

# **ADOLESCENCE, ORDER THROUGH FLUCTUATIONS AND PSYCHOPATHOLOGY. A POST-RATIONALIST CONCEPTION OF MENTAL DISORDERS AND THEIR TREATMENT ON THE GROUNDS OF CHAOS THEORY**

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## **ABSTRACT**

Research findings on the effects of grief in psychological, physiological, and immunological regulation reveal the intrinsic connection between personal affective processes and mental and physical health in individuals. Further studies in developmental and experimental psychology show the predominance of tacit meta-representational processes in the display of the functional relationship between affective and intentional processes and the development of consciousness in which personal identity is experienced. It is contended that the experience of personal identity corresponds to the structural state of personal consciousness, argued to be an affective-intentional organization that operates as a system of self-organized tacit knowledge, which seldom remains in a state of balance, and which, in order to face cyclic periods of meta-stability generated by disequilibrium that surfaces as a result of its own systemic activity, develops ever-increasing levels of complexity through the integration of the disequilibrium in a new self-referential order.

In the unfolding of personal consciousness, adolescence as a developmental stage is homologous to a bifurcation, due to the magnitude of the personal reorganization implied and the determining influence of the aforementioned reorganization in the process of identity in the future. The emergence of abstract thought, characteristic of the adolescent period, produces discrepancies in the way the quality of attachment is experienced, particularly attachment with significant caregivers, in contrast to the manner the affective bond was experienced and processed in earlier stages of development using concrete operational cognitive resources.

These affective discrepancies confront the individual for the first time in its life cycle with a process that is the paradigm of all psychopathology: tacit meta-representational grief. As a response to the fluctuations of the grieving process, the personal system is reorganized as an emerging abstract system in which affective experience is self-regulated: "affective personal sense of self". This sense of self shall define the quality of

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ffective experience for the rest of the life cycle. The degree of psychopathological vulnerability of each person depends on two factors: a) the magnitude of the fluctuations brought about by adolescent tacit meta-representational mourning, and b) the level of plasticity and abstraction with which the grieving process is resolved in the stages of youth.

**Keywords:** order through fluctuations, tacit meta-representation, tacit meta-representational mourning, affective meta-consciousness, phenomenic self-awareness, affective sense of oneself, experience of personal identity, personal sense of affective self-sufficiency, personal sense of affective autonomy, personal sense of affective equanimity

## INTRODUCTION

The basic premise of attachment theory, that a healthy bond is fundamental in order for the child to develop an effective capacity of emotional self-regulation, is shared today amongst the scientific community. Many investigations conducted throughout the past decades on the ability of newborn human babies to carry out complex intentional relationships, confirm that a healthy attachment bond during infancy, childhood, and adolescence enables the functional development of those basic innate resources to increasingly abstract and effective levels, that will in turn enable proper emotional regulation; while a dysfunctional bond will create the structural conditions for different psychopathological disorders to flourish (Ainsworth 1985, 1991; Aitken and Trevarthen 1997; Bowlby 1969, 1973; Crittenden 1995; Fonagy and Target 1997; Guidano 1987; Guidano and Liotti, 1983; Lambroschi 2004; Liotti 1991; Main 1991; Nardi 2013; Parkes 1991; Reda 1996, 2005; Trevarthen 1993, 1998).

Besides this, studies regarding the influence of affective bonding on normal regulation - not only emotional or psychological, but also of the physiological and immune systems - reveal the intimate relationship between personal affective process and the individual's own state of psychological and physical health. In this sense, the results of investigations conducted in diverse institutions in Italy and the United Kingdom, suggest a direct connection between avoidant attachment patterns and altered immune functions (Picardi et al. 2013). Furthermore, some scientists, based on the results of investigations on humans and Rhesus monkeys, suggest there is a particular interaction between genes and context, called "maternal buffering", by which secure attachment conveys plasticity to those individuals which carry alleles that increase the risk of adverse outcomes (depression, aggression, addiction) during adolescence (Suomi 2011).

Both from the results of scientific investigation, and from observations during the practice of clinical psychology, it has become evident that the intersubjectivity of human experience is characterized

- during the entire life cycle - by a basic self-referring order through which the construction of a significant other's image is always closely related to the perception of one's self, in such a way that emotional self-regulation independent of significant affective relationships is impossible, not only in infancy, but in adult life as well (Guidano 1991). Because of this, any variation in the mental image of an affective partner will have a significant effect on the experience of continuity and acceptance

of a person's own sense of self. In this particular systemic relation between affective processes and personal identity lies the cause for which the experience of loss of a partner unleashes a process of mourning that generally is at the root of psychopathological disorders.

The relationship between mood disorders and the process of mourning due to the loss of a significant other can be found throughout an extense tradition in the study of psychopathology; many authors even state that depression is a pathological expression of mourning (Bowlby 1969, 1973, 1982; Freud 1917; Worden 1991). Freud suggested more than a century ago that hysteria and melancholy are forms of pathological mourning and that if the beginning of the symptoms is traced, it can usually be found after a loss of some sort (Freud and Breuer 1893). In "Mourning and Melancholia", Freud pointed out that melancholy was a pathological form of mourning, very similar to the normal process but with certain differentiating traits. In the former, according to Freud, the drives of anger directed to the person who is gone, typical in any normal process of mourning, are redirected to one's self (Freud 1917). This observation is shared by a number of scholars; the explanation of this mechanism would be that depression may also serve as a defense mechanism against the reactions caused by mourning, for if the anger is directed to one's self, it does not involve the one who is dead, thus relieving the person of the need to consciously face the ambivalent feelings intended for the lost loved one (Dorpat 1973).

John Bowlby claimed that his vast clinical experience and the thorough examination of the proof he gathered during the construction of his Attachment Theory, were undoubtedly sufficient to support the veracity of Freud's basic proposition, namely that the vast majority of psychiatric disorders are the expression of a pathological mourning. Bowlby's position in "Loss, Sadness and Depression" (1982) is equal to Lindemann's (1944) who, by connecting the diverse manifestations of pathological mourning with their normal counterparts, considered them exaggerations or deformations of normal processes. It is well known that the loss of a loved one may affect all areas of experience: feelings and emotions, cognition, corporeal sensations and behavior. Furthermore, specialists widely agree that most of the normal conducts and emotional reactions caused by a loss are identical to clinical manifestations of depression and other psychological disorders. In both types of process the same symptoms can be found: deep sadness, loss of interest, loss of energy, trouble sleeping, lack of appetite, anxiety, despair, guilt, hypersensitivity to noise, feeling of emptiness, chest pain, trouble breathing, hallucinations, etc. (Parkes and Weiss 1983; Sanders 1989; Worden 1991).

Most specialists agree that grieving is a "physiological" process that deploys in time through an initial stage of lack of sensitivity which is followed by denial of the loss; then a third phase of hopelessness and a sort of identity crisis, due to the acceptance of the loss; and lastly, a period characterized by the reorganization of the person's own sense of meaning and the appearance of the possibility of projecting another affectively significant relationship. In the second phase, the person undergoes intense feelings of anxiety and despair, which are a part of an imperative and persistent need to recover the lost; they sometimes feel their presence, even when logical certainty says otherwise, and in many cases, they even have the optical illusion of seeing the person they lost. Ambivalent feelings directed to the lost loved one, such as anger or hate, are part of a normal mourning process. It is also widely agreed that any interference in this process fosters the appearance of abnormal grief reactions that form

part of complicated grief, a clinical disorder for which specific treatment has been designed (Bowlby 1983; Neimeyer 2012; Parkes 1991; Parkes and Weiss 1983; Worden 1991).

The substantial difference between the grief caused by the death of a partner and that which follows physical separation due to a failed relationship must be taken into account when analyzing the causality between psychopathology and mourning. These two situations differ in the structure of the change that takes place in the construed image of the significant other. In the case of death, the person loses physical and emotional contact with a loved one, but can keep the construed image of that person intact. However, in the case of a failed relationship, physical and emotional contact usually endures through time, while the significant other's image suffers a radical transformation throughout a long and complex process, during which the ambiguous and ambivalent emotional tones that are characteristic of this sort of mourning are encountered and assimilated. In fact, separation is such a complex process that in relationships with a high level of affective involvement, it frequently becomes the longest stage of the whole relationship. In this sense, I agree with Guidano when he states that in order to wholly comprehend the influence that affective separation has in the unfolding of psychopathological phenomena, the former must not only be regarded simply as a more or less disturbing event, but as a complex multidirectional process that unwinds through time, oscillating between patterns of approach and avoidance by both members of the couple. Just as in the initial stages of a relationship – during involvement - it is in this cyclic sequence of affective approach and avoidance that both members of a couple manage to transform the elaborated image of their partner and of themselves regarding their significant other (Guidano 1991). Furthermore, this process can be identified both in the ending stages of sentimental relationships and in the course of affective separation between adolescents and their parents during normal development. (Bloom 1980; Guidano 1991; Weiss 1995).

Following the aforementioned considerations, and the results of investigations in experimental psychology that have shown the predominance of tacit knowledge in the co-evolutionary process that occurs between the affective dimension of consciousness and personal identity, this article states the existence of a process of tacit mourning that unravels during adolescence as a part of normal development, and that acts as the basis for both an adaptive organization of sense of personal identity, and the grave psychopathological disorders that come about in that particular stage of development.

### **Consciousness Determines the Specific Quality of the Phenomenology That Subject Experiences**

Consciousness is not an epiphenomenon; it is a phenomenon which emerges from the systemic activity of the brain and, like all emergent phenomena, is capable of recursively influencing, with its own activity, the system from which it emerges (Froufe 1985, 1997, Sperry 1976). Siegel proposes that representations which are generated through experience, by the stimulation of the brain circuits that specifically mediate in the processing of different types of information, play a fundamental part in determining not only which information reaches the mind, but also the way in which the mind develops the ability to process such information (Siegel 1991, p. 16). After analyzing Ingvar's (1990) investigations on the capacity of generating neural events parting from mental events which he called pure ideation (cognitive events that are independent from any current sensory stimuli or motor functions),

Eccles claims: “It has been demonstrated experimentally that intentions activate the cerebral cortex in certain specific regions before any movement is verified” (Eccles 1994, p. 196). The placebo effect, defined as an organic or mental change that is produced by a symbolic meaning that is given to an event or a thing in a sanitary context, is another area of investigation that allows us to understand how the mind can hold influence over the brain; recent studies conducted by investigators at the University of Turin have identified the transformations that occur in a patient’s brain after the administration of a placebo, specifically in the case of pain, Parkinson’s disease, and in the performance of extreme sports. These investigations have demonstrated that the supply of a placebo activates the same mechanisms toggled by drugs (Benedetti 2012). Even more precisely, investigations in Experimental Psychology conducted at the Universidad Autónoma de Madrid on the ability of the human mind to perceive, learn and remember information that apparently went unnoticed to the mind, confirm that consciousness is an active and constructive system that holds an authentic causal status (Froufe 1997). These investigators have demonstrated that consciousness determines the specific quality of the phenomenology the subject experiences, through tacit selective resources, that allow it to focus attention on some representations and mental processes instead of others, determining which contents are experienced phenomenally and which remain unconscious. Therefore, phenomenal consciousness works as a central control system that, by actively excluding any contents which could result disturbing, allows us to undergo a continuous and subjectively viable sense of identity (Froufe 1997, 2003, Froufe, Sierra and Ruiz 2009).

### **The Human Mind Processes Unconscious Representations**

The same group of scientists have demonstrated the existence of a system of tacit knowledge that works in a functional relationship with phenomenal consciousness. This organization processes mental contents that are not accompanied by a corresponding phenomenal experience, but just like conscious activity, does have a semantic and relational connotation. In other words, they are contents psychologically active and intrinsically intentional unconscious representations that play an important part in determining the contents of phenomenal experience and personal behavior. These investigators have also verified that this organization has a parallel processing system with a much larger operating capacity than phenomenal consciousness, which operates in a linear way. This means that, while the presence of a specific conscious mental content always implies the exclusion of any alternate meaning, in the unconscious system, just like in dreams and in psychosis, the processing of a specific content does not implicate the exclusion of alternate meanings (Balbi 2011; Froufe 1997, 2003; Froufe and Sierra 2009). In this regard, the tacit processing system which investigators have named the “Cognitive Unconscious” works according to the principle of non-contradiction, that Freud (1895) once attributed to what he called “primary process” (Díaz-Benjumea 2002). Another characteristic of unconscious processing that has been proven, and is extremely important in order to understand psychopathological phenomena, is that the influence of tacit contents over phenomenal experience is always greater than the influence exerted by contents that are explicit. Because of this, it is valid to state that a person may be affectionate, competitive, jealous, angry, or vengeful regarding another, without experiencing it consciously; and also, that these emotions, feelings and

intentions may be simultaneous and contradict each other, and be contradictory with what a person experiences consciously. In order to assure a better comprehension of what we are trying to say in this article, it is important to highlight that, due to the characteristics of this unconscious processing system: a) a complex feeling such as mourning caused by a significant loss may occur without being experienced consciously and b) this mourning will have a greater effect on a patient's phenomenal experience and behavior than if it were processed consciously.

### **The Self As a Complex System. The Constraints of the Psychotherapeutic Method**

We endorse the premise formulated by William James (1890): the Self should be treated as the immediate datum in psychology, since the only states of consciousness that exist, and we can come to study are in personal minds, concrete and particular 'I' and 'you'. In consonance with this premise, we defend the idea that in order to construct an effective model of psychotherapy that is based on plausible explanations of the etiology of psychopathological phenomena, a thorough analysis of the processes of the self and its dysfunctions is required (Balbi 1994, 2004; Guidano 1987, 1991; Mahoney 1991, Reda 1986)

According to Maturana and Varela (1984), living beings, as a result of a basic evolutionary constraint, are organized in order to preserve their identity as a system. In such systems, the fundamental constant is maintaining its organization, which is defined as a specific mode of functional relationship between components, while structural changes happen, activated by disturbances coming from the environment, or as a result of their own systemic activity. The organization of a system of this type is not defined by the properties of its components, but by their relationships and the processes that produce them. Such systems are self-contained, closed on themselves, that is, they cannot be informed; both the organization of the system, and structural changes, are defined by the legality of the system and not by the disturbances coming from the environment. In agreement with this principle, Guidano conceived selfhood as a self-organized system, and consequently an orthogenetic system. In his own words: "a self-organizing entity can be described as a system of growth whose development through life is regulated by the principle of orthogenetic progression; this means that the system is directed towards more integrated and more complex levels of structural order. [...] The key property behind the autonomy of any form of self-organization lies in the ability of the system to transform the random disturbances that come from either the environment or internal oscillations into self-referential order" (1987, p. 10). This premise will be crucial in designing an effective therapeutic mechanism: since the system cannot be molded from the outside, the only suitable method, instead of supplying information from the outside, is to create the conditions to disturb strategically leading their attention to their own processes and tacit contents. Thus, by integrating information about himself in his own conscious dimension, as a phenomenon of negative entropy (Fantappiè 2011), the personal system tends to reorganize into a higher level of complexity.

Guidano (1987, 1991) provides the notion of "Personal Meaning Organization" to describe the specific form that self-organization takes in the development of the Self. According to Guidano, each PMO is a system of self-awareness that is characterized both by a particular quality of tacit immediate experience of selfhood and by a personal way of

reorganizing that experience in a more explicit level. In this sense, the autonomy and invariance of each personal system is given by its ability to structure the continuous flow of affective stimuli that spring from significant interpersonal relationships in terms of identity and tacit awareness of itself. Due to its organizational closure at a tacit level and its structural openness at an explicit level, the Self has the ability to process a consistent and stable sense of personal identity, while suffering increasingly abstract structural transformations of its internal coherence, that are necessary to effectively cope with new and more complex relational contexts. Although each organization of personal meaning is unique, for methodological purposes some regularities can be pointed out, in order to arrange them into groups or patterns of personal meaning organizations (Guidano 1987, 1991; Guidano and Liotti 1983; Reda 1986). Guidano developed a nosology of identity consisting of four ways of functioning, the depressive, phobic, obsessive and eating disorder organizations. Though it is not in this article where I should justify my point of view, I must say that I only consider the first three PMO's valid (Balbi 2014). This nosology of identity is extremely useful in clinical practice; for while performing a diagnostic evaluation or during treatment, the therapist has a theoretical tool that makes it easier to elaborate hypotheses for the specific personal process he is attending, and therefore, to assertively guide the patient's self-observation.

As has been discussed, a crucial aspect of the development of the Self is the functional relationship between the tacit level and the explicit level of personal consciousness. This relationship is marked fundamentally by the distance in time that exists between the appearances of both levels of self-awareness. The tacit level develops first, when verbalization, conceptual abstraction and reflexive consciousness are absolutely insignificant, providing the infant with an immediate and global sense of self. On the other hand, the superior level of explicit knowledge and self-awareness is reached in more advanced stages of development, following a slow and gradual process. In the course of the period that spans from birth to the end of childhood, a system of tacit rules for organizing experience of one's self comes progressively into being, even though it can be only partially perceived. During adolescence, with the appearance of abstract thinking, the relationship between tacit and explicit self-awareness undergoes a revolutionary reorganization, in terms of abstraction and integration, resulting in a whole new way of immediately perceiving oneself. The development of the Self owes its systemic complexity to the fact that the tacit and explicit levels of the Self are not the opposite limits of a unique continuous dimension; they are, on the contrary, two independent and separate dimensions, which permanently oscillate in a complex functional relationship. Because of this, the relationship between both levels of self-awareness is restructured endlessly, by which the Self, working as a non-linear complex system that evolves through time, becomes an unlimited generative process that never reaches a particular state of definitive equilibrium (Guidano 1987; Siegel 1999).

It was Prigogine who, by adding time as a variable in the analysis of physical phenomena, demonstrated that in "order through fluctuation", equilibrium is not the only final state possible. In states that are far from equilibrium, says Prigogine, matter becomes "sensitive" and in these conditions equations, that are no longer linear, originate many possible states, which are the diverse dissipative structures that are accessible. Parting from Prigogine's nonlinear thermodynamics of irreversible processes, explanations of diverse fields such as Biology, Social Sciences and Psychology become compatible because organisms, social organizations and mental phenomena can be understood as dissipative structures subject to fluctuations, that instead of tending towards a more probable state

(equilibrium), are reorganized to ever more complex levels (Allen 1998; Brent 1978; Prigogine 1976, 1993, 1997; Prigogine and Stengers 1985, 1988).

Guidano (1987), inspired by Prigogine, suggests conceiving the Self as a nonlinear system that evolves progressively through time by means of critical and discontinuous emergencies. A fundamental variable in the progression of an organization of personal identity are the transformations in experience caused by the advent of the perception of irreversibility of time. During infancy, the experience of temporal symmetry is virtually absolute. From the child's point of view, there is no connection between past and future, and personal experience is perceived as happening in a continuous present. In adolescence, however, emerging abstract cognitive structures disrupt the experience of temporal symmetry and lead to an increasing differentiation, both of the experience of one's self in the present compared to the past, and of the image of one's self projected in the future. The Self – working as a deterministic system during childhood - reaches a crossroads in its teen years, and thus behaves similarly to a system far from equilibrium which operates by order through fluctuation. Thereupon, for the rest of its life cycle, the Self will present an oscillating and discontinuous tendency, alternating periods of relative stability, during which the system is extremely predictable, with periods of meta-stability, during which the slightest disturbance may unloose an existential crisis that leads to a revolutionary change in the pattern of internal consistency of the system. The latter always implies a profound reorganization of personal experience. In favorable conditions, these changes generate new forms of self-regulation that articulate into higher levels of abstraction, therefore guaranteeing the continuity of a viable sense of selfhood. In unfavorable conditions, the system of personal identity reorganizes into lower levels of abstraction, generally leading to a clinical decompensation, that is, a collapse in the person's ability to operate even according to the preceding level of organization (Balbi 2009a, 2013, 2014; Allen 1981; Brent 1984; Guidano 1987, 1991, Reda 1986). In this sense, the behavior of the Self is consistent with the result of research conducted in the field of the pathophysiology, offering a new perspective on the disease. According to these studies, pathology does not start because the system is modified from outside, but that would result from a change in the dynamics of the system itself, previously verified physiologically intact. That is, the development of a disease is associated to the passage from one to another system dynamic regime: during one of those dynamic changes, called bifurcations, the systems that operate within their restricted own control parameters, vary toward an anomalous dynamic; while physiological systems (e.g., heart) with a higher rate of variability parameters face the stress generated by those instances of dynamic change in a healthier way (Orsucci 2006).

As has been pointed out by Orsucci (2006), quoting Ari Goldberger: "Healthy systems don't want homeostasis, they want chaos". This is yet another crucial premise for the construction of therapeutic mechanisms; if the Self does not operate as a homeostatic system, but like a system far from equilibrium that evolves in time by order through fluctuation, there is no point in conducting interventions that seek to remove symptoms, with the goal of allowing the system to return to its former level of self-regulation. On the contrary is pertinent, guide the patient in self-observation of his emotional experience criticism, through reconstruction and analysis of the process leading to symptoms, with the strategic objective of creating the conditions for an increase in his level of internal disturbance, while we provide him emotional support to facilitate a progressive reorganization of his personal system.

## Meaning and Sense

Now it is necessary to make a distinction that, although at first glance resembles be only of semantic order, carries important consequences of epistemological and theoretical nature. I refer to the need to differentiate the respective scopes and implications to notions of "meaning" and "sense" when they are used to specify the phenomena domain of subjectivity. The use of the word "meaning" belonging to a cherished tradition of cognitive psychology constructivist orientation, which began the middle of last century. At that time, in a cultural context in which formal linguistics and structuralism began to have an hold on the human sciences, Jerome Bruner with the publication of "Acts of Meaning" (1990) challenged the behaviorist principles and the rising computer-based cognitivism stating that the "meaning" should be taken as the fundamental concept of psychology. He held that psychology should focus its efforts especially in the study of symbolic activities employed for human beings to give meaning to the world and themselves before anything else (responses to stimuli, observable behavior, bits of information and processing, etc.). Since then and until today, the word "meaning" has been keeping as center of the Constructivist movement, and its translation, "significado" has invaded the world of cognitive psychology speaks Spanish and Italian. Unfortunately, despite wanting to leave behind the connotation associated with information processing, the term meaning continues to drag a computational cognitive bias that does not include affective experiential and emotional factors.

After decades of using the term "meaning" interchangeably, it is convenient to discriminate the notion of "sense" to connote a domain of personal experience - where emotions and feelings get cardinal role - and which meaning is only one aspect. The notion of "meaning" involves a trade-off between the subjective world and the world of interactions between individuals; between the symbol and what the symbol represents inside a certain semantic community. The notion of "sense" connotes a totally different dimension proper ontology of subjectivity. "Sense" does not specify as "meaning" a domain of consensual coordinations in a speaking subject's community, but defines a portion of pure experience which exists as a moment of an individual subjective process. That unitary portion of experience takes sense only at the expense of its correspondence with other portion of pure experiences, other intentional states of similar quality experienced by the person in other instances and in which he has felt similarly existentially. According to the view I am making, "personal sense's experience" is the result of a dialectical articulation between actual experience and historically structured psychological world of the subject (Balbi 2009; González Rey, 2004, 2009). The experience of sense requires a gifted cognitive system, not just self-conscious experience; but the subject should additionally be able to experience the present as a temporary instance between his past and his future: a feasible experience in the cycle of life, just from the development of abstract cognitive structures, which raise the subjective experience of temporary staff. Hereafter we will say "subjective sense" and "sense of oneself" as key concepts for understanding the personal identity experience and to make clearer issues as subjectivity, psychopathology and psychotherapy.

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## **Evolutionary Epistemology. Analysis of Emotions, Intersubjectivity and Affective Meta-Representation in Organization of Knowledge**

From this perspective, the beginning and development of knowledge, in a broad sense, are analyzed especially taking into mind the evolution of life on the planet. An evolutionist perspective that conceives knowledge as a function of living beings, and that has therefore evolved with them, makes an analytic approximation of the structure of human experience possible, given that it integrates into its analysis our peculiar way of being animals. I agree with Guidano when he says that evolutionary epistemology should be the foundation of any congruent methodology of cognitive psychology. He affirms that it is possible to analyze the problem of *sameness* in biological terms if the origin of consciousness is taken as a self-referential imperative characteristic of our species in a specific moment of its evolution. Guidano said in reference, "... if knowing is distributed along a continuum that goes from early rudimentary exploratory behavior to human self-consciousness, then evolution emerges as an essential regulatory strategy aimed at achieving stability in an ever-changing medium through the attainment of more complex levels of autonomous self-referent functioning." (1991, p. 21). It is fundamentally important in this line of thought to take into account the fact that we humans are primates and as such, we are animals that live socially and in an affective bind throughout the entire course of our individual lives. In the case of all primates a highly complex social world has been superimposed over the merely physical environment common to all animals. The distinctive trait of this «new world» is that it generates an intersubjective reality; that is, primates live in a world in which knowledge of one's self and reality always depends on the reciprocal knowledge of others (how I see others and how I feel perceived by them). This analysis allows us to affirm that the intersubjective components of our experience should integrate the basic structure of our propositions about nature and the development of human mental processes and should not be absent from any congruent theory that intends to explain the phenomenon of personal identity, and its pathological processes.

In order to justify this statement, an analysis of the evolutionary process that led to the specifically human form of inter-subjective relationship –which made the emergence of the experience of personal identity possible– is required. The survival of an affective being that lives an inter-subjective experience depends to great extent on its ability to recognize the emotional states of the others with whom it lives, and its capacity to express *and* simulate its own emotional states. This explains the central role of facial expression in primates, with their high specialization and hierarchy. Primatologists have proven that the ability to distinguish individuals is innate to all primates and that the face is the body part that most precisely and specifically represents the distinguishable identity of others.

From an evolutionary perspective, emotions first developed in early mammals more than 150 million years ago. Reptiles – mammals' biological ancestors – survive without any protection from their parents after hatching, because their adaptation to the environment is achieved by merely coordinating with variables that arrive from the outside world. On the other hand, when mammals are born, they must coordinate with another living being, a female that will feed and protect them for a relatively long period of time. This coordination in the mother-child dyad is made possible by an innate emotional apparatus, which also regulates both exploration and proximity-seeking during upbringing, as part of the attachment-oriented behavior that is characteristic of mammals. Later on, in adult life, the relationship between the individual and the other members of the herd will also be regulated

by that emotional apparatus. In other words, the advent of mammals in evolution meant a new form of life, in which the relationship to other members of the same species is the main factor in the adaptation and survival of each individual. The specific form of this relationship has evolved in different species, reaching its present day form in human beings as we know it.

A shared opinion amongst experts in emotions is that they perform regulatory functions on the mind, through which they organize both thought and behavior by lessening or augmenting the mind's activity. Having appeared earlier – biologically speaking – than cognition, the emotional system regulates attention and monitors the environment, giving consciousness an immediate and global evaluation of its surroundings, thus facilitating rapid adaptive responses (Damasio, 1994; Greenberg, Rice and Elliot, 1996; Reda, 1996; Siegel, 1999). However, in humans, nothing occurs outside the limits of self-awareness; therefore, this regulatory activity performed by emotions is mediated by the Self. Unlike in other animals, the human emotional system always implies complex layers of cognitive, intentional and affective processes that define its comportment. In the case of individual development, as a child advances in the acquisition of more abstract cognitive abilities, its behavior becomes more flexible and adaptable to more complex relational contexts, so that instead of emotions in themselves, what is responsible for the process that generates the behavioral manifestations we observe is the way in which emotional activity is conveyed. Hence, in order to generate plausible explanations of psychopathological phenomena, an exhaustive analysis of the mediating mechanisms that constitute the human emotional system is required.

The aforesaid emotional system of early mammals, though complex in itself, is still simple compared to the intricate dynamics it acquires in primates and human beings. We may point out two main characteristics of how mammals experience emotions: a) Emotions regulate the conditions of a relationship only circumstantially, in the present. For example, rage felt by two wolves of the same pack while fighting ceases to exist as soon as the fight ends. b) Emotions operate at a “pure” level; in other words, they are concrete and direct, because they themselves are the mediators in a relationship.

A new form of relationship between members of a group developed with the origin of mammals, 40 million years ago. This type of relationship generates a greater sense of individual differentiation and a more effective manipulation of individual emotion, in order to secure good terms with peers and the herd in general, a now indispensable requirement for individual survival. Primates live in a realm of mental bind in which emotions are conveyed by meta-representational operations. These are facilitated by the individual's growing cognitive ability to attribute intentional states to others and to coordinate behavior with them through manipulation of its own states. For the first time in the history of life, an animal is capable of simulating intentional states that differ to its actual experience with the aim of generating a false belief in another. This maneuver requires a complex cognitive operation which consists in the distinction between its own subjective state –that which the individual experiences– and the “objective” point of view of that state –that which the individual attributes to others as their perception of its state, depending on what is being shown (de Waal 1982; Gallup 1970, 1977, 1982; Premack and Woodruff 1978; Suomi 1984; Whiten 1995). For instance, in the struggle for group leadership, a young chimpanzee might feign alliance or even submission towards the group leader while he secretly builds a new system of alliances designed to overthrow him in a future, more favorable social context.

In primates before man one finds the seed of what will become the most significant evolutionary difference of our species: the unique ability to operate in complex levels of

recursive meta-representation (or recursive intentionality), defined as the capability of having mental states which refer to other mental states –one self’s or another’s– referred, in turn, to other mental states. That is to say, we humans have the ability to regulate our intentional condition according to the feelings we attribute to others regarding what they in turn attribute to us as our feelings. This recursive system makes the human experience of requited love possible, a process unknown to people suffering from Asperger syndrome.

This affective meta-representational system begins to operate precociously and tacitly in a newborn human child with a normal development. It is therefore indispensable that this system functions correctly to achieve an effective performance in interpersonal relationships. Proof of this can be seen in the difficulties which children suffering from autism experience in relating to others (Rivière, Sarria and Núñez 2003). By exercising this ability, humans live in a world of relationships between intentional states, more so than in one of concrete behavioral relationships; this world displays an emotional realm constituted not of direct and tangible emotions, but of complex feelings and abstract affective representations. This realm is also characterized by the apparently paradoxical fact that a greater differentiation from others brings in turn an enormous amount of affective dependence on them. On the one hand, the possibility of a maximum individual differentiation leads to the experience of personal identity (abstract sense of selfhood). On the other, the representation of a stable sense of maximum reciprocity with a significant other (abstract meta-representational bond) becomes an essential condition for the existence of a continual and viable sense of oneself. Living in a world of abstract relationships has led human beings to develop a complex system for regulating emotions that instead of being oriented to adapting behavior to social demands, serves in keeping a continuous sense of identity, by removing any discordant affective state from phenomenonic awareness.

### **Tacit Affective Meta-Representation and Intentional Relationships in the Organization of the Self**

Interpersonal behavior in children, that at two years of age begin to function in the realm of ostensive communication and fantasy play (both activities needing of meta-representational structures to be conducted successfully), is sufficient evidence to show that at that age a complex cognitive meta-representational system is already available and working at a tacit level. Another surprising milestone in the normal development of children occurs at four years of age, when, despite being unable to solve classical mathematical and physical operations, they are able to solve problems of psychological order that require operational capabilities such as conservation and reversibility (even though thirteen year old autistic children, in spite of displaying concrete operational skills and even abstract thought, cannot solve these tasks of psychological order that require possessing a “theory of mind”) (Balbi 2009a, 2011, 2013; Rivière 2003; Rivière et al. 2003). In normal situations, children possess an intentional pre-linguistic narrative system before they are two years old; this is an innate mental system which is originally tacit, and specializes in deducting, attributing, predicting and understanding mental states during personal interaction, allowing children to understand a sequence of intentional interactions between people, much before they are able to utilize language. It is widely known that cognitive development in the first stages of life is independent of language; conceptual development up to age two occurs in parallel with the

process by which the infant organizes its own sensorimotor schemes; it is only subsequently that language facilitates the advancement of conceptual development, of which it is not a causal agent (Balbi 2009a; Guidano 1987, 1991; Langer 1986, 2011; Tomasello 2005). In the same manner, this ability to understand a sequence of intentional interactions, sequences of which a child takes part very early on in life, is the base for the development of self-awareness, which is, in turn, the necessary condition for the appearance of language; and not oppositely, like it has been frequently conceived in the history of psychological thought (Balbi 2009a).

Due to this innate meta-representational function, a child's attachment bond to their caregiver progresses during the first stage of development from an undifferentiated state of "affective symbiosis", proper of newborn babies, towards a realm of experience composed of a vast spectrum of feelings of reciprocity (Balbi 2009a; Wallon 1987). From an ontological point of view, personal identity can be conceived as the affective experience that results from perceiving the contents and the functioning of phenomenal consciousness, the part of our minds we have free access to; personal identity starts to develop at the beginning of the second year of life alongside secondary intersubjectivity, when the child, distinguishing their own intentional state, is able to realize their active role in affective coordination with an adult caretaker (Trevarthen 1978, 1993, 1998). The perception of each new affective experience in the course of the relationship with other people makes it easier to outline the experience of others, and fosters the expansion of the child's awareness that, in turn, prepares them for new distinctions in the broad gamut of intentional reciprocity. Thus begins the process of coevolution and reciprocal dependence that leads to the organization of the Self, between the organization of personal phenomenal consciousness and the development of a tacit affective structure. On the one hand, the gradual integration of the increasingly subtle distinctions of intentional states amongst the growing spectrum of the child's and others' shades of feelings serves in the organization of a "phenomenic self-awareness", which begins to generate a somewhat stable and continuous sense of self, as the result of the affective experience produced by the incipient perception of the functioning of the child's own mind while interacting with their caregiver. On the other hand, in accordance with the affective-intentional dynamics of these interactions, an "affective meta-consciousness" is developed; this is an abstract meta-representational system derived from the structure of feelings of affective reciprocity built throughout the relationship that, working together with the implicit memory system, tacitly provides the affective significance of the sequence of intentional interactions that continuously occur in personal experience (Balbi 2009a, 2011). Hence, for the rest of the life cycle, the reciprocal functional relationship between these two personal systems will be responsible for the immediate affective experience of an individual, which is felt as a continuous sense of identity. Thanks to the gradual emergence of more complex meta-representational cognitive levels, that serve as novel mediators for ongoing affective experience, this sense of identity will go through cyclical periods of meta-stability, during which the representation of the person's current relationship, and their way of being in that relationship, are reformulated according to new points of view caused by previous affective discrepancies.

It is this particular form of functioning of the personal system in which the cause for psychopathological vulnerability is rooted. Due to the fact that the plasticity and adaptability of phenomenic self-awareness vary according to the range of feelings that may be deemed proper for the tacit representation of the current affective meta-representational plot, its

regulation of the emotional system –in stages of meta-stability– is fundamentally directed to adapting its contents according to whatever organization best maintains the balance of the individual's own sense of viability. It is with this aim that phenomenic self-awareness uses the selection of attention as a mechanism for conveying intentional states. By excluding from its focus of attention all information implying less correspondence or more affective ambivalence than what composed the previously constructed plot, phenomenic self-awareness attempts to impede any discrepancy generated by new affective personal states from arriving at its domain. Failure in this task implies the inevitable awareness of some partial and dissociated aspects of the series of discrepant feelings. Thus symptomatically, for instance, only the affective aspect such as sadness or anger will be manifested at a phenomenal level, dissociated from the representation of loss, as in the case of depression; or proprioceptive and interoceptive sensations, physiological traits of emotional reaction, will be perceived, dissociated from its affective components and its cognitive representation, as in the case of panic attacks and agoraphobia; or only the representation will manifest phenomenally, dissociated from all affective and emotional aspects, as in the case of obsessive disorder (Balbi 2011, 2012; Freud and Breur 1893; Guidano 1987, 1991).

### **Organization of Affective Personal Meaning and Tacit Mourning in Adolescence**

I believe it would be an error to try to explain affective processes in adolescence and adulthood with categories such as secure, avoidant and coercive attachment, which have been designed to describe and explain attachment patterns that are typical of initial stages of development. This line of thought, chosen by prestigious investigators (Crittenden 1995, 1997; Feeney and Noller, 1996; Main 1991), ignores the fact that, due to the Self's systemic nature, there is not a linear continuity between a primary attachment pattern and the organization of the identity that is constructed after, at later stages of development. In this sense, adolescence is a critical stage of individual development, for it is then that an abstract system for regulating personal affective experience is organized, which is far more complex than those systems available during infancy and childhood. During these initial stages, the experience of personal continuity is regulated in a concrete way, and serves to maintain a certain quality in a bond: in infancy, when emotional dynamics prevail, it is sought in terms of physical and emotional proximity with a significant adult, that might result subjectively convenient for the infant; whereas in childhood, when representational processes mediate more effectively on emotional reactions, sense of personal continuity is regulated by the level of approval –that the child attributes to the adult– of the child's own actions, affects and intentions. In both stages, the functioning of the Sensorimotor, Preoperational and Concrete Operational cognitive structures allow discordant feelings (such as lack of reciprocity, ambivalence, or feeling deceived or manipulated by an adult) to be ignored. In adolescence, however, abstract cognitive structures allow the subliminal emergence of those discrepant feelings, deeply altering current affective experience, which consequently triggers a radical reorganization of the personal mental system. This reorganization leads to the construction of a new system for regulating affective experience, that must be useful for the adolescent to confront, with a sufficient sense of emotional self-regulation, the repercussions of the experience of loss caused by the specific affective discrepancies that have emerged; thus

guaranteeing a more or less continuous experience of a new “sense subjective personal”, more specifically, a particular “affective sense of oneself” that resulting ontologically viable (Balbi 2009b, 2014; González Rey 2009, 2011). The experience of this new affective sense of oneself, sets the limits of an affective particularly relational style that makes it possible. Therefore, in adolescence is organized a positive feedback system, whereby a certain affective relational style contributes to experience a specific affective sense of oneself, ontologically viable and continuous, for which the same affective relational style is increasingly relevant and necessary. This system is the model with which the subject will face the sentimental relationships in the rest of the life cycle.

The specific type of discrepancy that the adolescent must face lies implicit in the characteristics of the bond between child and parent during infancy, and is determined by the particular style of care given to the child. Moreover, the characteristics of the discrepancy will define the type of affective meaning that the personal mental system will develop. For example, in the case of an affective discrepancy which main trait is lack of reciprocity, a “personal sense of affective self-sufficiency” will be organized, the abstract organizational closure of the “Depressive PMO” described by Guidano. This teenage construction is the result of a parental strategy focused on “parental affectionless control”, typical of caregivers who aim to raise children with strong character, demanding a level of responsibility and capability which is always above the child’s emotional reach, while providing insufficient emotional support (Balbi 2013; Guidano 1987, 1991; Parker 1983). On the other hand, a parental strategy that, by means of an unfair use of cognitive superiority, thwarts the child’s exploratory behavior (to keep the child inside a “controllable area”, thus avoiding potential danger), will lead the adolescent to face a discrepancy which *leitmotif* will be a feeling of distrust in the intentions of future partners; for now the restrictive caregiving that was once perceived as a sign of affection, is interpreted as a way of controlling. In this case, the result will be the construction of a “personal sense of affective autonomy”, the abstract organizational closure of Guidano’s “Phobic PMO”. Finally, a parental strategy based on the transmission of a system of principles and procedures, distinctive of caregivers that prioritize their instructive role at the expense of a richer affective coordination with the child, will favor the emergence of ambivalent feelings during adolescence that remained tacit during childhood. The processing of these ambivalent feelings will lead to the development of a “personal sense of affective equanimity”, the abstract organizational closure of the “Obsessive PMO” (Balbi 2014; Guidano 1987, 1991).

Even in those cases in which affective discrepancy is not severe, this reorganization of the personal mental system exposes the person, for the first time, to a process that is paradigmatic of all psychological disorders: “Tacit meta-representational mourning” (Balbi 2011, 2013, 2014). By this, I refer to the process of dealing with the experience of an unconscious affective loss (deception, disillusion) which occurs in abstract meta-representational levels and that has the following characteristics:

- The experience of loss is generated by subliminal information about changes in the meta-representational plot with the affective partner.
- The intensity and quality of the grief reaction are independent of the “objective” validity of this information.

- The emotional, cognitive, behavioral, and somatic reactions of grief are present at a phenomenonic level, but dissociated from their corresponding representation. Or are manifested in phenomenological level only the representations dissociated from its affective components.
- These reactions are much more intense and less controllable than if the same grief were experienced at a conscious level.
- These reactions are triggered by multiple stimuli that, if appraised from an objective viewpoint, would be significantly distant from the essential grounds of loss.

The way this mourning is structured and how it is overcome through adolescence will determine the person's vulnerability to psychopathology, both during youth and adulthood. Firstly, the processing of intense emotional oscillations caused by severe affective discrepancies, in an unfavorable relational context during adolescence and young adulthood, makes it possible for the severe psychological disorders that are characteristic of these phases to arise. Secondly, a dysfunctional resolution of the tacit meta-representational mourning during adolescence will lead to the construction of a personal affective meaning and a relational style that are too rigid to successfully cope with the affective oscillations that occur in all adult relationships. During adulthood, sense of personal identity is connected to the way an ongoing bond with a significant other is structured. This sense of identity regulates itself according to the degree of plasticity with which the personal mental system is capable of buffering the emotional repercussions that are caused by affective oscillations during the relationship. Because of this, during periods of meta-stability, when changes in the subjective experience of time lead to a rearrangement of the Self, the key to a progressive reorganization of the mental system lies in the degree of abstraction and integration with which phenomenonic self-awareness is capable of processing the affective discrepancy that it is currently undergoing. Here lies the premise of Post-Rationalist Cognitive Therapy: psychopathological phenomena are originated from affective imbalances, which are tacit and meta-representational, and are caused by discrepancies that, being extremely difficult to integrate into the personal mental system, produce emotions, feelings, representations, sensations and behaviors that, because they manifest disassociated, are experienced by the patient as uncontrollable and extraneous to him. The method of Post-rationalist cognitive therapy is based on the principle that, only through the differentiation and integration of the whole spectrum of emotions and feelings connected to the affective discrepancy which is in the etiology of these symptoms, is possible a reorganization of the personal identity system into a new and more complex degree of awareness, which can enclose this novel way of experienced of himself in his affective relationships. For that reason, the Post-Rationalist Cognitive Therapy presents itself as a method by which the therapist - aiming to foster new senses subjective in patient's experience - guides the patient in the reconstruction and self-observation of his or her particular way of experiencing the affective discrepancy that is occurring at this specific stage in life.

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