
From emotions to meaning: Romantic love and sexuality integrated and directed according to values

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Abstract

In order to understand the transition from a life driven by emotions and desires (with particular attention to sexual ones) to a life driven by projects and values, we will use the frameworks of interpersonal motivational systems (IMs), of which the sexuality is part, and of metacognitive functioning that allows for emotional knowledge, understanding and regulation. We will provide a central role to consciousness, as a uniquely human quality, which allows the development of motivations and intentions not otherwise replicable in the rest of the animal world and which permits us to guide our behaviors by choosing which motivational system to support, contain or manage and, above all, why.

Key words: *sexuality, attachment, values, metacognition, consciousness.*

Sommario. Dalle emozioni al significato: amore romantico e sessualità integrati e diretti secondo valori

Per comprendere il passaggio da una vita guidata da emozioni e desideri (con particolare attenzione a quelli sessuali) a una vita guidata da progetti e valori, utilizzeremo le strutture dei sistemi motivazionali interpersonali (IMS), di cui la sessualità fa parte e del funzionamento metacognitivo che consente la conoscenza, la

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comprensione e la regolazione emotiva. Daremo un ruolo centrale alla coscienza, come qualità unicamente umana, che consente lo sviluppo di motivazioni e intenzioni non altrimenti replicabili nel resto del mondo animale, e che ci permette di guidare i nostri comportamenti scegliendo quale sistema motivazionale supportare, contenere o gestire e, soprattutto, perché.

Parole chiave: sessualità, attaccamento, valori, metacognizione, coscienza.

Introduction

Sexuality is often considered as a desire and a behavior that can be easily dissociated from affectivity, without any consequence, as well as a value in itself to be realized in the course of life.

In order to understand the transition from a life driven by emotions and desires (with particular attention to sexual ones) to a life driven by projects and values, we will use the frameworks of interpersonal motivational systems (IMSS), of which the sexuality is part, and of metacognitive functioning that allows for knowledge, understanding and emotional regulation.

We will provide a central role to consciousness, as a uniquely human quality, which allows the development of motivations and intentions not otherwise replicable in the rest of the animal world and which permits us to guide our behaviors by choosing which motivational system to support, contain or manage and, above all, why.

To achieve this, we will carry out a literature review. We will start by discussing IMSS, outlining the central role of the attachment system within them.

We will then highlight the relationship between the attachment system and the sexual one, followed by an analysis of the relationship between metacognitive functioning (which develops within the dynamics of attachment) and sexual behavior.

Finally, we will see how the uniquely human consciousness allows us to integrate these dynamics, and in so doing makes possible both ordering and orienting the functioning of motivational systems in general, and sexuality in particular.

From this, we not only realize emotions and desires, but above all values and meanings, thus allowing us to carry out life projects that go beyond emotionally-rooted desires.

Interpersonal Motivational Systems and the central role of attachment

Human beings have an innate disposition to elaborate and implement forms of social interaction which, during their development, favour the learning of complex systems of control and interpersonal and intrapersonal interaction, each of which regulates specific areas of behaviour. These different interpersonal behavioural systems can be defined in relation to the purpose they serve and, as such, they can be considered interpersonal “motivational” systems (Lichtenberg, 1989; Lichtenberg *et al.*, 1992, 1996, 2011; Liotti, 2005, 2001, 2005; Liotti & Monticelli, 2008, 2014).

Human motivational systems can be divided into three levels (Liotti & Monticelli, 2008, 2014). On the first level are behaviours guided by the so-called reptilian brain and are not intrinsically interpersonal, but rather mainly oriented towards survival and homeostasis (e.g. feeding, breathing and exploration). Included on this level are some apparently relational systems, such as that of sexual or predatory mating, but in reality, these behaviours are experienced in an exclusively anonymous form and without the memory of the identity of the other, and therefore are not “social” in the strict sense.

The second level of motivational systems is interpersonal, guided by the limbic brain, shared by birds and mammals, and regulates the interactions between members of the social group. The principal IMS of the second-level appears to be attachment, social rank/competition, nurturing, couple sexual bonding, peer cooperation and social play/affiliation (Liotti & Monticelli, 2008, 2014).

The third motivational level, uniquely human, has allowed the transition from operations already permitted only by the reptilian and limbic neural networks to operations involving, above all, neocortical brain maps connected to the exercise of symbolic language.

In this way, the birth of language and consciousness was possible, with the consequent ability to be guided not only by the emotions and motivations of the previous levels but also by values and intentions. This, in turn, has allowed the development of two uniquely human motivational systems: (i) intersubjectivity and (ii) search for and attribution of meanings. The activation of second-level motivational systems, precisely because they are innate and automatic, regu-

lates the processing and management of emotions even before the conscious ability to recognise and modulate them develops (Liotti 2005). The construction of the interpretation of emotions and their management are, therefore, interpersonal processes.

In order for them to take place healthily and functionally for development and adaptation, a child's emotions must be adequately reflected by the caregiver (Fonagy *et al.*, 2002). Mirroring is at the basis of the construction of the metacognitive structures from which emotions are interpreted and managed.

In this process, attachment relationships play a fundamental role, as the experience of the first interactions related to requesting and offering care represent the first and main step in directing the subsequent development of the regulation of all emotions. In practice, the attachment system and the internal working models (IWMs) have a central role in the management of IMSs.

According to Liotti (2005), the fundamental role of attachment in the regulation of emotions depends primarily on two factors.

Attachment is the first IMS to place children in contact with significant others, in situations of intense, alarmed or painful emotion. It is within these interactions that an adult begins to show children the meaning of emotions and bodily sensations and helps them understand, accept and regulate them. If the first cognitive structures regarding emotional life are developed within interpersonal matrices mediated by attachment, those that develop later, during the activation of other IMSs, will presumably be compared with the earliest ones. The second aspect of attachment in the regulation of emotions is that all the painful emotions that will be experienced later, connected to other motivational systems, will activate the attachment system and the IWMs connected to it.

Attachment and sexuality

The link between attachment and sexuality begins very early in the life of an individual. There is evidence that from the first year of life, sensual pleasure and sexual arousal appear and express themselves through forms of genital activation and pleasant play with the genitals (Kleeman, 1975; Wolff, 1966).

Starting from the second year of life, there is a change in quality in sexual curiosity and self-stimulation (Lieberman, 1996; Mahler *et al.*, 1975; Roiphe & Galenson, 1981). Interest emerges in the genital differences between males and females, and between oneself and one's parents. From clinical observation, it seems that in this period, aggression and sexuality develop as separate motivational systems that intervene in the organisation of behavioural and mental functioning by adding new dimensions to a child's emerging sense of self. Referring to the relationship that children in this phase of life can have with sexuality, some theoretical formulations tend to distinguish somatic arousal from sexual impulse. According to Lichtenstein (1961),

There is an innate body responsiveness, a capacity... to respond to contact with another person with a specific kind of somatic excitation which is not drive, because it has no direction, but which is the innate prerequisite for the later development of a drive... this responsiveness we may call sexual because it forms the matrix of later sexual development (p. 250).

In this regard, Holmes (2007) proposes the concept of "hedonic intersubjectivity" as the centre of sensual, playful, pleasant physical experiences and a source of self-affirmation that understands, constitutes and cements passionate attachments in childhood and, subsequently, in adulthood.

Parents metacognitive abilities, and the way they use them in their relationship with the child, are among the main factors influencing the development of a child's attachment style. The greater the ability of a parent to know the other's mind, the more likely it is that the child will develop a secure mental state concerning the attachment relationship. Starting from this conceptualisation opens up the possibility of including fantasies and sexuality as a way to model bodily stimulation, now experienced not as part of the environment, but as part of the self. The more the parent is able to relate his or her own mind with that of the child during the period of attachment-care, the more the child's metacognitive abilities will develop. Furthermore, mental spaces will open in which the child starts thinking about and mastering relationships and his or her own mental states, including those concerning sexuality.

In this way, sexuality and attachment inevitably become part of a bidirectional matrix, the parameters of which shift to find the best possible balance between safety and pleasure. Additionally, the attachment relationship leaves a permanent trace in the physical experience of pleasure and anxiety, influencing the development of future sexual fantasies (Weinstein, 2007).

The link between sexuality and attachment is strictly reciprocal and bidirectional from the first years of life. According to Holmes (2007), the sequence develops from (i) a safe, playful and psychophysically and mutually mentalizing interaction, to (ii) a general imaginative competence up to (iii) the ability to imagine erotic interactions which will inevitably be influenced by the IWMs of attachment and interactions with other IMSs.

For a better understanding of the relationship between attachment style and sexual fantasies, see Birnbaum (2007), Birnbaum, Mikulincer and Gillath (2011) and Birnbaum and colleagues (2008, 2012, 2019a). In adolescence, a period ranging from about 12 to 24 years of age (Siegel, 2013), the sexual motivational system is also activated and integration strategies are developed that make it possible to meet different motivational drives. Existing strategies of self-protection and seeking protection from others must be reorganised, sexual strategies must be constructed, and these must be integrated in ways that allow for a variety of attachment relationships to coexist and sustain one another. In mid and late adolescence, even a friend can become an object of sexual desire, not only creating a new way of experiencing intimacy and expressing affection, but also offering new incentives to maintain relationships despite periods of stress. Furthermore, sexual desire guarantees new ways to seek comfort and reduce emotional arousal. If one is unable to integrate the different motivational drives that are part of an intimate adult relationship (e.g. attachment, care and sexuality; Mikulincer & Goodman, 2006; Shaver & Hazan, 1992), the drives may be fragmented by seeking satisfaction in different relationships or dysfunctional ways (Crittenden, 2002). For some undisturbed adolescents, sexual desire is a strong motivation to improve and reorganise the expression of previous motivational systems (Crittenden, 2002). Others, however, confuse sexual satisfaction with the search for comfort and engage in frequent or unsafe sexual behaviour in order to reduce chronic anxiety.

Others become sexually precocious or promiscuous in order to interrupt the isolation of childhood, or they comply with the sexual requests of others as a means to acceptance. It is important to highlight that, just as confusion can arise between sexual behaviour and the search for comfort (sexuality and attachment), the same can happen with sex and aggression (sexuality and competition), particularly in men; aggression can, thus, be expressed sexually and be confused with love by both partners.

According to Crittenden (2002), those who fail to gain access to possible sexual partners – because there is no possibility or proposals are rejected – direct their sexual desire and activity elsewhere, for example towards themselves through the use of pornography.

Few adolescents are prepared for these challenges and, as the author also highlights, it is those who experience less satisfaction in other areas of life who run the greatest risk of using sexuality in distorted ways. Psychologically, there is the risk of confusing affective states, having one's identity too strictly defined by what one gives or receives sexually.

Another important skill to develop, is the ability to integrate the motivations that bind us to our partners with those that drive us to meet others. On the one hand, for someone to become an attachment figure, they need to be familiar and have predictable behaviour. Theoretically, one feels no connection to a person perceived as unpredictable or still unknown. On the other hand, sexual arousal may be reduced by familiarity and predictability and intensified by novelty, unfamiliarity and diversity (Eagle, 2005).

The emergence of third-level motivational systems makes further levels of management and integration possible, allowing sexual desire to be activated considering not only biologically predisposed motivational drives (evolutionary values), but also values and intentions (existential values).

There are also significant differences between adult attachment and that of children. First, childhood attachments are typically complementary, that is, the attachment figure offers care but does not receive it, while the child seeks but does not offer security (Cassidy & Shaver, 1999). Adult attachment, however, is typically reciprocal; both partners give and receive mutual protection. A second difference is the fact that in adulthood, the attachment figure is both an

equal and, often, a sexual partner. The most typical form of adult attachment, therefore, implies the integration between different behavioural systems: attachment, care and sexuality (Mikulincer & Goodman, 2006; Shaver & Hazan, 1992). It should also be emphasised that often one of the reasons that stimulate the search for contact in adulthood, at least at the beginning of the relationship, is sexual attraction (Shaver *et al.*, 1988; Tombolini & Liotti, 2000; Weiss, 1982). To deepen the relationship between attachment, caregiving and sexuality in adult romantic relationships see Farrugia and Hohaus (1998), Mikulincer (2006), Pélouquin *et al.* (2013).

Building a relationship that can become an attachment bond typically begins with a strong desire for closeness.

While in childhood the search for closeness is mainly dictated by fear (although a child also approaches a parent to share pleasant discoveries and to solicit appreciation for their success), adults can seek contact for interpersonal attraction or sexual interest.

While sexual attraction and passion are the driving requirements for satisfaction at the start of a relationship, within a few years, a partner's ability to offer comfort and care for the other becomes more important. Empirical findings suggest that about two years are required for all major components of attachment to be operational in relationships (Shaver & Hazan, 1992). Mutual attraction and sexual interest may be sufficient to form a couple, but if the partners fail to satisfy each other's needs for comfort and security, dissatisfaction will ensue (Shaver & Hazan, 1992).

How partners interact and meet each other's needs for comfort and care, allowing the relationship to evolve beyond the initial sexual attraction, depends on how their respective IWMs are confirmed or modified. IWMs are organised around the response expectations of an attachment figure and permit an individual to predict a partner's behaviour in a particular relationship. Studies on attachment have suggested that IWMs assimilate love experiences and new partners to existing expectations regarding the self and the other. In moments in which drastic change occurs, such as the formation or rupture of an adult attachment relationship, IWMs must change so as to incorporate new information about oneself and the other (Feeney & Noller, 1995). Only sufficiently accurate and updated IWM models will generate adaptive behaviour in relationships.

They will allow a person to have expectations that are closer to reality for the behaviour of the other. As a result, strategies or plans for establishing a relationship, for coordinating activities and reconciling conflicting goals, will be more effective. Conversely, if partners fail to update their IWMs, their behaviour will be driven by inaccurate or out-of-date assumptions. It is not only the IWM of an early attachment of the partners, but also the current functioning of the attachment system in the relationship between the two adult partners that facilitates, hinders or inhibits the subjective experience of intimacy and sexual pleasure. If the IWM of an existing relationship between two adults is affected by the precocious, insecure attachment, a fully shared and satisfying sexual experience will be hindered (Liotti, 1999). In this way, insecure attachments between partners may form the basis of unsatisfactory or incomplete sexual experiences, as sex is used as a substitute for other, non-sexual relational needs or sexual pleasure is inhibited by painful emotions connected to the attachment system (e.g. fear, anger, suffering) that the subject cannot manage. During adult life, therefore, the first attachment relationships affect the relationship with sexuality in general and also how it is lived within the couple.

In the next paragraphs, leaving aside the specifics of couple relationships (Birnbbaum, 2010; Birnbbaum & Reis, 2019; Birnbbaum *et al.*, 2006), let us see how sexuality is experienced and implemented in relation to the two dimensions of attachment identified by Bartholomew and Horowitz (1991): avoidance and anxiety. We will also analyse the relationship between sexuality and the disorganisation of attachment. For a broader review, we recommend consulting Lambiase and Cantelmi (2015), Birnbbaum (2016) and Mikulincer and Shaver (2016).

Secure attachment (low anxiety and low avoidance)

Consistent with the idea that attachment security fosters a confident approach to sexuality, scientific research (Birnbbaum, 2016; Lambiase & Cantelmi, 2015; Mikulincer & Shaver, 2016) shows that adolescents with secure attachments:

- report lower levels of erotophobia (negative reactions and evaluations in response to sexual stimuli) compared to their insecure peers, and higher levels of erotophilia;

- do not delay the first sexual intercourse, as avoidants do; do not have intercourse only rarely, as anxious men and avoidant women do; anticipate sexual experiences, as anxious women do;
- are more likely to engage in long-term romantic relationships, to explore various aspects of sexuality and to enjoy it;
- prefer relationships that involve affection and, therefore, are more likely to have sexual intercourse to promote emotional bonding;
- are less likely to have sex to manage the fear of being abandoned;
- are less likely to submit to a partner's sexual desires and to engage in risky or unwanted sexual behaviour;
- are less likely to accept and seek casual sexual relations.

For confident teens, then, sexual behaviour is a way to experience and express mutual involvement in a relationship and to create satisfying, intimate bonds with a romantic partner.

In line with these findings, much scientific research has shown that even adults with a secure attachment:

- are motivated by objectives aimed at promoting the relationship and therefore seek the satisfaction of their sexual needs and desires within a committed intimate relationship;
- feel comfortable with their sexuality and sexual intimacy, deriving pleasure from the mutual sexual gratification that contributes to maintaining a satisfying romantic relationship;
- are less likely to have casual or promiscuous sexual partners, one-night stands, or sexual intercourse outside the primary relationship;
- experience positive emotions during sexual activity and respond to their partner's sexual needs without compromising their preferences;
- are more open to sexual exploration and able to freely enjoy a variety of sexual activities, especially with long-term partners;
- have a greater perception of being attractive.

High avoidance

In general, people who have an attachment style characterised by high avoidance implement strategies that deactivate attachment needs and the search for closeness and intimacy.

For people with insecure attachment, sexual behaviour can be disconnected from attachment needs, or it can satisfy those needs individually, even when experienced with another person, with whom there is no real intimate involvement. In addition to abstaining from sex in the early stages of life, avoidant people seem to build sexual activities in ways that make intimacy and interdependence unlikely, especially from late adolescence onwards.

Avoidant teens, compared to confident and anxious teens:

- have a significantly lower desire for sexual relationships that involve affection, probably because they devalue the importance of emotional ties, at least on a conscious level, and are frustrated with the intimacy involved in sex;
- while still virgins, report high levels of erotophobia and fewer sexual behaviours unrelated to coitus (e.g. petting) than their non-avoidant virgin peers;
- begin to have sexual relations at a later age, have sex less frequently for reasons related to prestige and their own well-being, rather than aimed at promoting intimacy;
- masturbate more frequently;
- are less likely to enjoy the sexual experience and tend to drink or use drugs before engaging in sexual behaviour;
- are more attentive to behaviours related to sex that are perceived as threats to their health, such as the use of condoms;
- are more interested in emotionless sex, are less likely to be involved in exclusive sexual relationships and are more likely to have sex with strangers and engage in overnight sex.

These sexual motives and modalities are more prevalent in the case of males than females.

The same motivations that in adolescence lead young people to distance themselves from sexuality, in young adulthood can lead to short-term strategies for finding a partner, less based on emotions and more on sexual activities without commitment.

Avoidant people's desire for self-affirmation can be satisfied through sexual activities free from intimacy, thus encouraging promiscuity and sex without commitment. As we will see, a similar positive attitude towards uncommitted sexual intercourse has also been found in women with anxious attachments, possibly due to their deference to male sexual preferences or to gain approval and affection.

Similar to adolescents, adults with high avoidance attachment styles:

- tend to have more positive attitudes towards casual sex without emotional involvement and are more interested in short-term sexual relationships;
- often masturbate rather than have frequent sexual intercourse with their partner;
- when they have sex with their partner, focus on their own sexual needs and are less likely to express affection physically or to pay attention to their partner's needs;
- are unlikely to be satisfied with their sex life because they tend to experience adverse feelings of estrangement and alienation during sexual interactions, as well as intrusive thoughts;
- typically avoid sexual motivations associated with the promotion of emotional intimacy and, instead, pursue opportunistic purposes, personal goals such as affirming one's value, managing negative emotions and impressing peers;
- tend to use sexual behaviour to manipulate the partner or to exercise control over them;
- compared to people with secure attachment, have sexual intercourse more frequently outside the primary relationship.

Even in adulthood, these motivations and relational styles are more frequently encountered in males than in females.

High anxiety

Teenagers with high attachment anxiety use sex to satisfy their intense need for security and love. Tragically, however, their chronic insecurity favours dysfunctional behaviours that only confirm their fears.

In particular, they are more likely to:

- engage in sex to avoid partner rejection, gain reassurance and re-establish the connection;
- indulge their partner's sexual desires and engage in unwanted sexual behaviour;
- engage in activities (e.g. non-use of contraceptives, alcohol and drug use) that are hazardous to health (e.g. sexually transmitted disease, or unplanned pregnancies).

Among young men, attachment anxiety manifests itself with less

frequent sexual activity over a period of six months and a more advanced age for the first sexual intercourse.

In contrast, among young women, attachment anxiety is associated with a higher likelihood of having sexual intercourse during adolescence, a younger age for the first sexual intercourse and a positive attitude towards uncommitted sexual intercourse, possibly because of deference to male sexual preferences or to gain approval and affection.

Similar to adolescents, adults with high anxiety attachment styles:

- obsession, desire for reciprocity and union, emotional ups and downs, strong feelings of sexual attraction and jealousy;
- a lower consideration of one's ability to negotiate sexual encounters, greater concerns about sexual performance and more concerns about losing a partner;
- achieving typical attachment functions (e.g. reduction of stress, increased self-esteem and, in particular, reassurance and emotional intimacy);
- a fear of failing in sexual performance by disappointing the partner;
- attempting to please the partner during sexual intercourse, at the same time inhibiting the expression of one's own desires, often submitting to unwanted sexual proposals;
- a desire for power towards the partner or the attempt to force them to carry out unwanted activities, in all cases to have confirmation of their availability and love;
- a commitment to take care of the partner through sexual attention;
- using sexual behaviour to calm the partner in moments of hostility and bring him or her closer to oneself;
- brooding about a lost partner, with increased desire, sexual activation, continuous sexual fantasies and intense sexual activation in the partner's presence;
- ambivalence regarding sexual desires and pleasure, with, on the one hand, erotophilic tendencies seeming to intensify the pleasure received from sex, while on the other hand, doubts about being loved generating negative emotions during sexual intercourse.

Even in the case of adulthood, some authors have observed that, especially for women, anxiety is associated with early sexual relationships, a high number of sexual partners and infidelity.

Anxious men, on the other hand, tend to have fewer sexual relationships rather than safe and avoidant ones.

Disorganisation of attachment

Disorganised attachment states are those in which metacognitive abilities are most compromised, particularly those of integration.

According to Shane and colleagues (1999), the typical sexual experience of attachment disorganisation is not really sexual at all. In this case, the needs of one's own self and self-with-the other are not satisfied, there is no love, nor intimacy, nor sexual pleasure of any kind. Furthermore, there is neither an integrated self, nor a consolidated self, nor a strong bond with the other.

The experience of people in a state of disorganised attachment is not sexually pleasant and, at times, does not even involve the genitals. Indeed, it may frequently be unpleasant or painful, or anaesthetic as a result of attempts by the Self to protect itself through dissociation mechanisms.

Adults who have suffered from unresolved traumas in childhood, according to Lichtenberg (2008), experience confusion, disorganised reasoning and dissociation in response to their memories or current reactivation. These disorganizing experiences interfere with the appreciation of one's own and the other's subjectivity. Rather than paying attention to the desires and feelings of the other, this type of adult will tend to intensify negative affective states, hypervigilance and being centred on oneself. Alternatively, they may be subject to dissociation with emotional states of boredom, mental cloudiness and automated behaviours. In any case, cognition is impaired and self-reflective awareness does not exist.

Lichtenberg does observe, however, that if the relationship between unresolved trauma and disorganised attachment, on the one hand, and borderline and dissociative states, on the other, has been well established, the relationship with sexual actions is conjectural.

Lichtenberg (2008) further hypothesises that a state of hyperarousal may serve to obscure the profound emotional upheaval resulting from a deficit in sustaining empathic sensual experiences. Children and adults who face, and try to manage, the effect of sensu-

al under-stimulation and affective dissociation may seek revitalisation in a variety of forms: pain to stimulate body awareness, anger and destructiveness, drug use, pornography and a wide variety of submission-domination sex patterns that can be combined with any of these elements. Adults who have an unresolved attachment related to trauma struggle with a need to regulate sensations of a sensual type through sexual arousal in rigid and repetitive forms that immobilise them in a self-centred world characterised by immediacy. They neither have perspective on their own desires or behaviours designed to seduce the other, nor on the desires or subjectivity of the other, which exist only for the purpose of providing immediate regulation of the disturbed emotional state. Stuck in a world characterised by a here-and-now of limited consciousness, these subjects push themselves and others to create scenarios characterised by sexual pleasure with no broader awareness of the past or future, nor reflective awareness that leads to the possibility of change.

According to Holmes (2007), the self-destructive behaviours of people with Borderline Personality Disorder – characterised by disorganisation of attachment – include risky, degrading, unpleasant, perverse or humiliating sexual activities that can be understood in various ways:

- as a repetition of the dynamics of domination/submission experienced in childhood;
- as a routine to manage the sensation of chaos;
- as the association between sexuality and aggression that allows them to still experience something, even if it is pain, thus allowing them to escape from feelings of dissociation;
- as a victim that ensures a role and some form of protection, albeit at the expense of respect and pleasure;
- shame related to vulnerability, experienced in times of need, is re-enacted through degrading forms of repetitive sexuality, providing an illusion of control.

Metacognition and sexuality

Although the relationship between sexual motivational and attachment systems has recently been the subject of numerous studies,

it has not been explicitly conceptualised in relation to metacognitive functioning. Yet, it is precisely through the dynamics of attachment that one learns to recognise, value and manage the emotions that will be experienced later in life relating to the activation of other innate motivations connected to the different IMSs. In other words, it is in the course of attachment dynamics that metacognitive skills begin to develop. As stated by Liotti and colleagues (2008) and Manaresi and colleagues (2008), it is also important to consider how the activation of other motivational systems (e.g. sexual) can influence the regulation of emotional experience: «Even favourable or unfavourable experiences, regulated by IMSs other than attachment, could positively or negatively influence the ability to mentalise» (Manaresti *et al.*, 2008, p. 66). The relationship between attachment, metacognition and sexuality is, therefore, close and bidirectional.

In the course of our clinical and research activity, we have found the metacognitive functioning model developed by the Third Center for Cognitive Therapy (Carcione *et al.*, 2016; Semerari, 1999a) to be particularly useful. In this “metacognitive-interpersonal” model, metacognitive functioning is divided into three areas: Self-reflexivity, understanding the mind of others mind and mastery, each of which has different sub-functions.

Self-reflexivity includes monitoring, differentiation and integration. Monitoring is characterised by the ability to distinguish, recognise and define one’s own mental representations and emotions (identification) and the ability to establish relationships between both the components of a mental state and the mental state and behaviour. Differentiation refers to the ability to distinguish among different classes of representations (e.g. dreams, fantasies, beliefs, hypotheses) and between representations and reality. Finally, integration is defined as the ability to reflect on mental states and contents in order to establish a hierarchy of relevance that allows us to give behaviour the coherence necessary for the adaptation and pursuit of goals. Integration is the function we use when we have to describe and discuss our mental scenarios and when we establish an internal dialogue in a narrative form capable of providing a sense of continuity to the private and interpersonal aspects of ourselves.

The sub-functions of understanding the mind of others are monitoring and decentralisation. The first is understood as the ability to

understand the emotions of the other, to make plausible inferences about the other's thoughts and to understand the factors that influence their mental state. Decentralisation refers to the ability to describe the mental states of others by formulating hypotheses independent of one's own perspective, of one's own mental functioning and one's involvement in the relationship.

Mastery, the third type of metacognition, refers to the set of skills necessary to operate our representations and mental states, building and implementing strategies to solve cognitive tasks, or to master negative emotions that cause subjective suffering. The strategies used through Mastery can be divided into separate categories according to the degree of complexity of the metacognitive operations involved. The first level involves a low reflective commitment: directly modifying the mental state, intervening on the body, consciously avoiding situations that produce fear or seeking interpersonal support. Second-level strategies require greater reflective commitment and include the voluntary self-imposition or self-inhibition of a conduct, the active modification of attention and concentration or the intentional thinking or not thinking about a problem. Third-level strategies require a high reflective commitment, including the rational critique of beliefs related to problematic emotional states, the use of knowledge about the mental states of others to regulate interpersonal problems and, finally, the mature acceptance of personal limitations in mastering oneself and influencing events.

The relationship between metacognitive functioning and sexuality is more evident, starting in adolescence, the age during which sexual desire becomes more intense and our metacognitive functioning becomes higher. Together with a sufficiently secure attachment, metacognitive functioning allows us to integrate sexuality into our personality and overcome the challenges we discussed earlier. Furthermore, it is at the basis of one's ability to integrate sexuality within the second-level motivational systems and to orient oneself, thanks to consciousness, to the satisfaction of third-level motivational systems, of which only humans are gifted by nature.

In the presence of metacognitive malfunctions, however, some inadequate sexual manifestations may occur.

A malfunction of self-reflexive monitoring can be expressed in the difficulty in identifying emotions and personal needs, masking them,

expressing them and managing them through sexual behaviour, in the tendency to confuse the intensity of sexual attraction with the intensity of an emotional bond or in the difficulty of experiencing emotional or sexual intimacy with another person. A malfunction of self-reflective monitoring, understood as difficulty in experiencing emotions and sexual desire, is typical of some types of avoidant attachment. Instead, a malfunction of self-reflective monitoring, understood as difficulty in understanding one's authentic emotions towards the other due to fears of abandonment and intrusive desires for intimacy, is typical of anxious forms of attachment.

Due to the difficulties in connecting internal variables, there may be a tendency to interpret the physical signals deriving from negative emotions as precursors of sexual desire or, in any case, to confuse them with the need to engage in sexual behaviours (i.e. anxious styles of attachment when fears of attachment automatically trigger sexual desire aimed at re-establishing the emotional bond, or when the perception of the quality of the emotional bond changes as sexual desire changes). Differentiation skills, furthermore, allow us to recognise our own affective and sexual desires, and to distinguish between them, as well as to distinguish a sexual fantasy from a sexual desire and to distinguish love from falling in love.

The malfunctioning of integration can lead to sexual rituals or behaviours dissociated from daily experience, such as the search for alternate and alternative situations or mental states in which the sense of connection with life is lost, favouring the loss of contact with spatial and temporal coordinates. It is a typical malfunction of forms of hypersexuality in which one loses control over the duration, extent and ways in which sexual behaviour is enacted, favouring entry into an altered state of mind in which one is progressively less able to appeal to one's own cognitive and emotional resources and faculties. As the malfunction increases, the more easily it can be activated. A malfunction of the integrative capacity of consciousness can also manifest itself in the presence of rigid and repetitive sexual scripts used to manage needs and emotions.

The integrating capacity of consciousness allows us to connect and give coherence to the contents of our mind, to recognise the link between sexual and affective desires, between bodily sensations and emotions and between sexual fantasies and affective needs. It also al-

allows us to connect our personal experiences with those of others. In this way, we create a coherent narrative in which we insert our affective and sexual stories, making them manageable, liveable, pleasant and satisfying. It allows ordering the various evolutionary and existential values based on a hierarchy connected to precise and personal criteria of relevance and, consequently, making choices that are not emotional or impulsive, but rather conscious. The integrative capacity of consciousness permits us to use sexual behaviour to express affection for the partner and, at the same time, to contain desires towards other people. In adolescence, it allows us to calibrate increasing sexual desires, affective needs of belonging, competitive needs and existential values. It provides the basis for ordering and choosing which values to prioritise at any given moment, either those from second-level motivational systems (evolutionary values) or third-level (existential values). It enables individuals to experience sexual behaviour within an affective history that is itself inserted in the story of one's larger life, in such a way that it allows one to experience meaning and belonging.

The malfunction of mastery manifests itself in the difficulty in using one's resources or mental abilities to operate on one's mental states to solve tasks or master problematic states.

As Semerari (1999b) and Falcone and colleagues (2003) have affirmed, each individual tends to use the strategies in which he or she is most skilled, repeating them as the only way to solve problems.

For some, these modalities take the form of sexual behaviours and associated rituals, as a biologically and readily available emotional regulation strategy. In particular, the use of sexual behaviour to change one's mental state is considered a first-level strategy that, as such, requires a low degree of metacognition. Repeated and recursive use progressively limits the ability to access higher reflexive functions, which tend to atrophy over time.

Thus, it is possible to progressively reduce the capacity of self-imposition or self-inhibition of behaviour, of active modification of attention, of voluntary shifts of attention, as well as of the identification of one's own patterns, of one's basic beliefs, of the ability to reflect on them or modify them or to accept personal limits.

Mastery also allows for the regulation of sexual behaviour, instead of engaging in sex simply for having experienced sexual desire.

The malfunctioning in monitoring the mind of the other may relate to a prevailing focus on the satisfaction of one's own needs and desires, with difficulty in putting oneself in the other's shoes and understanding their emotions and intentions.

The other's mind turns out to be opaque and there may be a lack of genuine interest in understanding it.

Monitoring the mind of others allows developing an idea of the partner's mental state, to understand their likes and desires as well as what they do not like or what makes them suffer.

It is the faculty that allows understanding and intimate closeness with another person who we understand and who feels understood, who we respect and try to make happy.

The malfunctioning of decentralisation can manifest itself in the tendency to use sex as a lens through which to read and interpret the behaviour and intentions of others.

Consciousness

From an evolutionary perspective, Tomasello (1999) believes that a single Darwinian adaptation (a single process of variation and selection of the genome common to precursor primates of the species *Homo sapiens*) was responsible for the transition from the exclusive dimension of biological evolution to the specifically human world of cultural evolution; that is, from operations permitted only by the reptilian and limbic neural networks to operations involving, above all, neocortical brain maps connected to the exercise of symbolic language. Even if we do not want to accept an evolutionary vision in the strict sense tout court, the fact remains that there exists a specific element that made possible the substantive difference between humans and other animals. This distinctive element concerns an enhancement of the cooperative system that has made the human being capable, from the earliest stages of extrauterine life, of perceiving other human beings as fundamentally similar to oneself in intentionality, beyond age differences, gender, skills or body size (Tomasello *et al.*, 2005).

According to Tomasello and colleagues (2005), it is from the exercise of this capacity, and the consequent sharing of attention for the

objects and events of the world, from which the human dimensions of intersubjectivity, language, consciousness and the joint exploration of the world of meaning emerge.

Consciousness, therefore, is a phenomenon (if we can reductively define it) of a relational nature, in its initial matrix (which allows its birth) and in its final redefinition (in the mental processes through which we explain it). When the experience of an emerging and nuclear self, arising from continuous non-verbal interaction with others, is narrated with language, we are once again faced with a process that turns out to be interactive up to the level of definition of the meaning of the words used (Bruner, 1990). The meanings are interactive in the sense that what the words refer to is the result of continuous and reciprocal bargaining between the speaker and his world (Putnam, 1988; Tomasello, 1999). The real objects on which thought focuses are constitutive parts of thought itself; thought, in turn, is instituted by social exchange through dialogue between people.

The fundamental thesis of intersubjectivity, that is to say, the impossibility of examining subjective experience outside the continuous sharing of it with the experience of other people, is widely represented in the field of clinical cognitivism (Guidano, 1991, 2007; Liotti, 2001, 2005) and neuroscience (Cozolino, 2014; Edelman & Tononi, 2000; Panksepp, 1998; Rosenfield, 1992; Siegel, 2012).

Primary or nuclear consciousness

Two of the main neurobiological theories of consciousness have been developed by Edelman (Edelman, 1989; Edelman & Tononi, 2000) and Damasio (1999, 2003, 2010). Both scientists define the first level of consciousness as «primary» (Edelman, 2000) or «nuclear» (Damasio, 1999). Edelman's primary consciousness precedes language and is substantially expressed in emotion. The emotion connects the individual to the world in an immediate way, without a clear contrast between the sense of self and the world being established by that aspect of autobiographical memory, which is mediated by verbal thought. Damasio is even more categorical than Edelman in describing the neurological basis of a level of consciousness that is essentially expressed in the subjective experience of emotion and

feeling, and which is independent of language. This nuclear consciousness is, for Damasio, the foundation of subjective experience. Similar conclusions come from the psychological investigation that Stern (1985) conducted on the sense of self in the first two years of life; the child's sense of self is "nuclear" and "intersubjective", before the body schema and language endow it with the ability to distinguish itself from the world. Stern argues that these different and primary types of self-experience remain operative and form the basis of every other type of conscious experience throughout life.

Psychological research based on the concept of metacognitive monitoring (Flavell, 1979; Main, 1991) also suggests, albeit through a different disciplinary lens than that of Stern's neuroscience and developmental psychology, the existence of a conscious experience independent of representations self-provided by memory systems based on language (e.g. semantic, episodic or autobiographical memory). Metacognitive monitoring is presented as a continuous sounding of attention, not in itself yet constituted by the "internalised word". It is interesting to note that both the sense of self in early childhood and the adult metacognitive processes, including metacognitive monitoring, are largely affected by past and ongoing relationships (Fonagy *et al.*, 1995; Main, 1991). It seems, therefore, that consciousness operates at a level that precedes the discursive experience of oneself (primary or nuclear consciousness) as well as at a level that follows it. On both levels, consciousness operates in strict dependence on the quality of the relationships in progress.

Higher-order or secondary consciousness

The evolutionary values of the first- and second-level motivational systems are not directly represented in consciousness while such systems operate. Acquiring awareness of them requires a complex cultural mediation, because we represent them in our minds through the use of language and constructs learned in relationships and in the culture to which we belong. Although they operate in parallel to primary consciousness, they do not automatically enter the sequential stream of awareness.

Emotions are the first stages in the operations of IMSs that tend to

become immediately conscious. The neurophysiological analyses of Damasio (1999), LeDoux (2002) and Panksepp (1998, 2005, 2011) offer important support to Bowlby's thesis (1969, 1973, 1980, 1988) that emotions represent the first stages in the operation of motivational systems that acquire the qualities of consciousness.

In the human being, the constitution of a social self, mediated by language and in confrontation with the social non-self, would be, according to Edelman (Edelman, 1989; Edelman & Tononi, 2000), the foundation of a higher-order consciousness that is grafted onto the primary, emotional one. Higher-order consciousness, typically human, allows us to conceive past and future. In it, the unconscious rules of the various social motivational systems finally acquire full representation through the culture that language conveys.

Higher-order consciousness is based on emotional experience. We not only become aware of this experience, but we also develop the ability to express this awareness in the form of internal dialogue.

Through higher-order consciousness, we order the values of the different motivational systems of the second level (of an evolutionary type, emotionally rooted and which we share with other animals) and the third level (existential, guided by wisdom and awareness and uniquely human), allowing us to make choices by considering emotions, but regardless of emotions. This is the evolutionary passage, exclusively human, in which we progress from a life guided by emotions to one oriented towards the realisation of projects, at the centre of which lie values.

Consciousness and responsibility

Consciousness concerns not only things and events of the world or memories of the personal past, but also an individual's actions, plans and intentions.

Despite disagreements in the literature on the aspects and characteristics of consciousness, there is near unanimous agreement on its intentionality. Consciousness is intentional, in the sense that it is referential – it has as its reference a reality other than itself. Consciousness exhibits intentionality as it continually contains representations of something other than itself. The intentionality of consciousness is

fully revealed precisely in the act of rational and deliberate choice (Dennett, 2003; Searle, 2001).

Dealing with consciousness, then, also implies dealing with the values on the basis of which choices are made (Liotti, 2005).

The selection of signals, which from the simultaneous unconscious processing will enter the sequentiality of consciousness, operates, at least at the beginning of life, within the systems of inherited and evolutionarily determined values (second-level IMSs). Other values developed in the interaction between the self-conscious self and its world are then added (third-level IMSs). At this level, it is possible to investigate the relationships between individual responsibility linked to consciousness, on the one hand, and the intrinsically relational nature of consciousness, on the other.

Based on the recursive awareness of the values underlying the selection of conscious experiences, it is finally possible to consider the dimension of individual responsibility and freedom in the context of the relationship between oneself and the world from which consciousness continually emerges.

It is an individual's responsibility to reflect on the value systems that regulate his or her conduct and determine what he or she becomes progressively aware of. It is part of one's freedom to organise these values in a self-conscious hierarchy. However, it is in the relationship with the world and with other human beings that both consciousness and the possibility of reflecting on goals and values ultimately emerge.

Consciousness and freedom

In the regulation of IMSs, the most evident and immediate function of consciousness is that it enables us to say "no" to the expression of an SMI that has been activated and which, in a hypothetical absence of consciousness, would automatically find expression due to the simple fact of having been activated by an interpersonal emotional signal (Liotti, 2005). Consciousness places us, compared to other animals, in a condition of relative freedom in the management of social life and of conflicts and inconsistencies, which are produced in the inner world of an individual engaged in complex interpersonal

motivational dynamics. Furthermore, thanks to the use of language and the semantic structures built from it, consciousness allows us to use inner dialogue to confront present situations using cognitive resources that draw on personal knowledge accumulated throughout life and not immediately evoked by the current situation.

Discussion

In this essay, we have seen how the free expression of the sexual motivational system, allowed by a sufficiently secure attachment, is achieved through sexual behaviours aimed at improving the stability and quality of a couple's relationship. In contrast, insecure attachments, by forcing sexuality to satisfy dysfunctional relational goals and modalities, orient sexual behaviour towards hedonistic and selfish goals and to relational modalities based on the excessive search for freedom, submission or domination. The close correlation between sexuality and attachment has been examined in many other works which have highlighted how they influence one other at various levels, mutually supporting the realisation of their respective goals (Birnbau, 2014, 2015, 2016, 2018; Birnbau & Finkel, 2015; Birnbau & Gillath, 2006; Birnbau *et al.*, 2019b; Birnbau & Reis, 2019; Cacioppo *et al.*, 2012; Dewitte, 2012; Gillath *et al.*, 2008; Mikulincer & Shaver, 2016). From a purely human viewpoint, consciousness ensures awareness of the emotions, desires and needs experienced.

Thanks to metacognitive abilities, it allows us to: distinguish between them – but not to identify with them – by putting them into action for the simple fact of having experienced them; compare evolutionary values and emotions connected with sexuality with the values and emotions of other motivational systems and to integrate or differentiate them in our actions; compare the evolutionary values of the sexual motivational system with existential values and to make personal choices; and direct our actions towards the realisation of the typically and uniquely human motivational systems – the search for meaning and intersubjectivity – giving us the possibility of directing the satisfaction of desires, needs, values and emotions of the second-level IMSs that we share with other animals and do not distinguish us as human beings.

In this way, sexuality can be integrated within a broad and complex vision of personality, that permits the full realisation of the individual, considering sexuality not in its own right, but within a much broader set of desires, motivations and mental qualities that support and influence one other. This comprehensive vision of personality is oriented towards the realisation not only of sexual desire itself, but of sexuality integrated with affectivity, and within the uniquely human qualities of existence (intersubjectivity and search for meaning), giving us the ability to freely and responsibly choose our behaviours thanks to the range of possibilities provided by consciousness itself. Sexuality is far more than an evolutionarily-rooted motivation aimed at promoting reproductive behaviours and the intimacy and stability of a couple; it is experienced as an interpersonal (intersubjectivity) and existential (capacity by meaning) framework in which, thanks to the capacities of the second level of consciousness, is lived and implemented so as to realise relational potential and human values.

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