positive mood retain better items they regard as positive. Subjects in a negative emotional mood do not necessarily retain better negative items (Engelkamp, 2000).

Bromme and Stahl (1999) examined the influence of metaphors on the understanding and construction of hypertext during regular school lessons. Two 7th grade classes (29 and 31 students respectively) and their teachers were observed over a school year in two half-term periods during the geography lesson. During the lessons, one class was taught with a book and with a computer method the concept of hypertext. The other class was taught using spatial metaphors. At the end of the first term, the students' ability to reconstruct connections and structures was tested by means of diagram drawing. At the end of the second term, the same test was repeated and students were additionally asked to write on the side of the diagram the concept related to every diagram they had drawn. Results showed that the class which was taught with spatial metaphors showed significantly better results overall than the class taught with the book and computer method.

5.2.5. Metaphor, Affect, and Affective Meaning.

Both for Ekman and Lakoff (1980), metaphors are a cognitive expression of affects and for every affect an extensive set of metaphors that correspond to the motor-expressive, and motivational modules can be found; i.e. she steamed with rage; I shuddered with fear; her hope had withered; she gleamed with satisfaction; his soul was crushed with despair; he had a burn-out; he zoomed to his objective; etc.

Modell (1997) proposes that if metaphor is used to organize cognitively bodily sensations and somatic experiences such as affects, it would not be surprising that affects were transformed into metaphors or metaphoric productions that create a representation between soma and brain. For Modell (1997), metaphor is rooted in the body in two senses: metaphor is used to organize bodily sensations cognitively, especially affect, and secondly, metaphor is rooted in the body as it rests on the border between mind and brain. For him, metaphor, affects, and memory form a unified system. Metaphor furthers the correspondences of categorial memory into other cognitive systems; i.e. the kinesthetic sense of bodily balance is transferred metaphorically into different sensory modalities; i.e. the concept of balance is integral to both music and visual arts. Another example would be that a

child that learns to differentiate right from left in his body can later differentiate a “p” from a “q” when he learns to read and write.

Modell (1997) views the capacity to metaphorize affects as a developmental, early-acquired, primitive, mental function related to synesthesia³⁷, that creates *affective meaning*. Modell (1997) proposes that metaphor enables the “re-transcription” of one sensory modality into another sensory modality. Modell (1997) sustains this interesting idea, but unfortunately has not many theoretical tools to give account of his proposition. He remains grounded on his concept of the “re-transcription”³⁸ of one sensory modality into another and attempts to use the Freudian concept of *Nachträglichkeit* as a “bridge between past and present”, which links metaphoric correspondences with current inputs. Modell (1997) does not give the Freudian concept its full value of “retroactivity”; that is, something that happened in the past is understood from a new capacity of understanding in the present; i.e. a childhood memory can be understood under a totally different light from the perspective of an adult (see Chapter 1, under *Nachträglichkeit*). The delayed “resignification” may explain the production of a new meaning (*a posteriori*) in retroactive sense, *as a consequence of the passage of time* and of a new interpretation of the same event. In Modell (1997), the precise mechanism of metaphoric “re-transcription” into “affective meaning” remains unexplained. Furthermore, something that is understood retrospectively (*nachträglich*) must not necessarily be metaphoric. Thus, the question of how synesthesia is related to affective meaning and to metaphor remains only partially answered. How does the creative metaphoric process take place together with the integration of the cognitive-affective process?

Osgood (1959) also relates metaphor to the intersensory experience of “synesthesia”. For Osgood (1959) and for Paivio (1983, 1993), synesthesia is bound to a form of imagery. For both authors, all sensory impressions are *images* of sensory impressions. For Osgood (1959), the basis of similarity or transfer in metaphor (and synesthesia) is produced by common affective reactions that are aroused by different sensory stimuli and also by words. Images would then be the “units of re-transcription”, in Modell’s terms. Osgood (1980) showed how the semantic differential model can be applied directly to the analysis of metaphor comprehension.

³⁷ Synesthesia is defined by the Duden Dictionary as the co-excitation of one sense organ through another sensorial organ or as the linguistic fusion of sensorial impressions of various origins.

³⁸ To give account of the transmission, exchange, and transformation of information, Jakobson (see Chapter 3) proposes the concepts of interpretation (from one language into the same language); translation (from one language to another) and transmutation (from a non-verbal language to a verbal one and vice-versa).

The semantic differential is a measurement model which is conceptually built within the coordinates of semantic space, in which vectors extend into different directions; up, down, left, right; indicating degrees of “affective meaningfulness”. The measured degree of “affective meaning” is related to affective signification based upon primitive emotional feelings (Engelkampff, 2000).

For Osgood (1979), “meaning” is not only given by the denotative or referential quality of a word or concept. Two individuals may agree to what object the word “thunder” refers to in reality; but the connotative, emotional, or metaphorical meaning is totally individualized. To one individual, thunder might be frightening, to the other, challenging. For Frege, it is the internal psychic image within a mental representation that is saturated with affects. Affects have different tonalities and may influence the thought contents or sense (*Sinn*) through affective meaning; (see Chapter 3). In the linguistic sign expression proposed by Saussure(see Chapter 3), which is expressed as:

$$\text{Linguistic sign} = \frac{\text{S (Signifier (word or acoustic expression))}}{\text{s (signified, image or meaning of the word)}}$$

The signifier, which is the acoustic expression or sound of the word, plus the signified, which is the image of the object it refers to, produces a “signification” or meaning. The affective meaning appears also as part of the signified or image, and will also be attached and transferred to words laden with affect when signification takes place; i.e. emotion words or words with connotative meaning, like “bastard”; “freak”.

In order to measure the emotional “meaningfulness” of a word or a concept, Osgood (1979) designed a questionnaire made out of a seven-grade scale with adjectives presented in a bipolar manner; (i.e. loud-quiet). A factor analysis of the multiple scales that constitute the questionnaire and of judgmental words demonstrated affective factors always clustered around three dimensions: 1) Evaluation (good/bad), 2) Potency (strong/weak); and Activity (active/passive). In the semantic space, meaning is mathematically expressed through graphics of coordinates: (1) the *Evaluation* dimension (good and bad) runs up and down parallel to the “y axis” with positive and negative values; (2) *Potency* (strong-weak) advances towards the right or the left along the “x axis”; (3) the *Activity* dimension (passive-active)

runs transversally to the x and y axis. The graphical expression in the semantic space of connotative or emotional meaning allows not only the expression of different reaction systems, which are behaviorally different and do make a difference in meaning, but also allow for the differentiation of cultural or individual differences; i.e. a “hero” may be judged as good, strong, and active, while a “pacifist” as good, weak, and passive.

Affective meaning is measured in relation to the three above-cited dimensions and has been used in social psychology to investigate opinions or in psychotherapy research together with specific significant referents; i.e. “mother”, “self”, “sex”, “spouse”, “child”, etc.

Lyons (1977) proposes that metaphors have the unique quality of enabling *secondary iconicity* to be integrated into words or language (see Chapter 4). Iconicity is a term that refers to the creation of images, in general. In speech, primary iconicity refers primarily to an image of sound; i.e. the sound “chu-chu” produces an acoustic image. A “chu-chu-train” would then be the description of a steam train. Primary iconicity of the sound “chu-chu” has been integrated into the word; “chu-chu train”, in which the sound “chu-chu” is onomatopoeic. Onomatopoeic words have sound images as a starting point and later acquire arbitrary or conventionalized meaning; which is the meaning of a word that can be looked up in dictionary. Secondary iconicity refers to a new cognitive meaning created after sound or other forms of perceptual images have been integrated into language or speech; i.e. the word “owl” was originally onomatopoeic (first movement) and was later associated with the animal (second movement that leads to secondary iconicity). A third movement can be further recreated when the “owl” is associated with the symbolism of wisdom. In the case of metaphors, the image that is integrated into speech can also be a sensorial image of multiple kinds; i.e. a kinesthetic image; in the example, “her soul was crushed by an absence”, the previous metaphor transmits not only the integration of the kinesthetic image of bodily pressure but also surpasses the pure semantic meaning, creating a new affective and cognitive meaning in conveying that someone who no longer was there was longed for. The former metaphor expresses or transmits depression as affective meaning, being “crushed” as sensorial perception, and the cognitive meaning of being lonely or desperate in terms of the soul.

Proust (1953), a known French writer, in his autobiographical novel, *A la Recherche du Temps Perdu*, recreates an enormous amount of forgotten childhood memories that were bound to the emotional state that characterized his life at that time, in the precise moment he

tastes a “madelaine”, (a traditional French bread roll) together with chamomile tea, which his grandmother used to give him as a child, and which he had not had for a number of years. The “sensory image of a certain flavor” (madelaines and chamomile) evokes in him not only a prevailing emotional state during this period of his life, but also the related memories.

At this point I dare the hypothesis that images can be considered as “units of re-transcription” and stand as intermediaries between primary iconicity (sensorial images integrated into language) and in secondary iconicity (sensorial images in language which acquire a new meaning). Theorists of affect (see Leventhal, 1984, Chapter 1) also refer to the processing of sensory-motor emotional situations as “*image-like prototypes*”, characteristic of the schematic level; that is, before the apparition of language. The presence of the affect or affective contents also seem to be linked or mediated through images. It might be reasonable to suppose that, as in Proust’s example, many of these images could also stem out from the image reservoir of the procedural memory (see Chapter 2). These procedural memories acquire affective meaning when they are linked to affects and associative memories of diverse kinds. When affect-coined images are made conscious, memories attain ³⁹secondary iconicity or affective meaning.

Engelkamp (2000) refers to the musicality and rhythmicity that unmistakably appears in poetry in connection with the reproduction of affect, which I relate to sound images. In Tomkin’s (1962) theory, variations in affective intensities and densities of neural firing account for the differentiation of particular affects. Rhythms in dance and music often address directly the limbic system; i.e. certain drumbeats or ritual dances are known to provoke trance-like states in African cultures.

Engelkamp (2000) also cites Ertel (1969), who applies Osgood’s (1963) semantic differential to non-sense or artificial words. The three before-cited cluster groups of Osgood’s semantic differential continue to predominate; 1) Evaluation; 2) Potency, and; 3) Activity.

Ertel (in Engelkamp, 2000) also found that the emotional reaction of his subjects to non-sense or artificial words was also directly related to the vowels and consonants that appeared in the words. Short vowels were coded as arousing and stronger as words with long

³⁹ Fenk (1994) makes to this respect a differentiation between symbolic icons (which symbolize or give a signification to an image) or pure icons (which only simulate a characteristic of the object).

vowels. Consonants <t>, <p>, and <k> were interpreted as exercising a greater dynamism than consonants <m>, <v>, and . (The first group of consonants belongs to the linguistic classification of voiceless consonants and the latter to voiced). Another result of this extensive research was that emotional meaning depended more on the *proximity of one sound to the other* than to experiential or semantic meaning. Verbal or semantic memory is also linked with sound images or other sensorial images (see Chapter 3); and therefore, to affective meaning.

I hypothesize also that affective meaning cannot be produced, when procedural images cannot be related or associated with affects or with another association, and remain simply as primary icons, in Peirce's terms. Following Freud, these images or ideas would remain separated and in a state of unconsciousness (see Chapter 3).

In conclusion to the exposed theory, metaphor is a linguistic matrix that through primary and secondary iconicity creates affective and cognitive (symbolic) meaning, that takes the form of concrete mental representations when contextualized in language as a system or when shared in an interaction.

In relation to polysemy and affects, Retzer (1995) parts from the conception that it is words in psychotherapy that produce change and develops a model of the relationship between communication and experiencing. For him *how things are said* makes an enormous difference in achieving more effective psychotherapy. He analyses psychotherapy from the point of view of metaphors and word games (*Sprachspiel*) in Wittgenstein's sense (see Chapter 4). For Retzer (1995), in psychotherapy no passage ritual⁴⁰, in its strictest anthropological sense, can take place before the decoding of ambiguous, polysemic language in the speech of the patient takes place.

⁴⁰ In early societies, passage rituals were ritual acts and tests related to leaving one symbolic level into a more evolved stage of development. Passage rituals also helped integrate the subject into the tribal society; i.e. adolescence passage rituals, circumcision rituals.

5.3. Resume of the Use of Concepts in the Empirical Part of this Study.

In order to make a proposition of how affect and metaphors are related to psychotherapeutic outcome; and to the elaboration of affective and cognitive meaning, I will make a resume of the most important concepts presented through the previous chapters and the manner in which they have been applied to orient the empirical part of this study that follows in the next chapters.

5.3.1. Affect.

For psychobiologically oriented theorists (Ekman, 1984, 1992, Izard, 1977, 1993; Panksepp, 1982; Tomkins, 1984; Krause, 1989; see Chapter 1) occurring emotion is expressed through different modules of the affective system: namely, the motor-expressive, the physiological, and the motivational modules. Experienced emotion is experienced through the other three modules: perception of body correlates, perception of situation meaning, and semantic nomination of emotions or emotional situations. Emotional action tendencies are expressed particularly through the motor expressive module in which response patterning becomes specific in such domains as facial and vocal expressions, as well as in the physiological. According to Ekman (1983), the contraction of facial muscles into the universal emotion signals implies the activation of emotion-specific autonomic activity. Typified facial emotion patterns of primary or basic emotions (anger, fear, sadness, contempt, disgust, happiness, surprise) have been coded and classified through EMFACS (described above) and described as “affects” (facial). Other facial gestures that might remain as unclassified have been coded as unspecific, although they are considered to continue to express emotional autonomic activity.

For Tomkins (1962), affects are innate programs that are activated by stimuli, internal or external, which in turn activate the corresponding muscles or glands. Affects can be qualitatively differentiated through affective intensity and density across time using linear-time reference. For Tomkins (1962), different affects have different characteristic affective intensity and density rates over time. Intensity refers to increase in stimulation and density to duration over time. When affect is too intense, periods of time can go by in which no other affect is fired or representation is bound. Affect is fired by neurons in “waves”, with periods of refraction in between.

5.3.2. Affect as “Advanced Organiser”.

Affect is also conceptualised as “advanced organiser” in that it has the quality of appraisal. An appraisal is a quick affective evaluation of a situation, in which an emotional response is promptly given and in which the cognitive reasons for such a decision or reaction are mostly not conscious. When an organism makes an appraisal of his own inner state or of the surrounding environment, the perception of this appraisal is perceived as feelings (*Gefühle*); Krause, 1998). During appraisal, affect functions as “advanced organizer” of a series of related representations that are affectively bound (perception of situational meaning). The bound representations are not conscious; only the affect that binds them becomes conscious. Appraisal time is characteristically short; that is, when refraction time between affects and other possibly related affects and/or representation(s) is measured.

5.3.3. Affective Resonance.

In dyadic interactions, unconscious affect-regulation mechanisms or patterns organise sequences of affect patterns one could refer to as “affect choreographies” (Schwab, 2001). A psychotherapeutic process with good outcome can take place when positive “affective resonance” is maintained in the psychotherapeutic interaction. In this study, it is hypothesized that “affective resonance” allows adequate working through of affective and cognitive processes that can only take place under a determined “interactive affect-regulation timing”. “Affective resonance” requires an optimal neural firing time in which affective frequencies are not too high or too low, in order to favour the binding of representations. In good “affective resonance”, associations are furthered and increased, mental representations are produced; and relations with significant objects of reference acquire new affective and cognitive meaning. No “affective resonance” can be found in the interactive dyad in the case of automatic repetitive maladaptive patterns (see beginning of this chapter) or of “phatic” patterns, in which contact is maintained; i.e. “social smiling”; but in which no communication takes place. “Phatic” interaction has been found to correlate with bad psychotherapeutic outcome (Schwab, 2001).

5.3.4. Affect as “Binder”.

In this level, affect is conceived as “binder”; in that it runs through and binds representations. For Green (1973, 1999), who maintains the Freudian conception, affect as “binder of representations” should be related to a quantity of affect that makes possible quality of *consciousness*; that is, that the mental representation can be formed, symbolized, and imaged. Affect as “binder” runs through mental representations giving them coherence and quick associative capacity.

Tomkins (1962), in another part of his theory, also proposes that affects bind and organize representations forming “representational worlds”, coloured and activated by affective states. For Tomkins (1962), every affect organizes a related scheme of representations related to each “affective world”, in which every individual has “scripts” related with sadness, anger, joy, etc., covering all primary affects.

5.3.5. Affect as Inhibitor.

Affect can function as “inhibitor”, as an “interruptor “ (of associations), or as an “alarm sign“ that delays, hinders, or interrupts, affective and cognitive processes. When affect is displeasureable, memories or mental representations can still be made conscious inasmuch as the affective state rises to amounts of tension that can still be handled; i.e. the memory of a hostile object.

The function of affect as “inhibitor” is to protect the organism from affects that are too intense and that alter the homeostasis of psychic functioning. Affect as inhibitor has a defensive function in the triggering of an “alarm signal” that can be perceived as anxiety or in the inhibition of further association of representations that produce pain. In repression, the representation is repressed and affect is suppressed or separated from representations in terms of linear time or contiguity and also loses its associative affective significance or meaning (Green, 1973, 1999).

When affect acts as “inhibitor”, negative affective quality hinders associations, and it has been hypothesized that affect comes into the patient-therapist interaction, instead of being mediated through mental representations. The former has been observed in bad outcome

treatments in which the psychotherapeutic relation is not optimal or the therapist acts out the transference offers of his or her patient. Such a phenomenon can be also observed in patients who have gone through traumatic experiences, in which the therapist acquires for the patient in transference the qualities of the abuser. Another variety would be painful psychic conflicts with significant figures that have not been worked through, in which the patient enters into “transference love” or sexualisation of the psychotherapeutic instead of working out the painful maladaptive pattern. Refraction time intervals between affects and representations, I have hypothesized, should be expected to be considerably longer. Associations are also expected to be scarcer.

5.3.6. Affect and Metaphor.

This study proposes that metaphors are integrative matrixes that promote the passage of affects into language, even before an affect can be voluntarily brought into speech through volitive cognition to describe an affective situation or object. Once an affect is expressed through voluntary speech in language or linked to objects of reference as “expressed emotion”, what can be observed is the final product of affect in speech. In “expressed emotion”, the entrance of affect into speech has already taken place. The interaction between speech and affect cannot be described. In contrast, the before-exposed theory of metaphor gives account of how affect is integrated into language. Metaphors bind affects and affects bind representations. Metaphors are also capable of producing affective and cognitive meaning.

5.3.7. Metaphor and Affective Meaning.

Affective meaning is related to affective signification based upon primitive emotional feelings (Engelkamp, 2000). Affective meaning is also an appraisal reaction defined in verbal terms and measurable through Osgood’s (1980) semantic differential.

Metaphors can be considered as a transitional matrixes that allow the “re-transcription” (see above Modell (1997) of contents from one format into another. Images are the “units of re-transcription”. Affects on the schematic level of hierarchical structures in emotional processing are proposed as “*image like prototypes*”, that appear before the acquisition of language (Leventhal, 1982, 1984, 1987). The basis of similarity or transfer in

metaphor (and synesthesia) is produced by the common *affective* reactions that are aroused by different sensory stimuli and by words (Osgood, 1980). The semantic differential model can be applied directly to the analysis of metaphor comprehension. Metaphor facilitates the production of affective meaning in that it introduces sensorial images into language; i.e. sound, rhythmic, olfactory, or visual images.

5.3.8. Metaphor and Cognitive Meaning.

This study sustains also the definition of metaphors as conceptual structures that define an outlook on reality and function as matrixes that mold thoughts and actions, providing the basis of symbolisation or mentalization. Metaphors are to be understood as cognitive processes that take place within a cognitive representational and memory network and structure our thoughts and actions (Paivio, 1993, Lakoff, 1980, and Black, 1993). Metaphors bring together the combination of two different conceptual trends of thoughts to produce a new signification (Lakoff, 1980).

Following Lyons (1977), cognitive meaning is also assumed to be related to *secondary iconicity*. *Secondary iconicity* integrates or creates a new meaning that was originally associated to onomatopoeic sound in words; and in metaphors to sensorial images that later acquired a cognitive, figurative, or symbolic meaning; i.e. in a word: owl-wisdom; in a metaphor: Juliet is the sun.

5.3.9. Metaphors and Contextualised Meaning.

According to Black (1993), metaphors are constituted by a “mixed lot” of projective relations that can bring about more than one association and does not have one and only one meaning, as in mathematical systems (Black, 1993). In metaphors, “defined meaning” or “signification” can only take place through contextualization. In this study, contextualization has been interpreted as taking place within the psychotherapeutic interaction. The object the metaphor refers to has also been assumed to be defined within the psychotherapeutic interaction.

5.3.10. Metaphors and Mental Representations.

The above-mentioned affective and cognitive meaning are interdependent. Changes in cognitive meaning bring about changes in affective meaning, and affective meaning can influence the manner in which cognitive meaning is interpreted. Affective meaning can also be cognitively represented and explicitly communicated (in Engelkamp, 2000). Both affective and cognitive meaning can be represented and registered as mental representations. If metaphor were to be compared with the linguistic sign theorization of Saussure (1916), metaphor could be said to have a significant “value”; that is, metaphors, like pure words, have no meaning until a referent has been found and meaning is contextualized. Until then can they become *mental representations*.

A larger set of mental representations are assumed to be linked to the metaphoric process. Metaphor production of good quality can also be associated to the production of more mental representations.

Empirical Part.

6. OBJECTIVES AND QUESTION COMPLEXES.

6.1. Objectives.

- 1) To establish a method for the identification and coding of metaphors in psychotherapy transcripts.
- 2) To correlate outcome with metaphor production in short psychotherapy treatments.
- 3) To investigate the interplay of facial expressive, interactive affects with metaphors and language.

6.2. Question Complex 1: Metaphor Quantity and Quality.

In order to identify and code metaphors in a reliable manner, I had to solve a series of problems of difficult nature that arose in relation to the coordination of the theory of metaphor with empirical methodology. As I have elaborated in Chapter 4, theorists of metaphor claim that this linguistic trope unites all the conditions to function as a cognitive matrix for the elaboration of thoughts and affects. Following this first idea, my first hypothesis was that augmented metaphor production in patients could further effective working through of cognitive and affective material in the psychotherapeutic process and be related to good outcome.

Also pertaining to the mentioned theory of metaphor is the idea that metaphors, in their different classifications and types, organize time, space, causality, and conceptual thinking. If the former were so, it seemed to me possible that, by means of metaphors, certain thought processes that function according to primary formats and laws, which I have described in Chapter 2 (Freud 1900), could be changed into secondary-process thought format. Primary thought processes are characterized by the qualities of lack of space, time, causality, and logic. If through metaphorisation, time and space could be defined, inside and outside could be delimited, and cognitive dimensions could be conferred, a secondary logic

organization could also take place. The essence of the psychoanalytic process is precisely this transformation of Id to Ego (*Wo Es war soll Ich werden*). For Freud (1923), certain repressed ideas, under the domain of the Unconscious, produce undesired effects and symptoms. These repressed ideas, once they enter the territory of the Ego, become conscious and lose their power and strength when handled in an open manner. The fact that such a process can take place necessarily implies that the psychotherapeutic process has been successful. In any case, psychotherapy success and outcome should be empirically assessed and confirmed.

The theory of metaphor originated in linguistics and has found application in cognitive science. Its application to the field of psychotherapy and clinical material has led me to the conceptual and methodological problems I will comment in the following paragraphs.

6.2.1. Metaphor Quantity.

The counting of metaphors in sessions posed certain problems. In order to calculate how many metaphors were produced by patient and therapist, a coefficient had to be developed in which the total number of metaphors could be divided by the total word count of the session. A measurement of the relative metaphoric weight could then be obtained. This metaphoric coefficient would be my first approximation into the following questions: 1) Do therapists produce more metaphors than their patients and inaugurate a particular form of working through, using metaphors as integrative matrixes? 2) Is the metaphoric production in the patient what really counts? 3) According to the theory of metaphor, the real value of metaphor production lies in the interactive meaning produced when a metaphor is shared in the dyad, regardless of who started the interaction. Should metaphor production be measured in the dyadic interaction? To answer the first two questions, the metaphoric coefficient would be sufficient. For the third, I decided to create an index of interactive metaphor production between patient and therapist.

6.2.1.1. Expected Probability and Significant Differences in Distribution and concentrations of Metaphor in Psychotherapy Transcripts.

Significant differences to the random, expected probability of metaphor distribution in psychotherapy transcripts should be proved to account for the possible effectiveness of metaphors as cognitive and affective matrixes; that is, to differentiate the appearance of

metaphors as active elements that produce the above-mentioned effects, in contrast to their random appearance as elements of ordinary speech. Significant differences in metaphor concentrations should then occur within the same session, the same treatment, and within different patients. A precise coding of metaphors and their occurrence in time should be made, throughout different sessions and treatments, in which their distribution can be observed. I decided to use polysemy, another linguistic trope, as a comparison or control variable. Polysemy is related to affects but produces effects different to those created by metaphor, at least from a theoretical point of view. The logic behind this procedure was that if both variables, metaphor and polysemy, could be proved to be independent from one another and to grow differentially in two different directions, the distribution of metaphor and metonymy in psychotherapy transcripts could be proved *not* to appear randomly.

6.2.2. Metaphor Quality.

From the point of view of quality, I had to decide what kind of metaphors should be coded in the transcripts; if to code every metaphor, to the most conventional or “dead” metaphor (see Chapter 4 and below) or only those that appeared to be creative and of individual nature.

6.2.2.1. What kind of metaphors should be coded? Should metaphors be treated as linguistic or as psychic products?

Conventional metaphors exist as part of language as a system--in which we are inserted--but their meaning has become conventionalised. New creative metaphors are not part of language as a system and would be more related to individualized psychic production. Relevant here was the difference between language (*langue*) as a system and spoken language (*parole*) (Saussure, 1916, 1999). The question was if both creative and conventional metaphors should be coded. I assumed that conventional metaphors, even if not so appropriate for the production of unique meanings, could be “re-interpreted” in relation to the material of the patient and could acquire a new, individualized dimension. Therefore, both conventional and creative metaphors should be coded in this study. Such a decision would also allow me, in a later moment, to classify metaphors in the groups proposed by Lakoff (1980) (see Chapter 4) as: ontological, orientation, emotion, and creative metaphors and to

have an *après-coup* view of the kind of metaphors that were produced in the psychotherapeutic process.

6.2.2.2. Diagnosis and Metaphor Production.

The next question that called my attention was if certain diagnostic entities or diversely structured psychic systems could produce metaphors, differing in quantity and quality. As I have exposed in Chapter 5, studies from Jakobson (1959, 1969, 1971a), a Russian linguist who worked with aphasic patients, showed that in patients with aphasic lesions, the production of metaphors was radically altered depending on the kind of functional or organic brain damage that the patient presented. When the disturbance was mainly in the efferent motor speech-production neural pathways, patients tended to produce a great number of abstract metaphors in their speech but had difficulty in applying or directing the metaphor to a particular theme, referent, or object. When the damage affected the afferent speech receptive capacity, the opposite phenomenon was observed. Patients developed characteristic concise, over-simplified thought patterns expressed in “telegraphic style” speech, in which few prepositions and conjunctions were included. To them, only literal meaning made sense; and they could not understand the figurative meaning in metaphors. For Jakobson (1959-1971a), lesions in the sequential production of language, which he called “combination axis“, were compensated through excessive metaphoric production. Lesions in the receptive area, which hampered the understanding or integration of language (“axis of similarity”), were compensated through simplistic thought patterns.

The difficulty in understanding the figurative part of a metaphor has also been observed in certain forms of schizophrenia (Spitzter et al (1994); see Chapter 5). In both aphasia and in schizophrenia, deficiencies produced the same compensatory phenomena in one of the axis described by Jakobson (1959, 1971).

Clinical work with different personality structures; i.e. borderline personality disorder; shows that low-structured personalities show either great impulsivity and uncontrolled affectivity; or the opposite, a total lack of facial affect expression. In patients with different diagnoses, certain diagnostic entities sometimes reveal characteristic forms of speech and communication; i.e. repetitiveness and lack of affective control in obsessive-compulsive patients; while hysterical patients would tend to dramatize and express and exaggerate

emotions. My next question arose in relation to possible differences in metaphor production, in relation to diagnosis and personality structure. Metaphor production should also be contemplated in the light of differential diagnosis and personality structure.

6.2.2.3. Metaphoric Meaning in Psychotherapy: an Individual or an Interactive Process?

Also from the theory of metaphor (see Chapter 5), Schön (1993) proposes that “deep metaphors” are capable of expressing the structural elements of a whole situation, in contrast to “surface metaphors”, which refer to elements that remain more in the periphery.

Applied to the clinical situation, patients, and sometimes also therapists, enunciate metaphors that function as structures that express in a condensed, figurative form the most relevant aspects of the treatment. These metaphors act as vehicles that represent central signification or core symptom-description. However, metaphors can also have the quality of abstract messages or poetic tropes with no direct relevance to the particular theme of interest that is dealt with, or simply do not relate to the here and now of the session. Taking into account this differentiation, I hypothesized that in good outcome treatment, not only the production of metaphors was important, but that their relevance was also crucial. Metaphors must be necessarily anchored in the here and now of the psychotherapeutic process. As it is difficult for an external observer to decide if the object of a metaphor is relevant, it seemed logical to me to think that if an interactive meaning was constructed, the metaphor would be relevant to the context.

The former thought also goes in line with what Lyons (1977) maintains, that meaning in metaphors is not always fixed or conventionalised. An agreement on the exact meaning of a metaphor can only take place when it is contextualised in the interaction. Metaphors must not necessarily be openly discussed, but must be part of the context, in order to acquire meaning. It was assumed that the production of metaphoric meaning is product of the interaction between patient and therapist in the psychotherapeutic setting. In addition, I concluded that only after interactive meaning was reached, could metaphors point to significant objects of reference. Interactive metaphors most probably function better as a matrix for affects and cognition, than those that are not contextualised. I also presupposed that in psychotherapy transcripts that showed greater quantitative concentrations of metaphors and good metaphor quality, in terms of contextualised meaning, a greater amount of

associations would be produced; i.e. associations related to significant objects of reference or important persons in the life of the patient. Connections within the psychic network would be activated, producing new associations and meanings. To this effect, significant objects of reference in the coded sessions could be quantified to see if patients with better quantity and quality of metaphor production also augmented their associations in relation to significant objects of reference.

6.3. Question Complex 2.

6.3.1. Metaphors and Psychotherapy Outcome.

The evaluation of success in psychotherapy within a single dimension is not to be recommended. The report of the patient in relation to the outcome of the treatment is often much more precise than the global judgment of the therapist. The report of a third party might bring in a new dimension, as related to observable behaviour; once again, a different domain.

Long-term and short-term treatments and their effects over time require different assessment instruments and schedules once the treatment has been completed; as in the comparison of psychoanalysis and short psychotherapy. Most catamnesis studies cover only two months after the end of treatment (Grawe, Donati und Bernauer 1994). Differential effects of long-term and repeated short-term treatments across similar periods of time cannot be detected in a time shorter than three years after the termination of treatment (Sandell, 2000).

Under a logic of probabilities, a follow-up of the effects of short psychotherapies over years after termination does not make much sense since other events in the life of the person could have had greater influence than the interventions that took place during a few psychotherapy sessions.

In my opinion, changes in personality structure have longer lasting effects for the patient than simple symptom reduction. However, a reliable, standardized assessment tool for structural change was not developed until relatively recently (OPD; *Operationalisierte*

Psychodynamische Diagnostik, 2004). The use of such an instrument allowed to demonstrate that long-term treatments led to long-lasting structural changes, while repetitive, discontinuous short-term psychotherapies produced long-lasting symptom reduction.

In the assessment of short-term psychotherapy patients, the above-mentioned instrument might be indicated as a diagnostic procedure before starting the treatment, in order to determine personality structure; but once again, not so suitable for outcome assessment in a short-term psychotherapeutic experience. More adequate for the task of assessing short-term treatments are both the SCL-90 (Symptom Check List) and questionnaires that measure goal attainment, personal satisfaction with the treatment, and the psychotherapeutic relation. The SCL-90 is a standardized assessment package that has also been used in quality management in insurance companies. This instrument functions on the basis of ninety items designed to detect and rate symptoms. The patient fills out the scales before and after the end of treatment. In German-speaking countries, widely-spread equivalents are the FPI (Freiburg Personality Inventory; *Freiburger Persönlichkeits Inventar*); Fahrenberg, Hampel & Selg, 1994, first edition, 1970); which allows a self-description by means self assessment, using constructs reduced through cluster analysis and contained in a self fill-out questionnaire that the average non-psychologically-sophisticated layman can answer. The scales of the FBI are: 1) personal satisfaction with life; 2) social orientation; 3) achievement orientation; 4) inhibitions; 5) impulsiveness; 6) aggressiveness; 7) stress; 8) bodily complaints; 9) health preoccupations; 10) extroversion.

Goal-attainment scales filled out both by patient and therapist have lately become standard assessment instruments. Goal attainment, defined either by patient or therapist, has definitely an important value. Although patient and therapist can establish very diverse goals for the same treatment, goal attainment assessment gives place to a creative and theoretically-correct interpretation of what took place in the treatment from an individual, subjective perspective. Goal attainment also remits to the subjective assessment of overall amelioration in functioning. The evaluation of the success of the treatment from the perspective of patient and therapist through questionnaires also permits to separate two dimensions: the success of the treatment (in terms of goal attainment) and the satisfaction the patient reports in relation to the therapeutic relationship. The satisfaction with the therapeutic relationship correlates only mildly with the evaluation of the success of treatment; i.e. a patient who highly idealizes the therapist (satisfaction with the therapeutic relationship) does not necessarily obtain good goal

attainment; and/or a patient might have obtained the before-established goals precisely because the therapist did not fall into the patterns of behaviour the patient had expected, under the conditions established by his psychopathology. An example of the former would be a borderline patient who establishes a very intense negative transference to his therapist, is dissatisfied with the psychotherapeutic relationship; but nevertheless, continues treatment, benefits from the treatment, and reaches personal goals.

6.4. Question Complex 3: Metaphors and Affects.

6.4.1. A Discourse about Affects or the Assessment of Affects and their Integration into Language?

I have criticized in Chapter 3 most empirical attempts and their related theories that claim to integrate affect and language and/or cognition and that refer to affects already contained in language. The discourse of the patient is coded in psychotherapy transcripts by means of “linguistic markers” that point to particular categorisations of affect that are to be found in language. However, no assessment of affect takes place in any of affective modules postulated by the affect theory (see the opening page of Chapter 1 of this study). The above-mentioned theories remain in a description of “affect in language” or sustain a discourse related to or about affect (see Bucci (1997), Mergenthaler & Bucci, 1995). One of the first empirical studies on language and facial affect of the Saarbrücken team (Krause, 1987, 1988) demonstrated that in a brief, eleven-session psychotherapy experience, the most significant change processes occurred during the exchange of intensely charged affective dyadic interactions between patient and therapist, which took place in unbroken silence. This study also proved that affect could be measured and related to psychotherapy outcome directly without the intervention of verbal language. It was no longer “a discourse about affects” but an assessment of affects. However, no study on what happened in relation to language accompanied the before-mentioned study. In his postdoctoral qualification, Merten (2000) concluded that success in psychotherapy was related to the reduction of maladaptive affective dyads, which could be openly observed, assessed and interpreted.

6.4.2 Can Affects be Differentiated through Frequencies Measured in Linear Time?

For Tomkins (1962), affects can be qualitatively differentiated through affective intensity and density on a linear time basis (see Chapter 1). For him, different affects have different characteristic affect intensity and density rates over time. Intensity refers to increased stimulation and density to duration over time. In Tomkin's (1962) theory, a startle reaction can be transformed into fear or into interest. Startle, which is extremely high in intensity rate, can decrease and fall down to a lower stimulation level, which corresponds to fear; which is still high in intensity. Stimulation can continue to descend in intensity and be transformed into interest, which is not so high in intensity. Other negative affects, like anger and distress, are characterised by a high level of intensity plus high duration across time (density). When affects are moderate, they may be brief and last only a few seconds. Very intense affects, however, can last up to a few minutes. Very intense emotions come in waves. When the affect remains at the height of its intensity, which might be relatively long, no other emotion can be produced or felt. It is only after the descent in intensity that a new affective wave can be felt; i.e. extreme distress or sadness. If, according to Tomkins (1962), intensity and density of firing is different and distinctive of every affect, it occurred to me that variations in refraction time, also thinkable as the interval or distance between one affect and the next affect, could be an indicator of varying affect intensity and density for each affect. Fortunately, *Theme*, the software chosen for this study, allows the assessment of the critical time intervals in the coding that constitute the detected patterns.

6.4.3. Affect Intensity and Density (Tomkins, 1962) and affect quantity and quality (Freud, 1895) in the Binding of Representations.

Tomkins (1984, 1995) goes further in his conceptualisation and proposes that primary affects constitute and "bind" different "affective representational worlds", which are coloured and activated by affective states. In this manner, different affect worlds can be constructed; i.e. schemas of representations related to depression, anger, joy, etc.

For Freud (1895) and Green (1999, 1995) an ideal quantity of affect favours the creation and binding of representations (quality), as well as the associative capacity and production of meaning. If quantity of energy is manageable, the representation can be bound to the affect. The propositions of Freud (1895) and Green (1999, 1973), and that of Tomkins

(1984, 1995) are not contradictory, but complementary: a certain affective intensity is required for the creation of mental representations, and affect runs through representations and binds them.

In the case of affects that are too intense, if the affect is marked by displeasure, and affective states rise to amounts of tension that can still be handled, those representations that correspond to negative affects can still be bound; i.e. the memory of a hostile object. If the negative affect is too intense, the representation will not be easily bound. Affect can be suppressed or separated from the mental representation, and the representation can be repressed or modified. In this conceptualisation, affect functions as an inhibitor that protects the organism that functions as an “alarm signal”; a defence against further association of representations that produce pain; i.e. when affect is suppressed or separated from the representation in time, its affective significance is lost.

As I have exposed before (see Chapters 1 and 5), when affects act as “advanced organisers” (through appraisal) or as “binders” of mental representations, an ideal affective “timing” should appear in treatments with good outcome. The “ideal timing” in which patient and therapist work in affective resonance is still to be determined and probably also varies from one person to another.

Schwab (2001), in his research on “social smiles”, and Merten (2000) in his study of the enactment of maladaptive dyads of negative affects and bad psychotherapy outcome, report extremely fast dyadic interactions. These results, together with the theory I followed, made me think that extremely fast, simultaneous interactions were probably not related to adequate “timing” for conscious, cognitive working-through of representations. On the other hand, Alexander (1957; Chapter 3) reports “corrective emotional experience” in psychotherapy, in which a particular form of assertive affective interaction is capable of changing the structure of the message. This type of interaction could point to another “affective timing” in which “affective working-through” could take place without immediate cognitive understanding or consciousness of what was taking place and could be compared to the mentioned “appraisal” or “advanced organizer” reactions. Four types of interactions with specific “affective and cognitive timing” began to appear: 1) Affective interaction of maladaptive patterns (Merten, 2000) and “social smiling” (Schwab, 2001). The “affective timing” of this type of interactions, I hypothesized, are almost simultaneous, with extremely

short intervals; in the repetitive patterns. This form of interaction is of a “static” or “fixed” nature, in the sense that it cannot be easily changed. 2) “Affective timing” in the interactive patterns of the successful “corrective emotional experience” (Alexander, 1957), in which the interaction changes the pattern or message: These intervals, I hypothesized, would be also short, but with an adequate elaborative “affective timing”, even if representations were not conscious; 3) the “affective-cognitive timing” of affects bound with the coded metaphors, resulting from my own study and work. In this modality, I assumed mental representations are bound, but would probably require a relatively longer, short-middle interval time, for conscious cognitive elaboration; 4) the “affective timing” of those affects that are too intense, negative, or in service of defence. In this case, the affective and cognitive working-through of mental representations would be slowed down and elaboration time should be considerably longer.

This Question Complex 3 and the before-mentioned theoretical aspects took their present form in a rather fortuitous manner. I decided to use “*Theme*” to detect patterns of metaphors and affects. *Theme* is a computer software designed to organize observations into patterns in linear time through a mathematical algorithm. I fed the software with all my affect and metaphor observations and realized the system could also measure with precision the “critical time intervals” between the patterns that were detected. The software formed two kinds of patterns: affect-affect patterns and affect-metaphor patterns. The affect-affect patterns were constituted by the EMFACS (see Chapter 5) facial affect coding behaviours. The affect-metaphor patterns were constituted by EMFACS facial affect coding combined with metaphor coding. By simple observation, the critical time intervals between good and bad outcome patients, which I already had defined, seemed to be significantly different, as well as the assessment between affect-affect patterns and affect-metaphor patterns. This non-planned observation allowed me to find a new meaning in the theoretical construction I had already collected and I took the decision to work; yes, with the patterns; but mostly with the “critical intervals” that constituted the patterns, that in a “negative” modality would probably point to the different “timings” and questions I describe above.

In Chapter 5, I proposed metaphors are capable of producing both affective and cognitive meaning and interact closely with affects. I related affective meaning to the figurative meaning of metaphor. To affective meaning, I also related the passage of affect into speech, in a figurative modality which is not yet semantic; which does not correspond to what words mean. In the theory of affect, the former has an “appraisal function”. Appraisal

is related to the evaluation of situations which are similar and the possibility of a rapid affective reaction in the direction of adaptation and survival. In appraisal, what is perceived is the affect itself and not the cognitive process that led to it. Affects that function as appraisal or “advanced organizers” are linked to mental representations or cognitions, but the latter are not conscious. The process occurs in a very rapid, automatic manner. The cognitive process can in some cases be *après-coup* (*nachträglich*) reconstructed. Maladaptive patterns no longer serve adaptation and survival. They have become a pathological adaptation to a particular situation, but that would fail to produce an adaptation in other situations. I have proposed that a good-outcome treatment is characterised by a particularly convenient form of affect regulation in which an “affective resonance” is created between patient and therapist. The affect-affect patterns detected in this study have been interpreted as affective meaning and as affect interactions that are not conscious.

Following Lakoff (1980) and other theorists of metaphor, I have also proposed that metaphors produce cognitive meaning; which is a precise meaning in which at least two cognitive domains are merged into one metaphor. In relation to cognitive meaning, affects function as “advanced organizers” of mental representations in which a particular affect functions as common denominator that organises related mental representations. Tomkins (1962; 1995) proposes the constitution of “affect worlds” that are constituted by an affect that links a series of associations. I have proposed in this study, that metaphor production also furthers the production of associations, the creation of new meanings, symbolisation, and mentalization. Affects are also contained in this processes and function as “binders” of mental representations. Affective interaction functions at an ideal level of intensity in which affective interaction supports the creation of associations and representations.

Cognitive meaning is conscious meaning and provides the possibility of conscious cognitive understanding of what before functioned in an automatic, unconscious form. Conscious meaning is not dissociated from affect, as affect runs through representations, and is also a motor for psychotherapeutic change. Cognitive meaning usually requires more elaborative time, due to its conscious, logical nature. In this study, affect-metaphor patterns have been associated to cognitive meaning.

7. SAMPLE AND DATA COLLECTION

7.1. Data Bank and Sample.

Data Bank. After a long and intense search, I finally found the data bank of the Saarbrücken research group. Of all data banks that claimed to connect affect and language in the psychotherapeutic process, it was the only one that contemplated the measurement of both variables in a separate manner. The cases selected for this study are part of a series of projects supported by the DFG (Deutsche Forschung Gesellschaft) (German Research Association), whose main theme of research is unconscious interactive affect regulation in patients and their interaction partners, mostly therapists. These studies are known under the abbreviation SSUIR (Saarbruecken Studies on Unconscious Interaction Regulation (Fonagy et al. 2002)). The patients I selected for this study were originally constituted by a sample of fourteen brief psychotherapies, conducted with three different treatment techniques (psychodynamic, cognitive-behavioral, and client-centered therapy). The project investigated the behavior of experienced psychotherapists with disturbed patients that had made other failed psychotherapeutic experiences and attempted treatment again. In this sample of patients, maladaptive dyads would be likely to appear. Due to data protection, desertions, and other reasons, only ten treatments with complete data remained in the sample. Fifteen sessions from 10 treatments were video-filmed using a split screen system. All sessions were transcribed, and EMFACS (the Facial Coding System) was coded both for patient and therapist to register non-verbal behavior (see description below). Sessions were transcribed according to the rules of the “Psychotherapy Transcription Standards”, which is a standard manual for the transcription of sessions created at the University of Ulm by Mergenthaler & Stintson (1992) for the transcription of psychotherapy sessions in data banks. I initially used only the psychotherapy transcripts of the sessions to code metaphors. In a later phase, videos were used to locate time addresses of affect and metaphor coding.

Sample.

The sample I used for this study is described as follows: four sessions from every treatment were taken: the first, the third, the twelfth, and the fifteenth. A total of 39 sessions was coded for ten treatments. One of the treatments ended abruptly by the eleventh session and only three sessions could be coded: the first, the third, and the eleventh. The first session was selected in all treatments under the logic that transference already exists before the

patient comes into treatment. Mannoni, (1967) describes transference as “the psychic place the patient assigns to the therapist before treatment actually begins”. Some patients had been initially interviewed by a member of the staff, and in other cases by the therapist that took over the treatment. Orlinsky (1975), based on a meta-psychological analysis, proposes that the dynamic of the treatment is normally established by the third session. For this reason the third session was selected as representative. By the twelfth session, the process of psychotherapy has evolved, with still some sessions before the end of the treatment. The end sessions; fifteenth in this case, are usually related to the termination of the therapy, its implications, and to separation processes.

The decision to continue treatment was taken when it constituted a medical indication. Therapies 02 and 06 fell into this category. However, the main idea was to perform a short therapy treatment in fifteen sessions and to assess the changes that had taken place after this period of treatment. Sessions were usually conducted once a week; that is, fifteen weeks, making approximately a total of four months.

No psychotic patients were included in the sample. Every therapist collected a detailed clinical anamnesis and established the focal points to be dealt with in the designed time. Therapists had also the freedom to work and establish parameters from their own theoretical orientation; i.e. psychoanalytically-oriented analysis established “analytic focus treatment”; cognitive-behavioral therapists proposed treatment priorities, etc. The MMPI (Minnesota Multiphasic Personality Inventory, Hathaway & McKinley, 1930, 1989), which is an instrument that measures personality, constituted by 10 scales and almost 500 items, was used additionally to have more information about the patient. The MMPI must be interpreted in the light of the personal biography of the patient; i.e. an increased 8 Scale (schizophrenia) cannot be considered in the same manner when the patient is a psychiatric stationary patient or a respected professor at the university. The test has three scales to detect if the patient tried to fake the test or create a good impression. A good interpretation of the test requires a trained clinician that can interpret the various scale combinations.

The starting clinical diagnosis was established through the criteria of the DSM-III R (Diagnostic and Statistical Manual of Mental Disorders III Revised, American Psychiatric Association, 1987)⁴¹. This manual is a psychiatric descriptive instrument created by the American Psychiatric Association as a guide to the diagnosis of clinical entities. Three axis

⁴¹ At the time of the diagnoses, the DSM-III-R (1987) was actual. In 1994 the same diagnostic manual was revised under the denomination: DSM-IV.

constitute this manual: Axis I, in which the clinical disorder and main symptoms are described; Axis II, in which personality disorder can be allocated, when it is the case; and the Axis III, in which any other important condition that can be a focus of clinical attention can be highlighted; i.e. sexual abuse; bereavement; social deprivation. The DSM-III-R is a psychiatric phenomenological description of symptoms and clinical entities. It is, therefore, not very reliable. Clinical descriptions may vary at random, when the main core of structural personality diagnosis is not grasped. In any case, no structural personality diagnosis was made in the Multichannel Psychotherapy Project, as no standardized instrument existed at the time the study was made. Some of the patients in the sample could have been more easily treated in a stationary setting; three patients were diagnosed as borderline personality disorder. In general, the treatment of the patients in this sample was not easy. All patients, as mentioned, had a history of unsuccessful previous therapy and had probably developed, unknowingly, abilities to make their therapists fail. Therefore, those that are part of the bad outcome group of the sample cannot be considered as representative of normal population. Table 1 presents the diagnoses of the ten cases, as they appear in the files of the Project:

Tabelle 1: Diagnosis, Main Symptoms, and Age of Patients in the Sample

Therapy 01	Anxiety and Depressive Disturbance; Histrionic Personality Disorder (DSM-111-R)	55
Therapy 02	Conversive Disorder (DSM-111 300.11)	45
Therapy 03	Bulimia Nervosa	29
Therapy 04	Agoraphobia without Panic Disorder (DSM-III-R 300.2) (anxiety to suffer an epileptic attack in the open); Insecure Passive-Aggressive Personality (DSM-111-R 301.84).	37
Therapy 05	Panic Disorder without Agoraphobia; Dependent Personality Disorder	24
Therapy 06	Borderline Personality Disorder (DSM-111-R)	28
Therapy 08	Anxiety and Depressive Disorder; Hysterical Personality Disorder (ICD –10)	40
Therapy 09	Anxiety and Depressive Disorder (ICD-10, F41.2)	30
Therapy 21	Borderline Personality Disorder (DSM-111-R)	32
Therapy 24	Eating Disorder and Marriage Problems.	24

7.2. Collection of Data: Metaphors and Polysemy.

In order to identify and classify metaphors, I developed a method for the identification of metaphors in psychotherapy transcripts. Polysemy was also coded as control variable and inter-rater reliability was tested and reached for both variables. With the purpose of assessing metaphor production, I developed the Metaphor Density Coefficient⁴² (see Section 7.3.1), the Coefficient of Metaphor Interactivity (see Section 7.3.2.), and the Index of Combined Polysemy/Metaphoric Growth⁴³ (see Section 7.3.3.1.). These are what I call criteria for good and bad outcome from the point of view of metaphor production. In order to find a reference point in relation to outcome, I compared and correlated the outcome assessment measures from the Multichannel Psychotherapy Project; the EMFACS affect coding and the questionnaires for satisfaction with the treatment and goal attainment (see Merten, 2000); with the coefficients and indexes that were developed for metaphor production.

In a later phase of this study, affects and metaphors were assessed in terms of the timing in which they appeared and formed repetitive patterns. Both affect and metaphor coding were inscribed on a time axis. Repetitive time pattern detection between affects and other affect coding and metaphors and affect coding was performed through *Theme*, a software that organizes observations into patterns by means of a mathematical algorithm. Data Collection was organized in three parts. I list the methods used for data collection, which will be explained in more detail in the next section.

- 1) Method for the Identification of Metaphors in Psychotherapy Transcripts.
- 2) Metaphor Quantity and Quality Measurement and Criteria for the Definition of Good and Bad Outcome.
 - (i) Metaphor Density Coefficient (Metaphor Production) (see Question Complex 2 above).
 - (ii) Coefficient of Metaphor Interactivity.
 - (iii) Index of Combined Polysemy/Metaphoric Growth.
 - (iv) EMFACS Coding (see Merten, 2000).

⁴² For the elaboration of the Metaphor Density Coefficient, I thank Dr. Dan Pokorny, statistician from the University of Ulm.

⁴³ I also thank Dr. Michael Wiedenbeck from Zuma-Mannheim (Zentrum für Umfragen, Methoden und Analysen) for the conceptualisation of the Index of Combined Polysemy/Metaphoric Growth.

- (v) Criteria for Assessment of Good and Bad Outcome (see Merten, 2000).

3) Patterns of Affect-Affect- and Metaphor-Affect Coding, as measured by *Theme*.

7.2.1. A Method for Identifying Metaphors (Validity and Reliability in Metaphor Identification).

The first goal in this project was to reach a level of inter-rater reliability that would allow the valid identification of that which what was coded as “metaphor” and that someone else could later replicate. For the former purpose, a method for the identification and coding metaphors, with a definition and operationalisation of metaphors, was developed. The section on procedures describes how the mentioned inter-rater reliability was reached.

A general theoretical and practical instruction course on the theory of metaphor was given to four coders, with the aim of training them in the identification of metaphors. The conceptualisation for metaphor identification that was given to the coders is described below in the sections, which correspond to Metaphor Identification, Metaphor Coding, and Metaphor Operationalisation. Exercises in metaphor coding were performed in German, as the psychotherapy transcripts were also in German. An example of metaphor coding in psychotherapy texts is included below. The same was done in respect to polysemy. Polysemy (see Chapter 4) is a linguistic trope that can also be related to affects in language, which was used to compare with metaphor. Polysemy from a theoretical point of view, was expected to function in a different manner to metaphor.

7.2.1.1. Procedures.

Four students were trained in the theory and practical identification of metaphors and polysemy. (The coding of polysemy is described below). As psychotherapy sessions took place in German and metaphors can and do vary from one culture to another, the four selected students had German as mother tongue. The first exercise trials were done with ordinary newspaper publicity texts. The latter have usually high metaphoric concentrations. When the students seemed to have understood the principles that constitute metaphors, exercising was transferred to pieces of therapy sessions. These psychotherapy texts were used in the study

with the sole purpose of training the coders and were later discarded. The students coded the psychotherapy transcripts alone, independent from one another, and the results were later compared and registered in a group meeting in which inter-rater reliability was assessed for the coded transcripts. After a long period of practice, inter-rater reliability was reached. Two pairs were chosen, each constituted by two coders. The two coders who coded with greater similarity (were more reliable between themselves) constituted the first pair and the remaining two formed the second pair. Coding judgment was not qualified as being “correct” or “false”. The criterion was that a consistent reliability between pairs of coders was maintained; i.e. sometimes a coder might over-look a metaphor. If the other coder in the pair picked it up and both immediately agreed it was an overseen metaphor, the metaphor was coded. Although not so precise, it was not considered to be so problematic. Problematic was the case when one coder found a metaphor that the other coder did not consider to be a metaphor. In this case, no inter-reliability could be attained under Kappa-Cohen (1960). Coders trained for a relative long time before the expected inter-rater reliability was reached. The process of training and coding of all sessions took approximately one year. The achieved inter-rater reliability ranged between .70 and .82 (Kappa-Cohen, 1960). Only after the desired inter-rater reliability was achieved, coders were considered to be “reliable” and “real” coding could begin. The selected sample of 39 psychotherapy sessions was distributed among the coders for independent coding. Every second session was coded by two coders and tested again to assure inter-rater reliability. Once all metaphors in the sample were identified, one pair of coders classified the identified metaphors in: ontological, orientation, emotion, and creative metaphors. Inter-rater reliability was again tested. Figure 10 presents the obtained inter-reliability coefficient.

Fig. 10: Interrater Reliability for Metaphor Identification (Kappa-Cohen, 1960)

Ideal Coefficient:	Achieved Coefficient:
.70 - .95	.70 - .82

7.2.2. Metaphor Identification: Definition of Metaphor.

The following criteria were used to define and identify metaphors. A metaphor, to be identified as such, must necessarily fulfill all four conditions that are included in its definition.

A metaphor is an unstated comparison between two different words or things in which an analogy or similitude can be found. Metaphors produce images, which is also known as iconicity. Metaphors have a literal and a figurative meaning. Usually the literal meaning is absurd and does not fit into the context.

(i) In a metaphor, a *comparison* between two analogous terms takes place. For Lakoff and Johnson (1980), metaphor brings together the combination of two different conceptual trends of thoughts to produce a new signification

i.e. (1) he climbed the ladder of success.

a) Success as compared to ascent (a ladder).

b) Success as being “on top” of others.

i.e. (2) His last hour struck him.

a) Life as compared to a finite number of hours to be lived.

b) The hours of a clock as symbol of time.

c) Death as something sudden that can strike like lightning.

(ii) *Images or Iconicity.*

A metaphor produces images or iconicity. success, but this is the images the metaphor produces; i.e he climbed the ladder of success.



i.e. “his last hour struck him”.



(iii) *Metaphors have literal and figurative meaning.*

The figurative meaning usually refers to the image the metaphor produces. It makes the metaphor easy to remember. The metaphor has an additional literal meaning, which is usually absurd; i.e. No one has seen a ladder that conducts to success; time does not literally fall down on persons.

(iv) *The literal meaning falls out of context.*

While the figurative meaning makes sense, the semantic or literal meaning does not make sense and falls out of the linguistic context; i.e. the ladder to success does not exist physically; no one has ever seen neither first nor last hours falling down and hitting persons.

7.2.3. Coding of Metaphors:

The classification of metaphors was done according to different quality and degree of complexity. The following examples, which are used to illustrate the theory of metaphor, have *all* been extracted from psychotherapy sessions.

Ontological Metaphors:

These metaphors rise from basic bodily experience or from comparison with objects or things. Ontological metaphors also refer typically to container-contained experiences. Usually the comparison between two physical objects or qualities is given by the physical quality or by form. Some authors refer to them as “nominative” because they define or name something about the subject of the sentence.

Patient: “I feel like an empty cistern that must be invisibly refilled.” (1)

Therapist: “One can furnish oneself with women.” (2)

Patient: “As I came here, I turned on automatic.” (3)

Patient: “ I put on the emergency brakes.” (4)

Patient: “I built my husband a sexual barricade”. (5)

Patient: “He devours me; he demands too much of me.” (6)

Orientation Metaphors:

They function like vectors that organize time-space dimensions. They give the idea of movement. They point to different directions; on top, over, under, in front, behind, here, there, past, or to come. Some authors refer to them also as “predicative” metaphors because they have a predicate function, in that they are related to verbs or action qualities.

Patient: “I was totally under pressure.” (7)

Patient: “It is a trapeze-like relationship either I go up or fall down.” (8)

Patient: “I fell on my nose.” (9)

Emotion Metaphors; they express emotions.

Patient: “I am torn up.” (10)

Patient: “And then comes the biting feeling.” (11)

Therapist: “One must discover the fire in oneself.” (12)

Patient: “The matter brings me to incandescence.” (13)

Creative Metaphors:

They compare abstract concepts, like love, freedom, death and can be a mixture of ontological and orientation metaphors.

Patient: My husband is an octopus; he takes my vital space. I need a little room to grow.” (14)

Patient: “The machine gun of my soul.” (15)

Coding Conventional vs. Creative Metaphors.

From the above-mentioned 4 categories, some of them are conventional metaphors; which means they have become part of everyday language (i.e. “bottleneck, I’m fed up”). Conventional metaphors were coded. The criterion was that even if the metaphor was

conventional, the patient could make an individual elaboration of it, according to his own material; particularly when the metaphor repeated itself.

The Coding of Dead metaphors.

Dead metaphors were coded as conventional metaphors. In these, the literal meaning is known only to the etymologist; (e.g. news magazine; magazine originally meant storehouse; now it is a periodical newspaper review). The criterion was that the meaning that was taken into consideration was the conventionalized meaning, as it had been assimilated to language.

Operationalisation of Metaphor:

“A metaphor is a linguistic structure that produces images, has a literal and a figurative meaning. **THE FIGURATIVE MEANING FALLS OUT OF CONTEXT:** Whenever, doubt arose whether a linguistic structure was a metaphor or not, the deciding criteria was if it fell out of context. This allowed the differentiation from polysemy, in which two possible semantic meanings occur at the same time, and synecdoche, in which the part stands for the whole.

i.e. “I bring my students to shine” (metaphor: falls out of context).

i.e. “My father used to tell me, “girl, come spend the night with me”. (polysemy with sexualization: both meanings are possible in outer reality).

i.e. The White House announced a press conference (synecdoche or metonymy; the part stands for the whole and no meaning falls out of context; i.e. a representative of the White House announced a press conference).

7.2.4. Polysemy Identification: Definition of Polysemy.

Polysemy was also rated in the same transcripts for inter-rater reliability. For Lakoff, polysemy involves the mapping of *one* element into two or more conceptual domains (1993). I defined polysemy as two or more different meanings that occur in two or more different contexts simultaneously. Both meanings make sense in the context and are possible in reality; that is, do not fall out of context. The rules for the constitution of polysemy were systematized in part from the analysis Freud (1905) makes of the mechanisms that underlie the construction of word games, double meanings, jokes, and failed acts, in his article *The*

Joke and its Relation to the Unconscious. Other cases in which polysemy occurs have been taken from linguistics, mainly from the field of pragmatics. Polysemy was coded as a second variable in the same psychotherapy transcripts in which metaphors were coded. Polysemy is a phenomenon that was produced automatically in speech and was most of the time not conscious to the speaker that produced it. Therapists that had the capacity of listening to what their patients and they themselves said usually cleared up ambiguities. Coders had also to develop a certain ability in reading texts to find double meanings. Coders reported a new form of listening to others after the training for metaphor and polysemy coding. An inter-rater reliability of .70-.80 was obtained.

Illustration of polysemy is presented as follows. All the cases that are presented below have been taken from psychotherapy transcripts. I have contextualized a small vignette, in order to explain better each case of polysemy.

(i) **Double meaning;** an expression that has at least two meanings.

A female patient narrates a childhood scene in which she, as a five-year old child, is sitting on her potty (at the toilet) and observes the following scene: her grandfather starts a fight with her mother, hits the mother, and throws her out of the house. The patient sits terrified and screams. Her actual symptoms have to do with extreme psychosomatic pain in her swollen intestine. She has to sit on a rubber ring and cannot bear to sit on a chair. Her other main problem is an abusive husband.

Example:

Therapist: "Have you seen how you sit with your hands on your lap like a good girl?"

Patient: (the patient plays with her wedding ring in her left hand). "It all has to do with the **ring**" (1) first meaning: the patient actually means the **rubber ring she sits on**-2) second meaning: the **wedding ring** she is playing with in an automatic, unconscious manner. The patient does not have consciousness of the second meaning of the ring at this moment.

(ii) Polysemy as an effect of syntax. The phrase or sentence can be read in at least two different manners.

In Chapter 3, I illustrated by means of a tree for structure analysis the following sentence, which has two possible semantic interpretations: “the policeman saw the girl with the telescope”. This phrase can be interpreted as: 1) the policeman saw the girl who was using a telescope; or 2) the policeman used a telescope to see the girl. The next example from a psychotherapy transcript proposes a similar analysis:

Example 1 (this example has also a phonological element)

Therapist: You cannot simply identify with this role.

- 1) The patient should not identify himself with a certain role; 2) It is not easy to identify with this role (the “simple is stressed”); 3) When the tone goes up as in a question, the patient should identify himself with the role.

(iii) Deixis or indexical expressions; in linguistics, particular demonstrative adverbs (like “here” or “now”, personal pronouns (like “I” or “you”) or undetermined pronouns (like anyone, no one, someone), point to a person or place, whose reference is usually interpreted in the context of the conversation. Sometimes the source or the referent becomes ambiguous and the sentence can point simultaneously to different contexts, authors, or referents. A text from a single psychotherapy session follows:

Therapist: (at the beginning of the session), “I hope that we can leave the door open” (patient starts session and talks).

Therapist: (Two or three minutes later, interrupts) “I’ll close the window; you can go on talking;” (what window? Is it the window of the consultation room or is the expression meant metaphorically in relation to the openness of the therapist? This sentence was coded as metaphor, since the therapist physically closes the window but another figurative interpretation is possible).

Example (i):

Patient. “I’ve got the feeling that **certain things (which things?)** in me have got in the way”. End of the session,

Therapist.: “when you leave, take **your** things with you (your associations? Your dreams? Your bag? Everything that has to do with you?)

Example (ii):

Other examples from other treatments:

Patient: “I have considered not discussing my problems any more with **anyone** that does not understand me” (in this anyone, the therapist is also included) (The patient abandons the treatment after the next session).

Example (iii):

Therapist. “Why should **one** have only one woman”. (inclusion of the therapist in the problematic of the patient).

Patient: “After **15 sessions** (appointed time for therapy; this expression alludes to the treatment and to the therapist) I will be **another**.”

(iv) **Failed Act**; this is the classic Freudian “slip of the tongue”, in which something is said equivocally, as not wanting to.

Example from therapy transcript:

Patient. “I find it is kind of “shitty” the way in which he (husband of the patient) gets along with **his** children; ah! I mean **our** children

(v) **Entailment**. This form of polysemy proposes an implicit, logical consequence that is never explicitly mentioned. Example:

Patient: “My husband had stopped drinking” (he used to drink before).

(vi) **Sexualization**. Double meaning with a sexual connotation; examples from two different treatments.

Example (i):

Patient: “My father used to tell me, “girl, come spend the night with me”.

Example (ii):

Patient: (the patient is a male homosexual and has a heterosexual male therapist) “I cannot find a way to grab you”. (In German, “fassen”; grasp, grab, and also figuratively, to understand).

7.2.5. Example of a Text used to Exercise the Coding of Metaphors and Polysemy.

In the following text, **metaphors** have been coded in black and polysemy has been underlined. The two texts that follow are used to exemplify metaphor and polysemy coding. The two texts correspond to a treatment in which the patient had a style of thought and speech that that was complex and sometimes made coding difficult. The texts of this patient, precisely because they were difficult, helped the coding team to develop more precise criteria through group discussion.

Text 1 (translated from German).

(Patient: „ With your help, I try to find out from what moment on **I should start to shine**; independently from “the Drama of the Gifted Child”*; it was my mother that almost expressly told me that she, that she, that **I... fulfil what she desired herself to do or what was denied to her** because of her early marriage”.

Text 1 (in German).

Patient: “Ich versuche mit Ihrer Hilfe herauszufinden ab wann mußte plötzlich, **mußte ich anfangen zu glänzen**; abgesehen, vom Drama des begabten Kindes* daß meine Mutter mir fast mal wörtlich gesagt hat, daß sie, daß **ich verwirkliche was sie sich versagt hat oder was ihr versagt worden ist** wegen dieser frühen Heirat.”

* * “The Drama of the Gifted Child”, book from Alice Miller, that deals with the thematic of narcissistic disorders and its origins. The book was a best seller at the time of the treatment. The expression “Drama of the Gifted Child” was coded as “polysemy” because it is the title of the book and at the same time it takes a second meaning in relation to how the patient conceives himself.

Text 2. (translated from German)

Therapist: Where indeed does the great joy for sailing come from?

Patient: Ahh, I don't know. I believe the two of us as unhappy children; my brother, that is, the priest, the so-called homosexual, he had a motorboat, and I! ...wanted; yes it had to do and also had to do with the small *108⁴⁴ (first name of the patient). **He did not want to sit on the bank, where he is the king alone.**

Therapist: And then, would that perhaps go in the direction that to a certain extent **the shine of strangers acted as an illegitimate costume for a man that was too small? Then, you are not allowed to keep it, no? The size.**

Patient: Right. *108 (first name of the patient) was **the fleeting pee wee that was always ready to engage in new great deeds.**

Therapist: But borrowed by other people, artists, composers. When sailing, **the wind is borrowed, no?**

Patient: **Yes, David had the sling for David.**

Therapist: Certainly. Perhaps is that the latent contempt.

Patient: You mean self-contempt?

Therapist: Evidently you have not realized that you have been treated in such a manner; that is, with contempt. **Behind sweetness and all lies something—in your relationships. Those men, the women used to pull around by the nose, they were somehow disdained, no?**

Patient: Yes, all that is disdainful in my mother! Rather, ah, **that created in me an immense protective armour;** so that **I don't go into it.** My mother was not disdainful, my mother was sweet! The Mamita, my mother was, if ever angry, the one

⁴⁴ In all psychotherapy transcripts, all names that appear in the video have been substituted by numbers, for reasons of data protection.

that was unhappy; and my father was**she always set herself aside. I don't want to go into it.**

Text 2 (in German)

Therapeut: Wo haben Sie eigentlich her, die große Freude am Segeln?

Patient: Ach das weiß ich nicht. Ich glaube, wir beide haben da als unglückliche Kinder; mein Bruder, also, der, der Pfarrer; der sogenannte Homosexuelle, und er hat ein Motorboot, und ich! Wollte, ja es hat auch mit dem, mit dem kleinen *108 (Vorname des Patienten) zu tun; **der an, nicht am Ufer sitzen wollte, wo er der König ist alleine.**“

Therapeut: Also, dann würde das vielleicht auch in die Richtung gehen, dass gewissermaßen **der Glanz der fremden Personen wie eine Art illegitimes Kostüm ist für einen zu kleinen Mann. Also Sie dürfen das nicht behalten, ne? Die Größe.**

Patient: Richtig. *108 (Patienten Vorname) ist **der durchgehende Kleine der sich immer aufmacht zu großen Taten.**

Therapeut: Aber geborgten, von anderen Leuten, Künstlern, Komponisten, **Der Wind ist geborgt beim Segeln, ne?**

Patient: Ja, **David hat die Schleuder für Goliath.**

Therapeut: Jawohl. Vielleicht ist das die latente Verachtung?

Patient: Selbstverachtung meinen Sie?

Therapeut: Offensichtlich haben Sie nicht realisiert, dass Sie so behandelt worden sind, also verachtungsvoll. **Hinter dem Lieben und all steckt etwas in Ihren Beziehungen... Die Männer dort haben die Frauen die Männer an der Nase rumgeführt** und irgendwo verachtet, ne?

Patient: ja, all das, was in meiner Mutter verachtungsvoll ist! Vielmehr war, äh, **das hat in mir ein- einen unheimlichen Schutzpanzer, dass ich nicht drangehe**. Meine Mutter hat nicht verachtet, meine Mutter war lieb! Die Mamita, meine Mutter war, wenn schon böse, dann die unglückliche, und der Vater war; und sie **sie hat sich zurückgenommen, da will ich nicht dran**, ich merke auch.

7.2.6. Further Lines of Investigation.

In this study, metaphors and polysemy were also coded until reliability was reached. The team of coders initially made also the attempt to code emotion words in psychotherapy transcripts. Polysemy was only used as a comparative measure and emotion words were discarded from this study, in order to study metaphor in greater deepness.

From the four students, two decided to take a related line of research from the present study for their graduate work: Marcus Wagner (2003) finished his graduate studies with: “*Negative Emotionswörter and ihr Zusammenhang mit dem Therapieerfolg*” (Negative Emotion Words and their Relation to Psychotherapy Outcome), in which he performed a text analysis study of psychotherapy sessions with two computer software programs. Alena Franzman (2003) made a qualitative research study of the above-described different types of metaphors and also related them to psychotherapy outcome: “*Metaphern in der Psychotherapie*” (Metaphors in Psychotherapy).

7.3. Criteria for the Evaluation of Good and Bad Outcome through Metaphor Production .

After some time of reflection with the problems commented in Chapter 6, I decided to develop the below-described quantitative measures, with the idea of having criteria that could help me evaluate the production of metaphors more precisely and that would allow me to compare them in different sessions and treatments. Once metaphor production could be correctly quantified, the outcome of treatments assessed through metaphor production could be correlated with the outcome of the same treatments measured with other measures of outcome; in this case, those used in the Multichannel Psychotherapy Project. If a reasonable correlation could be reached, in a second moment metaphor production could also be used to measure outcome in itself. The proposed coefficients and indexes, which I will enumerate and describe as follows, were conceived to measure separately or in a combined form metaphor production in the treatments of the sample:

- 1) Metaphor Density Coefficient
- 2) Metaphor Interactivity Coefficient
- 3) Index of Combined Polysemy/Metaphoric Growth

7.3.1. Metaphor Density Coefficient.

Once all metaphors were coded, each session produced a total count of metaphors, which was organized into tables. However, the total count of metaphors in a session could not be compared with the number of metaphors in another session or treatment because not all sessions contained the same word count and patient and therapist produced each a different ratio of speech production in words. Unless metaphor production could be relativised in proportion to word count, and a specific weight for metaphor production in every session could be calculated, metaphor production could not be compared. For this purpose, a Metaphor Density Coefficient was developed. Word count for patient and for therapist speech was separated by means of the ADU (Affect Ulm Dictionary; (Das Affektive Diktionär Ulm, Textanalyse; Hölzer, Scheytt, Kächele, (1992)⁴⁵, which is a software package

⁴⁵ As mentioned above, the project had considered including affect words in the analysis, but this was later discarded. The line of affect words was, however, continued by Marcus Wagner (2003), who finished his graduate studies with: “*Negative Emotionswörter and ihr Zusammenhang mit dem Therapieerfolg*” (Negative Emotion Words and their Relation to Psychotherapy Outcome)”.

that classifies emotion words, but that also allows to separate patient and therapist speech and to count words. Once the total number of words in patient and therapist speech was obtained, the Metaphor Density Coefficient was calculated by dividing the total number of metaphors in a session by the total number of words spoken by each interaction partner. The result was multiplied by 1000, in order to obtain a coefficient in round numbers. The metaphors that were coded for the calculation of the metaphor density coefficient, were the metaphors that were coined and used only once; that is, when a metaphor was repeated during the transcript or in other sessions, this metaphor received the denomination of “metaphoric intervention”, but was not classified as a new metaphor. A register of how many times a metaphor appeared repeated or in the interaction between patient and therapist through the four coded sessions was kept. Metaphoric interventions were used in the third part of this study when they were given time addresses and analysed in patterns together with affects.

$$\text{Metaphor Density Coefficient} = \frac{\text{total number of metaphors}}{\text{total number of words by each interaction partner}} \times 1\ 000$$

Tabelle 2: Illustration of Metaphor Density Production in Therapy 01

Therapy 01 Patient Speech				Therapist Speech			Combined Patient and Therapist Speech.
Session	Words	Metaphors	Metaphor Coefficient	Words	Metaphors	Metaphor Coefficient	Metaphor Coefficient
01	4366	17	3,89	2925	10	3,41	3,65
03	5894	14	2,37	2301	11	4,78	3,57
12	6762	21	3,1	2839	10	3,52	3,3
15	5055	14	2,77	2598	16	6,15	4,46
Total:	22077	66	12,31	10663	47	17,86	14,98

Therapy 01, in session 01, the total number of metaphors produced by the patient was = 4366. The total number of metaphors in this session 01 was: $17/4366 \times 1000 = 3,89$. The same was done with sessions 03, 12, and 15. The total sum of Metaphor Coefficient for the four coded sessions (12,31) appears in the last line of the table. The same procedure was followed for all the coded sessions in all treatments, and the metaphor coefficient each patient received was created from the sum of all individual sessions. The same was done for the

therapist. The last column under “combined patient and therapist speech“, presents an average of the Metaphor Coefficient of both patient and therapist. The sum of the combined patient and therapist (14,98) Metaphor Coefficient appears in the last line, which is the combined Metaphor Density Coefficient this treatment obtained.

7.3.2. Metaphor Interactivity Coefficient.

The Metaphor Interactivity Coefficient was developed with the intention of addressing the question of “relevance” in the production of metaphors. I assumed that a metaphor produced either by patient or therapist could be considered to be relevant, if it was directed to an object of reference that was related or anchored in the here and now of the psychotherapeutic interaction. According to theory, the specific meaning of a metaphor is completed when it is contextualized in the interaction, through further shared related associations of one of the participants, or when the meaning of the metaphor is directly cleared up. Consequently, a metaphor, even if conventionalized, does not have a fixed meaning. An interactive metaphor was then defined as that in which the meaning of the metaphor is built up in the psychotherapeutic context or in the interaction itself. Other related criteria for coding Metaphor Interactivity were: further clarification in relation to the meaning of the metaphor, further elaboration of the metaphor through associations either from patient or therapist, or the creation of a new related signification.

In contrast to interactive-handled metaphors, intra-individual production of metaphors refers to the production of a metaphor either by patient or therapist, which does not participate in the interaction. A patient (or therapist) may utter the same metaphor in an elaborative or repetitive manner through the same or through various sessions, without any form of acknowledgment from the interaction partner. This modality of metaphor production I have defined as belonging to intra-individual meaning.

An example of this type of coding will be given using Text 1 and Text 2, which is cited above, and which I repeat. Only a fragment of the text is coded:

Text 1 (translated from German).

(Patient: „ With your help, I try to find out from what moment on **I should start to shine**; independently from “the Drama of the Gifted Child”; it was my mother that almost expressly told me that she, that she, that **I... fulfil what she desired herself to do or what was denied to her** because of her early marriage”.

Text 1 (in German).

Patient: “Ich versuche mit Ihrer Hilfe herauszufinden ab wann mußte plötzlich, **mußte ich anfangen zu glänzen**; abgesehen, vom Drama des begabten Kindes** daß meine Mutter mir fast mal wörtlich gesagt hat, daß sie, daß **ich verwirkliche was sie sich versagt hat oder was ihr versagt worden ist** wegen dieser frühen Heirat.”

Therapist: Where indeed does the great joy for sailing come from?

Patient: Ahh, I don't know. I believe the two of us as unhappy children; my brother, that is, the priest, the so-called homosexual, he had a motorboat, and I! ...wanted; yes it had to do and also had to do with the small *108 (first name of the patient). **He did not want to sit on the bank, where he is the king alone.**

Therapist: And then, would that perhaps go in the direction that to a certain extent **the shine of strangers acted as an illegitimate costume for a man that was too small? Then, you are not allowed to keep it, no? The size.**

In Text 1 and Text 2, the following metaphoric interaction was coded as follows:

Patient: With your help, I try to find out from what moment on **I should start to shine**;

Therapist: And then, would that perhaps go in the direction that to a certain extent **the shine of strangers acted as an illegitimate costume for a man that was too small?**

Was coded as: Kat.	Coding.
Pat. Met. 1	Ontological
Th- M1 Interactive	Ontological

The “shine” (glanz) metaphors in this patient continued to develop throughout the treatment sessions. Every time it appeared again, it was classified as “repetition” of the metaphor in the patient and as “interactive”, when contextualized in the interaction. Two classifications of metaphors were established: metaphors which were not repeated and appeared as “single metaphors” and “metaphoric interventions”, which is the total number of times a metaphor is used, when it is repeated or interactive.

For the calculation of the Interactivity Coefficient, it was not important who originally produced the metaphor, if patient or therapist, but if it was interactive in the psychotherapeutic process. Therefore, the Interactivity Coefficient was calculated by dividing the total number of *interactive metaphoric interventions* in the four sessions produced both by patient and therapist by the total amount of metaphors in the session, produced also by patient and therapist. The result of each session was added through the four coded sessions and was multiplied by 10 to make calculations easier.

$$\begin{aligned}
 &\text{Interactivity Coefficient} = \\
 &\frac{\text{Total Number of Interactive Metaphors in each Session (in 4 sessions)}}{\text{Total Number of Metaphoric Interventions in each Session (in 4 sessions)}} \\
 &\times 10
 \end{aligned}$$

For example, in Therapy 01; Sessions 01, 03, 12, and 15, a total of 18 metaphoric interventions were coded:

$$\frac{18 \text{ interactive metaphoric interventions}}{113 \text{ (total metaphors of patient and therapist)}} = ,159 \times 10 = \mathbf{1,59}$$

This Interactivity Coefficient could later be added up to the Combined Metaphor Density Coefficient and be correlated with other outcome measures.

7.3.3. Index of Combined Polysemy/Metaphoric Growth.

The question of how often a metaphor can appear in a psychotherapy transcript in relation to the expected probability could be answered through different manners and methods. The presence of metaphors in psychotherapy transcripts in greater quantity than the expected probability of metaphor appearance could give account of the possible effectiveness of metaphor as a cognitive and affective matrix that produces re-transcription effects (see Chapter 5). The former also discards the appearance of metaphors as random elements that could emerge inasmuch as any other undifferentiated elements of ordinary speech. A time series analysis calculation was contemplated and discarded, in favour of using *Theme* (Magnus Magnusson, 2002), a computer software that identifies repetitive patterns of observations set on a time line axis through a mathematical logarithm that calculates probability of pattern appearance to $p = .001$. (*Theme* is described below). Only patterns that exceed this probability were detected by the system. Event analysis (*Ereignisanalyse*, Blossfeld, 1986) which is a method used in sociology to assess the probability of the occurrence of an event, would have also enriched this study; but is left for future research.

It occurred to me that I could have a “control variable” also of linguistic nature, whose distribution in the psychotherapy transcripts could also be assessed and could be clearly differentiated from metaphor for significant differences. Polysemy was chosen to function as an alternate linguistic comparison trope. Polysemy is related to affects but produces effects different to those created by metaphor, at least from a theoretical point of view. The logic behind this procedure is that if both variables, metaphor and polysemy, could be proved to be independent from one another, the distribution of metaphor and metonymy in psychotherapy transcripts could be tested for significant differences and proved *not* to appear at random.

Polysemy implies two or more possible meanings in the same context and was selected as control variable. Polysemy was theoretically expected to advance in the opposite direction of metaphor, as it included non-clarified, ambiguous meanings that could hinder the communicative process. Polysemy could also be related to affects in that it is the main mechanism that underlines jokes, in which a double or unexpected meaning arises, provoking laughter (joy). Other affects can also be produced by polysemy; i.e. anger. In metaphor, the speaker works through into the condensed verbalisation of an emotional, creative, or new meaning. Metaphor creates two meanings: the literal and the figurative. The latter does not

follow semantic meaning, falls out of context, and is not possible in outer reality. In polysemy, the speaker is sometimes not aware of what he is saying, and the two meanings that are produced are totally different and both are possible in outer reality. Polysemy was, therefore, used as a comparison basis.

It was hypothesized that the initial metaphors that appeared in the early part of the treatment, comprised between sessions 01 and 03, would tend to be elaborated or linked to other metaphors and associations in the middle part of the treatment; that is from sessions 03 to 12. This hypothesis was fundamented in Orlinsky's (1975) studies on psychotherapy research, who proposes that the dynamic of the treatment in short psychotherapy is normally established by the third session, and that by the end of the twelfth session, the psychotherapeutic process has evolved. It occurred to me that in a treatment that functioned adequately, metaphors would augment or tend to be elaborated from the third to the twelfth sessions. Polysemy in the patient, in contrast, could be expected to appear during the first three sessions, but would tend to diminish. If the therapist is capable of listening to his or her patient and of clarifying ambiguities, in a good outcome treatment, a common, precise language should emerge. A therapist who is not conscious of his own ambiguous interventions (polysemy) can create confusion and uncertainty in his patient, especially because he (or she) is not immediately aware of what he or she has transmitted to the patient. I assumed then that polysemy should decrease as the treatment evolved and would advance in a contrary direction to metaphor.

With this idea in mind, I designed the index of polysemic and metaphoric growth. Differences in the distribution of metaphor and polysemy in two points in time in which both variables are expected to grow in different directions could be compared to find significant differences in distribution.

Under the above-exposed theoretical assumptions of Orlinsky (1975) on the development of short psychotherapy, I was supposed that patients who were engaged in metaphoric production, would show an increase in metaphoric production from the third to the twelfth session, as a result of the process, while the production of metaphors would descend in the same period of time.

The Index of Combined Polysemy/Metaphoric Growth was calculated as follows: 1) Sessions three and twelfth were taken as the basis of calculation; 2) The calculation was done separately for patient and for therapist; 3) The total number of polysemy coding was divided by the total number of metaphors for each session; 4) From the two obtained results, the result obtained for session 3 was subtracted from the result obtained for session 12.

Index of Combined Polysemy/ Metaphoric Growth: =

$$\frac{\text{Total Polysemy (Session 12)}}{\text{Total Number of Metaphors (Session 12)}} \quad \text{minus} \quad \frac{\text{Polysemy (Session 03)}}{\text{Total Number of Metaphors (Session 03)}}$$

The following example illustrates Therapy 01; for the calculation of the 4 coded sessions (01,03,12,15) for patient:

Step 1): Total Polysemy (Session 03)/Total Metaphors (Session 03):

$$= 8/14 = ,57 \text{ P/M}$$

Step 2): Total Polysemy (Session 12)/Total Metaphors (Session 12):

$$= 10/21 = ,47 \text{ (Session 12);}$$

$$\text{Step 3): } = ,47 - ,57 = \mathbf{-,10}$$

-,10 (Metaphor/Polysemy Growth). Good outcome is related to lower negative coefficients.

7.4. Criteria for the Evaluation of Psychotherapeutic Outcome in the Multichannel Psychotherapy Project (see Merten, 2000).

The already-existing Multichannel Psychotherapy Project outcome assessment criteria are described below. I considered that if psychotherapeutic outcome, when measured through the above-described metaphor production coefficients and through the criteria of the Multichannel Psychotherapy Project, were proved to correlate, a common outcome measurement of outcome could be obtained. Good and bad outcome was measured in the Multichannel Psychotherapy Project through the following criteria and instruments of assessment.

- 1)** Changes in the Freiburger Beschwerdeliste (FBL-G; Fahrenberg, 1975; CIP, 1986) (Freiburg Symptom Checklist).
- 2)** A diary that was filled out by the therapist and patient every day throughout treatment.
- 3)** A final evaluation both by patient and therapist after the fifteenth session of the achieved goals and satisfaction with the treatment, and quality of the therapeutic relation. The evaluation of success of the treatment was constituted by a simple four-item questionnaire in a five-degree scale, from good to bad, which was answered both by patient and by therapist and covered the following questions: a) Did the treatment help the patient? b) Personal satisfaction with the outcome of the treatment, c) Was the treatment successful? d) Were the treatment goals reached? For the evaluation of the therapeutic relation, three items were judged as positive or negative: a) if the therapeutic relationship had been good or bad; b) if the form of treatment had been adequate or inadequate for the patient; c) if the patient had found the treatment helpful or not.

7.5. EMFACS CODING.

The coding of facial affects was made through the EMFACS (Emotional Facial Action Coding System, that was developed by Friesen & Ekman (1984). This is a simplified version based on the original FACS (Facial Action Coding System; Friesen & Ekman, 1978). The Emotion Facial Action Coding System (EMFACS, 1984) was developed from the basic principles of the FACS (Facial Action Coding System; Ekman & Friesen, 1978). In the first FACS standardization, all the facial muscle movements that corresponded to the coded emotions were registered. In the second one, the EMFACS, an emotional sequence of movements in the face is coded until the apex is reached. The apex is the highest point of enervation in which an emotion displays itself.

FACS was developed through the classification of all muscle innervations in the face, which enable facial movement and the production of affect expressions. These enervations are numbered and are referred to as “action units”. In contrast to FACS, the EMFACS takes only those action units which are potentially related to the expression of affects. The universality of emotions in facial expression and the possibility of assessing them through FACS and/or EMFACS were developed through diverse intercultural studies (Ekman and Friesen, 1984). Other differences in the coding of both systems is that FACS is coded in slow motion and takes an assessment in linear time before and after the Apex, which is the point where the affect is most explicitly represented. In EMFACS only the Apex is coded. EMFACS can be coded in real time, which makes the coding process somewhat faster. In EMFACS, what remains is the main expression of the leading affect. Facial affects are coded through a manual, which provides possible differentiations and combinations. The affect categories that are measured are: anger, disgust, contempt, fear, sadness, surprise, and joy. Combinations are possible and there is the possibility of establishing the difference between “true” and “social” or “false” joy. The mimic data collection was done during the *Multikanale Psychotherapie Prozeßforschung*⁴⁶.

A very brief description of each affect and the manner in which it is typically EMFACS coded will be described:

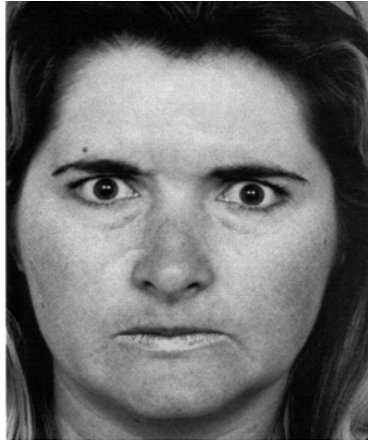
⁴⁶ I am a certified FACS coder, which enables me to code facial affects in a reliable manner.

Sadness would be the attempt to bring back the lost physical object. It is usually triggered by a loss that can range from moderate to high intensities. Different tonalities of sadness can be described in language: blue, depressed, discouraged, despaired, helpless, miserable, inconsolable, distressed. Sadness appears in waves and can last a few minutes before any other emotion or no specific emotion is felt. Sadness gives life to what the loss has meant.



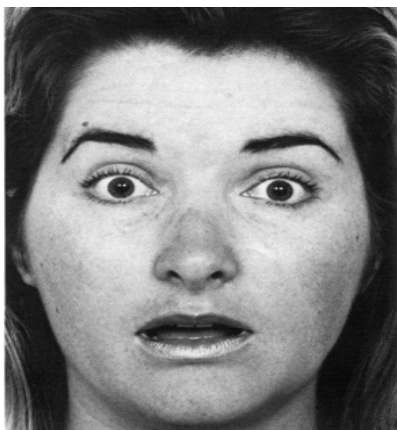
To code sadness, main features: **Upper face:** i) a reliable sign is the angling upward of the inner corners of the eyebrows; ii) in most people, a vertical wrinkle between the brow appears; iii) gaze may be directed down. **Lower face:** iii) lip corners of the mouth are pulled downward slightly; iv) the chin boss may be pushed upward producing a pout.

Anger can be understood as throwing out of the way an object that is not feared but that hinders a particular wish of the self. Anger is the face of attack, violence, hurting an object that provokes frustration. Anger calls for more anger. Often fear precedes the appearance of anger or anger can help reducing fear. Descriptions of various degrees of anger in language: sulking (passive anger); irritation, exasperation (loss of patience); indignation (rightful anger); revenge, resentment, hatred. Anger is an affect high in intensity and with relatively high density or duration across time.



To code anger in the face (EMFACS): **Upper face:** i) in the eyes appear a glare, brows lower, upper lids open; ii) brows are lowered; creating a frown. **Lower face:** iii) pressed lips; iv) also narrowing of lips (controlled anger).

Surprise remits to ignorance of a particular object or situation. Surprise is usually triggered by a sudden unexpected event. Surprise is one of the briefest emotions. When it is excessively intense, it can remit to startle. Startle can last for $\frac{1}{4}$ of a second and does not remain in the face longer than $\frac{1}{2}$ second; that is, if you blink, you miss someone's startle. When surprise falls down in intensity, it may merge into fear, amusement, disgust, etc. Surprise is a resetting affect; it orients the individual to turn his or her attention from one thing to another (Tomkins, 1962).



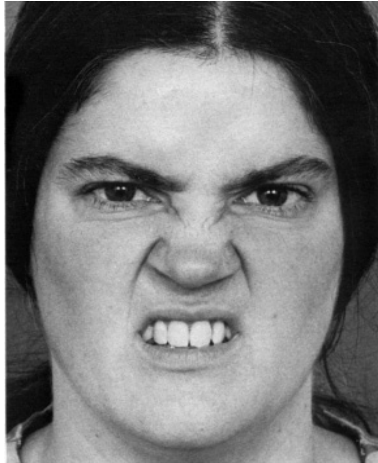
To code surprise through EMFACS: **Upper face:** i) raising of the eyebrows which produces transverse wrinkles of the forehead; ii) a blink may be produced; **Lower face:** ii) jaw drops down; iii) Tension in the mouth.

Fear would be the desire to run away physically from the object. Fear is a feeling of threat of physical or psychological harm. It is relatively easy to illicit; i.e. by loss of support, physical pain. It produces reactions of hiding and fleeing. Physiologically, fear is marked by a shortness of breath, coldness, and preoccupation with an event. Three factor affect fear: a) intensity (how severe is the menace of harm); b) timing (is the harm immediate or impending?); c) coping possibility; (is it possible to do something to reduce the threat?).



The **coding of fear** is sometimes confused with that of surprise. **Upper face:** i) Eyes: upper lids are raised and eyes are wide open; ii) lower lids may be tensed; iii) raising of eyebrows and forehead. In this picture, mouth is partly open and unilateral naso-labial rising are both irrelevant for the coding of fear.

Disgust would strive to “expel” an object out of the organism that is experienced as involuntarily engulfed and internalized. Disgust is a feeling of aversion. It is usually related to body products: feces, vomit, urine, mucus, blood. Some people experiment a certain fascination with what is disgusting; i.e. checking the kleenex with which they have blown their nose. Disgust can be divided into: “core disgust”; which has to do with oral incorporation; and “learned interpersonal disgust”, which has to do with: a) the strange; b) the diseased; c) the misfortunate; d) transgressions to what is considered morally correct; i.e. obscenity; child pornography; the holocaust. Disgust is usually suspended when there is intimacy or personal committing; i.e. kisses in the mouth. Disgust serves the function of getting out of the line in which violence can be committed against a person.



The coding of disgust: **Upper face:** i) nose wrinkling; ii) raised upper lip.

Contempt is aversion but is not a toxic affect. It is a disdain against persons or their actions. There is a feeling of moral superiority to others. Persons may be disliked but it is not necessary to get away from the person; i.e. blacks feel contempt for whites, women from men, etc. The wives whose husbands showed contempt for them: felt flooded, believed that their problems could not be worked out and were severe, became ill often after four years. It can vary in intensity but is not so intense as disgust. Contempt asserts the feeling of being superior, of not having to engage or compromise, of having power or status. It may be accompanied by anger, but not always.



The coding of contempt: **Under face:** I) lip corner tightened and slightly raised.

Joy would be the signalisation of continuing with the ongoing activity, which is experienced as agreeable. It is characterized by the decrease of gradient of neural stimulation as innate activator. It is characterized by smiles and laughter. Duchenne de Boulogne differed true enjoyment from non-enjoyment through smiles. True smiles activate the muscle that circle the eye. In social smiles the smile appears without activation of the circle of the eye that creates crow's feet wrinkles around the eyes. In honour of Duchenne de Boulogne, true joy smiles have been named Duchenne smiles.

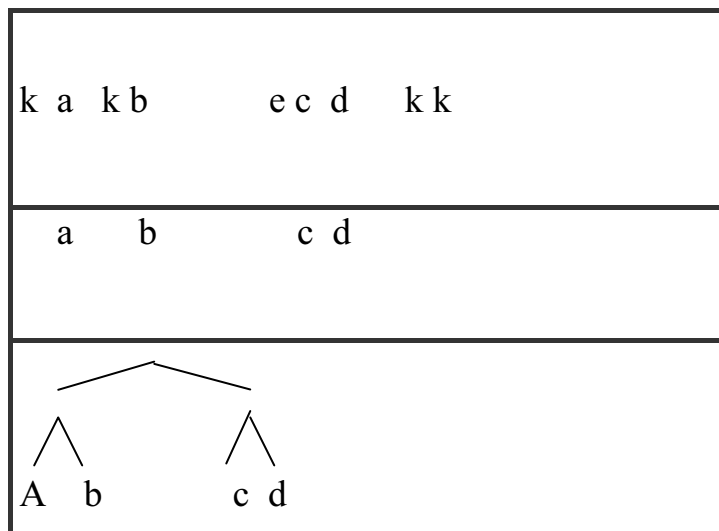


Coding of true joy: **Upper face:** i) activation of the muscle circle around the eye, producing crow's feet wrinkles; ii) cheeks are higher; iii) eyebrows move down slightly. **Under face:** iv) a broad smile.

7.6. THEME; Magnusson (2002).

Theme is a professional software system that detects and analyzes hidden temporal pattern syntax in coded behaviour. The coding of observed behaviour can be defined under diverse perspectives, from the physical-anatomical, to the semantic, temporal, or spatial; i.e. in linguistics, words and sounds and their smaller significant units (morphemes, phonemes) take the form of repeated syntactic/hierarchical patterns. Animal behaviours in ethology, analysis of myths and rituals in anthropology, etc. are also constituted through syntactic/hierarchical patterns. The importance of repeated temporal patterns in behaviour is widely accepted, but formal pattern definitions and detection algorithms are not always present (Gudberg Jonnsson, 2002). An algorithm is the set of mathematical procedures that lead to the solution of a mathematical problem. The analysis of patterns is defined through the establishing of relations between the distribution in time of behavioural events. The detection of patterns in time through simple naked-eye observation, does not allow a human observer to establish all relations that coexist in linear time.

Fig. 11: Patterns Hidden to the Naked Eye



The detection of a repetitive syntax in the behaviours coded during an observation allows the identification of a relatively invariant “inner timing” in the analysis of the observation. The detected patterns can be described either intra- or inter-individual. In this manner, a “grammar” of the interaction is constructed out of the observation of the outer, surface events. *Theme* provides a “microscope or telescope” that allow the researcher to visualize the “deep structures” that organize a whole.

By means of a mathematical algorithm, *Theme* detects simple patterns in time. These simple patterns are later combined to produce other patterns that are more complex. These patterns are called “T-patterns”. A **T-pattern** is a particular set of event-types recurring in: 1) the **same order**; 2) with “**significantly similar distances**” between them on a single dimension; and 3) having a **scale-independent hierarchical/syntactic structure**. T-Patterns are characterized by **fixed order** of its elements and **relatively fixed distances** between them because it is the **internal interval** that exists between two adjacent event types within a pattern that makes the creation of repeated patterns possible. Without a defined interval, the number of patterns would be infinite; and in some cases, also difficult to understand. The **critical interval** defines the statistical relationship between any two series of points in time.

Fig. 12: Observation in which the Critical Interval is Present:

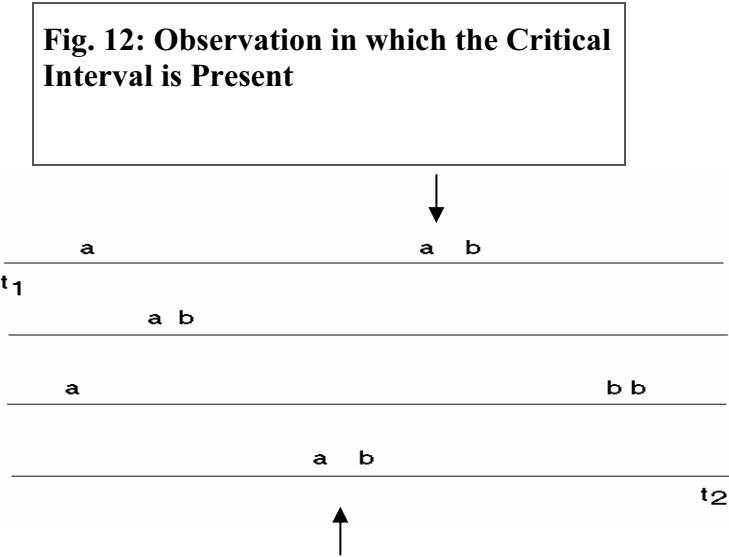
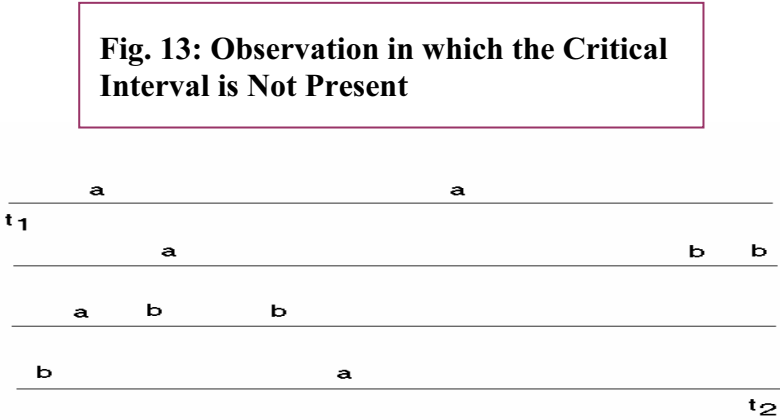


Fig. 13: Observation in which the Critical Interval is Not Present

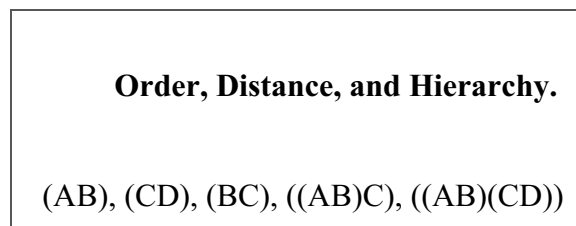


In Figure 12, a simple data set contains multiple occurrences of two different event types: a and b. *Theme* searches for the tendency that “a” be followed by at least one occurrence of “b”, within a time interval that is significantly closer to what would be expected by chance. If such an interval is found, it is called a critical interval, and the relation

between “a” and “b” is called a *critical interval relationship*. For this calculation, Theme assumes as null hypothesis that both “a” and “b” are both independently distributed and have the observed probability of occurrence per time unit, which is assumed to be constant throughout the continuous observation period. If such a critical interval relationship is found, a simple pattern (a b) is defined. It occurs wherever an occurrence of “a” is followed by an occurrence of “b” within the critical interval (Magnusson, 1996). This conceptualization of critical interval also allows the construction of hierarchical/syntactic structures. *Theme* considers not only the order and relative timing of behavioural events, but also their hierarchical organization; that is, how often these patterns are repeated throughout a unit to be assessed; i.e. in this study, a psychotherapy session.

The following pattern exhibits:

Fig. 14: T-Pattern



Without an interval, the pattern would read: abcdbcabcabd

Only with Frequencies, the pattern would read: 3A, 4B, 4C, 2D

Following a **bottom-up** algorithm, patterns are detected gradually from event types, as in the case of pairs of pairs; as in binary trees. **Critical interval** relations between the occurrence series of event types and/or already detected patterns are then **connected** to form **longer patterns** (trees). **Many binary-trees** may correspond fully or partly to the same pattern so all detected patterns are automatically **compared** and only the most **complete** (longest) patterns remain.

Apart from number and type of patterns, *Theme* also produces automatically statistical information, such as the mean, mode, median, and standard deviation in relation to the detected patterns in time. This application allows to detect time-interval lengths between patterns of coding. The manner in which coded events is fed into the system allows also the

differentiation between patterns that occurred within one subject and patterns that occurred during the interaction.

7.6.1. Application of *Theme* to the Data in this Study.

Theme allows the manual setting of pattern detection, according to the needs of the user. For the detection of patterns in this study, the following parameters were defined and set up in the software:

- A pattern should be repeated a minimum of three times to be taken into account by the system.
- Significance for the detection process should be no less than $p=.001$.
- The patterns used for this study were only the basic, simple patterns. Other possible combinations of more complex patterns were not taken into consideration.

All metaphor and EMFACS coding were placed on a linear time axis. The former is possible as all video bands have digital time register to the hundred of a second. All coded events were given a time address.

Linear time addresses of both affect (EMFACS) and metaphor coding would then be registered and fed into the software package *Theme* for pattern detection. EMFACS affect coding was assessed in the apex, which is the point at which the affect expression reaches its maximum intensity. The apex is a point in linear time; that is, the whole sequence of facial affect coding that leads to the apex is not registered; only the apex. Metaphors were coded in real time, the beginning point at which they started and the final end point.

An example of how an observation is fed into *Theme* is presented below. In order to do so, the following variables must be first defined:

- **Actors:** Person 1 and Person 2. In the study, these were patient and therapist.
- **EMFACS affects coding:** The following classification of facial affects is the result of characteristic facial enervations, which alone or in combinations remit to characteristic facial expression of primary affects, as defined by Ekman et al (1984).

Apart from primary affects, two additional categories were included: “possible anger” which is close to the classification of the manual of anger, but does not fulfil all conditions; and “non-predict”, which refers to affects that appear systematically and might be interesting individually for a particular patient, from the point of view of the clinician; but whose coding is not defined in the manual because they have not met with the statistical criteria for reliability; i.e. particular head movements. The classification of different affects is described below.

“1-anger”, “2-joy” (happy felt); “3-possible anger”, “4-sadness” “5-contempt”, “6-disgust”, “7-fear”, “8-surprise”, “9-non-predict”.

- Coding of affects was done in the “apex”.
- **Metaphor Coding:** Metaphors were coded under the letter **M**, and their occurrence was marked with “begin” (b) and “end”(e).

A typical coding of an interaction would read as follows: (patient frowns at therapist) and (therapist answers with a metaphor). Translated into *Theme* language, the coding of an observation would be transcribed as follows:

020965 y,b,4 (at 02 min. 09 sec. 65 100/sec., y=patient began enactment facial muscle number 4-anger)

021254 x,b,M (at 02 min. 12 sec. 54/100 sec., x=therapist began enactment metaphor)

021363 x,e,M (at 02 min. 13 sec. 63/100 sec., x=therapist ended metaphor).

0021403 y,b,51 (at 02 min. 14 sec. 03/100 sec., y= patient smiled, 51=real joy)

0021789 y,b,M (at 02 min. 17 sec. 89/100 sec.; y= patient begins metaphor)

0022098 y,e,M (at 02 min. 20 sec. 98/100 sec., y= patient ends metaphor).

Once *Theme* performs pattern analyses, the results indicate that a certain pattern appeared perhaps 6 times during the session and possible combinations with other patterns throughout the session. No pattern is coded by the system, unless it appears a minimum of three times and the significance level is of $p=.001$. The exact time intervals are coded, as well statistics of them; such as mean, mode, and standard deviation.

As the observations were registered in relation to two variables: affects and metaphors, once all affect and metaphor time addresses are fed into *Theme*, the computer software made an analysis of the “affect-affect coding patterns” and “affect-metaphor coding patterns” that are found in a repetitive manner in the patient-therapist interaction. The detection of the before-mentioned patterns throws light on the most repetitive affective individual productions as well as interactions between patient and therapist. For the analysis of pattern data, intra- and inter-active patterns can be distinguished, in relation to the productions of facial affects and metaphors (see example of observation above).

Fig. 15: Behavior Record of a Psychotherapy Interaction: Therapy 05; Session 01.

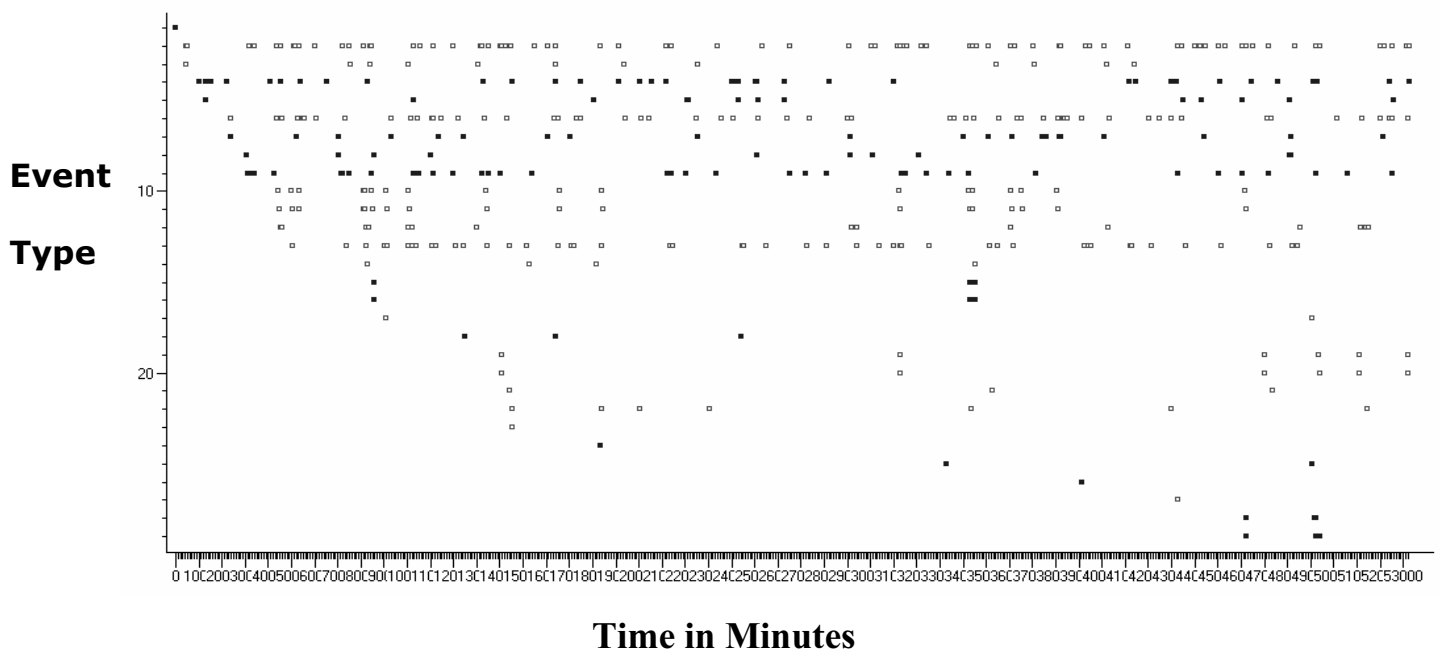


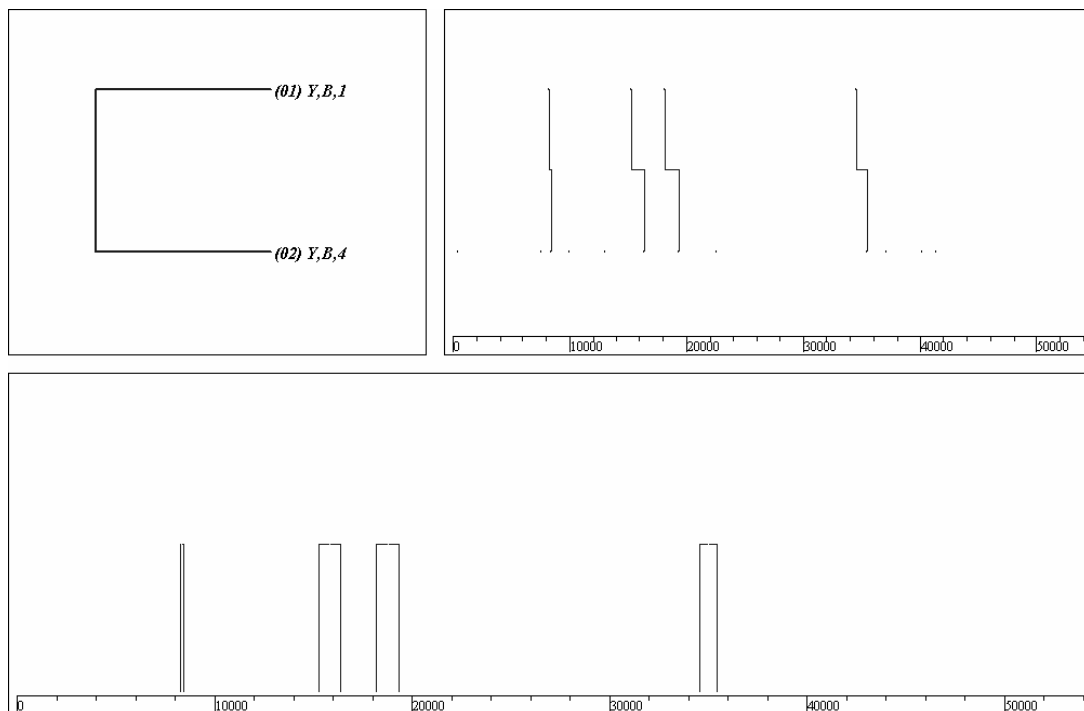
Figure 15 shows a 53-minute interaction between patient and therapist. The example belongs to Therapy 05; Session 01 in this study. The software takes the following presentation form: therapist intervention coding is represented in red and patient intervention coding in blue. Event type occurrence refers to the type of event that was coded through time. The different possible classifications or categories (event type) are expressed on axis y (from 10–30). Every event type and its occurrence through the selected 53-minute horizontal time sample can be observed; i.e. if 1 is anger as category; this affect is coded for the therapist in red across a horizontal time across the selected time; each point represents an individual coding. Time in minutes is coded on the x-axis. The coding of anger in the patient is coded in blue on a different time line, which in this case could correspond to 2.

Figure 16 shows a tree graphic in which *Theme* describes simple patterns that have become associated through time in a repetitive manner and now constitute “trees”, in which one can clearly see that certain elements of the syntax are interrelated, as well as the global vision of the overall relations between elements. The observation is fed into the software under a particular format and the trees constituted by patterns appear under the selected coding. Figure 16 can be read as follows:

First sequence: (01), Subject Y (Patient) (B) begins to show Anger (1).

Second sequence: (02) Subject Y (Patient) begins (B) to show Sadness (4)

Fig. 16: Tree Graphic Composed by Patterns Detectes by Theme



The tree formed by patterns in Fig. 16 is further graphed in time. *Theme* presents graphically the results of the identified patterns, this case, the “anger-sadness pattern” in this patient appears four times during the fifty minutes of the coded session. If the pattern had been interactive, the Subject would have been marked as X. The critical time interval is better graphed in inferior part of the design. The first pattern marked on minute nine has a shorter critical time interval than the next two patterns situated between minutes ten and twenty, which look very similar. A fourth pattern with time interval is graphed between minutes thirty and forty. Length of the critical time intervals, as well as mean, mode, and median of all obtained patterns are assessed by the system.

8. HYPOTHESES

The following chapter presents hypotheses related to the three question complexes that were described above.

8.1. Hypotheses Related to Question Complex 1: Quantity and Quality of Metaphor.

8.1.1. Hypothesis 1.

Aim:

It was hypothesized that the concentration of metaphors throughout psychotherapy transcripts was not due to random distribution or chance. The concentration of metaphors in specific points in time in psychotherapy transcripts must differentiate from their expected appearance in a significant manner. For this purpose, an index of combined polysemy/metaphoric growth was designed. Polysemy was included as a control variable, which theoretically was expected to advance in the opposite direction of metaphor, and that could be used as a comparison basis. If both variables, metaphor and polysemy, could be proved to be independent from one another, the distribution of metaphor and metonymy in psychotherapy transcripts could be compared. Differences in the distribution of metaphor and polysemy in two points in time in which both variables are expected to grow in different directions could be compared to find significant differences in distribution; i.e. differences between the third and the twelfth psychotherapeutic sessions were coded: the third, in which the psychotherapeutic process is installed and the twelfth, in which the process has evolved.

Operationalisation.

A metaphor was operationalised as a sentence or clause that creates an image, has a figurative and a literal meaning, and whose **figurative meaning falls out of context**. Polysemy was operationalised as the production of two or more meanings that take place at the same time in outer reality. The expected probability is calculated through significant differences in the above-cited index of combined polysemy/metaphoric growth.

H1: Metaphors appear in greater quantity and density in psychotherapy transcripts than the expected probability.

8.1.2. Hypothesis 2.

Aim:

In order to establish if metaphor production is higher in patient or in therapist (to be later related to good outcome), metaphor production in patient and therapist should be differentiated. Although therapists are expected to talk less than their patients, metaphor production in therapists can be expected to be scarcer but probably with a higher relative weight.

Operationalisation.

Metaphor production in a session is the calculation of the metaphor density coefficient: metaphors/total number of words x 1000 (see Chapter 6).

H2: Therapists have a greater production of metaphors than their patients.

8.2. Hypotheses Related to Question Complex 2: Metaphor Production (in Quantity and Quality) and Psychotherapy Outcome.

8.2.1. Hypothesis 3.

Aim: This hypothesis is related to the theoretical proposition that metaphors can be considered as an affective and cognitive matrix for the working through of thoughts and affects. It was supposed that the combination of a higher metaphor density coefficient could be related to good outcome.

Operationalisation:

Outcome was operationalised in the Multichannel Psychotherapy Project as the results obtained by means of the following instruments: 1) symptom reduction assessment in patients measured through the symptom-reduction scale of the Freiburger Beschwerdeliste FBL (Freiburg Symptom Checklist); and 2) questionnaires of personal satisfaction with the

treatment evaluated by both patient and therapist (see Chapter 7). Patients were ordered from best to worst and divided in good and bad outcome groups.

H3: A higher metaphor density coefficient in both patient and therapist is related to better outcome.

8.2.2. Hypothesis 4.

Aim: The purpose of this hypothesis is to establish differences in quality or type of metaphors. Metaphors were classified into conventional and creative. Conventional metaphors are commonly integrated into the system of language, are commonly used by all speakers, and can be further classified into ontological, orientation, and emotion metaphors. Creative metaphors are considered to originate from individual production and not to have become part of everyday language. Literature on metaphors links creative metaphors with an enhanced possibility of working through of affects and representations. It was supposed that creative metaphors could be related to better outcome than conventionalised metaphors.

Operationalisation.

Creative metaphors are metaphors that compare abstract concepts and include both ontological (that compare bodily experience or two objects) and orientation metaphors (organize space and time dimensions).

H4: More emotion and creative metaphors appear in psychotherapy transcripts of patients with good outcome than in those with bad outcome.

8.2.3. Hypothesis 5.

Aim: This hypothesis is related to the theoretical proposition that good quality metaphors have a clear object of reference and are well contextualised. According to theory, metaphors do not have a single, fixed meaning but rather allow the production of multiple associations (see Chapter 4: On Metaphor Theory; Black (1993), “The Interactive View”). In this study, it is hypothesized that interactivity in metaphor production could be related to good outcome. It was assumed that the conditions for both object of reference and contextualisation could be met when the metaphor was integrated within the psychotherapeutic interaction; that is, a metaphor produced by one of the partners of the

interaction should be taken into consideration or given further interpretation or contextualisation within the discourse of both interaction partners.

Operationalisation.

An interactive metaphor is one that is produced either by patient or therapist and whose meaning is contextualised by the partner that did not produce the metaphor within the interaction; either by clarification, recognition of the metaphor, or further associations.

H 5: Good outcome treatments show more metaphors whose meaning or use is built in the psychotherapy interaction.

8.2.4. Hypothesis 6.

Aim: The purpose of this hypothesis is to relate greater metaphor production with a higher production of associations or significant objects of reference. When free association functions adequately, according to theory, more objects of reference will be associated.

Operationalisation.

Metaphor production has been measured through the metaphor density coefficient (see Chapter 6) and associations have been assessed as the naming of significant objects of reference.

H 6: A higher production of metaphors is related to a greater production of significant objects of reference and associations.

8.3. Hypotheses Related to Question Complex 3.

8.3.1. Hypothesis 7.

Aim: This hypothesis is directed to Tomkin's (1962) theoretical supposition that different primary affects present specific, differential intensities and density (duration across time) in neural firing. Tomkin's (1962) theoretical supposition was never empirically proved. In this study, it is hypothesized that affects present significant differences in critical interval

times in patterns, as a result of characteristic intensities and densities in neural firing rates across time.

Operationalisation:

Critical interval time in *patterns* has been operationalised as the statistically significant lapse of time (above the expected probability $p=,001$), that occurs in repetitive patterns of EMFACS affect codings between one affect and the next affect coding. Patterns are detected and measured by *Theme*, a computerized software, that functions according to an automatically performed mathematical algorithm (see Chapter 7).

H7: Different primary affects (anger, disgust, contempt, sadness, joy, surprise) exhibit significant characteristic differences in critical intervals of time between one EMFACS affect coding and the next one.

8.3.2. Hypothesis 8.

Aim: This hypothesis is directed to the supposition that mental representations linked to affects require an “ideal” time to be psychically processed. If affects are linked to mental representations or to language, probably longer critical time intervals would separate affect-metaphor patterns when compared with affect-affect patterns.

Operationalisation:

Affect-affect patterns and affect-metaphor patterns are the T-Patterns measured by *Theme* as repetitive patterns through time. The *critical time interval* has been defined in Hypothesis 7.

H8: In all ten treatments, in patterns detected by *Theme*, affect-metaphor patterns present considerably longer critical time intervals than affects-affect patterns.

H9: Good outcome and bad outcome treatments present significant differences in the duration of critical time intervals both of affect-affect and affect-metaphor patterns.

8.3.3. Hypothesis 10.

Aim: According to theory, metaphors meaning or signification in metaphors is built interactively. Metaphoric, affective, or cognitive meaning should be contextualised through the interaction. Good outcome patients would then tend to have more *interactive repetitive metaphor patterns* than less successful outcome patients. (Hypothesis 5 refers to contextualised, *interactive metaphors* and hypothesis 10 to affect-metaphor *patterns*).

Operationalisation.

An interactive metaphor is one in which clarifications, further associations, or continued use of the metaphor in the interaction are made either by patient and/or therapist, disregarding of who started the metaphoric interaction. *Patterns of interactions* are those detected by *Theme*, which will be also analysed in terms of good and not so successful outcome.

H10: Good outcome patients present more interactive metaphor patterns than bad outcome patients

9. RESULTS

9.0. Description of Data.

The description of results is reported in three sections:

- (i) **Metaphor Quantity, Quality, and Distribution.** The first section of this study describes the distribution of metaphors in psychotherapy transcripts of patients and therapists in the selected sample of sessions in treatments. This description includes the following results: the assessment of metaphors through the Metaphor Identification Method that I created, together with the corresponding interdependent correlation values between patient and therapist; as well as the proposed quantification methods for metaphor production, in the form of coefficients and indexes. The descriptive data presented in this initial part is used in Section 2 to establish parameters for psychotherapy outcome measures, which are later compared and correlated with the outcome criteria of the Multi-Channel Psychotherapy Project; namely, the evaluation of satisfaction with the treatment made by patient and therapist and a symptom check-list, before and after termination of treatment.
- (ii) **Metaphor Quantity and Quality and Psychotherapy Outcome.** Results from the described metaphor-production and interaction coefficients are compared and correlated with the psychotherapy outcome results of the Multi-Channel Psychotherapy Project. In absence of a control group, polysemy is used as a control variable, which, according to theory, should advance in a different direction as metaphors. Expected probability and significant differences in metaphor distribution and concentrations are assessed in relation to outcome.
- (iii) **Affects and Metaphors.** This part of the research is designed to find out the relation between metaphors and affects. Affects are operationalised as the coding of facial affects through EMFACS (Emotion Facial Action Coding System). An initial exploration of the possible organization and integration of affects into language through metaphors is made. A time address on a horizontal time line was

assigned to every EMFACS affect and metaphor coding. An analysis of repetitive patterns over time was established by means of a computer software that functions by means of an automatic mathematical algorithm (Theme). Hypotheses in this third part of the study are centered on the supposition that different affects have different time intensities and frequencies of neural firing over time. The logic behind this supposition is that the more intensive an affect is, a longer refractory time is required, before another affect or cognition can be mentally processed. The critical time interval is the space of time that separates one affect coding from another. As the detection of patterns by *Theme* is defined by the occurrence of repetitive critical time intervals of the same length beyond the expected probability ($p < .001$), I propose that the intensity of affects can be specifically measured through critical time intervals. *Theme* allows a precise assessment of the mentioned critical time intervals, as well as descriptive statistics of them. An exploration of the relationship of different affects which form patterns with other affects and with other metaphors is made. Good and bad outcome treatments presented different combinations of affect-affect and affect-metaphor patterns, with differential time critical intervals. To this respect, “good psychotherapeutic timing”, defined as affective resonance between patient and therapist that enhances affective and cognitive working-through of psychic material, is interpreted through the obtained results. An individual description of each treatment in the sample is made; the most frequently used metaphors, as well as the main affect-affect and affect-metaphor patterns.

Section 1.

9.1. Metaphor Quantity, Quality, and Distribution.

9.1.1. Distribution of Speech Ratio in Patient and Therapist Therapy Transcripts.

In order to have a global appreciation of how data was organized, a word count of all coded sessions was initially performed. The established time per session in the sample was 50 minutes. In the few cases in which a session extended 5 or 10 minutes more, word count was cut down in the established 50 minutes. The only exception to this was session 15 of Therapy 24, in which the ending session lasted only 36 minutes, for some uncommented reason. In any case, the word count is low, even for a forty-minute session. To establish a word count was important, as metaphor production was calculated through different weights in relation to word count.

Table 3 shows word count in the ten treatments for both patient and therapist speech, calculated for each of the four coded sessions, as well as for total amount of words in the coded sessions. Differences in speech production ratio; that is, total of words produced per session, appeared across different treatments. Most treatments fluctuated between a total of seven and nine thousand words per session. Some therapies, like Therapy 05 presented a consistently reduced pattern of word production. Other therapies presented high word production in the beginning, with a tendency to diminish sharply at the end (Therapy 04 and Therapy 24). In 40% of the treatments a greater rate of word production was achieved during the first session; and in 50% of the treatments, more words were produced in the third session. In some treatments, the last session presented a reduced word count.

Table 3: Total Number of Words both for Patient and Therapist in the Coded Sessions.

Therapy	Treatment Technique	Session 01 Words per Session	Session 03 Words per Session	Session 12 Words per Session	Session 15 Words per Session	Total Number of Words
01	Psychoan.	7291	8195	9606	7653	32734
02	Cogn-Beh.	7093	7877	6673	6834	28477
03	Psychoan.	10095	6484	6401	7477	30457
04	Cogn-Beh.	9300	8185	6648	3435	27568
05	Psychoan.	5730	5948	4791	5533	22002
06	Psychoan.	8386	6921	7722	6594	29623
08	Humanistic	6202	8056	7719	7854	21977
09	Cogn-Beh.	9027	8967	8292	---	26286
21	Psychoan.	6020	7697	7263	7177	28157
24	Psychoan.	6202	6877	4989	1314	19383

Abbreviations: **Psychoan.** – **Psychoanalytically-oriented technique.**
 Cogn-Beh. – **Cognitive-behavioural technique.**
 Humanistic – **Client centered technique (*Gesprächstherapie*)**

An analysis of word count was performed in order to test the stability of word production over time in the four sessions that were coded for all treatments. Word count from one session onto the next was correlated. Stability in word production from the first to the third session in all treatments proved to be quite low ($r = ,196$; $p = ,587$; $N = 10$). However, from the third to the twelfth session stability augmented to a substantial, significant level ($r = ,712$; $p = ,021$; $N = 10$) and descended somewhat from the twelfth to the fifteenth treatment session ($r = ,634$; $p = ,067$; $N = 10$). From the third to the fifteenth session, stability is also low ($r = ,188$; $p = ,629$; $N = 10$).

The before-described stability phenomenon is not rare for short psychotherapies. According to Orlinsky (1975), by the third session, a common language is developed and the psychotherapeutic process is installed. From the third to the twelfth session, the treatment evolves and a determined stability in word production, associations, and affect regulation is reached. Between the twelfth and the last session, word production tends to descend in a consistent manner. The former is most probably influenced by the imminence of termination of the treatment and the emergence of separation themes.

Once word count stability was established, word count in patient and therapist was separated by means of a computer software, the ADU (Affect Ulm Dictionary; *Das Affektive Diktionär Ulm, Textanalyse*); Hölzer, Scheytt, Kächele, (1992), which I described in Chapter

6. The separate ratio of patient and therapist speech was calculated due to its importance in relation to metaphor production; that is, who produced the metaphors. The design of the sample also justified the separation of patient-therapist speech, as it included three different psychotherapeutic treatment techniques: psychoanalytically-oriented psychotherapy, cognitive-behavioral therapy, and client-centered psychotherapy, which is similar to humanistic, Rogerian technique (*Gesprächstherapie*)⁴⁷. The treatment technique could be related to variations in word production, particularly on behalf of the therapist; i.e. a cognitive-behavioral therapist can lead his or her patient through an imagination exercise and talk much more than a psychoanalytically-oriented therapist who furthers his patient into free-association and expression of internal states.

In most psychotherapy treatments, the patients talk more than their therapists. In this sample, almost all treatments held a proportion of speech ratio for patient and therapist between 30 to 70% and 40 to 60%. The only exception to the former was Therapy 04 in which the therapist produced 50% of speech ratio. The following results describe patient and therapist speech ratio in percentages, according to the employed treatment technique by treatment.

In the case of the client-centered-oriented treatment (*Gesprächstherapie*) (Therapy 08), the therapist produced less than 30% of the words spoken throughout the four sessions. The patient produced the remaining 70% of speech ratio.

As for the behavioural-cognitive-oriented treatments, as I mentioned above, the therapist of Therapy 04 speaks almost 50% of the calculated speech ratio, in comparison to his patient. The therapist of this treatment defined his working technique as psycho-educational; that is, assuming a pedagogic attitude and that leads the patient into the modification of selected behaviour patterns. It is also to be observed that in Therapy 04, word count reduced significantly as the treatment advanced, while the speech ratio of the therapist tended to augment. The former could be an effect of the technique used. However, Therapy 04 had also affect interaction patterns that differed from other treatments in the sample (see Merten, 2000). Therapy 02, also of cognitive-behavioural orientation, was successful in its outcome. In this treatment, the therapist produced an average of approximately 30% of the speech ratio in the whole treatment (28% in Session 01; 25% in Session 03; 33% in Session

⁴⁷ The research design was specifically created in this manner because one of the main hypothesis was that maladaptive non-verbal affect interaction could be detected regardless of treatment technique.

12; and 31% in Session 12). In Therapy 02, the cognitive-behavioural orientation did not prove to be a factor to account for augmented speech ratio in the therapist. Therapy 09, was also conducted through cognitive-behavioural psychotherapy technique, the therapist spoke less than 30% of the time. The patient prematurely abandoned this treatment on the eleventh session. The therapist of this treatment presented a tendency to consistently reduce her speech ratio as the treatment advanced into the interruption.

The remaining six treatments in the project were psychoanalytically oriented. In Therapy 01, the therapist produced 30 to 40% of speech ration in the four coded sessions. He tended to speak 40% of the time during the first session and later diminished his word production during the rest of the coded sessions to a very stabile level, with slight recovery during the last session. In Therapy 03, the therapist also remained within the predicted 30-40% speech ratio, with the exception of Session 03, in which he produced 42% of the words in the session. In Therapy 05, the therapist also remained within the expected 30-40% speech ratio, with a slight augmentation to 42% of speech ratio in Session 03 and 12. In Therapy 06, the therapist produced 40% of the speech ratio in Session 03 and between 25% and 30% speech ratio in the remaining coded sessions, in a stable fashion. In Therapy 21, in Session 03, the therapist produced 40% of the speech ratio, in Session 01, 27%, in Session 12, 38%; and in Session 15, 28%. This treatment had variations in relation to word count and not very good outcome. In Therapy 24, the therapist tended to speak more than the average speech ratio. In Session 01, this therapist produced 40% speech ratio, 50% for Session 03, and 43% and 46% for Sessions 12 and 15 respectively. Outcome success was also quite moderate.

From the obtained results, a constant to be observed is that 50% of therapists tended to produce the highest percentage of speech in relation to their own pattern during Session 03 (Therapy 03, 05, 06, 21, 24). Most therapies had different patient-therapist speech ratios from one session to the other. Although in one of the cognitive-behaviour therapies the therapist produced considerably more words (Therapy 04), the same phenomenon could also be observed in Therapy 24, which was psychoanalytically oriented. Later, in Section 2, where good and bad outcome patients are divided in two groups, it became evident that in general, good outcome patients had therapists who spoke less, with the exception of Therapy 04, that received a very good outcome rating, but had very different patterns. In this sample, psychotherapeutic orientation did not seem to be related to word production.

9.1.2. Four Points in the Measurement in the Psychotherapeutic Process.

With the idea of assessing not only outcome but also part of the process in psychotherapy transcripts, four measurements in time were made out of the fifteen original psychotherapy sessions; namely, sessions 01, 03, 12, and 15. The above-presented word count data, in relation to stability or cohesion, demonstrates that in the present sample, the first session is atypical, from the third to the twelfth session, a more stable pattern of word production builds up, and that from the twelfth to the fifteenth session, word production declines to less consistent levels. The former is not unusual for short psychotherapies. Therapists initially start the regulation of the process.

Table 4 shows the coding of metaphors in the ten treatments across the four coded sessions. Under the assumption that the patient brings already existing transference to the first session, I supposed metaphor production in the patient would tend to descend from the first to the third session. The later proved to be the case, except for one treatment, Therapy 04; whose patterns were usually atypical. Under the theoretical assumption that the dynamic of the treatment is normally established by the third session (Orlinsky, 1975), I supposed that, as a result of the process, patients who were engaged in metaphoric production would show an increase in metaphoric production from the third to the twelfth session. The session in which treatment is terminated, Session 15, in this case, usually deals with separation processes and the implications of the end of treatment. In relation to metaphors and word count production, this session proved to be different in all treatments. No fixed pattern seemed to be present.

In Table 4, a tendency can be observed: some patients reduced slightly their production of metaphors from the first to the third session and recovered from the third to the twelfth session (Therapy 01, 02, 03, 06). Data was correlated for coherence and stability.

Table 4: Coding of Number of Metaphors in Patient and Therapist across 4 Points in Time

Patient	Session 01	Session 03	Session 12	Session 15	Therapist	Session 01	Session 03	Session 12	Session 15
Th. 01	17	14	21	14	Th. 01	10	11	10	16
Th.02	11	9	10	13	Th.02	10	10	8	19
Th.03	18	5	16	10	Th.03	8	5	12	5
Th.04	19	21	10	13	Th.04	12	6	16	8
Th.05	12	4	1	4	Th.05	0	3	1	1
Th.06	33	19	28	21	Th.06	11	8	8	7
Th.08	23	22	16	18	Th.08	6	4	3	5
Th.09	10	8	10	--	Th.09	11	5	3	19
Th.21	11	10	8	12	Th.21	2	3	3	8
Th. 24	15	9	7	7	Th. 24	9	18	4	3

In the production of metaphors, correlations demonstrated high stability in the production of metaphors in the speech of patients from sessions 1 to 3 ($r=,692$; $p=,027$; $N=10$); from sessions 1 to 12 ($r=,807$; $p=,005$; $N=10$); from sessions 3 to 15 ($r=,799$; $p=,01$ $N=10$) and sessions 12 to 15 ($r=,840$; $p=,005$; $N=10$). Low stability in metaphor production resulted from sessions 3 to 12 ($r=,546$; $p=,103$; $N=10$). When metaphor production is compared to word count, the reverse process can be observed in relation to stability. In word count, correlations show that a greater stability in word production is found from the third into the twelfth sessions than in other sessions. In metaphor production in patients, however, low stability or differences in production appeared precisely from the third to the twelfth sessions. When augmented metaphor concentrations occur, word count tends to descend. These two variables tend, therefore, to present a negative correlation. The former results can be interpreted as follows: as the psychotherapy process evolves, patients produce more metaphors and/or significant differences in metaphor production orient the evolution of the treatment. It is precisely in this evolution of the treatment that affective and cognitive elements are elaborated, which can be related to metaphor production.

For therapists, coherence in metaphor production was slightly different to that of their patients. Only one correlation coefficient proved to be significantly stable; that is, from Sessions 1 to 12 ($r=,637$, $p=,048$; $N=10$). Other correlation coefficients measuring cohesion were not significant: Sessions 01 to 03 ($r=,473$; $p=,167$; $N=10$); Sessions 3 to 12 ($r=,738$; $p=,121$; $N=10$); Sessions 3 to 15 ($r=,790$; $p=,097$; $n=10$); Sessions 12 to 15 ($r=,654$; $p=,162$; $N=10$). The former results can be interpreted as follows: therapists produce or follow the production of metaphors of their patients from the beginning of the treatment and as the

treatment evolves; that is, from the first to the twelfth session. Therapists do not produce more metaphors in the beginning of the treatment (Sessions 01 to 03). An interactivity coefficient is proposed and reported in a later part of this “Results Section” in order to relate metaphor production to interactivity and psychotherapy outcome.

9.1.3. Metaphor Density Coefficient.

A metaphor coefficient was developed to calculate how many metaphors were produced by each patient in relation to the amount of words that were spoken in a session. The Metaphor Density Coefficient was also created to assess how metaphors were distributed throughout the psychotherapy transcripts in different sessions and treatments. The metaphor density coefficient was defined as:

Amount of Metaphors/total number of words x 1000.

9.1.4. Polysemy Density Coefficient.

In absence of a control group, a second variable was coded as control. From a theoretical point of view, polysemy was expected to advance in a totally different direction to metaphor (see Chapter 3). Polysemy was expected to function as interference in the communicative process between patient and therapist. Double or ambiguous meanings that were not cleared up, usually by the therapist, were coded under polysemy. A polysemy coefficient was also developed to relativize or weigh the production of polysemy in relation to word count and to compare to the metaphor density coefficient. The polysemy density coefficient was defined as:

Amount of Polysemy/total number of word x 1000.

Table 5 shows Metaphor and Polysemy Density Coefficients in the ten treatments that constitute the sample both for patients and therapists.

Table 5: Metaphor and Polysemy Density Coefficient in Ten Treatments

Metaphor Density Coefficient				Polysemy Density Coefficient			
Th	Patient Met.	Therapist Met.	Combined Pat-Ther.	Patient Pol.	Therapist Pol.	Combined Pat-Ther.	
01	12,1	17,8	15,0	7,2	3,3	5,3	
02	8,8	22,7	15,8	4,9	1,9	3,4	
03	10,1	11,7	11,0	5,4	2,0	3,7	
04	14,9	15,0	15,0	8,6	2,0	5,3	
05	2,9	2,6	2,8	2,3	2,3	2,3	
06	18,9	16,7	17,8	3,8	2,0	2,9	
08	14,2	10,9	12,6	6,4	5,3	5,9	
09	5,4	9,4	7,4	5,3	13,5	18,5	
21	8,7	7,5	8,1	9,2	6,4	7,8	
24	12,0	15,0	13,5	9,2	6,8	8,0	

The values in Table 5 are the result of the calculation of the Metaphor Density Coefficient (metaphors/number of words x 1000) and the Polysemy Density Coefficient (polysemy/number of words x1000) for patient and therapist. The results are the sum of the four sessions coded for each treatment. An average of the results obtained for patient and therapist is listed under the column “Combined”.

Therapists, in general, tended to produce more metaphors than their patients. Only Therapy 21 and Therapy 05 show metaphor coefficients in the therapists that were lower than the achieved by the patient. Both treatments were later identified as part of the bad outcome group. As the metaphor coefficient is proportional to speech ratio, therapists, as I commented above, had a reduced word count (see Table 3), but in many cases, also a higher metaphor coefficient. Patients also tended to exhibit differences in the production of metaphor density coefficients with different concentrations. The production of metaphors between patient and therapist was tested for significant differences; however, no significant differences were found; $p=,211$.

In some treatments, therapists produced higher concentrations of polysemy. Therapy 09, in which the patient broke off the treatment in the eleventh session, the therapist produced a high concentration of polysemy. Other treatments with high polysemy production (Therapy 21 and Therapy 24) were later identified in all samples as part of the bad outcome group.

Polysemy coefficients also varied from treatment to treatment with the before-reported word count

Patients tended to produce higher polysemy coefficients than their therapists. Nevertheless, no significant differences in the production of polysemy between patient and therapist were found; $p=,205$.

The combined scale of metaphor production and the combined scale for polysemy production (both combined for patient and therapist) were tested for significant differences. The production of metaphors and of polysemy in combined form between patient therapist were found to present significant differences; $p= ,042$. The former indicates that metaphors and polysemy were found in different concentrations in relation to word production for combined patient and therapist production.

9.1.5. Metaphor Classification Distribution.

Metaphors were coded and classified. The four different types of metaphor classifications that were coded in the study: ontological, orientation, emotion, and creative metaphors were quantified throughout the psychotherapy transcripts of the ten treatments that constituted the sample.

The four types of metaphors (see definitions below) were added in a combined patient and therapist production column and correlated. The former was done to have an idea of the stability in the production of the different kinds of metaphors. Significant cohesion was found in the production of combined orientation and ontological metaphors ($r= ,675$; $p=,034$; $N=10$); orientation with emotion metaphors ($r=,745$; $p=,013$; $N=10$); and emotion with ontological metaphors ($r=,670$ $p=,034$; $N=10$). Only creative metaphors did not present any significant correlations with any of the other metaphor types: with ontological metaphors ($r=,417$; $p=,230$; $N=10$); with orientation metaphors ($r=,587$; $p=,074$; $N=10$); nor with emotion metaphors ($r=,594$; $p=,070$; $N=10$). This lack of stability in the production of creative metaphors, in contrast to the other three types of metaphors, can be interpreted as a breach to the norm. Not all patients have the cognitive and linguistic capacity to produce creative metaphors. This ability may vary from one subject to another in relation to cognitive

and affective capabilities, as these metaphors are not part of conventional language. A greater cohesion can also be observed between combined emotion and orientation metaphors. According to the theory of affects, emotions and affects gain their movement of vectorial energy from an inherited motivational system that directs the organism in relation to objects (Krause, 1987, 1988; 1997, 1988; Bischof, 1989). In the case of orientation metaphors, they are also predicative; that is, like verbs, they have action readiness. According to theory, orientation metaphors provide orientation in changing dimensions or coordinates; (i.e. over-under, inside-outside, front-back) and are generators of space and time dimensions. This cohesion or consistency in production orientation and emotion metaphors can be interpreted as the effect of two variables that advance in the same direction: emotions that provide movement towards objects or mental representations. Orientation metaphors provide space and time dimensions essential for the configuration of secondary process; that is, the production of sequential, conscious thought, most important for the mentalization of cognitive processes.

Table 6: Metaphor Classification Distribution.

	Patient				Patient Total No. Met. In 4 Sessions *	Therapist				Total No. of Met. In 4 Sessions
	Ont.	Ort.	Em.	Creat.		Ont.	Ort.	Em.	Creat.	
Th 01	32	17	11	10	70	20	13	5	8	46
Th 02	21	14	3	2	40	22	17	6	7	52
Th 03	21	20	9	1	51	25	12	6	0	43
Th 04	36	18	9	1	64	17	1	1	4	23
Th 05	14	4	2	0	20	1	4	0	3	8
Th 06	59	25	12	5	101	12	7	6	9	34
Th 08	52	15	13	1	81	10	5	0	0	15
Th 09	18	5	4	1	28	15	5	0	0	20
Th 21	22	13	9	1	45	9	4	1	0	14
Th 24	29	8	1	0	38	21	13	0	0	34

* For Th. 09 only three sessions were coded.

Abbreviations can be read as follows:

Ont = Ontological Metaphors are related to body and objects. They are usually conventional metaphors, forming part of language as a shared arbitrary system.

Ort = Orientation Metaphors are related to place and time. They are usually conventional.

Em = Emotional Metaphors are related to the expression of emotions; some of them are conventional.

Creat= Creative Metaphors are abstract metaphors. They are not conventional (have not become part of language as a system and they express individual connotations or productions that are original or specific of individual construction).

Table 6 shows the raw values of the four types of metaphors that were coded for both patient and for therapist. The total number of metaphors was not relativized in relation to word count. Most patients had a predominance of ontological and orientation metaphors. Fewer emotional and creative metaphors were coded in patients. In Therapy 05 and Therapy 24 no creative metaphors were coded at all in the psychotherapy transcripts of the patients. In Therapies 08, 09, 24 and 21, the therapists produced practically no emotional and creative metaphors. In Therapy 05, no emotion metaphors appear on behalf of the therapist).⁴⁸

T-Tests were calculated to differentiate both groups of patients, good and bad outcome, in relation to the production of different types of metaphors. Results were the following: ontological metaphors; $p=,239$; orientation metaphors $p=,193$; emotion metaphors $p=,12$; creative metaphors $p=,08$. No significant differences were found between good and bad outcome patients in the production of the four different types of metaphors that were coded. Although differences could not be proved to be significant, there is a general trend for good outcome patients to produce more emotion and creative metaphors than bad outcome patients. However, results seem to convey that the patient uses conventional metaphors to work through mental contents.

Table 7: Interactive Metaphors in Ten Treatments

	Session 01	Session 03	Session 12	Session 15	Total :
01	11	3	4	0	18
02	2	3	3	3	11
03	3	6	15	2	26
04	2	8	3	2	16
05	3	0	1	1	5
06	1	3	1	4	9
08	4	1	6	1	12
09	0	1	5	0	6
21	0	3	4	0	7
24	0	4	0	0	4

Table 7 shows metaphoric interactions between patient and therapist in the four sessions that were coded for all treatments:

⁴⁸ For a detailed analysis of metaphor classification, qualitative analysis, and outcome see Alena Franzman (2003) *Metaphors in Psychotherapy (Metaphern in der Psychotherapie)* (Diplomarbeit).

9.1.6. Metaphor Production and Interactive Construction of Meaning.

Following Black (1993), metaphoric meaning is a product of interactive construction, between the speaker and his partner of interaction. According to his theory, no metaphor acquires precise signification until it has been contextualised in the interaction.

Table 7 shows the four coded sessions with raw data of interactive metaphors. Interactive metaphors were coded when clarifications, further associations, or continued use of the metaphor in the patient-therapist interaction were produced, disregarding who started the metaphoric interaction. Any of the previous forms of intervention were considered as criteria for the interactivity or contextualisation of metaphors.

Therapies 01, 03, 04, and 08 present the greatest interactive quality in relation to metaphor production. Significant differences were found in relation to interactivity in metaphor production in good and bad outcome patients $p=,021$. These results support the theory that metaphors function better when contextualised.

In the same manner, it was also hypothesized that in treatments with good outcome, therapists would be capable of listening to polysemy in their patients and would tend to clarify it. Polysemy was defined as non-clarification of verbal expressions that can make communication ambivalent or unclear and that can hinder the promotion of associations.

Table 8: Interactive Clarification of Polysemy in Ten Treatments

Therapy Number	Session 01	Session 03	Session 12	Session 15	Total :
01	3	0	0	0	3
02	3	2	0	1	6
03	1	1	0	0	2
04	3	0	3	4	10
05	4	2	2	3	11
06	0	0	1	0	1
08	1	1	3	0	5
09	1	0	1	-	2
21	0	0	0	0	0
24	0	0	0	0	0

Table 8 shows that the clarification of Polysemy was coded in differing quantities throughout the ten treatments of the sample. Therapies 21, 24, 09, and 06 present less

clarification of polysemy than the other treatments. The first three treatments belong to the bad outcome group. No significant differences were found between the group of good and bad outcome patients in relation to interactive clarification of polysemy $p=,136$. Nevertheless, the sample is small and there is a tendency in bad outcome patients to present more polysemy.

9.1.7. Metaphors and Naming of Objects of Reference.

Table 9 shows a quantification of objects of reference for patient and therapist in each of the ten treatments. Under objects of reference were coded all relationships with persons that were mentioned by the patient, the therapist or both in a combined formed; i.e. proper names or important relationships like father, mother, husband, friend, etc. Therapy transcripts were coded through the discard list of the Mergenthaler Cycle Model (1996), that allows to do this in a consistent, automatic manner.

Table 9: Metaphor Coefficient and Naming of Objects of Reference in Ten Treatments

Therapy	Patient	Therapist	Combined Pat. & Ther.	Metaphor Coefficient
01	339	202	541	15,0
02	202	48	250	15,8
03	130	62	192	11,0
04	211	92	303	15,0
05	93	73	166	2,8
08	361	89	450	12,6
09	164	43	207	7,4
21	150	37	187	8,1
24	103	102	205	13,5
Total:	1753	748	2501	

Table 9 presents in the first column the therapy number; in the second and third column naming of significant objects of reference of patient and of therapist. The fourth column displays the combined metaphor coefficient for patient and therapist. The purpose of

this coding was to test the production of metaphors, through the metaphor coefficient, with quantity of associations, which were assessed through significant objects of reference.

On a first glimpse at consistency, patient and therapist naming of objects of reference demonstrated a significant level of correlation $r = ,982$; $p = ,000$; $N = 9$. The combined metaphor coefficient; that is production of metaphors in combined patient-therapist modality, presents a significant correlation to the combined patient-therapist object naming $r = ,796$; $p = ,01$; $N = 9$; and also to patient object naming $r = ,802$; $p = ,01$; $N = 9$. The combined metaphor coefficient had no significant correlation to therapist object naming. The former can be interpreted as that patient object naming and combined object naming advance in the same direction. T-Tests were calculated to differentiate both groups of patients, good and bad outcome, in relation to combined object naming. Results proved to be significant $p = ,006$. The former can be interpreted as that good outcome patients name more objects or have more associations. Metaphor coefficient and combined object naming was tested for significant differences with outcome. Differences were the following: $p = ,030$ and $p = ,066$, from which it can be concluded that patients and therapists that interact with higher levels of metaphor coefficients also name more objects of reference, and that higher metaphor production is related to more associations.

Section 2.

9.2. Metaphor Quantity and Quality in Relation to Outcome.

9.2.1. Psychotherapeutic Outcome from the Point of View of Metaphor Production, Interactivity, and Outcome Ratings of the Multi-Channel Process Project.

In this study, parameters for the assessment of psychotherapeutic outcome were defined from the point of view of metaphor production. As I expressed above, the metaphor density coefficient was the main assessment measurement that was calculated for weighted metaphor production (see Table 4). The metaphor interactivity coefficient (see paragraphs 7.3.1. and 7.3.2. in Chapter 7) was taken as an additional criterion, to serve the theoretical postulate of referentiality, which was here operationalised as interactivity (see Black, 1993; Chapter 4, “The Interactive View”⁴⁹). Table 10 shows the combined metaphor density and interactivity coefficient setting the ten treatments in rang order.

Table 10: Rang Order of Success in Treatments Measured Through Metaphor Production

Therapy Number	Combined Metaphor Density Coefficient	Combined Metaphor Interactive Coefficient	Total
02	15,8	1,22	17,0
01	15,0	1,59	16,6
04	15,0	1,52	16,5
03	11,0	3,29	14,2
08	12,6	1,23	13,8
24	13,0	0,68	13,6
21	8,1	1,22	9,3
09	7,4	1,22	8,6
05	2,8	1,92	4,7
06	--	--	--

The combined metaphor interactive coefficient (to measure metaphor interactivity) was added up to the combined patient and therapist metaphor density coefficient and expected to function as a corrective factor, particularly for those cases in which metaphors might be produced but not contextualised in the psychotherapeutic interaction. The combined metaphor interactive coefficient was coded regardless of who started the metaphoric interaction.

⁴⁹ Both criteria of production and interactivity can be related to the linguistic conception of similarity-contiguity (Jakobson, 1971; Chapter 4) or sense-referentiality (Sinn-Bedeutung); (Frege, 1891, 1994; Chapter 3).

Therapy 02 obtained a good rating. This therapy continued from the short 15-session treatment into a longer psychotherapeutic treatment that lasted longer than a year. The somatic symptoms that the patient exhibited did not disappear in the first fifteen sessions, but were totally eliminated in the longer phase of the treatment. The patient could also verbalize subjects that could not be reached in the first short psychotherapeutic phase. The catamnesis revealed the patient continued to make progress.

Therapy 01 had also a good metaphor production and contextualisation. This patient presented good recovery and came back two years later for a few support sessions. Catamnesis revealed he did not fall back into the old symptoms. The catamnesis of Therapy 04 could not be clearly confirmed. There are doubts about a possible relapse. Therapy 03 belongs to the good outcome group. This patient obtained good results although patients with a diagnosis of bulimia often require a more extended treatment than the fifteen sessions this patient received. Therapy 08 also belongs to the good outcome group with good results.

Therapy 24 had a good metaphor density coefficient but interactivity tended to be low. The outcome was rated as moderate. Patient 21 was a difficult case, with a borderline diagnosis and a suicidal attempt. The patient was not rated as successful. The patient managed, nevertheless, to reach a desired goal he manifested at the beginning of treatment: to be able to leave the house of his mother and live alone. Catamnesis was not possible. Patient 09 broke up the treatment. In patient 06, the questionnaires of goal attainment and satisfaction with the treatment were not correctly filled out. Outcome measurements for comparison were not available and were, therefore, placed in the last place. This patient, with borderline diagnosis, obtained an extremely high metaphor density production. However, contextualisation of the metaphors she produced functioned as a corrective factor and interactivity was low. Catamnesis revealed Therapy 06 continued treatment and progressed despite the severity of her symptoms.

In the Multichannel Process Project, one of the dimensions in which success was assessed was a questionnaire for patient and for therapist for the evaluation of satisfaction with the treatment. This evaluation was made by both patient and therapist. (Merten, 2000). The other parameter used to measure outcome was symptom reduction, measured by the Freiburger Beschwerde Liste FBL (Merten, 2000).

Table 11 shows the success rating of the ten treatments in the Multichannel Process Project, as measured by questionnaires that evaluate satisfaction with the treatment. In the first column, therapies are rank ordered, starting with good outcome assessment and descending to those that were not so successful. The second column presents the evaluation of the patient; and the third column, that of the therapist. The fourth column is the result of the average constituted by the combined evaluation of treatment of patient and therapist. The fifth column contains the results of symptom augmentation or reduction, assessed through the symptom scales of the Freiburger Beschwerdeliste (FBL-G; Fahrenberg, 1975, CIP, 1986) (Freiburg Symptom Checklist). Symptoms were assessed in the patient before and after termination of treatment. Positive values report amelioration. Negative values indicate that certain symptoms did not disappear, but rather worsened; i.e. skin problems, tension, headaches, sleep disturbances, etc.

Table 11: Multichannel Process Project Evaluation of Patient Outcome (in Merten, 2000)

Therapy	Evaluation Patient	Evaluation Therapist	Combined	FBL; (Freiburg Symptom Checklist); Raw Values
04	19	19	19	47
01	18	18	18	34
02	19>	15	17	-13
08	15<	17	16	38
24	18>	14	16	- 25
03	15	16	15,5	19
21	13<	15	14	- 27
05	15>	10	12,5	- 5
09	8	11	9,5	- 5
06		11		

Brackets indicate that there was a difference in the evaluation between patient and therapist.

In Table 11, Therapy 04 comes in first place, followed by Therapy 01, etc. Therapy 06, as mentioned before, comes at the end of the list and was not evaluated because questionnaires and evaluations were not correctly filled out. Therapy 09 was evaluated as bad outcome, due to premature interruption of the treatment by the patient after the eleventh session. In Therapy 02, the patient evaluated the treatment in more positive terms as the therapist. In Therapy 08, the therapist evaluated the treatment as having a better quality as the patient, etc.

The results obtained through the symptom-assessment scale of the Freiburger Beschwerdeliste (FBL-G; Fahrenberg, 1975, CIP, 1986) (Freiburg Symptom Checklist). were correlated for consistency with the scores of the combined evaluation questionnaires of satisfaction with the treatment. Results indicate low correlations ($r=.400$; $p=.140$; $N=9$). The former results were to be expected, as both assessment systems are organised in a very different manner and the revealed consistency can even be considered as surprising. The individual evaluation of the treatment made by patient and by therapist for every treatment was compared for significant differences. There was no great variance. Patients and therapists seemed to agree when a treatment had been either successful or unsuccessful in relation to outcome.

In order to decide if metaphor production criteria could also be used as criteria for psychotherapeutic outcome, the metaphor coefficient scores were correlated with the outcome criteria of the Multi-Channel Psychotherapy Project. Raw scores were correlated (not rank order of therapies). In a first moment, the obtained Metaphor Density Coefficient scores of the ten treatments were correlated with the scores of the Combined Patient and Therapist Evaluation. The obtained correlations were surprisingly high ($r=.718$; $p=.029$; $N=9$). These results can be interpreted perhaps not as a full assessment of real outcome but of the correlation between positive or negative subjective evaluation of treatment, in which a high production of metaphoric speech, interactions full with images and emotion language, or lack of them, could have influenced the judgment of patient and therapist.

In a second moment, Metaphor Density Coefficient Scores were correlated with the results of the scales of bodily complaints and symptoms of the Freiburger Beschwerdeliste, before and after termination of treatment. This time the correlation was apparently much more modest ($r=.390$; $p=.299$; $N=9$); perhaps also more realistic in terms of outcome, as both assessment systems measure fairly different dimensions. Significant values were not reached, but the achieved correlation indicates that the correlated variables advance in similar directions. Cohesion between the FBL (Freiburger Beschwerdeliste) and the evaluation of the treatment made by patient and therapist show also a similar cohesion coefficient, which can be interpreted as a favourable parameter for outcome between metaphor production and the outcome assessment measures used in the Multichannel Process Project.

9.2.2. The Index of Combined Polysemy/Metaphoric Growth.

Polysemy was included as a control variable, as it was hypothesized to advance in a different direction to metaphor. The theoretical conceptualisation postulates that metaphor furthers cognitive and affective working through of ideas and affects that are contained in two domains, into a combined, new one. In contrast, polysemy constitutes a source of interference and ambiguous meaning, in which two cognitive-affective realms are possible in outer reality at the same time. In good outcome therapies, polysemy was expected to be cleared up in the initial sessions of the treatment and to diminish radically, as treatment evolved into termination. Metaphors, were hypothesized to move in a different direction; that is, to augment throughout the evolution of the treatment; from sessions 03 to 12.

The appearance of metaphors in psychotherapy transcripts in quantities greater or beyond the expected probability could give account of the possible effectiveness of metaphor as a cognitive and affective matrix that produces re-transcription effects. The Index of Combined Polysemy/Metaphoric Growth was created under the following logic: if metaphor and polysemy, were proved in their production for significant differences as independent variables and could be further proved to advance with significant differences in opposing trends throughout treatment, the inference that both variables present an occurrence beyond the expected probability could also be proved. The index of polysemic and metaphoric growth was calculated in the following manner: Sessions three and twelfth were taken as a basis, as polysemy was hypothesized to diminish from sessions three to twelve. Polysemy was divided by the number of metaphors for each session. From the two results obtained a difference was subtracted between sessions three and twelve; i.e. in Therapy 01, $P/M = ,57$ (Session 3) and $P/M = ,47$ (Session 12); $,47 - ,57 = , -10$ (Metaphor/Polysemy Growth) (see Table 12). **Good outcome is related to lower negative coefficients.** A lower index was related to higher metaphoric production. A higher index was related to greater polysemic interference.

Table 12 shows how the ten treatments of the sample evolved according to the metaphoric/polysemic index in patients and therapists. The ten treatments are ranked according to success, from best to worst.

Table 12: The Index of Combined Polysemy/ Metaphor Growth

Therapy	Index of Combined Polysemy Interference/ Metaphor Growth in Patient and Therapist in Sessions 3 to 12.		
	Patient	Therapist	Combined Patient & Ther.
02	- 0,8	,02	- 0,39
01	- 0,1	,11	,005
06	,09	- ,01	,04
03	,31	- ,03	,14
04	,36	- ,27	,205
08	,68	,45	,405
24	,28	,91	,595
21	,28	1,67	,975
05	1,54	,68	1,11
09	,63	2,4	3,03

Negative or positive lower indexes are related to higher coefficients of metaphor production and less coding of polysemy; which was hypothesized to be related to good outcome. The Index of Combined Polysemy/Metaphor Growth was calculated individually in patient and in therapist, as columns 2 and 3 show. Column 4 presents a combined average of the index in patient and therapist.

In Table 12, a higher positive index indicates a larger amount of coded polysemy; that is, communication in the patient which was not clarified by the therapist or which appeared as ambiguous communication in the speech of the therapist, whether conscious or not. It was hypothesized that the former is related to bad outcome.

As I expressed above, significant differences in the combined production of metaphor and polysemy in patient and therapist were found ($p=,042$). As it can be observed through raw values, variance is relatively high as a result of a heterogeneous population. A Mann Whitney U-Test for independent rang samples was used to test if, as predicted, metaphor and polysemy were two

independent variables. The U-Test was chosen as an equivalent of T-Tests because of the heterogeneity of the population. Metaphor and polysemy production could not be proved to be totally independent as differences with the U-Test were not found to be significant; but; nevertheless, close to significance ($r=.548$ at $p=.08$). In order to test significant differences within the evolution of treatment; that is, changes from session 3 to 12, the Index for Combined Polysemy Interference/Metaphor Growth was further correlated with the outcome measures of the Multichannel Process Project (FBI and combined patient and therapist evaluation of satisfaction with the treatment). A negative correlation of $r=-.460$ $p=.213$; $N=9$; which is not significant, was found between the symptom assessment of the Freiburger Beschwerdeliste (FBL-G; Fahrenberg, 1975, CIP, 1986). and the Index for Combined Polysemy Interference/Metaphor Growth. Although not significant, the correlation demonstrates that both data value systems, although of very different nature, run in very similar directions. The correlation is also quite close to the one obtained between FPI and evaluation of the treatment by patient and therapist; that is, the outcome measures of the Multichannel Process Project. Between the evaluation questionnaires for success of the treatment by patients and therapists and the Index for Combined Polysemy Interference/Metaphor Growth, a very high negative correlation was found; $r=-.795$; $p=.05$; $N=9$. This last result is also to be interpreted in the same way as the high correlation obtained between the evaluation of the treatment by patient and therapist and the metaphor density coefficient: high production of metaphors with imaged speech and diminished ambiguous polysemy communication (or lack of them) have influence in the subjective evaluation of treatment.

9.2.3. The Classification of our Sample into Good and Bad Outcome Treatments.

The different outcome assessment methods are presented in Table 13. Treatments have been ranked from best to worst, according to the assessment method used. The treatments marked as most successful were equally detected by all the assessment methods that were used (Therapies 01,02, and 4). Only Therapy 04 dropped to fourth place under the Index for Combined Polysemy/Metaphor Growth. The ranking order within the good outcome group varied in some cases. Bad outcome treatments were also consistently detected as bad by all assessment methods (Therapies 05, 09, 21), also with variations in ranking order. The remaining therapies were also rated with moderately good outcome, with differences in ranking order.

Table 13: Rang Order of Outcome in Ten Treatments According to Outcome Assessment

Multichannel Process Project; Goal Attainment and Personal Satisfaction Questionnaires	Multichannel Process Project; Freiburg Symptom Checklist FBL	Combined Metaphor Density Coefficient	Combined Metaphor Density Coefficient and Interactivity Coefficient	Index for Combined Polysemy /Metaphor Growth
Th. 04	Th. 04	Th. 02	Th. 02	Th. 02
Th.01	Th. 08	Th. 04	Th. 01	Th. 01
Th 02	Th. 01	Th. 01	Th. 04	Th. 03
Th 08	Th. 03	Th. 24	Th. 03	Th. 04
Th 24	Th. 05	Th. 08	Th. 08	Th. 08
Th 03	Th. 09	Th. 03	Th. 24	Th. 24
Th 21	Th. 02	Th. 21	Th. 21	Th. 21
Th 05	Th. 24	Th. 09	Th. 09	Th. 05
Th 09	Th. 21	Th. 05	Th. 05	Th. 09
Th 06	Th. 06	--	--	--

All methods that were used in measurement outcome are listed in this table.

The means of all assessments were compared in order to create two outcome groups: the good outcome group and the less successful outcome group. Table 14 shows how these two groups were organized.

Table 14: Range Order of Ten Treatments in Good Outcome and Less Successful Outcome Group

Good Outcome Group	Less Successful Outcome Group
Th. 02	Th. 24
Th. 01	Th. 21
Th. 04	Th. 05
Th. 03	Th. 09
Th. 08	Th. 06*

Good and bad outcome groups as further used in this study are defined in Table 12.

* Therapy 6 was not considered in this outcome assessment due to lack of properly filled out evaluation questionnaires. The metaphoric assessment will later be used in the next section of results.

9.3. Metaphors and Affects.

9.3.1. Patterns Measured by *Theme*.

9.3.1.1. Affect-Affect Patterns:

Important for this study was to be able to measure the critical time interval (see Chapter 7); that is, the distance between the coding of one affect and the next affect in repetitive patterns of the same length that exceed the expected probability of appearance; ($p=,001$). One of the main theoretical assumptions that conducted this study established that: differing intervals in affect coding might indicate that different primary affects operate in differing neural firing frequencies and densities, as Tomkins (1962) suggests; i.e. an affect that operates at high intensity and density (the product of the intensity times of neural firing per unit time) has a different time distance onto the next affect coding than one that operates on a lower intensity and density. Table 15 presents a general view of time intervals or differences from one affect coding onto the next affect coding in the complete sample.

The raw values in this table were constituted by the mean of each critical time interval in each affect-affect pattern detected by *Theme*; i.e. anger with each possible combination of every affect. In the first column, assessment is expressed in descriptive central and dispersion statistical measurements; namely, mean, median, mode, and standard deviation: “Maximum” and “minimum” express raw values in over- and under-limit assessments. The columns present each affect category, for primary affects. The last column, “non-predict” was kept as comparison. “Non-predict” corresponds to facial affects that could not be coded with the manual because they were not part of the coding defined by standardized coding system, but that appeared repetitively within a certain interaction and could be clinically significant for the individual patient.

Table 15: Critical Time Interval or Distance in Patterns detected by Theme for Affect-Affect Coding for Ten Treatments

	Anger	Joy	Poss. Anger	Sadness	Contempt	Disgust	Fear	Surprise	Non-Predict	Total :
Mode	3,0	2,7	8,5	4,6	2,2	5,3	4,2	2,8	2,1	35,4
Median	6,6	4,5	9,2	9,6	6,8	11,9	11,1	11,9	5,0	77,1
Mean	31,1	8,5	36,9	12,0	20,9	54,1	61,9	43,2	10,4	279,0
Standard Deviation	42,3	17,9	69,2	12,7	31,5	103,0	80,5	66,4	15,5	265,4
Minimum	1,9	0,3	0,1	1,5	0,6	5,3	1,0	2,8	0,07	13,6
Maximum	157,1	110,6	312,6	46,9	108,3	403,7	193,7	304,7	92,6	1730,2

Time is measured in seconds and tenths of a second.
 Total Coded Affect-Affect Patterns: 1 249.

Table 15 shows the critical time interval or distance between one affect coding and the next in different affect categories, represented by differing values. At a first glimpse, under the mode and the median, “joy”, a positive affect, “contempt”, a negative affect, and “non-predict” exhibit the shortest or fastest time interval distances, as compared to other affects. Under the mode, disgust, sadness, fear, and anger (in descending order) exhibit much longer time intervals. The median also showed consistently that disgust, surprise, sadness, fear, and possible anger presented consistently longer critical time interval values than joy, anger, and contempt. However, joy and non-predict continue to have the shortest critical time interval distances. Mean values present more variations, due to a high variance in the raw values, as the standard deviation indicates. In this sample, negative affects seem to take a much longer time to be processed than positive affects. In mean values, the same phenomenon observed in the median is again reproduced: negative affects tend to have much longer critical time intervals as positive affects. Possible anger was coded as such because these facial expression coding did not fulfill all the requirements to code anger but could be interpreted as anger. In possible anger, other blends of negative affects are also included, due to which a “pure anger” combination cannot be coded. Sadness is not significantly represented in this group of raw values, because coding of sadness was relatively scarce in this sample. Clinically, it is a known fact that sadness or depression can slow down mental processes; when the affect is too intense, sometimes to the point of paralysis. Moderate sadness or depression can enhance the production of cognitive working through or creative processes. Mourning processes are an elaborative attempt to reconstitute a loss, when the affect remains within manageable intensity. Disgust has been defined in clinical affect research as

an affect that characteristically binds or relates to unconscious thoughts and associations under the form of repulsion. In the above-exposed assessment, disgust and fear exhibit the longest critical time intervals.

My first assumption in relation to affects and critical time intervals was that every affect would differentiate significantly from other affects in characteristic time intervals. The Levene Test for the homogeneity of variance was not significant, confirming the great heterogeneity of the sample. For this reason, the Kruskal-Wallis H-Test for two or more groups was calculated to prove the independence of the critical time interval distances in affects. Results proved that affects had independent distributions $p=,002$. A Mann-Whitney U-Test for two independent groups was further calculated using two samples; in this case, critical time interval distances in affects in relation to groups of good and bad outcome. The result was significant ($p=,026$); that is, good and bad outcome patients could be compared as independent variables.

A non-parametric K-Sample Median test was calculated to verify if the medians of the affect sample were significant. The number of observations above the median, as well as the number of observations less than or equal to this median, are counted for each sample. Table 16 shows the results of the Mean Test:

Table 16: K-Sample Median Test

		Affect								
		Anger	Joy	Possible Anger	Sadness	Contempt	Disgust	Fear	Surprise	Non-Predict
THE_NR	> Median	34	284	49	7	32	25	6	48	39
	<= Median	100	245	100	24	69	54	24	32	77
OUTC	> Median	0	0	0	0	0	0	0	0	0
	<= Median	99	471	115	19	66	79	30	63	69
TIME	> Median	71	161	109	19	69	65	18	46	58
	<= Median	63	368	40	12	32	14	12	34	58

Column 1 shows different parameters in relation to which the medians of different primary affects fall (therapy number, outcome (good or bad); time. Differences were significant $p=,00$.

Once the described calculations were made, on behalf of the heterogeneity of the population, ANOVA was calculated to see if mean differences between the categories of affects that were studied in this sample were significant. In a first moment, ANOVA was calculated with all values not exceeding one minute; that is, 60,0 seconds in the coding of

patterns. As the result was significant, a new ANOVA was calculated with all values. Table 17 shows results of the ANOVA with all values.

Table 17: Anova Oneway descriptive Statistics for Affect/Affect Coding of Time Intervals in Patterns Detected by Theme (Time in Seconds)

Affect Category	N	Mean	Standard Deviation	Standard Error	95%-Konfidence Interval for Mean		Minimum	Max.	Variance between Components
					Upper Limit	Under Limit			
Anger	134	31,1	42,3	3,6	23,9	38,36	1,9	157,1	
Joy	529	8,5	17,9	,7	6,9	10,0	0,3	110,6	
Poss. Anger	149	36,9	69,2	5,6	25,7	48,1	0,13	312,6	
Sadness	31	12,0	12,7	2,2	7,3	16,7	1,5	46,9	
Contempt	101	20,9	31,5	3,1	14,7	27,1	0,6	108,3	
Disgust	79	54,1	103,	11,5	31,0	77,1	5,3	403,7	
Fear	30	61,9	80,5	14,7	31,9	92,7	1,0	193,7	
Surprise	80	43,2	66,4	7,4	28,4	58,0	2,8	304,7	
Non-Pred.	116	10,4	15,5	1,4	7,6	13,3	,06	92,6	
Total:	1249	21,9	48,5	1,3	19,3	24,6	,06	403,7	
Modell Fixed Effect			45,9	1,2	19,4	24,5			
Random Effect				8,6	2,0	41,9			3199,6

ONEWAY ANOVA

TIME

	Sum of Squares	df	Average Of Squares	F	Significance
Inter Groups	32476415,6	8	4059551,91	19,2	,000
Intra Groups	261636234,9	1240	210996,96		
Total:	294112650,2	1248			

Table 17 shows that differences between the different categories of affects continued to be significant <.000.

In order to find what affects differentiated more clearly from one another, T-Tests were performed comparing each affect in groups of two, in all possible combinations. Not

all affects presented significant differences in their critical time intervals when compared in pairs. The results were the following:

Anger presented significant differences with fear, sadness, contempt and non-predict values. Possible anger, disgust, and surprise did not present significant differences.

Joy presented significant differences with almost all affect categories: possible anger, contempt, disgust, fear, and surprise. Only sadness and non-predict were both consistently short and present, therefore, no significant differences between them. Joy, in general, tended to present very quick, sometimes simultaneous time intervals, as demonstrated by the spontaneous smiling interactions in patient-therapist dyad.

Possible Anger presented significant difference levels of $p=.05$, when calculated against sadness and contempt. Higher levels of significant differences were found with non-predict values and joy. This affect category might have blends of other affects and is located within middle critical time interval affect categories.

Sadness presented significant differences in relation to surprise and anger; $p=.05$ level; also to disgust and possible anger; and no significant difference in relation to contempt, joy, and non-predict values. In this sample, sadness can be situated in a short time critical interval affect category.

Contempt presented significant differences when compared with joy, disgust, sadness, surprise, non-predict; a $p=.05$. Contempt had a middle time interval speed.

Disgust had significant differences when compared with joy, contempt, and non-predict, but not with sadness, surprise, disgust, anger, nor anger. Disgust had critical time intervals of middle-slow time interval speed.

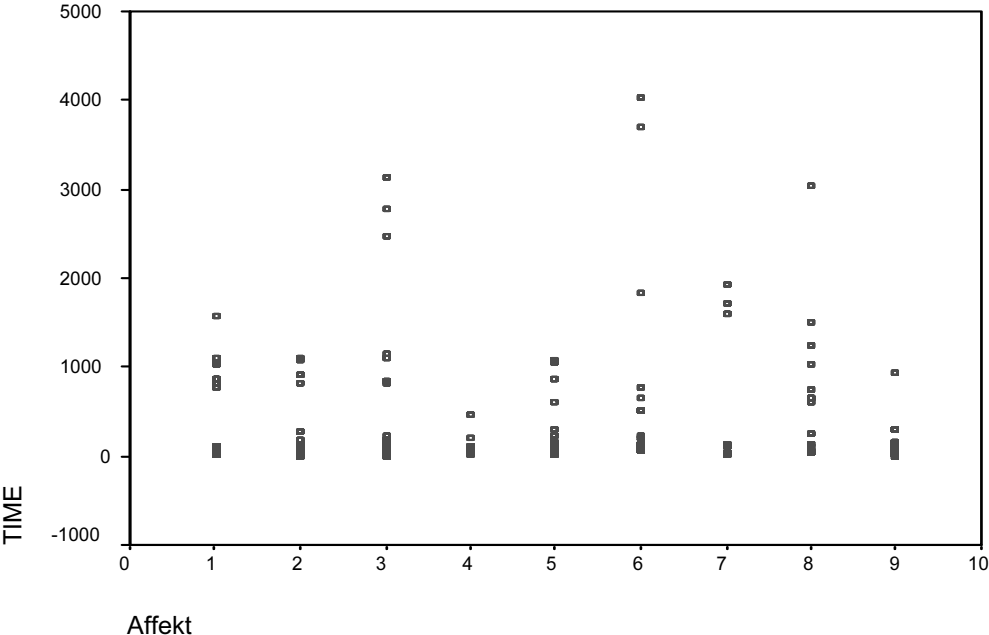
Fear presented significant differences with joy, non-predict, sadness, anger, and contempt; but not significant in respect to surprise, disgust, sadness. Fear tended to have slower time intervals than other affect categories.

Surprise presented significant differences with joy, sadness, contempt and no significant differences with disgust, sadness, possible anger, and anger. Surprise tended to have longer, slower time intervals as other affect coding.

Affects in this sample tended to form clusters; joy and non-predict affects were the shortest. Sadness, anger, and contempt presented middle time intervals. Disgust, possible anger, fear, and surprise had the longest time intervals. Groups of affects differentiated globally from one another, but tended to differentiate better through the T-Tests when they did not belong to the same cluster.

Table 18 graphs the different affect-affect pattern combinations, measured through critical time intervals in tenths of a second; i.a. the longest anger pattern (1) is 157.1 seconds long. Time is marked on the x-axis. Time intervals go from zero to 500.0 seconds. Affect combinations appear on the y-axis. At the bottom of the graph appear the different affect combinations that are marked numerically on the y-axis of the graph; 1= anger; 2-joy, etc. Concentrations of affect-affect can be observed where the points become more visible; i.e. joy, contempt, and non-predict indicate patterns that occur almost in simultaneity; other affects have extremely long single patterns, like disgust. Most affect patterns are shorter than 100 seconds. For affect coding on the x-axis, see next page.

Table 18: Affect-Affect Patterns Measured through Critical Time Intervals



Affect Coding:**1- Anger****4- Sadness****7- Fear****2- Joy****5- Contempt****8- Surprise****3- Poss. Anger****6- Disgust****9- Non-predict**

Coding of affects which look like small vertical lines indicate observations that took place at the same points in time.

Critical time intervals can be interpreted as the cognitive speed that is required between the processing of one affect and the next and the possibility of having a new association. Schwab (2001), in his work with affect choreographies, found out that too many short smiling or joy patterns, as well as non-genuine, social smiling patterns, were a predictor for bad psychotherapeutic outcome in psychotherapeutic interactions. It might be reasonable to think that an ideal “timing” is necessary to integrate a good psychotherapeutic process or interaction, from the point of view of cognitive and affective working-through time processes. If affects are linked to, bind, or run through mental representations, critical time intervals or distance between affects in patterns, like the mentioned very fast smile or joy patterns, would indicate that conscious cognitive processing of representations has not taken place, as patterns are almost simultaneous. The extremely long intervals in negative affect patterns might indicate that mental representations probably could be metabolized or worked through very slowly, due to repression, separation from the affect, defensive processes, or lack of associations.

9.3.1.2. Affect-Metaphor Patterns: Measurement of Critical Time-Interval or Distance Between the Coding of one Affect and the Next Coding of a Metaphor in Repetitive Patterns.

Affect-Metaphor patterns were also detected through *Theme* to give account of repetitive patterns that arose between affects and metaphors in individual and inter-subjective interactions. This pattern detection is very similar to detection of affect-affect patterns that is described in point 9.3.1.1. but this time what is assessed are affect-metaphor patterns. Differing critical time-intervals are also very important in this assessment, as a basis of comparison with the timing of critical intervals in affect-affect patterns; because in these patterns affect metaphor patterns, affects are related to language. In one of the theoretical

assumptions of this study, speech processes are assumed to bring in a dimension of consciousness (see Chapter 2) and also a different cognitive processing time.

In Table 19, the raw values are also constituted by the means of critical time interval in each affect-metaphor pattern detected by *Theme*; that is, a coding of affect with the beginning or end point of a metaphor. Metaphors were coded across time from the time they began to the time in which they ended. Affects were coded in one point in time, where the affect configuration reached the apex; that is, its maximal point of intensity or definition. Table 19 describes the results.

Table 19: Time Interval or Distance in Patterns detected by Theme for Affect-Metaphor Patterns

	Anger	Joy	Poss. Anger	Sadness	Contem pt	Disgust	Fear	Surprise	Non-Pred.	Total:
Mode	10,0	3,6	78,2	102,6	10,8	4,3	15,4	11,6	4,2	240,7
Median	24,5	5,7	78,2	102,6	9,0	4,25	97,3	12,8	5,9	340,3
Mean	58,2	10,5	65,5	102,6	20,7	18,8	106,7	35,1	6,2	424,3
Standard Deviation	57,4	24,8	37,5	0,000	38,3	28,4	73,8	38,9	3,8	302,9
Minimum	1,5	0,4	2,9	102,6	6,1	2,2	8,0	8,7	0,9	133
Maximum	189,3	205,5	92,5	102,6	89,5	162,2	203,9	94,5	19,9	1159

Coding was made for the sample of Ten Treatments; (time in seconds and tenths of a second).
Total of Coded Affect-Metaphor Patterns: 640

In the first column, assessment is described in terms of central and dispersion statistical measurements; namely, mean, median, mode, and standard deviation. “Maximum” and “minimum” express raw values in over- and under-limit assessments. In this table, columns also present each affect category for primary affects.

Patterns constituted by affects and metaphors exhibit considerably longer critical time intervals between them than critical time intervals found in affect-affect coding (see tables 13 and 17). The former can be interpreted that affects when forming patterns with metaphors or language, have longer processing time. Significant differences were found in both assessments; $p=,044$. The only individual exception to the latter was surprise, which presented shorter critical time interval patterns than when linked to another affect. In general, extremer values; that is, longer maximal and shorter minimal critical time interval raw values, tended to appear in affect-affect patterns than in affect-metaphor patterns. Affects that formed patterns with metaphors exhibited longer time intervals and could be

located closer to the beginning or to the end of a metaphor. A smaller quantity of affects was present when linked to a metaphor, although more facial affects can be coded simply as the result of talking or the production of speech.

As the Levene-Test also confirmed the heterogeneity of the sample, a Kruskal Wallis H Test for two or more independent groups was calculated to verify the independence of the critical time interval distances in affects. Results were significant $p=,000$. A Mann-Whitney U-Test for two independent groups was further performed using two samples; that is, critical time intervals of affect-metaphor patterns in relation to good and bad outcome patients. Results were also significant $p=,000$; that is, good and bad outcome patients have independent distributions in their affect-metaphor patterns. A non-parametric K-Sample Median Test was performed to prove if the medians of the affect-metaphor patterns were significantly differentiated. The former was significant $p=,002$.

With the above-mentioned results, the comparison of means of affect-metaphor coding was also performed through ANOVA, to see if significant differences were found between categories of affects. Table 20 describes results.

Table 20: Oneway descriptive Statistics for Affect/Metaphor Time Intervals

Affect Category	N	Mean	Standard Deviation	Standard Error	95%- Konfidence Interval for Mean	Minimum	Max.	Variance between Components
					Upper Limit	Under Limit		
Anger	47	58,2	57,4	8,3	41,3	75,0	1,5	189,3
Joy	262	20,3	37,6	2,3	15,8	25,0	0,4	205,5
Poss. Anger	20	65,4	37,5	8,3	47,9	83,1	2,9	92,1
Sadness	4	102,6	,0	,0	102,6	102,6	102,6	102,6
Contempt	49	207,9	284,8	40,7	126,1	289,8	61,0	895,0
Disgust	74	188,7	383,8	44,6	99,8	277,7	22,0	1620,0
Fear	17	1067,5	738,7	179,1	687,7	1447,4	154,0	2039,0
Surprise	14	351,7	389,7	104,1	126,7	576,8	87,0	945,0
Non-Pred.	153	62,6	38,5	3,1	56,5	68,8	9,0	199,0
Total:	640	242,0	413,1	16,3	210,0	274,1	4,0	2055,0
Modell Fixed Effect			357,0	14,1	214,3	269,8		
Random Effect				121,2	-37,5	521,6		57646,6

ONEWAY ANOVA

TIME

	Sum of Squares	df	Mean of Squares	F	Significance
Inter-Groups	28632669,1	8	3579083,6	28,0	,000
Intra-Groups	80447894,6	631	127492,7		
Total	109080563,8	639			

The calculation of ANOVA presented once again significant differences among groups of affects; that is, in affect-metaphor patterns. T-Tests were performed in all possible combinations of affect-metaphor patterns to find significant differences among groups of affects. When affect-affect patterns were compared with affect-metaphor patterns, the affect clusters that were previously detected in affect-affect coding showed modifications in their time structure. The differentiation of affects remains in some cases constant and in others, acquire other critical time intervals. Results are presented below.

Anger, when coded with a metaphor, showed a clearer significant difference with contempt, and disgust, and non-predict. No significant differences were found with sadness, fear, possible, anger, and surprise. In general, anger tended to present much longer intervals when linked to metaphors as when linked with affects.

Joy; continued to present short critical intervals when coded with metaphors, and slightly longer critical time intervals as when assessed with affects. Joy presented significant differences in relation to fear, non-predict, and also with possible anger and sadness.

Possible Anger was significantly different to contempt, fear, and non-predict. When in presence with metaphors, this affect category in this sample augmented to very long time intervals.

Sadness presented only one coding with four patterns when linked with metaphors. Sadness became also considerably longer, as when coded with affects.

Contempt remained almost the same, with a slight variation into longer critical time interval patterns when associated to metaphor. Significant differences were found in relation

to fear, non-predict, anger, contempt, possible anger. Less significant differences were found with sadness and no difference with joy. Contempt retained its middle critical time intervals.

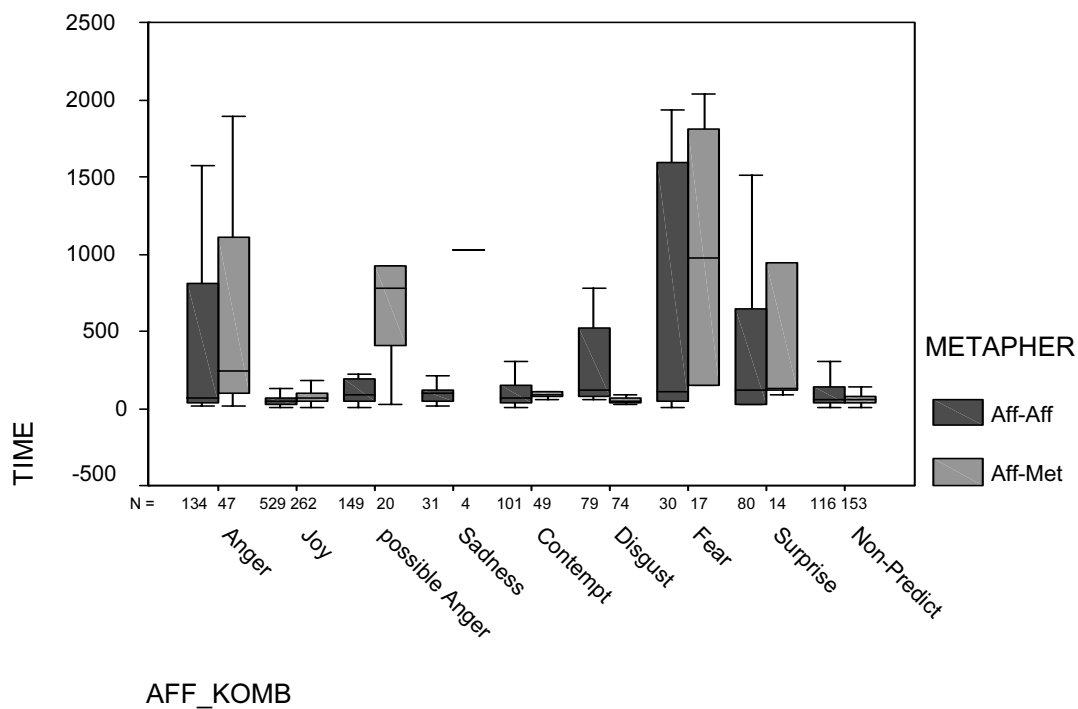
Disgust presented shorter or reduced critical time interval when coded with metaphors. Maximal affect-affect coding of disgust was longer than when in the presence of metaphors. Significant differences appeared in relation to anger and fear. No significant differences were found in relation to joy, possible anger, and sadness. In this sample, disgust migrated to shorter critical time intervals in the presence of metaphors.

Fear presented radically longer critical time intervals when in patterns with metaphors. Fear presented significant differences with joy, contempt, disgust, and less significant with possible anger. No significant differences were found with anger and sadness. Fear presented long critical time intervals in the presence of metaphors.

Surprise presented slight increased in critical time intervals and reduction when means were compared with the previous affect-affect assessment. Surprise presented only significant differences with non-predict and no significant differences with anger, joy, possible anger, contempt, and disgust. This affect category presented shorter critical time intervals in the presence of metaphors.

Table 21 presents a graph of affect-affect and affect-metaphor patterns in relation to critical time intervals. Time has been represented in axis x to 250,0 seconds, and affect category is displayed on axis y. Affect categories differentiated, but seemed to migrate to different interval timing groups when in the presence of metaphors. In the short interval group relatively unchanged remained joy and non-predict. Contempt, and disgust migrated to the short critical interval group. In the middle critical time interval appeared anger and surprise. Both anger and surprise appeared modified but still within the middle critical time interval. The affects that presented much longer critical intervals when paired with metaphors were fear and anger. Fear also remained relatively unchanged in relation to the previous affect-affect coding. Interestingly enough, joy, anger, and fear remained relatively constant, although with longer critical time intervals in the presence of metaphors, as in their previous affect-affect coding.

Table 21: Affect-Affect and Affect-Metaphor Patterns Compared in Time



Detected patterns are measured in tenths of a second; from 0 to 250 seconds.

9.3.2. Individual Differences in Time-Interval Patterns in Affect-Affect and Affect-Metaphor Coding in the Ten Treatments.

A short summary of every treatment in the sample and its evolution is made in this section. The main quantitative interactions between patient and therapist are reported. Qualitative, semantic contents, as well as main metaphors.⁵⁰ used in the treatments, are mentioned, with the idea of creating a correspondence between quantitative and qualitative elements.

From a quantitative point of view, different treatments presented different timing in critical time intervals in relation to the different affect categories. The following tables show T-patterns for every affect category with their critical time interval for affect-affect and affect-metaphor coding for all therapies. An individualized analysis can give a better idea of what constitutes the “ideal timing” for the working through of affects and metaphors, particularly in the case of patients differentiated by good and bad outcome. Detected patterns have been divided in four time classifications: 1) *simultaneous* (between 1 and 5 seconds; 2)

⁵⁰ For a complete quantitative description of metaphors in this psychotherapy sample, see Franzman (2003) and Merten (2000) for affect-affect patterns.

short: between 6 and 10 seconds; 3) *middle-long*: between 11 and 100 seconds; and 4) *ong*: more than 100 seconds.

Therapy 01. This patient was diagnosed as a histrionic personality disorder. The treatment technique was psychoanalytically oriented. The patient was a 55-year old professional tennis instructor. The patient had problems in his marriage and the first interview for a possible psychotherapy was, to a large extent, suggested and supported by the wife of the patient. The patient individually decided to undergo the fifteen short-psychotherapy sessions. Among his complaints were occasional sexual dysfunction and performance inhibitions in various areas. In his psychotherapy diary, he wrote that he had “vibrations” in his hands after waking up in the morning, which he suspected, could be related to problems with alcohol. He also reported a short hospitalization for depression. The patient admitted to have difficulties in his personal relations. His main wish was to be powerful and unique, admired and recognized by others. Under this grandiose self-concept, he supported and helped others; but in the end, other persons reacted with rejection and disinterest; leaving him exhausted, feeling depleted, empty, and depressed. He narcissistically tried to “rescue women in need”. The therapist interpreted the latter had to do with the relationship with his mother, who, colorless and dissatisfied with her marriage, had always tried to find meaning in her life through the accomplishments of her son.

The “focus” of the short psychotherapy was to prevent the patient from being exploited from others; particularly women. The possible appearance of the before-mentioned theme in the transference to the therapist was also considered. In the first session, the patient verbalized the fantasy of “sacrificing himself” and helping the therapist obtain recognition in the research project. Such an attitude would bring him again to the repetition of the relationship pattern relationship pattern and to feelings of loneliness and depletion.

I will cite the main, most frequently used metaphors in this treatment:

1) In relation to the grandiose self of the patient:

Patient: “I bring persons to shine and gleam ” (repeated more than 10 times in different variations and modalities); “I did not know from what moment on I should start to shine”; “I am filled with energy or emptied and depleted”; “I explode with rage”; “I could explode from potency and power”.

Therapist: “You have an incapacity to recognize your own success and “shine”; “the shine of others as an illegitimate costume for so small a man”.

2) In relation to man-woman relations:

Patient: “In the Drama of the Talented Child” I had to rescue my mother and fulfill all that my mother could not achieve”;

Therapist: “You believe men are “executive organisms” of women; “you believe you were sent to therapy by your wife; and you have doubts about my loyalty to you as patient as your therapist”; “in the man-woman relations you describe, women pull men by the nose and men dance on their stage”; “you furnish your inner self with women”.

3) In relation to marriage:

Patient: “I live marriage as a prison“; “my wife says I use my profession to get to women”; “I would like the therapy to function as something that prevents me from peeping into the other side of the fence and to appear in bed by mommy like a good boy”; “my wife and my mother did not make it”; “my wife makes a detour to success through her husband and arrives full of resentment”.

Table 22: Affect-Affect and Affect-Metaphors in Therapy 01

Th. 01	Aff/Aff Time Interval	No. of Patterns	Aff/Met Time Interval	No. of Patterns		
Simultaneous	0,1 – 4,2 sec.	Poss. Anger	30	1,2 – 4,4 sec	Non-Pred.	15
		Anger -	26		Poss. Ang	10
		Joy	24		Disgust	6
		Non-Pred.	5		Joy	4
		Contempt	2			
		Sub-total:	89		Sub-total:	35
Short	5,9 - 9,7 sec.	Joy	41	5,2 – 8,6 sec	Non-Pred.	50
		Poss. Anger	9		Joy	26
		Disgust	5		Disgust	5
		Sadness	3		Contempt	5
		Surprise	3			
		Sub-total:	61		Sub-total:	86
Middle-long	11,1 – 87,4 sec	Poss. Anger	11	10 – 20,9	Poss. Ang	41
		Anger	9		Non-Pred.	17
		Disgust	7		Anger	11
		Contempt	3		Disgust	4
		Non-Predict	3			
		Sub-total:	33		Sub-total:	41
Long	101,5 – 291,1	Surprise	6	113,5 – 16,2	Anger	3
		Disgust	5		Disgust	3
		Fear	4		ub-total:	6
		Poss. Anger	3			
		Sadness	3			
		Sub-total:	21			
Total:			204			168

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 01 presented predominantly simultaneous and short affect/affect patterns. These patterns corresponded mostly to joy, possible anger, disgust, and anger. As treatment advanced, these patterns tended to diminish. The majority of the affect-metaphor patterns fell on the short and middle-long critical time interval classification. Affects that predominated on the affect-affect coding also appeared as affect-metaphor patterns; i.e. anger and disgust. Affect-Metaphor patterns constituted 45% of all patterns, and affect-metaphor patterns the remaining 55%. (See table below). Therapy 01 was classified under the good outcome group. The patient had a good recovery and came back for a few support sessions. Some long affect-affect patterns are present.

Therapy 02. This patient was diagnosed as “Conversion Personality Disturbance”. The treatment was conducted through cognitive-behavioural technique. She was a 45-year old housewife with two children. Her main symptom was extreme pain in the coccyx area, without any detected organic finding. This symptom forced the patient to continuously sit on a rubber ring and drastically restricted her physical movement. The main therapeutic goal the therapist set was to uncover the psychological conflict underlying the conversion, to work it through, and to eliminate the somatic complaint. At the beginning, the patient reacted negatively to the efforts of the therapist, and refused to talk about her “inner self”. The therapist reported having experienced her as a “difficult patient”.

The patient narrated her enormous efforts to finish her secondary school university entrance diploma after her marriage. She described how she used to paint in her search for a form of self-expression but was compelled to stop because she could not bear to sit on the rubber ring for too long. In her opinion, her husband made no recognition of her efforts to become a better person. He commented; “after marriage, it is enough that one of us has a university entrance diploma”. The husband went prematurely into retirement due to cardiac problems. Lately he had begun to drink. He bawled at her under the influence of alcohol. She never dared to say she would like to work, although she would have liked to do so. In her imagination, she foresaw the terrible consequences of such a demand.

During her childhood, she lived with her mother and grandparents. She played a “messenger role” between her authoritarian grandmother and her mother. She had looked after her grandfather for a long time. She assumed this situation had protected her from being aggressed in the family. As treatment evolved, the “anxieties” of the patient became related to a particularly dramatic childhood scene, in which she had experienced great fear: as she sat in her “potty”, a fight between her mother and the grandfather broke out. The grandfather hit the mother of the patient and threw her out of the house. She was extremely frightened and could not do anything. Treatment went on. A few sessions later she sat before the therapist with her hands on her lap. The therapist commented she sat like a “good girl”. The patient simply responded, “it all has to do with the “ring”” (the rubber ring on which she sat) but at the same time she played with her wedding ring in an unconscious automatism. Soon the link between her fears, the authoritarian grandfather, the grandmother, and the husband, whom she managed to identify with a huge space-invading octopus, started to take place. The therapist interpreted her mouth was closed but her body “spoke”. By the

twelfth session, the patient had given away her conversion. She abandoned the rubber ring and stayed for another year of treatment. The treatment was classified as good outcome.

Most frequently used metaphors: at the beginning of the therapy, the patient spoke about her inhibition in the expression of her emotions: “I have difficulty in expressing my innermost self”; “from the time I was a child, I was plagued by fears and had to prevent that too many emotions came to the surface”; “I have always been incapable of standing up to myself”; “I have always displayed a compensatory element”; “illness is a form to say, this cannot go on any more”.

Therapist: “You wear a certain mask”; “your mouth can be closed but your body talks”; “you walk around conflicts within yourself”

2) When the patient could express better what was going on in her:

Patient: “My dissatisfaction is not particularly related to my husband, it is as if I would hang in the air”; “my husband is an octopus; he takes my vital space. I need a little room for myself”; “I have to exercise violence to gain a little free space”; “I feel restricted to move freely”; “I try to come out of this hole”; “under my friendly façade, hides a lot of rage”; “I function in the family like the chairman of the club to which I belong, I arrange everything so that everything runs smoothly, without frictions”.

Table 23: Affect-Affect and Affect-Metaphors in Therapy 02

Th. 02	Aff/Aff Time Interval	No. of Patterns	Aff/Met Time Interval	No. of Patterns		
Simultaneous	1,2 – 2,7	Joy	10	1,2 – 2,7	Joy	10
Short	5,2 – 6,6	Joy	1	6,7 – 9,4	Joy	6
		Anger	8			
		Sub-total:	9			
Middle-long	11,4 – 61,3	Contempt	14	13,8 – 85,0	Joy	3
Long	135,6	Contempt	5	106,8 – 130,0	Joy	4
					Surprise	3
						7
Total:			38			26

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 02 presented fewer patterns than the previous treatment. Most affect-affect patterns were concentrated on the middle-long critical time interval. Affect-metaphor patterns were associated only with joy and with surprise on long intervals. No excessively long affect/affect patterns were present. Affect-metaphor patterns constituted 40% of all patterns, and affect-affect patterns, the remaining 60%. This patient was classified under good outcome. In the first 15 sessions some substantial change was observed but it was on a longer treatment basis that this patient eliminated almost all her symptoms and presented great progress.

Therapy 03. This patient was diagnosed as “Bulimia Nervosa”. The treatment technique was psychoanalytically oriented. The 29-year old patient suffered from bulimic attacks that could be repeated three or four times during the day. She also presented compulsive symptoms, such as leaving the house and feeling compelled to come back home several times to check if she had left the stove on or if she had locked up the door. Her body was totally ravaged through frequent vomiting. When she was at work, she had a strange feeling “as if someone or something pestered her”. She felt forced to leave her working place, get something to eat, and vomit. She oscillated from eating attacks to periods of fastening, the longest of them had lasted fourteen days. She had to take diuretics to avoid water retention. One of the main therapy goals of the patient was to reach “inner peace”, through which she believed she could modify the symptoms of her disturbance. During the first session, she expressed the wish that her psychotherapist could give her a “recipe” or a “magic cure”. In the solutions she proposed to her problem, she never considered the possibility of taking and understanding her personal problems, nor solving her inner conflicts.

As the patient was 8 years old, the parents separated. She went with her mother and younger sister to the parents of her mother. The brother went with the father to the parents of the father. She always felt the brother had an easier economic situation with the parents of her father. After some time, the mother also left, leaving the patient and her sister with the maternal grandparents. The relationship to her mother, the patient considered as disturbed. As a child she often thought her mother was a liar. She had difficulty establishing trust in her relationships, which quickly manifested in the relationship she established to the therapist. Her eating attacks many times also prevented her from relating closely to others.

The treatment succeeded in building up a more trusting relationship. The eating attacks diminished from three or four a day to one every 14 days. The therapy was classified as good outcome, in the middle range. The severity of the disturbance of this patient should be taken into consideration.

Most frequently used metaphors: 1) In relation to her need to exercise control: “To control the thought of being too fat”; “to keep under control water retention”; “to break the vicious circle of eating and vomiting”.

2) To the fear of losing control: “a porridge of feelings”; “to swim in insecurity”; “a swimming belt” (as a belt of fat around the tummy); “to swim into a total blackout”; “that is when I want to screw together the bolts of time”; “when I start vomiting, I start to swim”.

3) Metaphors in which the body is compared to an car: “I put on the brake”; “the motor was out”; “my battery is low”; “to tank up”; “I set myself into gear”; “I rolled down”;. 4) Metaphors related to drives and impulses: as the patient describes her fears of having left the stove on and that a fire could be started”; Therapist: “you are afraid to discover the inner fire”; Patient: “I get this biting feeling”; “to be torn up inside”; “a vacuum in the stomach”; “to push back from inner emptiness”; “to be set into fire and flame”; “a tiramisu: a calorie bomb”.

Therapy 03	Aff/Aff Time Interval	No. of Patterns	Aff/Met Interval	No. of Patterns		
Simultaneous	1,5 – 3,4	Joy Surprise	6 3	0,4 – 4,8	Joy	16
		Sub-total:	9			
Short	7,5 – 7,9	Joy	20	5,4 – 9,9	Joy	14
Middle-long	14,1 – 73,8	Contempt Surprise	4 3	10,4 – 99,2	Joy Contempt	7 7
		Sub-total:	7		Sub-total:	14
Long	--	-- --		107,8 –205,5	Joy	9
Total:			36			53

Table 24: Affect-Affect and Affect-Metaphors in Therapy 03

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 03 presented most affect-affect patterns on the short critical interval classification. These patterns were the classical joy patterns and some linked to surprise. Negative affect patterns, contempt and surprise, appeared on the middle-long critical interval phase. The majority of affect-metaphor patterns were detected on the short and middle-long critical time intervals. Contempt, which had appeared as affect-affect coding, appeared also linked to metaphor patterns. The former can be interpreted as “working-through” of affect through metaphors. This patient produced more affect-metaphor patterns (59%) than affect-affect patterns (41%). The treatment belonged to the good outcome group.

Therapy 04. This 37-year old patient was diagnosed as “Agoraphobia without Panic Disturbance”; secondary to an epileptic syndrome (the patient was afraid to have an epileptic attack in the open); and an Insecure, Passive-Aggressive Personality Disturbance. The patient had partnership problems; with a difficulty in maintaining constant relationships and extreme jealousy and controlling reactions. Four pregnancies that ended up in abortion were part of the reported symptoms. The therapist set as treatment goals to ameliorate the confidence of the patient in herself and in others and to relate it to other areas of conflict; all this, under the optic of a psycho-educative psychotherapy.

The patient lived with her parents. She reported an extremely dependent relationship with her mother, who was described as someone that had always solved all her problems, had pampered and prevented her from becoming an adult person. After a short working experience, the patient left her job. As the Federal Employment Office menaced to send her to occupational retraining, the patient decided to retire herself from the outside world. This treatment ended up with the best evaluation of questionnaires from patient and therapist. However, the interactive affect patterns were totally atypical. Conflictive, disagreeable themes such as abortion, rejection, and negative feelings remained practically untouched during treatment.

Most commonly used metaphors in this treatment: 1) Related to anxiety and symptoms: “When I feel bad, my fears come up”; “at home, they treat me like a raw egg”; “I get beastlike fear”; “my whole security system falls apart”; “a self-chosen exile”; “destiny plays tricks on me”; “I came back like the picture of misery”; “for a whole year, just crap”.

2) Related to fear of an epileptic attack “You lay there like a stone”; “it gets me in the balls that people stare at me”.

3) Related to the fear of losing the loved ones that support her: “If my grandma died, I would break apart”; “if something struck my mother, I would be certainly thrown out of the road”.

4) Anxieties were mostly expressed through metaphors that have to do with the body or parts of it; mostly with the head: “I am fed up” (Ich habe die Nase voll; literally, my nose is full); “before, I used to trust blindly”; “it went into my kidneys”; “this family hangs on my neck”; “better leave your fingers off”; “to cut the umbilical cord”; “my hair stood up”; “I am a hardheaded woman”; “Something exploded in my head”; “totally nuts”; “I cannot put the lid on”.

5) Other metaphors express emotions, mostly anger: “When the relationship failed, I realized he had talked me into it”; “it brings me into incandescence” (that the partner looked at other women); “I see red”.

Table 25: Affect-Affect and Affect-Metaphors in Therapy 04

Th. 04	Aff/Aff Time Interval	No. of Patterns		Aff/Met Interval	No. of Patterns	
Simultaneous	2,2 – 4,9	Joy	18	1,3 – 4,5	Joy	29
		Non-Pred.	8		Non-Pred	6
		Contempt	3			
		Surprise	3			
		Sub-total:	32		Sub-total:	35
Short	5,7 – 7,4	Joy	9	5,6 – 9,3	Joy	34
		Anger	1		Contempt	21
		Contempt	6			
					Sub-total:	55
		Sub-total:	16			
Middle-long	11 – 77,6	Disgust	18	10,3 – 96,7	Joy	20
					Fear	3
					Sub-total:	23
Long	--	0	0	0	0	
Total:			66			113

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 04 presented most affect-affect patterns on the simultaneous critical interval classification. Apart from the classical joy and non-predict simultaneous critical interval patterns, contempt and surprise appeared as simultaneous; and contempt and anger in the short critical interval phase. Most affect-metaphor patterns appeared in the short critical time interval phase. Contempt, which appeared in the affect-affect patterns, also appeared as associated to metaphors. This patient did not present long affect-affect patterns and also presented more metaphor patterns (61%) than affect-affect patterns (39%). Therapy 04 was classified under the good outcome group.

Therapy 05. This patient was given the diagnosis of “Panic Disorder without Agoraphobia and Dependent Personality Disorder”. The treatment technique was psychodynamically oriented. The 24 year-old patient suffered from panic attacks and depression. A colleague of the therapist had medicated the patient. The goals of this psychodynamic treatment were: that the patient could lead a “normal” life without fear and anxiety, or at least, that she learn to live with her symptoms.

Initially the patient talked about the dependency she has developed to her boy friend; her feelings of loneliness and fear when he had to be away from her. She also reported a certain dependency to the medication against anxiety, although she did not like to take it.

Family constellation: the patient narrated that her maternal grandmother had a compulsive phobic attitude. When the patient was born, her mother already suffered from a depressive, chronic anxiety syndrome. The father was described as dominating and apprehensive. The patient experienced her parents as meddling and interfering, and expressed her dread of becoming a copy of the psychopathology of her mother. The sister had gone to live far away and isolated herself from the family. When the therapist mentioned in the third session that the father had called to inquire after her state of health, the patient reacted with rage. She was afraid her parents will mix in her treatment; to which the therapist made no further comments. By the twelfth session, the patient had had a relapse and was again dependent on medicaments.

The therapy ended with a bad outcome evaluation from both patient and therapist. The therapist believed that the patient had, nevertheless, acquired certain stability; as she was capable of passing an important academic examination after the termination of the treatment.

This therapy was rather poor in metaphoric production; which contrasted with a great quantity of affect-affect patterns. The most often used metaphors in this treatment were:

1) In relation to anxiety: “I must get anxiety under control”; (this preoccupation “to get things under control” reappears constantly throughout the four coded sessions in different variations); “I jump the whole week into an anxiety trip”; “People think I go mad”.

2) In relation to the medication; “I pump myself with the thing”.

3) In relation to her parents; “They mix in behind my back”; 4) In relation to herself: “I have a monstrous self-concept”.

Table 26: Affect-Affect and Affect-Metaphors in Therapy 05

Th. 05	Aff/Aff Time Interval	No. of Patterns	Aff/Met Interval	No. of Patterns		
Simultaneous	1,3 – 4,8	Joy	68	2,6 – 7,2	Joy	10
		Fear	11		Non-Pred	4
		Poss. Anger	3			
		Anger	9			
		Contempt	3			
		Sub-total:	94		Sub-total:	14
Short	5,0 – 9,9	Disgust	17	--	0	0
		Joy	12			
		Poss. Anger	7			
		Fear	3			
		Sadness	3			
		Non-Pred.	3			
		Sub-total:	45			
Middle-long	10,9 – 87,5	Non-Pred.	15	--	0	0
		Joy	9			
		Anger	8			
		Fear	5			
		Contempt	4			
		Sadness	3			
		Sub-total:	44			
Long	198,9 – 732,1	Anger	7	117,4 – 189,3	Anger	6
		Fear	6			
		Poss. Anger	6			
		Disgust	3			
		Contempt	3			
Total:			208			20

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 05 consistently presented many more affects on the simultaneous phase of the time critical intervals. Apart from an enormous amount of joy patterns, other negative affect-affect patterns like fear, possible anger, anger, and contempt appeared. No affect-metaphor patterns appeared linked to negative affects; only joy was associated to affect-metaphor patterns. The count of affect-affect patterns (91%) was ten times greater than that of affect-metaphor patterns (10%). Affect-affect patterns appeared with excessively long time critical intervals and linked to negative affects (up to 732 seconds). This patient appeared in all classifications consistently as belonging to the bad outcome group.

Therapy 06. This 33-year old patient was diagnosed as “Borderline Personality Disturbance”. The treatment was psycho-dynamically oriented. Her main symptoms were

related to problems with alcohol, with a difficulty to stay “dry”; and sometimes medication abuse. She had an eleven-year-old daughter from her second marriage. Her first marriage ended in divorce. Her first child lived with his father and had no contact to his mother. Her actual husband had also problems with alcohol and medicaments but had stopped his alcohol consumption lately. At the beginning of the treatment, the patient reported an attempt from a previous therapist to sexually abuse her. It was only after the treatment was well advanced that the patient could talk about the sexual abuse of her father and of physical abuse on the part of the first husband. The patient commented that she had thought nobody would believe such a thing. The therapist set as therapeutic goal to be able to reach an optimal distance, in which the patient could begin a “trusting relationship”. The patient manifested her desire and, at the same time, great difficulty to be able to trust someone.

Fighting and conflicts characterized the relationship of the patient with her mother. The two marriage relationships of the patient were described through warlike metaphors. The treatment evolved through “emotional storms” on the part of the patient. The therapist was often forced to “set limits”. He expressed his doubts of continuing the therapy unless the patient got her addiction under control. He also explained to her that in case of her becoming too auto-destructive, he would have to protect her in a stationary treatment, etc. The evaluation of the therapist of this treatment was bad. The evaluation of the patient was not filled out. For this reason, this patient was not totally evaluated with the other treatments of the Multichannel Psychotherapy Project. Despite the degree of difficulty that a patient with such a severe pathology represented, a first degree of trust was established. The patient agreed to stay for a longer treatment. The results of this therapy could be evaluated on the long run as good.

Metaphors in this treatment often referred to an alcohol or addiction problem. In the first session, the patient described her anxiety when she stopped drinking and started to feel alone: “I managed to remain dry for three days”; “I hit the bottle” (*zur Flasche greifen*); and she shared alcohol problems with her husband, which was always conflictive: “He had a relapse”; “He stayed longer “dry” and made me feel I was weak, incapable, and he had to indoctrinate me”.

With her husband, there was often dispute. The relationship to him was well-described by warlike metaphors: “We had a murderous fight”; “I built him a sexual

blockade”; “carrot and stick (*Zückerbrot und Peitsche* (sugar bread and whip)”; “it’s the end of the flagpole”; “the lost positions”; “it is war”; “he made me prisoner”; “to retreat a few of meters”. Other related metaphors: “The relationship is like a labyrinth, in which I cannot find the way out”.

Her emotional states were also described through “emotion metaphors”: “I feel sapped”; “I come into a drawer like a pill”. The therapist followed the patient in her metaphors, contributed with related metaphors, or helped the patient elaborate what she described.

Table 27: Affect-Affect and Affect-Metaphors in Therapy 06

Th. 06	Aff/Aff Time Interval	No. of Patterns		Aff/Met Interval		
Simultaneous	0,6 – 4,8	Joy	42	0,6 – 4,8	Non-Pred	35
		Contempt	24		Disgust	28
		Anger	17		Joy	19
		Non-Pred.	11		Anger	3
		Sadness	9			
		Poss. Anger	6			
		Sub-total:	109		Sub-total:	85
Short	5,9 – 8,5	Joy	34	5,9 – 8,5	Non-Pred.	8
		Poss. Anger	18		Joy	7
		Contempt	13		Surprise	3
		Surprise	5			
		Anger	5			
		Sub-total:	75		Sub-total:	18
Middle-long	10,5 – 82,7	Contempt	20	10,5 – 82,7	Contempt	16
		Anger	14		Surprise	12
		Surprise	14		Anger	9
		Poss. Anger	10		Poss. Anger	6
		Sadness	3		Non-Pred.	5
		Joy	3			
		Sub-total:	64		Sub-total:	48
Long	103,9 – 312,6	Contempt	8	103,9 – 312,6	Poss. Anger	6
		Joy	4			
		Anger	3			
		Poss. Anger	3			
		Sub-total:	18			
Total:			266			107

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 06 presented most affect-affect patterns in the simultaneous phase. The usual joy and non-predict patterns short critical interval patterns predominated but also other

simultaneous negative affect-affect patterns appeared (anger, contempt, and sadness). Other negative affect-affect patterns also appeared in the short critical interval phase. Affect-metaphor patterns appeared mostly in the middle-long phase, where negative affects like contempt, anger, and possible anger (also surprise) were associated to metaphors. Affect-affect patterns also appeared associated to long critical intervals (up to 312,6 seconds); the same occurred with affect-metaphor patterns. Affect-affect patterns constituted 68% and metaphor-affect patterns, the remaining 32%. In the metaphor evaluation, the patient performed relatively well. The treatment continued into a long-time psychotherapy with relatively good progress, although the diagnosis presented evident difficulties for treatment.

Therapy 08. This patient was diagnosed as: “Histrionic Personality Disorder and Anxiety and Depression”. The treatment was conducted through humanistic–client centered technique (*Gesprächstherapie*). The forty-year old patient sought treatment as a result of a severe marriage crisis. She had difficulty in expressing at the right moment what she felt, whether loving or aggressive. She could not help falling in love in a repetitive manner and could not always tolerate that the husband also lead an open marriage. Psychic conflict fluctuated between envy, rage and hatred; jealousy and guilt. The patient considered the recent death of her father intensified guilt feelings in her. As the treatment evolved, a gamma of secrets and untold, implicit arrangements unfolded, which constituted the characteristic dynamic of the family. Her husband could not tell their two children of the existence of the previous daughter from a first marriage. The couple could not be open in relation to their erotic needs but led a “brotherly”, pacific relationship. The patient narrated incestuous fantasies with her father, in which sexuality was openly alluded. The therapist established a link to what she believed to be the conflict of the patient with her father and how it related to her husband, and to other men. The relationship between patient and therapist was not mentioned until the twelfth session. The patient expressed her fear that the therapist could think she had “no face”, what had happened before in other treatments and with other therapists. The exact meaning of this metaphor for the patient and what happened in the “other therapies” was not clarified either. The transference relationship seemed to take in the final part of the treatment a dynamic which was similar to the internal objects and family life of the patient. The treatment was evaluated as moderately good. The therapist evaluated the treatment better than the patient.

Metaphors that were more constantly used: 1) In the description of her marriage relationship, “a tension field”; “at Christmas, we sat often during meals or on the sofa, each had a book, there was, however, some kind of connection; more of a “brotherly” manner.”

2) To the “incestuous” phantasies in relation to her father, “she had adored” her father. Coded as sexualized polysemy: the father said to her: “girl, come to me; spend a night with me”; “I crawled into his bed”; to an episode in which she had a “fancy” for a young man, the conclusion was she should not love anyone else as her father. The therapist asked: “were you his possession or his beloved”?

3) As to her form of relating, the patient expressed, “With my husband, in the beginning we were chained”; “we were totally symbiotic; “we were packed in cotton”. “I am glued to my daughter, to my mother, to my world”. As she started to “unstaple” herself from the relationship to her husband”; “the thread eventually began to tear out or at least, sagged”; “I was so torn-out”. The patient described: “klick, klick, klick, of course my hysterical traits make me orient myself towards others and not to get involved in anything. This could be something to work in the therapy”. “If I let myself go, I could lose my face”. To what the therapist could think of her, she expressed: “You could think I am an “amorphous thing” (“spongy something”; *schwammiges Etwas*). The theme “her face” (which I will relate to identity) came out very often through sessions: “I could lose my face”; “in different phases of my life, I have had different faces”; “you could think I have no face”. To the girlfriend of his husband, “if the situation were “to scratch my femininity” (*meine Weiblichkeit zu sehr ankratzt*), and she were a woman against whom I would totally disappear, in- and outwards, that would not be possible”.

Table 28: Affect-Affect and Affect-Metaphors in Therapy 08

Th. 08	Aff/Aff Time Interval	No. of Patterns		Aff/Met Interval	No. of Patterns		
Simultaneous	1,5 – 4,5	Joy	68	0,9 – 3,4	Joy	10	
		Non-Pred.			Non-Pred.	3	
		Sub-total:			Sub-total:	13	
Short	5,0 – 9,9	Joy	21	5,2 – 9,9	Joy	11	
		Anger	4		Non-Pred.	3	
		Non-Pred.	10		Sub-total:	14	
		Sub-total:	35				
Middle-long	11 – 33,2	Joy	34	10,8 – 97,3	Joy	23	
		Sadness	7		Anger	4	
		Anger	3		Fear	3	
		Poss. Anger	3				
		Fear	3		Sub-total:	30	
		Sub-total:	50				
Long	116- 116	Poss. Anger	6	111 – 111	Anger	5	
Total:			159			62	

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 08 presented more affect-affect patterns in the middle long critical interval phase. Affect-metaphor patterns appeared also on the middle-long critical interval phase. Affects that appeared in affect-affect patterns also appeared associated to metaphors, like in the case of anger, fear, and joy. No excessively long affect-affect or affect-metaphor patterns appeared in this treatment. Affect-metaphor patterns constituted 39% of the total patterns, and affect-affect patterns, the remaining 61%. This patient was classified under the good outcome group.

Therapy 09. This thirty-year old student was diagnosed as “Mixed Anxiety and Depressive Disorder” (ICD-10; F41.2). Other symptoms were intolerance to noise and heart palpitations. The patient wrote in her psychotherapy diary about her difficulties in the relationship with her partner and her father. She suspected that her father could have sexually abused her; a thought that provoked in her deep concern and anger. This patient had already been in a client-centered psychotherapy. She expressed her doubts as to the adequacy of the cognitive-behavioral technique as the best option for the working-through of her particular problems. The patient commented the previous therapist encouraged her to talk about sexuality and sexual abuse, which gave her the feeling the therapist had come “too close”. Related dreams continued to appear and she could not define if the abuse actually

ever took place. The most frequent wishes expressed by the patient were: “to protect myself”, “to set limits”; “to have space for myself” and at the same time, “a need for closeness”; “to be able to share with others”.

The described object relationships in this patient were restricted to her partner, father, mother, and twin sister. The mother was described as distant; had not wanted to become pregnant; and never imagined she would have twins. For the patient, her twin sister, constituted her “only” and “real” attachment. She believed both had a “depressive childhood”. The relationship to her father was described as ambivalent; with feelings of hatred when she thought of the possible abuse; but also filled with empathy when she realized her father blamed himself and regretted the divorce. The patient identified herself more with her father in self and character. In the relationship to her partner, both were afraid of too much closeness and intimacy. He now lived abroad and has expressed his desire not to return to Germany.

The patient described her main conflict as: “Reacting aggressively when an object threatened to abandon her”. She then abandoned before she was abandoned. When the object came too close, she felt menaced by a dangerous break of intimacy. In this case, she abandoned the object, which provoked feelings of contempt in her. Although the patient openly manifested her doubts in relation to the treatment, what happened in relation to the conflictive “distance” and “closeness” to the therapist was never a theme in the sessions. However, the conflict came to be enacted. The patient took distance, the therapist reacted with contempt. The negative pattern was repeated, and the patient prematurely abandoned the treatment before she was abandoned.

The most frequently used metaphors in this treatment are related to a very strong need of the patient to set limits and to mark space around her. I will cite a few examples: “it is vital that I have room enough for myself”; “that I manage to have more space”; “my needs have no space”. Probably related to a more structural personality problem are the following: “I could not defend my limits”; “I felt frontiers could be damaged”; “I am surrounded by such a fragile envelope, that any noise could damage it”; “principally, no one can come inside”.

The “distance-closeness conflict” was also shortly expressed in a metaphor in which the patient expressed a need for warmth and closeness: “I have a strong longing to be able to share with others a common world”. She also expressed, “I bring myself out of context, and maybe because I have the feeling I have no chances of qualifying”. In relation to how the patient believes others perceive her: “I am often a mirror”; “I am somehow so transparent”.

An example of what was coded as polysemy follows: Therapist: “What I feel in you is: “I am so insecure. Where do I stand? Am I to be considered as significant?” Patient: (answers in an angry tone): “What do you exactly mean, that I should be considered as “significant”?”

Table 29: Affect -Affect and Affect-Metaphors in Therapy 09

Th. 09	Aff/Aff Time Interval	No. of Patterns	Aff/Met Interval	No. of Patterns		
Simultaneous	0,67 – 4,0	Joy	41	2,4 – 3,8	Non-Pred.	11
		Surprise	28			
		Anger	4			
		Non-Pred	3			
			76			
Short	6,0 – 9,3	Joy	31	6,3 – 9,4	Joy	4
		Disgust	4		Disgust	3
			35			7
Middle-long	10,4 – 92,4	Joy	14	15,4 – 99,2	Disgust	7
		Disgust	6		Fear	4
		Contempt	3		Anger	3
			23			14
Long	101,3 – 403,7	Surprise	6	181,4 – 203,9	Fear	6
		Contempt	3			
		Disgust	3			
			12			
Total:			146			38

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 09 presented most affect-affect patterns in the simultaneous critical interval phase. Apart from the classical joy and non-predict patterns, anger and surprise appeared as simultaneous patterns and disgust in the short critical interval phase. Affect-metaphor patterns appeared in the middle critical interval phase, with affects that had before shown (disgust and anger) in the affect-affect patterns linked to affect-metaphor patterns. This treatment exhibited extremely long affect-affect patterns (403,7 seconds) and long affect-metaphor patterns. Affect-metaphor patterns constituted 26% of the pattern sample and

affect-affect patterns, the remaining 74%. This patient broke up treatment and was automatically classified under the bad outcome group.

Therapy 21. This thirty-two-year old patient was diagnosed as “Borderline Personality Disorder”. This treatment was psycho-dynamically oriented. The patient was referred to psychotherapy after a suicide attempt with a brief stationary treatment. The suicide attempt was caused in the patient by a triangular homosexual love relationship, in which the patient was abandoned by his partner, with whom he declared to be deeply in love. For the patient, his main problems were his stubbornness, partner relationships, and intolerance to criticism. His most frequent wish was to be accepted and liked by others. His wish, unfortunately, was seldom fulfilled. His relationships usually ended up with the rejection and abandonment of the love partner, leaving the patient with feelings of helplessness and desperation. For the patient, his relationship patterns were marked by a passive wish to be loved, phase in which he allowed others to dominate him. Shortly after; a struggle for power and control followed: “like a trapeze in which one is over or under”. The patient could not respect those who supported and loved him, and reacted with idealized submission and repressed rage and aggression to those who dominated him and functioned like his father.

The first session revealed the patient lived with his mother, who had an alcohol problem. Guilt feelings prevented him from leaving the mother. The patient felt he should support her. The relationship of the patient to his dead father was particularly difficult. It was described as an unconditional submission to him, whom he served in every respect with a masochistic attitude, while his brothers and sisters became self-sufficient and independent. He felt like a “shadow”, whom his father could not see. His election of partners was characterized by a great attraction to older men. In his latest relationship, he betrayed his partner, whom he loved, with a much older man. The older man refused to openly accept their relationship; his friend left him, and he made a suicide attempt.

The therapist, who united also the requisites of being “an attractive older man”, reacted with fear and anger to the transference advances of the patient. In the ninth session, the negative maladaptive pattern was repeated: the patient felt once more denied and beaten. He announced his desire to abandon treatment. The therapist convinced him to continue. The therapist interpreted the childhood relationship of the patient with his father “you want to

find a substitute father as in childhood". According to Kernberg's (1989, 2001) technique for the treatment of borderline patients, interpretation of relationship dyads in the "here and now" in the transference is recommended, rather than going into past childhood themes. Both patient and therapist agreed that the treatment had a bad outcome. The patient evaluated the treatment worse than the therapist. The patient, however, succeeded in leaving the house of his mother. No catamnesis was possible.

In this treatment, metaphors described clearly certain object relations. For his father, he was a "punching-bag"; he felt like a "shadow" his father could not see. He is attracted to older men; he believed "graying men with beards" could offer him security, but the opposite happened, he was treated like a child and not taken into consideration. His previous partner was like "a firm hand behind" (*eine straffe Hand dahinter*). Phonologically, this example had a second meaning, "a punishing hand behind" (*eine strafe Hand dahinter*; orthographically with only one "f").

Transference and counter-transference themes were also well brought across through metaphors: The patient expressed how difficult it was for him "to open up" before others and that the therapist reminded him of his father in his strictness and severity.

Examples of some transference metaphors follow:

Patient: "As I was on my way here, I felt more and more cramped up"; "there is a viscous, difficult quality in our communications"; "I always feel cornered up"; "shut your trap".

The next example was coded as polysemy:

Patient: "I don't know how to grasp you" (*wie kriege ich Sie irgendwie zu fassen*; with the sense of understanding and grabbing at the same time).

Certain counter-transference themes were also expressed through metaphors and polysemy:

Therapist: (coded as polysemy): "It is amazing; or maybe not, that you got most of the beatings"; (coded as polysemy):

Therapist: "You feel, "Aah, there can I open up", thinking, "There you will not fall on your nose again"; or (metaphor):

Therapist: "Where am I, under or over?" "The requirement for someone to be with you is that you always fall on your muzzle" (*auf die Schnauze fallen*); "You are attracted to men that are 15 or 20 years older, and you find that o.k. but on the other hand, under all

conditions, you always end with a kick in the ass” (*dass Sie immer ein Tritt in den Hintern kriegen*).

Table 30: Affect-Affect and Affect-Metaphors in Therapy 21

Th. 21	Aff/Aff Time Interval	Patterns		Aff/Met Interval	Patterns	
Simultaneous	0,9 – 4,9	Joy	30	3,0 – 4,8	Disgust	18
		Contempt	10			
		Sadness	7			
		Fear	3			
		Disgust	3			
		Anger	1			
Sub-total:	54					
Short	5,1 – 9,9	Disgust	37	6,8 – 9,6	0	
		Contempt	11			
		Joy	10			
		Anger	9			
		Poss. Anger	4			
		Sub-total:	60			
Middle-long	11,5 – 92,6	Surprise	10	--	0	
		Contempt	6			
		Anger	4			
		Fear	4			
		Disgust	3			
		Poss. Anger	3			
Sub-total:	30					
Long	104,5 – 184,6	Anger	4	102,7 – 102,7	Joy	5
		Disgust	3			
		Sub-total:	7			
Total:			151		0	23

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

Therapy 21 presented most affect-affect patterns in the simultaneous and in the short critical interval phases. In the simultaneous phase, multiple joy patterns appeared together with other simultaneous negative affects (contempt, sadness, fear, disgust, and anger). Metaphor-affect patterns appeared predominantly also in the simultaneous phase, in which disgust was associated to metaphors. No further affect-metaphor patterns appeared. Long affect-affect patterns were present, which were not excessive in length. Only 13% of the patterns corresponded to affect-metaphor and 87% of all patterns are affect-affect. This patient was classified as part of the bad outcome group.

Therapy 24. This thirty-year old employee presented as main symptoms: an “eating disorder” and problems in her marriage. The treatment was psycho-dynamically oriented.

The patient had two young children and had become pregnant once again, despite her manifest difficulties with her mother role and an inhibition in the expression of spontaneous affect to her children. The patient narrated during the first session a repetitive sexual abuse by her uncle between the ages of thirteen and twenty.

During her childhood, the parents of the patient divorced. Her brother went to live with her mother, and she remained with her father. As the father remarried and the step-mother became pregnant, she was sent back to her mother. She described her relationship to her mother at that time as bad. The patient was most reserved, tried to please in every sense, was afraid of saying anything wrong, and tried to do everything correctly. The sexual abuse and/or possible consequences were not further explored in the therapy. The patient simply described sexuality with her husband as more relaxing than satisfying. Another area of conflict with her husband was her relationship with her own children. The husband openly declared that he was evidently the first care-taking figure of their children. The patient reacted immediately to the comment with a compulsive-eating attack.

The therapist interpreted to the patient her fear of questioning the relationship to her husband and of saying what she really wanted or felt. She was afraid of being left alone, as she was left alone in childhood; when she had experienced her relationship to her mother and to others as unreliable. The therapist reacted with difficulty in understanding the way in which the patient reacted to her own children. The patient expressed her feeling of being reproached for not being able to fulfill the role of the “super-mother” and that the therapist pointed to her with a “moralistic pointing finger”. The treatment was evaluated as moderately successful. The patient evaluated the treatment much better than the therapist; which brings to mind her previous pattern of trying to please and doing things correctly.

The most frequently used metaphors in this treatment related to emotional stress or pressure (12 in total): “to set limits”; “I feel cornered up”; “to be sacrificed” “to have built a wall”; “under pressure”; “to be able to jump a barrier”. In relation to the abuse by the uncle, “I stand apart on the side”; “as if a part of me were not there”; “I am parted in two (gespalten) but a part of me still remains there”.

In relation to the eating disorder, particularly “eating attacks”, the patient used quite a few metaphors that were related to body parts: “it gets me on the nerves”; “I lost my head”;

“it gets out of hand”; “under my skin”; “to shut your mouth”; “to sit with clenched teeth, although I could holler”.

In relation to the possibility of establishing a relationship with her therapist, the patient expressed, “I told myself, after 15 sessions, you have to get on your legs and march out”.

Table 31: Affect-Affect and Affect-Metaphors in Therapy 24

Th. 24	Aff/Aff Time Interval	No. of Patterns	Aff/Met Interval	No. of Patterns		
Simultaneous	1,0 – 4,9	Joy	16	2,8 – 2,8	Anger	3
		Anger				
		Sub-total:	20			
Short	5,5 – 9,9	Anger	4	--	0	0
		Poss. Anger	9			
		Sadness	4			
		Sub-total	17			
Middle-long	10,1 – 85,2	Poss. Anger	23	11,6 – 78,2	Poss. Anger	6
		Non-Predict	12			
		Surprise	4			
		Contempt	2			
		Sub-total:	41			
					Surprise	4
					Sub-total:	10
Long	107,2 – 109,5	Poss. Anger	4	102,6 – 102,6	Sadness	7
Total:			82			20

Column 1 presents the four time classifications for critical-time intervals; columns two and four, the measurement of the former in seconds and tenths of a second. Under column three appear the kind of affect-affect patterns; i.e. anger with some other affect; and in column five the affect in a pattern with a metaphor. The number of patterns is also shown in columns three and five.

The majority of the affect-affect patterns in this treatment fell on the middle-long critical interval phase. Anger appeared as a simultaneous affect-affect pattern and later associated to affect metaphor patterns, also simultaneous. The affect-metaphor patterns belong also predominantly in the middle-long critical interval phase. No particularly long affect-affect patterns were shown. Affect-metaphor patterns constituted 19% of all patterns, and 81% the remaining affect-affect patterns. This patient was classified in the limit between good and bad outcome. A possible child-abuse was not cleared up nor is the relationship to her children improved.

In conclusion, most good outcome patients had consistently a relationship of at least 50% affect-metaphor patterns; did not present excessively long affect-affect patterns, nor did the negative affect-affect patterns appear predominantly on the simultaneous phase. To be

observed was also the association with metaphors of negative affects that could have appeared on the simultaneous or in the short phase. The contrary was also valid for bad outcome patients.

T-Tests were made to test differences in affect affect and affect-metaphor patterns of good and bad outcome patients. Both groups presented significant differences in both assessments; $<,000$.

9.4. Testing of Hypotheses.

H1: Metaphors appear in greater quantity and density in psychotherapy transcripts than the expected probability.

True. Significant differences in metaphor concentrations occurred within the same session, the same treatment, and within different patients. A non-parametric Mann Whitney U-Test for independent rang samples was used to measure the independence of metaphor and polysemy density coefficients in order to differentiate the appearance of metaphors as active elements that produced the described effects, in contrast to their random appearance as elements of ordinary speech. Polysemy was used as a control variable that is theoretically expected to advance in a different direction to metaphor. Although no confidence level was reached ($,548$; $p=,08$), significance was not too far away from confidence levels, which perhaps a larger sample would allow. In order to test significant differences within the evolution of treatment; that is, changes from session 3 to 12, the Combined Polysemy Interference/Metaphor Growth Index was further correlated with the outcome measures of the Multichannel Process Project (FBI and combined evaluation of patient and therapist of satisfaction with the treatment). Between the evaluation questionnaires for success of the treatment by patients and therapists and the Combined Polysemy Interference/Metaphor Growth Index, a very high negative correlation was found:

$r=-,795$; $p=,05$; $N=9$. A negative correlation of $r=-,460$ $p=,213$; $N=9$; which is not significant, was found between the symptom assessment of the Freiburger Beschwerdeliste (FBL-G; Fahrenberg, 1975, CIP, 1986) and the Combined Polysemy Interference/Metaphor Growth Index. The correlation demonstrates that both data value systems run in very similar directions. Significant differences in the combined production of metaphor and polysemy in patient and therapist in all treatments were also found ($p=,042$).

H2: Therapists have a greater production of metaphors than their patients.

False. A metaphor coefficient was developed which measures number of metaphors produced in relation to word count. Therapists, in general, tended to produce more metaphors than their patients. However, the production of metaphors between patient and therapist did not present significant differences; $p=,211$.

H3: A higher metaphor density coefficient in patients is related to better outcome; outcome as measured by satisfaction with the treatment as evaluated by patient and therapist questionnaires and the symptom scale of the Freiburger Beschwerdeliste (Freiburg Symptom Checklist) (FBL-G; Fahrenberg, 1975, CIP, 1986). .

True. The obtained Metaphor Density Coefficient scores of the ten treatments were correlated with the scores of the combined patient and therapist questionnaires for the evaluation of satisfaction with the treatment. The obtained correlations were surprisingly high ($r=,718$; $p=,029$; $N=9$). These results can be interpreted perhaps not as a full assessment of real outcome but of the correlation between positive or negative subjective evaluation of treatment, in which a high production of metaphoric speech, full with images and emotion language, or lack of it, could have influenced the judgment of patient and therapist.

False. Metaphor Density Coefficient Scores were correlated with the results of the FBL after termination of treatment by means of the scales of bodily complaints and symptoms. This time the correlation was apparently much more modest ($r=,390$; $p=,299$; $N=9$), but also more realistic in terms of outcome, as both assessment systems measure fairly different dimensions. Significant values were not reached, but the achieved correlation indicates that the before-correlated variables advance in similar directions.

H4: More emotion and creative metaphors appear in psychotherapy transcripts of patients with good outcome than in those with bad outcome.

False. No significant differences were found between the production of the four types of metaphors that were coded between good and bad outcome patients: ontological metaphors, $p=,239$; orientation metaphors $p=,193$; emotion metaphors $p=,12$; creative

metaphors, $p = .08$. In absence of significant differences, results may be interpreted as a tendency in good outcome patients to produce more emotion and creative metaphors than bad outcome patients and that conventional metaphors are adequate for the working-through of psychic material.

H 5: Good outcome treatments show more metaphors whose meaning or use is built in the psychotherapy interaction.

True. Good outcome treatments showed more metaphors whose meaning or use was built on metaphoric interaction. Significant differences were found in relation to interactivity in metaphor production in good and bad outcome treatments $p = .021$. These results support the theory that metaphors function better when contextualised. In affect-metaphor patterns detected by *Theme*, with the exception of one treatment, bad outcome treatments showed practically no interactive patterns in their metaphor-affect patterns.

H6: A higher production of metaphors is related to a greater production of significant objects of reference and associations.

True. Good outcome patients with good metaphoric coefficient showed more construction of significant objects of reference and associations; $p = .001$.

H7: Different primary affects (anger, disgust, contempt, sadness, joy, surprise) exhibit significant characteristic differences in critical intervals of time between one EMFACS affect coding and the next one.

True. Significant differences in critical time intervals were found through the calculation ANOVA; results were significant, $p = .000$.

H8: In all ten treatments, in patterns detected by *Theme*, affect-metaphor patterns present considerably longer critical time intervals than affects-affect patterns.

True. Affect-metaphor patterns in the ten treatments measured by *Theme*, presented longer critical time intervals as affect-affect patterns. Differences were found to be significant; $p = .044$. Patterns of affects and metaphors (language) seem to require longer processing time.

H9.- Good outcome and bad outcome treatments present significant differences in the duration in time of critical time intervals both of affect-affect and affect-metaphor patterns.

True. T-Tests were made to test differences in affect affect and affect-metaphor patterns of good and bad outcome patients. Both groups presented significant differences in both assessments; $<,000$.

H10: Good outcome patients present more interactive *Theme* metaphor patterns than bad outcome patients.

True. Good outcome patients presented more interactive metaphor patterns than bad outcome patients, $p=,002$.

10. Resume.

The present study ventures on the pioneer terrain of affect and language in psychotherapy sessions and their possible unconscious integration into speech and cognitive processes. Theoretically, the study follows closely postulates of the theory of metaphor (Lakoff, 1987, 1993) and of the theory of affect (Freud (1895), Tomkins (1962, 1995), Ekman (2003, 1994, 1992, 1982, 1978), Krause (1997, 1998), and Green (1999, 1973). For Lakoff (1987, 1993), metaphors enable information processing and mapping one cognitive domain into another. Metaphors also enable the expression of images, affects, and emotions in unique form. Metaphors further the elaboration and working-through of psychic contents of through their qualities of analogy and substitution and by conferring unelaborated thoughts qualities of time and space, causality, and logic. The linguistic trope of metaphor is proposed to function as a matrix for the elaboration of cognitive and affective contents, as well as for the creation of mental representations.

As to the theory of affects, affects are proposed as “advanced organizers” of action and of mental representations in their function of appraisal. Appraisal is an adaptational encounter, in which the environment is scanned or evaluated for things that are important and for a quick action to be taken or not. Appraisal is automatic and the thoughts involved remain unconscious; while what appears as conscious is a particular affect; i.e. fear or anger. Appraisal can become conscious when extended over time. In such case, deliberate, complex symbolic, thought processes are implied. Affect is also proposed as “binder” of mental

representations of a specific affective quality, running through representations and organizing them; i.e. a sadness schema or representational world. In its third function, affect can also appear as an “inhibitor”; hindering that unpleasant mental representations become conscious. The former can occur when affect functions as anxiety alarm or to the avoidance of certain unpleasant representations at the service of defence mechanisms. When quantity of affect is too intense; mental representations may be modified or altered i.e. irruptive affect in traumatic situations.

The main supposition of study is that in successful psychotherapy treatments good quality metaphors are used to process affective and cognitive elaboration and that this is one of the ways in which affect is integrated into speech. The second assumption is that affective and conscious cognitive processing have different timing, and that a successfully handled treatment falls into an ideal timing of affect and language integration and interaction. Each primary affect has characteristic intensities and durations in time. A refractory period exists between the neural firing of one affect onto the next affect. During this period, information and knowledge stored in memory, which is supported by the experienced emotion, initially filters into consciousness. An emotion may last a few seconds or longer and the quality of consciousness and the elaboration of mental representations is conditioned by the intensity and duration of affect. The study demonstrates assessment of affect interactions in microseconds; i.e. joy has shorter intensity and duration as sadness, and corroborates what is reported in literature in relation to affective processing of major events; i.e. a painful loss creates an intense feelings of depression that extend over time and will be elaborated very slowly or not at all. Positive joyful affects, like getting a promotion or the desired partner, tend to stabilize (Fridja, 1996). In psychotherapy sessions, intense, long-duration affects are also accompanied by fewer associations.

Affects were operationalised as interactive non-verbal facial expression and were assessed through EMFACS (Emotion Facial Action Coding System; Ekman, P.& Friesen, W. V., 1978). A Method for the Identification of Metaphors was developed and tested for inter-rater reliability.

In a first moment, a sample of good and bad outcome treatments was evaluated in relation to metaphoric production and elaboration. The same sample of good and bad outcome treatments, which had previously been evaluated through other outcome parameters

(questionnaires of satisfaction with the treatment by patient and therapist and the scales of the Freiburger Beschwerdeliste (Freiburg Symptom Checklist) , was correlated with metaphoric production and elaboration. Correlations were found to be adequate enough to also use metaphoric elaboration as a parameter for outcome.

In general, good outcome treatments were characterised by the following: higher metaphor production of interactive quality and greater associative capacity; measured through naming of significant objects of reference. Merten (1996, 2000) concluded in the analysis of the same patient sample, that in good outcome treatments maladaptive repetitive patterns that appeared from the first session were reduced. In relation to the results of this study, affect reduction can be interpreted as a migration or transformation of affects into verbalisation.

In a second moment, metaphors and non-verbal affects were set on a horizontal time line. A computer software (*Theme*) was used to detect repetitive patterns in time formed by affects and metaphors beyond the expected probability and to measure their cognitive and affective processing time through the critical time interval that separates one coding from the next within the pattern. Refraction time between affect and other affects or mental representations was operationalised as the critical time intervals that constitute affect-affect and affect-metaphor patterns, which were detected through *Theme*. It was possible to demonstrate that primary affects in this sample have characteristic intensity and density times, in that they differentiate significantly from one another. Affect-affect interactions presented significant differences in time when tested against affect-metaphor patterns. It was also possible to demonstrate that successful treatments present characteristic affect and cognitive timing integration in the interaction with the therapist, which I have called “affective resonance”. Results can only be restricted to the specific sample that was used.

11. INTERPRETATION AND DISCUSSION

Studies reported in literature usually remit to markers of affect in texts or narratives under different categorizations on an *après-coup* modality; that is, when what was coded as affect is already integrated and consciously appears in language. No empirical study could be found on the real time integration of intra- and inter-psychic processes. The sample and data used for this study was also very difficult to obtain; namely, ten complete, short-term psychotherapeutic treatments, which were EMFACS and metaphor-coded, video-filmed, and transcribed. Both the theoretical and methodological approach presented a good amount of difficulties, due to the complexity of the theme. The obtained results point to a discourse constituted by interactive facial expression and metaphors in real time when these two elements advance in time addresses in terms of proximity or distance in the constitution of repetitive patterns. To this effect, *Theme* was used, a computer soft-ware for the detection of patterns in time through a mathematical algorithm.

Results address specifically short, face-to-face psychotherapy treatments, with patients in an heterogeneous sample, that had already been treated by other therapists unsuccessfully, in most cases, because of the severity of their disturbance. The psychotherapeutic goals were also restricted to the fifteen planned sessions. If further treatment was needed, it was not to be evaluated. It was so conceived from the beginning.

11.1. Metaphor Quantity and Quality.

The creation of a Metaphor Density Coefficient allowed to confirm that metaphors appeared in very different concentrations in different sessions and treatments. Word counts of the sessions revealed in this sample, what was to be expected, that successful therapists speak much less than their patients (from 30 to 40%). Although therapists had a tendency to produce more metaphors, in relation to word count, no significant differences were found as to higher metaphor production between patients and therapist. Results suggest that metaphors cannot be compared to developmental matrixes that the therapist uses to “contain” affective and cognitive psychic material of his patients, but rather that metaphors function as matrixes for the elaboration or transmutation of affects and cognitions that benefit from interactivity in

the production of a singular meaning. The therapist follows or decodifies the metaphors of his patient or the patient continues a metaphor started by the patient.

The question of metaphor production and diagnosis arose in Question Complex 1, as two of the patients in the sample had a borderline diagnosis and others probably a lower structural level. Borderline diagnosis can be treated as a phenomenological description of the patient's symptoms, as they are usually described in the DSM-IV. Borderline also implies the question of personality structure, in which determined structural systems within personality are described in interaction with one another. In the case of the borderline diagnosis, identity diffusion; mechanisms of defence; object relations, and reality testing are considered. Patients with low structural personality level usually have restricted mentalization (Fonagy, 2001). Mentalization is a term that refers to the capacity of understanding and symbolizing attitudes, feelings, and mental processes from others and from one's self in an objective manner. Structural assessment is now possible through recently standardized instruments, like the OPD (2004) with five different structural levels. Unfortunately, at the time of the constitution of the sample (1987), no standardized instrument to measure personality structure was available. In the sample of this study, a patient with borderline diagnosis tended to produce many more metaphors (Therapy 06). This patient had also a very high production of affects in the interaction. Nevertheless, when the high metaphor density coefficient was added to the interaction, the resulting coefficient descended. Kernberg (1989, 2001) proposes in his manual for the treatment of borderline patients, in a certain phase of his technique, to make interpretations to the patient in metaphors. Clinical experience points to metaphors as promoters of symbolisation and affect elaboration. Structural level and metaphor production require further research.

To the question of type of metaphors and outcome, no significant differences were found when they were compared to other more moderately successful treatments. Although good outcome patients tended to produce more emotion and creative metaphors, conventional, every day every-day language metaphors were also used by patients to elaborate affective and mental contents. However, a strict-one- to-one meaning of metaphors was not made. The specific, single cultural meaning Lakoff (1980) proposes, such as "high is good and low is bad", as it can be observed in the following metaphors: "I overcame the situation" or "it runs in you pants" had to be contextualized in the personal history and associations of each patient. These metaphors acquired a specific meaning in the personal material of the patient and in the

interaction. The relationship between cultural and personalized metaphors exhibits a similar relation to the interpretation of universal symbols in dreams when interpreted within the associations of a patient.

An assessment of the number of associations in the speech of the patient was proposed through a count of significant objects of reference. Results pointed to high correlations between good outcome patients, good metaphor production, and augmented production of objects of reference or associations. Although the quality and specificity of associations could not be additionally determined, results can be interpreted as a transformation or migration of affects into language. Metaphor production and interaction probably function in the same manner as good interpretations or interventions: they enable the processing and production of more associations.

11.2. Metaphors and Outcome.

Correlations enabled to establish similar outcome parameters between metaphor production and questionnaires of satisfaction with the treatment. As mentioned before, this can be related to the creation of a better psychotherapeutic relationship when affects can be expressed in metaphoric form, and when the partner of interactions understands and shares this type of association. The more modest correlation with symptom reduction is perhaps a more realistic assumption. In Therapy 02, at the end of treatment, as symptom reduction took place, metaphors tended to increase greatly. The patient also asked for the continuation of treatment. More research should be done to this respect, in which the therapist follows a technique in which metaphors are specifically included, mentioned, repeated or related to other associations and another groups in which metaphors are simply left out. Metaphors could also be differentiated as “main-theme-conducting metaphors” and “related metaphors”.

The question of the appearance of metaphors beyond the expected probability and their production of the expected metaphorisation effects was partially proved through the metaphor/polysemy growth index. The detection of patterns by *Themes* also served the function of testing expected probability and proved to be significantly related to good outcome, as in affect-affect patterns. For a posterior study, an event analysis (*Ereignisanalyse*, Blossfeld, 1986) which is a method used in sociology to assess the

probability of the occurrence of an event, could be used; i.e. peak times in which divorce is more probable in the development of a marital relationship.

Significant differences in relation to good outcome and metaphor interactivity also poses the question of how to integrate interactivity into treatment techniques. Some treatment techniques recommend almost no interactivity and others use it widely. In the latter, the therapist can be prone to becoming extremely directive or pedagogic.

11.3. Affects and Metaphors.

The results of the measurement of time critical intervals showed that, in general, affect-affect patterns tended to be shorter than the affect patterns that were linked to metaphors. The former could be interpreted as a form of “advanced organization” or “appraisal” in the interaction, in which cognitive processes took place but were not *consciously* experienced.

Critical time intervals in patterns detected by *Theme* were classed in four duration phases: 1) *simultaneous* (from 0 – 4,9 secs.); 2) *short* (5 – 9,9 secs.); 3) *middle* (from 10 – 99,9 secs.); 4) *long*; (100 secs. or longer). The affect-affect patterns in this sample were characterised by the presence of positive and negative affect patterns that were almost simultaneous, with very short critical intervals; mostly in the case of joy. Schwab (2001) his work with affect choreographies, found out that too many short smiling or joy patterns, as well as non-genuine, social smiling patterns, in psychotherapeutic interactions were *not* a good predictor for psychotherapeutic outcome. The maladaptive affective dyads constituted by negative affects and detected by Merten (2000), which were not reduced in bad outcome treatments were also of this simultaneous quality. Bad outcome patients in the sample of this study also presented much longer critical interval time in patterns. This could be interpreted as a the opposite phenomenon: affect which provoked extremely long refractory periods, lost the capacity of functioning as “binder” of representations or associations, and hindered or interrupted further affectivity and/or associations to take place. In the case of confrontation with painful or disagreeable material unmanageable fear or anxiety was activated and/or no interpretations from the therapist reconstitute the associative capacity. “Affective resonance”

refers to an adequate affective and associative time-lapse rhythmicity between patient and therapist.

When patterns are simultaneous or too quick, the interaction may remain only in a “phatic function”(see Chapter 3); as in the case of social smiling, in which the interactive relationship is maintained but no significant communication takes place. It is also possible that in certain types of short interactions, affect patterns undergo changes in structural organisation through the interaction itself; i.e. corrective emotional experience; in which the origin of the change is not conscious to patient and/or therapist. In the case of negative affects; i.e. repetitive maladaptive dyads that are not worked out (Merten, 2000), these simultaneous affective patterns could be interpreted as acted out, when the interactive response from the therapist is not neutralised by another affect of different frequency and density that changes the velocity of the interaction; i.e. anger (in Therapy 1) or when the pattern cannot interacted in another form or cannot be interpreted verbally. To measure specifically the effects of possible verbalisation or metaphorisation of individual affect patterns would also be interesting, but was beyond the reach of this project.

Very long affect-affect patterns could be interpreted as mental representations that are scarce, distanced, or absent. This is the case of certain affects, which require long processing times; i.e. extreme traumatic situations (as in Therapy 06); extreme fear (in Therapy 05); or difficult losses to be processed (Therapy 21). Short and middle-long critical intervals in patterns seem to be more adequate for affective processing. According to the results in this sample, could be considered as “ideal timing”.

Affect-metaphor patterns presented considerably longer critical time intervals. The former could be interpreted as affects that function as “binders” to mental representations or verbalization processes, which require an “ideal” time lapse for “quality of consciousness” (see Chapter 1). Verbalization necessarily requires longer processing times than automatic thoughts.

It is also known to FACS and EMFACS coders that more affects can be coded when a person is speaking, due to natural facial expressivity. Nevertheless, *Theme* showed that in the detected patterns that affects show longer critical interval distances when in the presence of metaphors as when in the presence of other affects.

Much more research is required on this field. Other more homogeneous samples would be recommended. The difficulty lies in obtaining a sample in which treatments are fully conducted, transcribed, coded, and analyzed.

BIBLIOGRAPHY .

- 1) Abercrombie, D. (1967). *Elements of Phonetics*. Edinburgh: Edinburgh University Press.
- 2) Alexander, F. (1957). *Psychoanalysis and Psychotherapy*; Allen & Unwin; London.
- 3) American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM-IV)*, Washington D.C.
- 4) Anderson, R.C. & Ortony, A. (1975). On putting Apples into Bottles: A Problem of Polysemy. *Cognitive Psychology*; 7, 167-180.
- 5) Arnheim, R. (1969). *Visual Thinking*; Berkeley: University of California Press.
- 6) Aulagnier, P. (2001). *La Violence de l'Interpretation*, Brunner-Routledge; Hove.
- 7) Austin, J.L. (1962); *How to do Things with Words*; Oxford: Clarendon Press.
- 8) Averill, J. A Constructivistic View of Emotion; In R. Plutchik & H.Kellerman (Eds.) (1980); *Theories of Emotions*; pp. 305-340; New York Academic Press.
- 9) Averill, J. & Nunley, E., (1992), *Voyages of the Heart*; The Free Press; A Division of Macmillan, Inc., New York, Oxford, Singapore, Sydney.
- 10) Balint, M. (1935). Critical Notes on the Theory of the Preenatal Organisations of the Libido, in *Primary Love and Psychoanalytic Technique*, Hogarth Press, London.
- 11) Balint, M. (1949). Changing Therapeutical Aims and Techniques in Psycho-analysis, in *Primary Love and Psychoanalytic Technique*, Hogarth Press, London
- 12) Baltes, M., Kindermann T., et al (1987). Further Observational Data on the Behavioral and Social World of Institutions for the Aged“; *Psychology and Aging*; Vol. 2, No. 4, P. 390-403.
- 13) Batacchi, M. W., Suslow T., & Renna M. (1996); *Emotion und Sprache: zur Definition der Emotion und ohren Beziehungen zu Kognitiven Prozessen, dem Gedächtniss und der Sprache*. Berlin, Bern, Wien: Lang.
- 14) Benecke, C., (2000). *Mimischer Affektausdruck und Sprachinhalt: Interaktive und Objektbezogene Affekte im Psychotherapeutischen Prozeß*; (Dissertation, 2000); Bern, Berlin, Bruxelles; Frankfurt am M.; New York; Oxford; Wien: Lang (2002).
- 15) Benecke, C. & Krause, R. (2004). Nonverbale Kommunikation in der Psychotherapie von Angststörungen. In M. Hermer & H.G. Klinzing (Hrsg.). *Nonverbale Prozesse in der Psychotherapie*. Tübingen: DGVT Verlag, S.249-260.
- 16) Bénveniste, E., (1966): *Problèmes de Linguistique Générale*, Paris, Gallimard.
- 17) Bick, E. (1964); Notes on Infant Observation in Psycho-analytic Training; *International Journal of Psycho-Analysis*; vol. 45, no. 4, pp. 558-566.
- 18) Birdwhistle, R.L. (1968); «Kinesics» in *International Encyclopedia of the Social Sciences*; vol 8; pp. 379-385; New York; Macmillan.
- 19) Bischof, N. (1985); *Das Rätsel Oedipus*; München, Piper.
- 20) Bischof, N (1989); *Emotionale Verwirrungen*; (Oder: Von der Schwierigkeiten im Umgang mit der Biologie); *Psychologische Rundschau*, 40, 188-205.
- 21) Black, M.; (1993), « More About Metaphor » in *Metaphor and Thought*; (Edited by Ortony, A.); Cambridge University Press.
- 22) Blossfeld, Hans P. (1986); *Ereignisanalyse*; Statistische Theorie und Anwendungen in den Wirtschafts- und Sozialwissenschaften; Campus Verlag; Frankfurt.
- 23) Blume T., (1998); Demmerling, *Grundprobleme der Analytischen Sprachphilosophie*, Wilhelm Fink, Verlag München.
- 24) Borod, J.C., Bloom, R.L., & Haywood, C.S. (1998); Verbal Aspects of Emotional Communication. In M. Beeman & C. Chiarello (eds.). *Right Hemisphere Language Comprehension. Perspectives from Cognitive Neuroscience*; 285-307. Mahwah, NJ: Lawrence Erlbaum Associates.

- 25) Bower G. H. & Glass, A. L. (1976). Structural Units and the Redintegrative Power of Picture Fragments. *Journal of Experimental Psychology: Human Learning and Memory*, 1976, 2, 456-466.
- 26) Brazelton, T. (1984); *Neonatal Behavioral Assessment Scale*; Spastics International Medical Publications; London.
- 27) Bréal, M. (1897). *Essai de Sémantique*. Paris. English translation : *Semantics : Studies in the Science of Meaning*. London, 1900.
- 28) Bredin, H. (1984). Metonymy. *Poetics Today*, 5, 45-48.
- 29) Brentano, F. (1966); *Die Abkehr vom Nichtrealen*; Francke, Bern, München.
- 30) Brewer, W.F. (1975). Memory for Ideas: Synonym Substitution. *Memory & Cognition*, 3, 458-464.
- 31) Bromme, R. & Stahl, E. (1999); Spatial Metaphors and Writing Hypertexts: Study within Schools; *European Journal of Psychology of Education*; 1999; 14(2): 267-281.
- 32) Brown, R. (1958). *Words and Things*; New York: Free Press.
- 33) Bucci, W., (1997); *Psychoanalysis and Cognitive Science; A Multiple Code Theory*; The Guilford Press; New York, London.
- 34) Buchinger, C. et al (2000); Right hemisphere contribution to metaphor processing I healthy subjects; *Journal of Neurolinguistics*; 2000; 13(4): 276-279.
- 35) Bühler, K. (1934); *Sprachtheorie*; Jena: Fischer (Reprinted Stüttgart: Fischer, 1965).
- 36) Bunge, M. (1974); *Treatise on Basic Philosophy: 1*; "Semantics 1; Sense and Reference". Dordrecht, Reidel.
- 37) Capellanus, A. (1974); *Traité de l'Amour Courtois*; Klincksieck, Paris.
- 38) Carroll, L. (1966); *Alice in Wonderland and Through the Looking Glass*; Collins; London.
- 39) Cacciopo, Berenstein, & Klein, (1992), What is an Emotion? The role of somatovisceral afference, with special emphasis on somatovisceral „illusions“. *Review of Personality and Social Psychology*, 14.
- 40) Ciompi, Luc (1982); *Affektlogik*; Stuttgart; Klett-Cota.
- 41) Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20, 37-46.
- 42) Cohen, N.J. (1984). Preserved Learning Capacity in Amnesia: Evidence for multiple memory systems. In L.R. Squire & N. Butters (eds.), *Neuropsychology of Memory*, pp. 83-103; New York, Guilford Press.
- 43) Cramer, B., (1990); Communication de l'Inconscient Maternel à l'Enfant ; in : Carel A. ; Hochman, J. ; Vermorel, H. (dir.). - *Le Nourrisson et sa Famille* pp. 85-93.
- 44) Craig F. & Lockhart, R. (1972). Levels of Processing: A Framework for Memory Research. *Journal of Verbal Learning and Verbal Behavior*, 1972, 11, 671-684.
- 45) Cramer, B., (2004); Le Triangle Transgénérationnel ; *Devenir* ; vol. 16, n° 1, pp. 55-61.
- 46) Darwin, C., (1872). *The Expression of Emotions in Man and Animals*. London: John Murray.
- 47) Davitz, J. (1969), *The Language of Emotion*, Academic Press; New York and London.
- 48) De Ajuriaguerra, Julian (1980), *Handbook of Child Psychiatry and Psychology*; Masson Publishing USA, Inc.
- 49) Derogatis, L. R. (2002). *SCL-90-R; Symptom-Checkliste* von L.R. Derogatis; deutsche Version; Gabriele Helga Franke; Auflage 2., vollständig überarb. und neu normierte Aufl. Göttingen; Beltz.
- 50) Dornes, M. (1994); *Der Kompetente Säugling*; Fischer-Taschenbuch-Verlag; Frankfurt am Main.
- 51) Dornes, M., (1994)“Can Babies Phantasize?”; *Psyche*; 48 (12), 1154-1175; 61; 0033-2623.
- 52) Dornes, M. (1997); *Die Frühe Kindheit*; Fischer Taschenbuch-Verlag; Frankfurt am Main.

- 53) Ekman, P. (1982a) *Emotion in the Human Face*. (2nd Edition). Cambridge: Cambridge University Press.
- 54) Ekman, P. (1982b); "Methods of Measuring Facial Action". In K.R. Scherer & P. Ekman (ed.) *Handbook of Methods in Non-Verbal Behaviour Research*; p.45-90. Cambridge University Press.
- 55) Ekman, P. (1984); Expression and the Nature of Emotion. In K. Scherer & P. Ekman /Eds.) *Approaches to Emotions*. Hilldale, NJ: Lawrence Erlbaum.
- 56) Ekman, P. (1992); Facial Expressions of Emotion: New Findings; New Questions; *Psychological Science*; 3(1), 34-38.
- 57) Ekman, P. & Friesen, W. V., (1978). *The Facial Action Coding System: A Technique for the Measurement of Facial Movement*. Palo Alto, CA: Consulting Psychologists Press.
- 58) Ekman, P., Levenson, R. W., Friesen, W. V., (1983) Autonomic Nervous System Activity Distinguishes among Emotions. *Science*. 221, 1208-1210.
- 59) Ekman, P. & Friesen, W. (1984). EMFACS-7. Unpublished Manual.
- 60) Ekman, P. (1994); "Antecedent Events in Emotion Metaphors". In: P. Ekman & R.J. Davidson (eds.) *The Nature of Emotion*; p. 146-149. Oxford: Oxford University Press.
- 61) Ekman, P., & Davidson, R., (1994), *The Nature of Emotion*, Oxford University Press.
- 62) Ellsworth, P., (1991); Some Implications of Cognitive Appraisal Theories of Emotions; in K.T. Strongman (Ed.) *International Review of Studies on Emotion* (pp. 143-161); New York: Wiley.
- 63) Ellsworth, P., (1994), "Levels of Thought and Levels of Emotion", in *The Nature of Emotion*, Oxford University Press.
- 64) Emde, R. (1984). Levels of Meaning for Infant Emotions: A Bio-Social View; in K.R. Scherer & P. Ekman (Eds.) *Approaches to Emotion*; (pp. 77-107). Hillsdale NJ: Lawrence Erlbaum.
- 65) Engelkamp, H.J. (1997) *Das Erinnern eigener Handlungen*; Verlag für Psychologie.
- 66) Engelkamp, J. & Rummel R., (2000); „Sprache und Emotion“ in *Emotionspsychologie, Ein Handbuch*, Beltz, Psychologie VerlagsUnion, Weinheim.
- 67) Ertel, S. (1969). Psychophonetik. Göttingen: Hogrefe.
- 68) Eysenck, M.W. (1976). Arousal, Learning, and Memory. *Psychological Bulletin*, 83, 389-404.
- 69) Fabregat, M.(2000); "Transference and Affect in Natural Language and in Computer Text Analysis Language", *Libro de Larc*, International Psychoanalytical Association, Buenos Aires, Argentina.
- 70) Fenk, A. (1994). Spatial Metaphors and Logical Pictures; in W. Schnotz and R.W. Kulhavy (Eds.); *Advances in Psychology. Comprehension of Graphics*. Elsevier Science B.V. North-Holland.
- 71) Fenk, A. (1998). Symbols and icons in diagrammatic representation, in *Pragmatics and Cognition*; 1998; 6(1-2): 301-334.
- 72) Finch, Henry Le Roy, (1977) *Wittgenstein-The Later Philosophy*, Humanities Press, Atlantic Highlands, N.J.
- 73) Fodor, J.A. & Katz, J.J. (eds. 1964), *The Structure of Language: Readings in the Philosophy of Language*, Englewood Cliffs, NJ: Prentice Hall.
- 74) Fodor, J. A. & Polyshyn, Z.W. (1988). Connectionism and Cognitive Architecture: A Critical Analysis. *Cognition*, 28, 3-71.
- 75) Fonagy, P.; (2001), *Affect Regulation, Mentalization, and the Development of the Self*; Other Press, New York.
- 76) Fonagy, P. (ed.) (2002); *An Open Door Review of Outcome Studies in Psychoanalysis*; International Psychoanalytical Association; British Library Cataloguing, London.
- 77) Fonagy, P. & Target, M. (1996); Playing with Reality: I. Theory of Mind and the Normal Development of Psychic Reality. *International Journal of Psychoanalysis*; 77, 217-233.

- 78) Fraiberg, S. (1987); Ghosts in the Nursery; in *Selected Writings of Selma Fraiberg*; Ohio State University; Columbus.
- 79) Franzman, A. (2003), *Metaphern in der Psychotherapie*; Diplomarbeit Universität des Saarlandes.
- 80) Frege, G. (1892,1952); *On Sense and Reference*. In P:T: Geach and M. Black (eds.) *Translations from the Philosophical Writings of Gottlob Frege*. Oxford: Blackwell, pp. 56-78. (*Über Sinn und Bedeutung*. Originally published in *Zeitschrift für Philosophie und philosophische Kritik*; 100-25-50).
- 81) Fahrenberg, 1975; CIP, 1986; Freiburger Beschwerdeliste (FBL-G).
- 82) Fahrenberg, J., Hampel, R. & Selg, H. (1989, 1994). *Freiburger Persönlichkeitsinventar (FPI) Revidierte Fassung FPI-R und teilweise geänderte Fassung FPI-A1*. Göttingen: Hogrefe.
- 83) Freud, A. (1946); *Das Ich und die Abwehr Mechanismen*; Imago; London.
- 84) Freud, S.; *Gesammelte Werke*; Fischer Verlag, Frankfurt am Main.
- (1895) Studies on Hysteria (Studien über Histerie)
 - (1895) Project of a Psychology for Neurologists (Entwurf)
 - (1900) The Dream Interpretation (Die Traumdeutung)
 - (1901) Dora
 - (1904) Psychopathology of Everyday Life (Zur Psychopathologie des Alltagslebens)
 - (1905) Three Essays on the Theory of Sexuality (Drei Abhandlungen zur Sexualtheorie)
 - (1905) The Joke and its Relation to the Unconscious (Der Witz und das Unbewusst)
 - (1909) The Rat Man (Der Ratman)
 - (1909) Hans
 - (1915) The Repression (Die Verdrängung)
 - (1915) The Unconscious (Das Unbewusst)
 - (1915) Instincts and their Viscisitudes (Triebe und Tribschicksaale)
 - (1916-1917) Introductory Lesson to Psychoanalysis (Vorlesungen zur Einführung in die Psychoanalyse)
 - (1917) The Wolfman (Der Wolfman)
 - (1920) Beyond the Pleasure Principle (Jedenseits der Lustprinzip)
 - (1923) The Ego and the Id (Das Ich und Das Es).
 - (1925) The Negation (Die Verneinung)
 - (1926) Inhibition, Symptom, and Anxiety (Inhibition, Symptom und Angst)
- 85) Fridja, N. (1996); "Gesetzte der Emotionen"; *Psychosomatische Medizin und Psychoanalyse*; 3/1996; Verlag Vandenhoeck & Ruprecht in Göttingen und Zürich.
- 86) Frisch, Karl von, (1965) 1967, *The Dance Language and Orientation of Bees*; Cambridge, Mass.; Harvard Univ. Press.
- 87) Fromkin, V., Rodman, R.; (1998). *An Introduction to Language*; Harton Brace College Publishers.
- 88) Gergely, G. and Watson, J. (1996); "The Social Biofeedback of Parental Affect-Mirroring: The Development of Emotional Self-Awareness and Self-Control in Infancy"; *The International Journal of Psychoanalysis*; 77:1181-1212.
- 89) Gibeault, A., (1985); *Travail de la Pulsion et Représentation : Représentation de Chose et Représentation de Mot* ; *Revue Francaise de Psychoanalyse* ; No. 3 ; T. XLIX ; Mai, Juni.
- 90) Gibbs, R., (1993), „Making Sense of Tropes“ in *Metaphor and Thought*; Edit. A. Ortony, Cambridge University Press.

- 91) Graumann, C.F. (1956). Social Perception. *Zeitschrift für experimentelle und angewandte Psychologie*, 3, 605-661.
- 92) Grawe, K., Donati, R., & Bernauer, F. (1994). *Psychotherapie im Wandel - von der Konfession zur Profession*. Göttingen: Hogrefe.
- 93) Green, André, (1973); *Le Discours Vivant*; PUF; Paris.
- 94) Green, André (1998); *La Déliaison; Psychoanalyse et Littérature*; Hachette, Paris.
- 95) Green, André, (1999); «Sur la Discrimination et l'Indiscrimination Affect- Représentation»; *Revue Française de Psychanalyse*; vol. 63 ; No. 1 ; pp. 217-271
- 96) Green, André (2000), The Central Phobic Position : a New Formulation of the Free Association Method ; *International Journal of Psycho-Analysis*, vol. 81, n° 3, pp. 429-451.
- 97) Hartmann, H. (1972) ; *Studies on Ego Psychology* ; Stuttgart, Klett.
- 98) Grice, H.P. /1975); Logic and Conversation; in Cole & Morgan (1975), *Syntax and Semantics 3, Speech Acts*; New York: Academic Press.
- 99) Hathaway & Mc Kinley (1930, 1989 Rev.); *MMPI (Minnesota Multiphasic Personality Inventory)*, University of Minnesota.
- 100) Hillekamp, U. et al (1996). Metaphorical Speech Processing in Brain Damaged Patients: Application and Analysis of a Metaphor Test ; *Neurologie and Rehabilitation*; 1996; 2(4): 232-326.
- 101) Hinton, G.E. (1981). Implementing Semantic Networks in Parallel Hardware. In G.E. Hinton & J.A. Anderson (eds.) *Parallel Models of Associative Memory*; Hillsday NJ: Erlbaum.
- 102) Hölzer, Scheytt, Kächele, (1992). *Das Affektive Diktionär Ulm als eine Methode der Quantitative Vokabularbestimmung, Textanalyse. Anwendungen der computergestützten Inhaltsanalyse*. Opladen, Westdeutschr Verlag
- 103) Izard, C- (1977); *Human Emotions*; New York, Plenum.
- 104) Izard, C. (1993); Four Systems for Emotion Activation; Cognitive and Non-Cognitive Processes. *Psychological Review*; 100 (1); 68-90.
- 105) Jackson, J.H: (1880). On Affections of Speech from Disease of the Brain, *Brain*, 2, 203-222.
- 106) Jakobson, R. (1960); *Aufsätze zur Linguistik und Poetik*; Nymphenburger Verlagshandlung; München.
- 107) Jakobson, R. (1969); *Kindersprache, Aphasie und Allgemeine Lautgesetze*; Frankfurt am Main (1973).
- 108) Jakobson, R. (1971a. Two Aspects of Language and two Types of Aphasic Disturbances. In R. Jakobson (ed.) *Selected Writings (vol. 2)*. The Hague; Mouton.
- 109) Jakobson, R. (1971b; Language in Relation to other Communications; in *Collected Writings II*; Mouton, The Hague, Paris.
- 110) Jakobson, R. & Halle, M. ; (1959) ; *Fundamentals of Language*; Gravenhage; Mouton (1999).
- 111) James, W. (1884), What is an Emotion? *Mind*, 9, 188-205.
- 112) Johnson, M.G. & Malgady, R.G. (1980). Toward a Perceptual Theory of Metaphoric Comprehension. In R. P. Honeck & R.R. Hoffman (eds.) *Cognition and Figurative Language*; Hillsdale, NJ: Erlbaum.
- 113) Katz, J.J. & Fodor, J.A. (1963), *The Structure of Semantic Theory*; in Fodor & Katz (1964; 479-518).
- 114) Kernberg, Otto F. (1989). *Psychodynamic psychotherapy of borderline patients*; New York; Basic Books, Inc.
- 115) Kernberg, Otto F. (2001). *Psychotherapie der Borderline-Persönlichkeit: Manual zur psychodynamischen Therapie*. Schattauer, Stuttgart, New York, 2002.

- 116) Kindermann, R. (1993). Fostering Independence in Mother-Child Interactions: Longitudinal Changes in Contingency Patterns as Children grow Competent in Developmental Tasks; *International Journal of Behavioural Development*, 16 (4), 513-535.
- 117) Kirsch, A. (2000). *Trauma und Wirklichkeit. Ein Expertendelphi zum Thema wiederauftauchende Erinnerungen*. Dissertation an der Universität des Saarlandes.
- 118) Klein, M. (1930); The importance of symbol-formation in the development of the ego. London, Hogarth Press, 1985, pp. 219-232.
- 119) Koevecses, Z. (2000); *Metaphor and Emotion; Language, Culture, and Body in Human Feeling*; Cambridge Univ. Press; Cambridge.
- 120) Krause, R. (1977). *Produktives Denken bei Kindern*; Beltz Verlag; Weinheim.
- 121) Krause, R. (1983). Zur Onto- und Psychogenese des Affektsystems und ihrer Beziehung zu Psychischer Störungen, *Psyche*, 37, 1015-1043.
- 122) Krause, R. (1987); *Multikanale Psychotherapie-Prozeßforschung. Forschungsantrag an die Deutsche Forschungsgemeinschaft*. Fachrichtung Psychologie der Universität des Saarlandes.
- 123) Krause, R. & Lütolf, P. (1988). Facial indicators of transference processes within psychoanalytic treatment. In H. Dahl & H. Kächele (Eds.), Psychoanalytic process research strategies (258-272). Heidelberg: Springer.
- 124) Krause, R. (1972); *Kreativität*; Goldman Verlag, München.
- 125) Krause, R. (1997); *Allgemeine Psychoanalytische Krankheitslehre*; Bd. 1; Kohlhammer, Stuttgart.
- 126) Krause, R. (1998); *Allgemeine Psychoanalytische Krankheitslehre*; Bd. 2; Kohlhammer, Stuttgart.
- 127) Krause, R. (2000a). Affekt, Emotion, Gefühl. In: W. Mertens & B. Waldvogel (Hrsg.). *Handbuch psychoanalytischer Grundbegriffe*. Stuttgart: Kohlhammer, S. 30-36.
- 128) Krause, R. (2000b). Anwendung der Affektforschung auf die Psychopathologie und den psychotherapeutischen Prozeß. Kurzbericht des Vortrages: In J.H.Mauthe (Hrsg.) *Affekt und Kognition*. Verlag Wissenschaft & Praxis, S.135-136.
- 129) Krause, R. (2001). *Über das Verhältnis von Ausdruck und Erleben bei an Schizophrenie Erkrankten*. In: F. Gräfin von Spreti, H.
- 130) Krause R. & J.Merten (1998). Affekte, Beziehungsregulierung, Übertragung und Gegenübertragung. In: Ch. Rohde-Dachser (Hrsg.) *Verknüpfungen. Psychoanalyse im interdisziplinären Gespräch*. Göttingen: Vandenhoeck & Ruprecht, S.181- 207.
- 131) Kris, Hartmann, Loewenstein (1964); *Papers on Psychoanalytic Psychology*, International University Press.
- 132) Kristeva, J. (1971). *Essays in Semiotics*; The Hague, Mouton; (1990).
- 133) Kristeva, J. (1981); *Le Langage, Cet Inconnu* ; Edit. du Seuil; Paris.
- 134) Kristeva, J. (1987); *Soleil Noir: Depression et Melancholie*; Paris, Gallimard.
- 135) Kunst-Wilson, W.R. & Zajonc, R.B. (1980); Affective Discrimination of Stimuli that Cannot be Recognized, *Science*, 207, 557-558.
- 136) Lacan, (1966). "Le Stade du Miroir comme Formateur de la Fonction du Je"; *Ecrits*; Editions du Seuil.
- 137) Lacan, (1966). «Le Temps Logique et Assertion de Certitude Anticipée»; *Ecrits*; Edits. du Seuil.
- 138) Lacan, J. (1966). «Function et Champ de la Parole» ; *Ecrits*; Edits.du Seuil.
- 139) Lacan, J. (1954-55). *Le Séminaire, Livre II, "Le Moi dans laThéorie de Freud et dans la technique de la Psychanalyse* », p. 157 ; Edits. Du Seuil, edit. 1978.
- 140) Lacan, J. (1956-57). Le Séminaire, Livre IV, « La Relation d'Objet », , edit. 1978 .
- 141) Lacan, J. (1959-60). Le Séminaire : Livre VII : l'Ethique de la Psychanalyse. Edits. Du Seuil ; 1986, pp. 45-53

- 142) Lakoff, G. (1987); *Women, Fire, and Dangerous Things*;
- 143) Lakoff, G. (1993); "The Contemporary Theory of Metaphor", in *Metaphor and Thought*; edited by Andrew Ortony, Cambridge University Press.
- 144) Lakoff, G. (2001); Metaphors of Terror; appeared in Internet; also in *These Times*; October, 29, 2001.
- 145) Lakoff, G. & Johnson M., (1980); *Metaphors We Live By*; Chicago: University of Chicago Press.
- 146) Langer, S.K. (1942); *Philosophy in a New Key*. Cambridge, MA: Harvard University Press. (Reprinted by Mentor Book, New York, 1948).
- 147) Laplanche & Pontalis, (1967). *Vocabulaire de la Psychanalyse*; Presses Universitaires de France, Paris.
- 148) Lanham, R. (1969) : *A Handlist of Rhetorical Terms*. Berkley: University of California Press.
- 149) Lazarus, R.S. (1982); "Thoughts on the Relation Between Emotion and Cognition"; *American Psychologist*, 37, 1019-1024.
- 150) Lazarus, R.S. (1984); "On the Primacy of Cognition"; *American Psychologist*; 39(2), 124-129.
- 151) Lazarus, R.S. (1991); "Progress on a Cognitive-Motivational-Relational Theory of Emotion"; *American Psychologist*, 46, 819-834.
- 152) Lebovici, S. (1990). *Der Säugling, die Mutter und der Psychoanalytiker*; Klett-Cotta; Stuttgart.
- 153) Lebovici, S., Lamour, M., Gozlan Lonchamp, A.(1998); Etude théorique du mandat transgénérationnel au cours d'une recherche clinique portant sur les pères. *Psychiatrie Française*, vol. 29, n° 3, pp. 88-94
- 154) Le Doux, J.E. (1992); "Emotion and the Amygdala"; in J.P: Aggleton (Ed.); *The Amygdala: Neurobiological Aspects of Emotion, Memory, and Mental Dysfunction*;(pp. 309-351); New York; Wiley-Liss.
- 155) Levenson, R.W. & Gottman, J.M. (1983); Marital Interaction: Physiological Linkage and Affective Exchange. *Journal of Personality and Social Psychology*; 45, 587-597.
- 156) Leventhal, H. (1982). The Integration of Emotion and Cognition: A View from the Perceptual-Motor Theory of Emotion. In *Affect and Cognition.*, M.S. Clarke and S.T. Fiske, eds. Hillsdale, NJ: Erlbaum.
- 157) Leventhal, H. (1984); A Perceptual Motor Theory of Emotion; in K.R. Scherer and P. Ekman (Eds.) *Approaches to Emotion*; (pp. 271-292); Hillsdale NJ: Lawrence Erlbaum.
- 158) Leventhal H. & Scherer, K. (1987); The Relationship of Emotion to Cognition: a Functional Approach to a Semantic Controversy, *Cognition and Emotion*; 1; 3-28.
- 159) Lévi-Strauss, C. (1958 et 1974); La Structure des Mythes; dans *Anthologie Structurale*; Librairie Plon.
- 160) Levinson, (1983) ; *Pragmatics*, Cambridge University Press.
- 161) Levy, Robert I. (1973); *The Tahitians; Mind and Experience in the Society Islands*. Chicago: University of Chicago Press.
- 162) Lewis, M. (2000). Emotional Self-Organization at Three Time Scales, in Marc D. Lewis & Isabela Granic (eds.), *Emotion Development, and Self-Organization*; Cambridge University Press; Cambridge, UK.
- 163) Lewis M. & Brooks, J. (1975). Infant's Social Perception. A Constructivistic View. In L. Cohen & P. Salapatek (Eds.). *Infant Perception: From Sensation to Cognition* (vol. 2; pp. 102-148); New York, Academic Press.
- 164) Lorenz, K. (1973). *Antriebe tierischen und menschlichen Verhaltens*; Piper, München.
- 165) Lyons, J., (1977), *Semantics*, Vol.1; Trinity Hall; University of Cambridge, Cambridge University Press.

- 166) Magnusson, M.S. (1989). Structure Syntaxique et Rythmes Comportementaux ; sur la Detection des Rythmes Cachées. *Sciences et Techniques de l'Animal du Laboratoire*, 14, 143-147.
- 167) Magnusson, M.S. (1996). Hidden Real Patterns in intra- and inter- individual behaviour : description and detection; *European Journal of Psychological Assessment*.
- 168) Magnusson, M.S. (2002). Theme: A Powerful Tool for the Detection and Analysis of Hidden Patterns in Behaviour; Version 4.0. Wageningen, The Netherlands: Noldus Information Technology.
- 169) Mahler, M.(1975); *The Psychological Birth of the Human Infant*; Basic Books, New York, N.Y.
- 170) Mandler, G. (1967). Organization and Memory. In K. W. Spence & J.T. Spence (Eds.), *The Psychology of Learning and Motivation* (vol. 1), New York: Academic Press.
- 171) Mannoni, M. (1967); *L'Enfant, sa Maladie et les Autres*; Edits. Du Seuil, Paris.
- 172) Mergenthaler, E. (1996), Emotion-Abstraction Patterns in Verbatim Protocols: A New Way of Describing Psychotherapeutic Processes. *Journal of Consulting and Clinical Psychology*, 64, 1306-1315.
- 173) Mergenthaler, E. & Stintson, C. (1992). „Psychotherapy Transcription Standards“ *Psychotherapy Research*, 2, 125-142.
- 174) Mergenthaler, E. & Bucci,W.(1995). *Computer-Assisted Procedures for Analyzing Verbal Data in Psychotherapy Research*; paper presented at the 24th Annual Meeting for Psychotherapy Research.
- 175) Merten, J. (1996); *Affekte und die Regulation Nonverbalen, Interaktiven Verhaltens. Strukturelle Aspekte des Mimisch-Affektiven Verhaltens und die Integration von Affekten in Regulationsmodelle*. Bern: P. Lang.
- 176) Merten, J. (1996b); The Function of Smiling and Mutual Smiling in Discussions and Psychotherapeutic Interaction. Paper presented on the ISRE-Conference, Toronto. Kongreß-Band; p.378-382.
- 177) Merten, J. (2000); *Beziehungsregulation in Psychotherapien*. Maladaptive Beziehungsmuster, die Therapeutische Beziehung und der Therapeutische Prozeß. Habilitationsschrift an der Universität des Saarlandes.
- 178) Merten, J. & Krause, R. (1993); DAS (Differentielle Affekt Skala). *Arbeiten der Fachrichtung Psychologie der Universität des Saarlandes*, Saarbrücken.
- 179) Merten, J. & Krause, R. (2001). What makes good therapists fail? In: P.Philippot, E.J. Coats & R.S. Feldman (Eds.). *Nonverbal behavior in clinical settings*. In Press.
- 180) Miller, G.A. (1979); *Images and Models; Similes and Metaphors*; in Ortony, 1979b).
- 181) Modell, Arnold H. (1997). “The Synergy of Memory, Affects, and Metaphor”; *Journal of Analytical Psychology*, Vol 42 (1), Jan, pp. 105-117.
- 182) Modell, Arnold H., (1997). “Reflections on Metaphor and Affects”; *Annual of Psychoanalysis*, Vol. 25; pp. 219-223.
- 183) Niederland, W. (1969); *Trauma und Kreativität*; Nexus Verlag; Frankfurt am Main.
- 184) Nöth, W., (1995); *Handbook of Semiotics*; Indiana University Press.
- 185) Nunberg, G. (1978). *The Pragmatics of Reference*. Bloomington, IN: Indiana University Linguistics Club.
- 186) OPD; (2004). *Operationalisierte Psychodynamische Diagnostik; Arbeitskreis zur Operationalisierung Psychodynamischer Diagnostik; Grundlagen und Manual; Arbeitskreis OPD (Hrsg.) Auflage 4., korr. Aufl. Bern ; Göttingen [u.a.] Verlag Huber*.
- 187) Orlinsky, D. (1975); *Varieties of Psychotherapeutic Experience. Multivariate Analyses of Patients' and Therapists' Reports*;New York [u.a.] Verlag Teachers College.
- 188) Ortony, A. (ed.) (1979a) *Metaphor and Thought*, Cambridge:Cambridge University Press.
- 189) Ortony, A. (1979b); *Similarity in Similes and Metaphors* (1979a:186-201).

- 190) Osgood, C. (1953); *Method and Theory in Experimental Psychology*; New York: Oxford University Press.
- 191) Osgood, C. (1963). Language Universals and Psycholinguistics. In J. Greenberg (ed.), *Universals of Language* (2nd. Ed.), Cambridge, MA: MIT Press.
- 192) Osgood, C. (1979); *Focus on Meaning*; Mouton Publishers, The Hague.
- 193) Osgood, C. (1980); The Cognitive Dynamics of Synesthesia and Metaphor; in R.P. Honeck & R.R. Hoffman (eds.), *Cognition and Figurative Language*, Hillsdale, NJ Erlbaum.
- 194) Paivio, A. (1969), Mental Imagery in Associative Learning and Memory. *Psychological Review*, 76, 241-263.
- 195) Paivio, A. (1971); *Imagery and verbal processes*; New York ,Verlag Holt, Rinehart & Winston.
- 196) Paivio, A., (1981), *The Psychology of Language*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey.
- 197) Paivio, A. (1983); *Imagery, Memory and Cognition*; Hrsg. John C. Yuille; Erlbaum Verlag; Hillsdale, N.J.
- 198) Paivio, A. (1986). *Mental Representations: A Dual Coding Approach*. New York: Oxford University.
- 199) Paivio, A. & Walsh, M. (1993); “Psychological Processes in Metaphor Comprehension and Memory”; » in *Metaphor and Thought*; (edited by A. Ortony); Cambridge University Press.
- 200) Panksepp, J., (1991), “Toward a General Psychobiological Theory of Emotions”. *The Behavioral and Brain Sciences*, 5, 407-467.
- 201) Panksepp, J. (1994) “A Proper Distinction Between Affective and Cognitive Process is Essential for Neuroscientific Progress” in *The Nature of Emotion*, Oxford University Press.
- 202) Panksepp, J. (1998). *Affective Neuroscience: a Conceptual Framework for the Neurobiological Study of Emotion*.
- 203) Panksepp, Siviy, and Normansell (1985). Brain Opioids and Social Emotions. In M. Reite and T. Fields (eds.). *The Psychobiology of Attachment and Separation*; pp. 3-49; NY Academic Press.
- 204) Peirce, C. (1893-1913; pub. 1998); *The Essential Peirce*; Vol. 2; Edited by the Perice Edition Project; Indiana University Press; Bloomington, Indianapolis.
- 205) Piaget, J., (1968), *La Formation du Symbole chez l'Enfant*. Delachaux et Niestlé, Neuchâtel.
- 206) Proust, M. (1953, 1998) ; *A la Recherche du Temps Perdu* ; Flammarion, Paris.
- 207) Kernberg, O. (2000) ; *Affekt, Objekt und Übertragung; Zusatz aktuelle Entwicklungen der psychoanalytischen Theorie und Technik*; Gießen; Psychosozial-Verlag.
- 208) Racker, H. (1959); *Übertragung und Gegenübertragung. Studien zur Psychoanalytische Technik*. München: Reinhardt (1982).
- 209) Rapaport, D. (1951); *Organization and Pathology of Thought*; Columbia University Press; New York.
- 210) Retzer, A. (1995). Language and Psychotherapy; *Psychotherapeut*; 1995; 40(4): 210-221.
- 211) Rorsch, E. (1973) Natural Categories. *Cognitive Psychology* 4: 328-50.
- 212) Rosch, E. and Mervis C.B., (1975), “Family Resemblances: Studies in the Internal Structure of Categories”; *Cognitive Psychology*, 1975, 7, 573-605.
- 213) Sandell, R.; Blomberg, J., Carlsson, J., & Schubert, J. (2000); Varieties of long-term outcome among patients in psychoanalysis and long-term psychotherapy. A review of findings in the Stockholm Outcome of Psychoanalysis and Psychotherapy Project (STOPPP), *International Journal of Psychoanalysis*; 81, 921-942.

- 214) Saussure de, F. (1916, 1999). *Cours de Linguistique Générale*; Payot ; Lausanne.
- 215) Schachter, D.L. (1989). Memory. In M.A. Posner (Eds.), *Foundations of Cognitive Science*; pp. 683-725; Cambridge MA MIT Press.
- 216) Schefflen, A. (1973); *Communicational Structure. Analysis of a Psychotherapy Transaction*; Bloomington, Indiana University Press.
- 217) Scherer, K., (1990). „Theorien und Aktuelle Probleme der Emotionspsychologie“ *Enzyklopaedie der Psychologie, Motivation und Emotion*, Band 3; Kapt. 1.; Verlag für Psychologie, Dr. C.J. Hogrefe, Göttingen, Toronto, Zürich..
- 218) Scherer, K., (1994), “An Emotion’s Occurrence Depends on the Relevance of an Event to the Organisms’s Goal/Need Hierarchy” in *The Nature of Emotion* (Ekman, P. & Davidson, R. Eds.); Oxford University Press.
- 219) Scherer, K.R. (2000); «Emotions as Episodes of Subsystem Synchronization Driven by Non-linear Appraisal Processes”; Chapter in M. Lewis & Granic (eds.) *Emotion, Development, and Self-Organisation*. Cambridge: Cambridge University Press.
- 220) Scherer, K.,(2000), in *Emotion, Development, and Self-Organization*, „Emotions as Episodes of Subsystem Synchronization Driven by Non-Linear Appraisal Processes“, New York/Cambridge University Press.
- 221) Scherer, K. and Leventhal H.(1987), in *Cognition and Emotion*, „The Relationship of Emotion to Cognition; A Functional Approach to a Semantic Controversy“, Vol. 1 , Issue 1; March 1987; Lawrence Erlbaum Associates, Publishes, Hove and London (UK), Hillsdale (USA).
- 222) Schön, D.A., (1993), “The Conduit Metaphor: A Perspective on Problem-Setting in Social Policy”; » in *Metaphor and Thought*; (edited by A. Ortony); Cambridge University Press.
- 223) Schwab, F. (2001); *Affektchoreographien: eine Evolutionspsychologische Analyse von Grundformen mimisch-affektiver Interaktionsmuster*; Als Ms. Gedr.-Berlin: Dissertation.de.2001; Zugl.: Saarbrücken, Univ., Diss. 2000.
- 224) Searle, J.R: (1993); “Metaphor” » in *Metaphor and Thought*; (Edited by Ortony, A.); Cambridge University Press.
- 225) Sebeok (1972); *Perspectives in Zoosemiotics*; The Hague, Mouton.
- 226) Segal, H. (1964); *Introduction to the Work of Melanie Klein*; Heineman; London.
- 227) Shakespeare, W. (1961); *Romeo and Juliet*; The new Clarendon Shakespeare; Ed. by Ralph E. C. Houghton
- 228) Solms & Nersessian (1998); The Affect Theory in Freud; *Affective Neuroscience: a Conceptual Framework for the Neurobiological Study of Emotion*.
- 229) Spitzer et al (1994). Comprehension of metaphoric speech in healthy subjects and schizophrenic patients: an experimental contribution to concretism: *Der Nervenarzt*, 1994; 65(5): 282-292.
- 230) Stern, G. (1931). *Meaning and Change of Meaning*. Gothenburg. (Reprinted, Bloomington, Ind.: Indiana University Press, 1965).
- 231) Stern, D. (1995); *The Motherhood Constellation*; BasicBooks; New York.
- 232) Tomkins, S.S. (1962); *Affect, Imagery, Consciousness; Vol. 1; The Positive Affects*; Springer Publishing Company, New York.
- 233) Tomkins, S.S., (1984), Affect Theory. In K.R. Scherer & Ekman, P. (Eds.) In *Approaches to Emotion* (pp.163-190), Hillsdale, NJ: Lawrence Erlbaum.
- 234) Tomkins, S. (1995); *Exploring Affect. The Selected Writings of Silvan S. Tomkins*; Edited by Virginia Demos; Cambridge University Press.
- 235) Tulving, E. (1972); “Episodic and Semantic Memory”, in Tulving & Donaldson (Eds.), in *Organization of Memory*; p. 381-403; New York; Academic Press.
- 236) Turner, J.F.C. (1976) *Housing by People*; New York: Pantheon.

- 237) Tversky, B., et al. (1991). Cross-cultural and Developmental Trends in Graphic Productions. *Cognitive Psychology*, 23 (4); 515-557.
- 238) Uexkull, Th. Von; (1996); *Psychosomatische Medizin*, 5. Auflage, Urban & Schwarzenberg; München-Wien-Baltimore.
- 239) Verbrugge, R. R. & McCarell, N.S. (1977). Metaphoric Comprehension: Studies in Reminding and Resembling. *Cognitive Psychology*; 9, 494-533.
- 240) Walsh, M.E. (1988); *A Dual Coding Interpretation of Proverb Comprehension*; Unpublished Doctoral Dissertation, University of Western Ontario.
- 241) Winnicott, D.W. (1956); *La Préoccupation Maternelle Primaire*. Paris, Payot ; pp. 168- 174
- 242) Winnicott, D.W. (1965); "Ego Distortion in Terms of True and False Self" in *The Maturational Processes and the Facilitating Environment*; New York: International Universities Press.
- 243) Winnicott, D.W. (1967); "Mirror-Role of the Mother and Family in Child Development"; In P. Lomas (Ed.), *The Predicament of the Family: A Psycho-Analytical Symposium*; London: Hogarth Pres..
- 244) Wittgenstein, Ludwig, (1967); *Philosophische Untersuchungen*, SuhrkampVerlag Frankfurt.
- 245) Whorf, B. (1963); *Sprache, Denken, Wirklichkeit*; Reinbek bei Hamburg.
- 246) Winograd, T. (1975). Frame Representations and the Declarative-Procedural Controversy. In D. G. Bobrow & A. M. Collins (eds.), *Representation and Understanding: Studies in Cognitive Science*; pp. 185-210. New York: Academic Press.
- 247) Wolfson, L.; (1970). *Le Schizo et les Langes*, Gallimard, Paris.
- 248) Zajonc, R.B. (1980); "Feeling and Thinking: Preferences Need no Inferences"; *American Psychologist*, 35, 151-175.
- 249) Zajonc, R.B. (1984); On Primacy of Affect; in K.R. Scherer & P. Ekman (Eds.); *Approaches to Emotion*; pp. 259-270; Hillsday, NJ: Lawrence Erlbaum.
- 250) Zajonc, R. (1994), "Evidence for Non-Conscious Emotions", in *The Nature of Emotion*, Ekman P., and Davidson (Eds.), New York, Oxford; Oxford University Press.
- 251) Zajonc, Murphy, & Inglehart (1989). Feeling and Facial Efference: Implication of the vascular theory of emotions. *Psychological Review*, 96, 395-416.
- 252)



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Actual Working Position

April 1999 – to date Research Scientist; university lecturer; psychotherapist in the external consultation department, at the Universität des Saarlandes; Department of Clinical Psychology and Psychotherapy; Saarbrücken, Germany

Degrees

- 1) **D.U. en Psychiatrie Transculturelle;** 2004 ; Université Paris XIII; Paris, France
 - 2) **Child and Adolescent Psychotherapist;** 1997; Mexican Psychoanalytic Association; Mexico City
 - 3) **MSc. in Clinical Psychology;** 1994; National University of Mexico; Mexico City
 - 4) **Licenciatura in Psychology;** 1981; University of Las Americas, A.C.; Mexico
- (The last two titles were recognized as Diplom Psychologin by the Kultusministerkonferenz Zentralstelle für ausländische Bildungswesen; Bonn, Germany)

Research Interests

- Psychoanalysis
- Psychotherapy Research
- FACS (Facial Action Coding System); measurement of affects in non-verbal facial gestures. Certified FACS coder; 2000; University of California; School of Medicine; Psychiatry Department
- Affects and Language
- Psychotherapy of Migrant Patients and Migration themes
- Unconscious Transgenerational Transmission of Psychic Conflict in Mother-Child Dyads
- Computer Text Analysis programs
- Borderline Patients treatment and psychotherapy
- Treatment of Alcoholism and Drug Addiction

Professional Experience

1992 – 1998 Private Psychological Consultation for Children, adolescents, and adults (private patients and patients referred by the medical and personnel department of Bancomer, a very large bank in Mexico). Training of personnel.

1993 – 1995 Addictions therapist for inpatients, treatment programs and rehabilitation therapy; alcoholism and drug addictions; Monte Fenix Clinic, Mexico City.

1986 – 1992 Commercial Manager; Industrias Fabregat, S.A.; (family firma). Attention to clients, administrative duties and training of personnel.

1984 – 1986 Full Time Teacher and Researcher; Autonomous Metropolitan University; Mexico City.

1980 – 1983 Psychologist of the Mental Health Team Ministry of Health and Mexican Institute of Psychiatry; Mexico City; Therapeutic Unit for Children and Adolescents. Community work in misery belts of the City with schools and families

Oct. – Jan 1980 Group and individual therapy with Hispanic bilingual inpatients; Olive Vista Hospital; Pomona, California, USA. Psychotherapeutic work with the families of the patients.

1975 – 1980 National Tourist Council; Bilingual Secretary (English – Spanish) for the Personnel Director of the Institution. Assisted in recruitment of personnel. Mexico City

Personal Data:

Marital Status: Divorced, one son.

Citizenship: Mexican with German residence and work permit.

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Languages

5) **Spanish**; native speaker

6) **English**; Excellent proficiency; 100%

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Computer

-- SPSS (Statistical Package for the Social Sciences; data analysis)

-- Windows 2000 (Internet; Microsoft Office (Excell, Power Point, Words)).

-- Themes; software for pattern detection in research data.

Honors and Scholarships

Universität des Saarlandes: Dissertation graded with opius eximium (highest grade) Frauenforschung im Jahr 2004; (German Government) Funding for the Project: „Entwicklung eines diagnostischen und therapeutischen Verfahrens klinischbedeutsamer Mutter – Kind Interaktionen“ (A Diagnostic and Therapeutic Procedure for Clinically Meaningful Mother-Child Interactions“).

International Psychoanalytic Association : One year grant for the project „Assessment of Transference through Linguistic Markers“.

DAAD (Deutscher Austauschdienst); German Government; July – Oct 1997: Grant for studying computer text analysis in Ulm, Germany.

University of Las Americas: Best Student of the Psychology Generation (1975 – 1980).

Publications

Krause, R. and Fabregat, Myria (2002); “Struktur und Affekt”, in Die Struktur der Persönlichkeit, Schattauer, Stuttgart, Deutschland.

Fabregat, Myria.; (2000) “Transference and Affect in Natural Language and in Computer Text Analysis Language”; Libro de Larc, International Psychoanalytical Association; Buenos Aires, Argentina.

Contribution in the translation of book, from English to Spanish. Kernberg, Otto et al, (1995) *Psychodynamic Psychotherapy of the Borderline Patient*. Mexico, Editorial Planeta.

Contribution in Article. Guido Macías et al., "Programa de Intervención terapéutica para niños y adolescentes en centros de Salud", Cuadernos Científicos CEMESAM, vol 12, octubre de 1980 México

Relevant Conference Papers

“Metaphors and Psychotherapy” (2004); IPA International Congress; New Orleans.

“Metaphern und Affekte: Übergangsstrukturen im Psychotherapeutischen Prozess”; (2003); DPG (Deutsche Psychoanalytische Gesellschaft) International Congress; Frankfurt.

„The Language of Affects“ (2001); IPA International Congress; Nizza