The actual conception as a starting point of the psychic preconceptions that will influence future unconscious phantasies and object relations

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In recent years, there has been a significant rise in the number of children and adults diagnosed as suffering from Autistic Spectrum Disorder (ASD), followed by a parallel increase in the number of studies, in various disciplines, aimed at better understanding and treating these patients. A pioneering psychoanalytic perspective on this subject was first presented by Tustin, who saw the massive defenses of these patients as a desperate attempt to deal with traumatic and catastrophic anxieties. She understood these anxieties, as arising, among other reasons, out of a constitutionally insufficient development of the neuro-psychic apparatus, which harms the infant's ability to cope with external reality. (Tustin, 1981)

When treating such patients, the concrete, primitive, sensory-somatic nature of their defense mechanisms is evident from the very beginning. "It is a level," Bion writes, "in which physical and mental are undifferentiated" (1961, p. 101), indicating that the trauma occurred and was encoded before birth. This understanding has informed both embryological and neurobiological research, as well as clinical-psychoanalytic writing. In recent decades, there have been important and intriguing attempts to integrate these perspectives, such as Singletary's integrated model (2015), in which he defined ASD as "a neuro-developmental disorder in which neurobiological factors interfere with the infant-caregiver interaction. The infant then experiences deprivation of growth-promoting parental input, even when it is available". Nonetheless, many clinicians remain unaware of these developments in research, maybe because, the most important question for us - clinicians - that of how to translate this knowledge into psychoanalytic thinking and working - has remained open.

Writing in 1920, Freud noted: "Biology is truly a land of unlimited possibilities, … we may expect it to give us the most surprising information" (p.59). I would like to follow his lead and turn the spotlight to the ways in which advanced technologies can inform, our understanding of biological processes occurring at the beginning of life, and our knowledge of what might transpires in the psyche of children and adults, whose trauma is often rooted in these archaic, somatic areas. The trauma's occurrence at such an early pre-verbal and pre-cognitive stage of development poses a serious challenge to the analyst's way of being and to analytic technique, which might both gain from biological insight into this early stage.

In what follows, I will focus on one of the first organic process – that of conception. I would like to explore the possibility that even this primal, "biological-somatic" stage, is characterized by an idiosyncratic expression of elements that will later partake of each individual's unique mental structure, and which contain proto-patterns of the future self and its objet relations.

The beginning of mental life – psychoanalytic and biological viewpoints

The notion that every bodily process has a mental correlate has accompanied psychoanalysis from its very inception. Freud's model of anxiety, Klein's model of digestion, Bion's synaptic model and Anzieu's skin model are among the best known. It is similarly possible to also detect in the psyche, correlates to the breathing system, the kidney system, and the immune system. It seems, however, that the somatic system is not merely a correlate; As Freud stated in 1923, "The ego is first and foremost a bodily ego; it is not merely a surface entity, but is itself the projection of a surface" (p. 15). Several decades later, Winnicott refers to the psyche as in-dwelling in the soma, "the live body, with its limits, and with an inside and an outside, is

felt by the individual to form the core for the imaginative self" (1949, p. 243). Focusing on the body Anzieu pointed to the primary, primitive mental structures that are created through the mental representation of sensory, somatic, preverbal signifiers (1979). This idea was proven by scientists who claimed that: "social cognitive processes emerge only from recurrent sensorimotor patterns that allow action to be perceptually guided" (Kiln, 2003). Accordingly, it has been reported in many researches and clinical cases that there is a link between failure to modulate sensory-motor sensitivity and autistic states (Harrison, 2019).

I will now try to focus on the somatic senso-motory system, due to its importance in treating pre-verbal areas in patients. This focus can help us in detecting autism in children who have not yet reached the verbal-social phase, as well as in recognizing autistic barriers in adults (Tustin,1986).

The sensory-motor system differentiates and develops, within the neurobiological system, and creates the structure and mold within which the mental system develops. The neurobiological system, like all other systems, is genetically encoded, and begins to develop and differentiate several days after conception. The sensory organs begin to form in the sixth week. In the 12th week, there is already sensor activity, and an initial secretion of hormones indicates that inter-cellular communication already exists. By the 24th week, the brain completes its process of differentiating. This is also the week when we can first note fetuses having REM sleep, which is related to mental processes while dreaming. Thus, it can be argued that the biological system forming the basis for bodily subjectivity, which will later influence the individual’s unique mental development, is already formed by the end of the second trimester of pregnancy. From this point on, in accordance with the unique brain's features, there is rapid growth, as synapses are created and form neural networks whose function is to receive and absorb the vast amount of information coming from the body and the

environment, to process it, connect it, compare it to earlier proto-memories, and to react accordingly. In fact, the roots of our perceptual abilities as human beings – the manner in which we perceive our body, ourselves, others and reality - as coherent, or paranoid, or disintegrated – begins to be determined at this point, based on the unique structure of each individual's neurobiological system.

In contrast to the previously held, widely accepted notion that this structure was solely determined by the fetus's inherited genetic characteristic, it is known today that environmental experiences (pre and post-natal) directly affect the development of the brain, and the neurobiological structure and function, through two main tracks: interpersonal and epigenetic:

1. **The interpersonal neurobiological track** – the need of the fetus, and later of the infant, for human presence is an existential need necessary for survival. The increasing ability to depend on others, and to communicate with them, is a result of the changes occurring in the brain, yet is simultaneously also their cause. We communicate with the environment based on our neurobiological structure, but our neurobiological structure also changes in accordance with environmental conditions. Scientists found, in animal models that maternal deprivation increases cell death (Zhang, 2002) especially in the right prefrontal cortex. This part of the brain is important for broader aspects of communication such as the ability to regulate flexibly emotional states through interactions with other humans. But perhaps the most complex of all functions, is what the neuroscientists call “the ability to mentally travel through time”—the capacity to mentally represent and become aware of subjective experiences in the past, present, and future (Schore, 2012). This biological basis seems to be the explanation for wide-ranging developmental deficits observed in infants

raised in institutions, or children who developed autism-like behaviors following catastrophic trauma (Rutter, 1999), though also, mediated by their constitution (Rhod, 2018).

The two main compounds in this process, dopamine and oxytocin, have been proved to play a critical role in the ability to create mental schemas which we are supposedly born with, such as internalizations, projections, and the container-contained relationship. Accordingly, levels of both compounds were found to be significantly lower in patients with autistic behavior, while their artificial provision decreases autistic defenses significantly, albeit for a very short period of time. Additionally, Dawson (2008) demonstrates changes in the brain after therapeutic interventions with very young children with ASD, and claims that prevention of ASD is plausible.

2. **The Epigenetic track** – epigenetics is the study of heritable phenotype changes that do not involve alterations in the DNA sequence. () These changes occur due to a group of chemical markers, such as the methyl group, that are wrapped around the DNA and most often involves changes that affect gene activity and expression. This second layer of the DNA structure- the epigenome **- is also genetically transmitted** and can be **influenced by mental and physical stress**. Therefore, everything that happens to us from the moment of conception influences the structure and activity of our cells, including our hereditary cells - the sperm and the ovum. **This means that our hereditary cells are environmentally sensitive to the manner in which we perceive the events around us**, even at this very moment, and these impressions can be passed on to our children and to their children. Today there is an extensive body of research that links various diseases (including depression and anxiety), to epigenetic changes

(Bartlett 2017). It seems, that this is the biological basis underlying transgenerational transmission (Gampel,1987), a term indicating that the phylogenetic, historical and developmental axis of the baby and its family dictate its development no less than the ontogenetic axis. From this perspective, Durban wrote "there is constant interaction between structural influences and the impressions of knowledge, phantasies, expectations, mental contents and dreams passed on from previous generations".

Autistic states and epigenetic changes

One of the most troubling concerns in the scientific community is the remarkable increase in the diagnosis of autism over the past five decades, from 1: 5,000 in 1975, during Tustin's time, to 1:59 three years ago (Marotta R, 2020). This increase is not well accounted for by the overall rise in awareness to this syndrome, and it remains almost unparalleled by the rise in any other form of illness or psychopathology. Extensive treatments are also uncovering a growing number of adults expressing primitive 'anxieties-of-being' (Durban, 2019) and manifesting autistic defenses. In an attempt to account for this dramatic increase, many researchers have turned to study the interaction between epigenetics and autism. I will now turn to share the findings of two such studies.

In the first study, researchers examined the DNA extracted from the sperms cells of fathers whose children were diagnosed with ASD. They found that these cells showed a clear increase in methylation (that is epigenetic changes) in the neurological areas encoded for perception, especially in regions that encode dopamine and oxytocin levels (Garrido, 2021).

In the second study, which has complex social implications, and thus requires careful and in-depth examination, the researchers found that children conceived using assisted reproductive technology (ART) were about two times more likely to be diagnosed with ASD compared to children conceived without using ART (Fountain, 2015) Further analyses have found that these significant differences are related to the technique of fertilization: when intracytoplasmic sperm injection (i.e. injecting one sperm directly into one ovum) was used, the future child was more likely to develop ASD compared to conventional in vitro fertilization, which involves mixing sperms with ovums in a laboratory dish. Additional factors that exerted an influence were, for example, whether it was a multiple-fetus pregnancy or a single-fetus one, as well as the age of the ovum and sperm. The older the hereditary cells, the more exposed they are to epigenetic processes (Kissin,2015).

To conclude this section, the pre and peri-conception phase and the early embryogenesis phase are associated with widespread epigenetic remodeling, which affects the neurobiological system, and might influence the psychic developmental trajectory of the fetus. As a matter of fact, this understanding was already suggested by Bion (1976, p. 236) 60 years ago: “It seems to me that from a very early stage the relation between the germplasm and its environment operates. I don't see why it should not leave some kind of trace, even after ‘the impressive caesura’ of birth.” At the same time, it is important to remember that epigenetic and interpersonal relations continue to influence the neurobiological structure throughout life. This studies support and explain the biological basis for Schellekes's (2021) warning "regression and transference are never an exact duplication of an early experience, since much is added, accumulated and distorted during one's development so that what we see at

a given moment in therapy or analysis is but a gross approximation of the initial situation. Therefore, much caution is needed when we face and interpret the transference".

Before we turn to watch the 3-D animated video about conception, I would like to outline some of the significant senso-motorial parameters taking place during the meeting between the ovum and the sperm, and then proceed to observe it through a psychoanalytic lens, in an attempt to charge it with psychoanalytic meaning:

Both sperm and ovum are required, even prior to their potential encounter, to activate sensory-motor, perceptual and proprioceptive abilities. Their uniqueness and performance depend on the information encoded in their hereditary cells, and as I mentioned before, the manner in which these processes occur will, in turn, leave its imprint on development: some of which are:

a. Positioning in space and the ability to perceive directionality [The hereditary cells and the genetic material inside them].

b. Moving and pausing.

c. stability and flexibility [of the sperm and the ovum].

d. Penetrability and impenetrability - the innate ability of the sperm and the ovum to be opened and closed, to release and to accept, to be a container that fills itself and empties itself (Anzieu, 1993) - is both a result of and a cause of proto differentiation between inside and outside, laying the ground for future

mechanisms of projection, internalization and transference [it is interesting to note that the scientific name of the sperm is a "transfer object"].

e. Passivity and activity- the intensity of the drive is genetically determined by the quantity of an energy molecule named ATP (Adenosine Triphosphate), located in the middle part of the sperm and inside the ovum, -and is influenced by the age of the sperm, heredity and more.

These senso-motorial imprints evolve and create numerous, innate neuro-mental potentials and functions, that will later mature, through contact with the inside and outside, into what may be called a Self (Tustin, 1987). Among these components of the self are:

1. **Drive and dependency**- From the very beginning of the sperm's separate existence, it is marked by openness and orientation towards the object- the ovum. While moving in search of the (ovum) object, the sperm also depends on the object's counterpart that attracts it - whether it's the vaginal muscles cells or the ovum envelope- and also depends on other sperms that would have to sacrifice themselves, all of which are critical for the success and continuation of the conception.
2. **Otherness** – The sperm's penetration into the ovum is the first intrusive connection taking place in the course of our life, preceding the two central types of encounters in psychoanalytic theory: that of two part-objects (the nipple and the mouth) and the connection between whole objects (in the oedipal scene). This first connection between these two **cell** objects, which are foreign to each other, brings together, hard and soft, masculine and feminine. It also creates the first bisexual container, described by Houzel (2005), which I will refer to later.

3. **Anxieties** – Every encounter between a drive and an object arouses anxieties (Kiein,1946). The oedipal/depressive set of anxieties concerns the encounter between whole objects, the paranoid-schizoid anxieties concern the encounter between part objects, and existential anxieties of falling and dissolving might be traced to the encounter between the blastocyst and uterine and the immune-system cells. It seems that here, at the site of the most primal intrusive encounter, we can identify the traces of an even earlier kind of developmental level and anxieties – the osmotic-diffuse anxieties (Durban, 2021) with a dread of losing form and become shapeless, to which I will return later.
4. **A Unique sense of identity** – each encounter between the sperm and the ovum is marked by numerous possible combinations, only one of which comes into realization and brings to life a unique combination of each cell's own history and that of previous generations.

Now we can proceed to view the video.

Fertilization -סרט

https://www.youtube.com/watch?v=_5OvgQW6FG4

Bio-analytic thoughts concerning anxiety, transitions and equilibrium and the bisexual container

1. **Anxiety** –conception is the sole instance of a meeting involving an irreversible merger of two separates cells into a single entity. As such, it stands out in contrast to all following encounters- such as fetal cells and uterine cells, nipple and mouth, or intercourse- in which each object or part-object resumes its separate existence following the encounter. Thus, as Wilhelm (2010) highlights, the imprint that this moment of mating and fusion leaves on what she calls "spermatozoid cellular memories" is of "both joy for life being created, and dread of torture and destruction of its previous original identity". The sperm loses its tail, and its head swells to four times its original size and opens up to deliver its genetic load to the ovum. The ovum as well undergoes a transformation, losing its former identity, as foreign material gets inside it, changing it from within. As I mentioned earlier, this primitive stage, characterized by osmotic-diffusive qualities, brings about the most primal and frightening proto-anxiety – that of losing form. When treating patients with severe pathology, we should keep in mind that this kind of merger transference, is simultaneously accompanied by this dread of losing form. It is especially true among patients who experience their bodies as perforated and leaking.
2. **Transitions and equilibrium** – One can see how, from the beginning of life, we strive for equilibrium and balance in the **back-and-forth** movement between opposing processes within ourselves and within our cells. from chaos to splitting to integration, from connection to separation, from fusion to differentiation, and from disintegration to integration. For example, each cell division begins with a state of chaos leading to

the splitting of the genetic information and of the cell itself, followed by integration between the cells. The ability to resume and to maintain equilibrium is essential for healthy development, because it entails the capacity for transition which is one of the most important biological and mental processes (Joseph, 1992). It is also, I think, the basis for many other "spaces of in-betweeness" (Durban, 2021) from which "we can try and create a truly receptive and transformative state of mind", In contrast to the autistic child described by Tustin as lacking the ability to transition, and therefore as being stuck in between at-one-ment and separateness.

3. **The bisexual container** – From the very first instant, the ovum acts as the containing object, not in the sense of a container, but rather in the sense of what Houzel (1985) refer to as “attracteur”. Houzel describes a balanced combination between four qualities that are important for an “attracteur” – impenetrability and penetrability, stability and flexibility. These qualities, which may appear oppositional, are balanced and combined in accordance with the model of mental bisexuality, in which strength and endurance are located at the paternal pole, whereas acceptance and flexibility are located at the maternal pole. This equilibrium is crucial for the creation of the differentiation and integration between interior and exterior, self and other, the container and the contained, which later evolve later to form the basis for mental abilities such as distinguishing good from bad, as well as for cognitive-linguistic abilities. In accordance with this model, during the process of fertilization, only if this synergetic collaboration between the maternal and the paternal parts begins, can it lead to healthy development.

And now we might proceed to a number of crucial questions: What can we do with all of this biological information? Is it merely a source of general knowledge, or does it actually contribute to the therapeutic process? Is it an analogy? A metaphor? Or can we point to some form of links that we can interpolate into the psychoanalytic context, and if so, how? These questions and additional concerns will be presented and discussed in the following clinical case study, and in the recommendations that follow it.

Nadav

Nadav is an 11-year-old boy suffering from autism. He has been in therapy since he was diagnosed about one year ago, at a relatively late age, due to his fairly high functioning. From our first meeting, his way of entering my consulting room has followed the exact same pattern: he repeatedly presses the external doorbell until I buzz him in, and then walks the three meters to the door of my office, and knocks very quietly. When I opened the door, I would see him standing, frozen, leaning on the doorpost, his expressionless gaze fixed on my face. He looked like a statue. Initially, I tried to speak with him about what he might be feeling and about the difficult transition from the outside to the inside. I also offered an interpretation concerning his fear and difficulty in the encounter with a new place and with me. Nadav would not respond, or would collapse on the carpet at the entrance. Once this happened, it was almost impossible to get him into the room. As time went by, his knocks became quieter, and I could not be sure if I had heard his knock or not. It felt dangerous to make a mistake, because if I would open the door before he knocked, he would flee

back to his mother and would not come back, leaving me frustrated, sad and very guilty. I found myself feeling anxiety in the transition from the intensity of the first strong continuous ringing, which felt like it is penetrating the room, to the relative silence that prevailed afterwards. Doubting my hearing I've pressed my ear against the door, trying to apprehend even the faintest of sounds. Most of the time, I found myself not knowing what kind of meeting we would have, and even if a session would indeed be "born". After several such intense meetings, I came to realize that his entrance to the room might be related to more primitive areas of experience. The next time I heard him knock, I opened the door with excited affect, and said that both I and the room had been waiting for him, and that he was welcome to enter. These words were accompanied by a gentle hand on his shoulder, which seemed to help him enter the room. For a period of several months, this entrance ritual became fixed, with slight variations; for example, after I came back from a vacation, I needed to double my energy to help him enter the room. Another time, when the intercom broke down, he overcame this first obstacle by racing forward (the neighbors told me that he almost "ran over" one of them). Still, he stopped and stood frozen by my door. When I shared this repeated interaction with his mother, she said it reminded her of the fact that he was born in a forceps birth, even though he had descended into the birth canal very quickly. As the months went by, and although this ritual facilitated Nadav's entrance, I began feeling tired before his arrival, and experienced our meetings as starting with mechanical, immutable encounter lacking life and movement.

About two months ago, while preparing this lecture, I recalled his double entrance, a rushing inwards followed by a pause, and had the image of a sperm surging forward and then stopping and waiting for the ovum to let him in. I thought that perhaps he

was telling me something about a problem with the continuity and stability of his drive. At his next session, when he stood outside in his regular manner, I opened the door and asked with a smile: “Need a push?” He looked at me and asked: “How?” I went out behind him and, for the first time, rather than pulling him into the room, I pushed him gently. I said that it seemed to me that he was expending too much energy, and that he had none left, and that I would add a bit of what was missing. He laughed and entered the room while jumping.

I later said: “You know, Nadav, I think that once upon a time, a really long time ago, you didn’t have enough strength to arrive where you wanted to go. I can always pull you in to me, but then, I think you feel that I have all the power and that could be frightening. It seems to me that maybe you would like to have enough energy of your own”. Nadav answered: “It’s a matter of a good battery” and went on to invent a game in which he would receive energy through various “batteries,” and asked if I could put this "energy box" outside the door so that he could use it when he came for the next session. Before the following session, I put the box outside my door and he jumped into the room when I opened the door. I said that now that he had enough energy, he could jump and not be afraid to fall. In response, he took a pair of tweezers from the desk and tried to push it into my belly. I asked him what he was doing, and he said "I want to take from you the thing where babies grow". I said that it sounded like he needed this thing called a womb, which babies can jump into and not fall out. He took a marker and started trimming its tip with the same tweezers. I remembered our first meetings, and the transference of a broken link between the penetrating (cell) and the enveloping (cell), and said "I think you are telling me that womb is not enough. You also need something reminiscent of a "willy". After a few minutes of silence, he

wanted to make a list of important historical figures, and asked me if I knew any people in history who had been crazy. I responded that it seemed to me that he wanted to know where he came from, what he was made of, and if there were other people like him.

I felt that there was movement in the therapeutic process, as I rethought some of the interpretations that I had previously provided. For instance, after about 35 minutes, Nadav would habitually lie down on the bed, take out his cell phone, and "connect" to it. Any attempt to draw him away from the phone would lead to an aggressive response and wild behavior. My initial interpretations of this act, which associated it with anxieties concerning the approaching end of our meeting, were now replaced with an understanding of his sense that his "battery" was "running out" due to his osmotic anxieties. I said that I understood now that he felt he had run out of energy, and that clinging to his mobile was his way to restore his strength and power, rather than experiencing himself as empty, helpless, and powerless.

Conclusions

Due to their primitive nature, the treatment of primary mental states often leads to a destructive cycle of projections and counter-projections onto the analysts, their bodies and their offices. Feelings of emptiness, frozenness, detachment, boredom and despair (Durban, 2014) [which are equated with the patient's own experiences], as well as anger, despair, frustration and guilt are an inseparable part of such therapeutic processes. Interpretation is often made difficult, if not impossible at times, due to intense adhesive identification (Meltzer,1974) that freeze the analyst's floating attention or reverie, leading to inevitable intense "attacks on linking". At such times, I

find that 'linking bio-analytically' might be helpful in restoring my ability for containing and thinking. I would now like to share some clinical implications of this line of thought:

1. **Reparation of the traumatic environment** – Mitrani (1997) describes the way "embryonic states of mind" related to these prenatal proto-experiences, are stored at a somatic or sensation-based level, as body memories, and are recreated and enacted in the transference-countertransference matrix. Because this cellular transference, which is extremely primal, is very difficult to identify and understand, the knowledge and images of primary biological processes may sometimes function like an oxygen supply that enlivens and nourishes the therapist's understanding, restoring the ability for reflecting, thinking and interpretation. In this way, the clinician might be transformed from being a traumatic, formless environment into a "placental object" (Paul's ,1981). I believe that thinking about the bio-analytical history of the embryo within the patient promotes transformation and reparation, and resembles Winnicott's perception of a child within every adult and Klein's perception of an infant within every child.

2. **The nature of interpretation**
    a. **Interpretation in action** - As mentioned earlier, studies suggest that structural deficits may affect levels of dopamine and oxytocin and impair the functioning of mental schemas such as: internalization, projection, the container-contained relations, and the formation of language and of a symbolic order. This knowledge entails a need to modify our setting and interpretation to a concrete, physical dimension such as Interpretation in action (Alvarez, 1992; Pollak, 2018). In

biological terms, such interpretations can create actual neurological changes in brain processes. The analysis setting of five to six sessions per week support the need to intensify the neural stimulus that is crucial for the development of more synapses, thus bring by itself a significantly quicker and deeper change.

b. **Transference interpretations and historical reconstructions** - In addition to interpretation in action, it is helpful to verbally interpret and show patients the links between the possible "happenings" (Bion, 1962) or traumas that occurred in the past and their present anxieties and defenses. This sort of historical interpretation, as Bion aptly put it, gives the patient a sense of ``at-one-ment,'' which means ``to become one with one's own self,'' and designates a form of “bringing together not only body and mind, the prenatal and the postnatal personalities, but proceed also to the marriage of the spermatozoid and ovum which gave origin to that particular individual'' (quoted in Wilhelm, 1980, p.8)

3. **An emphasis on structure over content** – The imprint of our prenatal history is within the neurobiological system. Because it is a system, characterized by being a structure without content, it can help us focus on the mechanism, or structure, of the psyche regardless of its singular content. Writing about a patient who was difficult to reach, Betty Joseph (1989) describes how in such cases it is worth focusing our attention not on the content of what is being said, but on the manner in which it is communicated. The Parameters I described regarding the conception – such as the ability to bear otherness, to change and resume balance, to release and to accept, the level and quality of continuity, and so forth, are among the structural components that patients express intrapsychically and in the transference. Moreover, since in the primitive

mode of thinking, the content is often equated with action, it is preferable to interpret the action, which is visible in the room.

4. **Recognition, understanding and interpretation of the autisto-psycho-somatic structure** – Psychoanalysis has delineated different relationships between body and psyche, from perceiving the body as a mental correlate (Freud and Klein) to perceiving it as a container for the projection of unwanted (Bronstein and Rosenfeld) or unrepresented (Levine) parts, or as a split-part from the psyche (Winnicott). However, in patients with autistic defenses, because of their impaired object differentiation, the relationship between body and psyche is often heavily disrupted. The body continues to be perceived as the prenatal biological structure - disintegrated, fluid and penetrable, and is experienced as formless, estranged and uncanny (Maiello, 2012). Hence, such patients perceive their psyche, by the same token, as having the same disintegrated structure. This body-soma disintegration, arouses osmotic-diffuse anxieties and a specific undifferentiated and disintegrated structure that I will term autisto-psycho-somatic. In this structure, body and psyche are entangled, held together as a mantling defense against dismantling (Meltzer,1974), and provoke strange and bizarre manifestations in the clinic.

5. **Intake, parental guidance:** Thinking bio-analytically can not only enrich our presence and thinking in the treatment of primitive mental states, but can also enrich the range of topics to which we pay attention in the intake process (e.g. taking into account "happenings" during the pregnancy and in the parents' history), and in parental guidance (for example, explaining that predisposing neurobiological factors lead to the experience of environmental deprivation even if the environment is good enough).

"The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them"

Sir William Bragg (Nobel Laureate in Physics, 1915)