Abstract

On the traditional view, a sense of selfhood appears relatively late in infancy, since to be, or to possess, a self is taken to require such capacities as language and metacognition. Recent research in psychology, however, shows that there are some rudimentary forms of self-consciousness already in the very first months of life. The exercise of these early abilities in interactional contexts with caretakers shapes gradually a sense of self, or a primitive form of what we also call “personal identity”, following a psychological terminology.

In this paper we shall argue that the hypothesis of a very precocious personal identity can accord an important role to the Other in the formation of the Self without being committed to some outdated versions of empiricism or relativism.

In the first section we introduce a pair of views about selfhood that seem to lead to relativism. In the second section we present what we call the “precocious identity view”. In the third section we describe the role of the Other in the precocious identity view. Finally, we make some remarks concerning what kind of (self-)consciousness is actually involved in the precocious identity view.

Introduction

On the most common, traditional view, a sense of selfhood appears relatively late in infant development, not before 3-4 years of life. In fact, to be, or to possess, a self is taken to require such capacities as language and metacognition, and in this sense it coincides with full-fledged self-consciousness. This account goes often hand in hand (though not necessarily) with a strongly social characterization of the self, opening the doors to a form of relativism. This is the case, for instance, of G.H. Mead.
Recent research in psychology, however, seems to show that there are some rudimentary forms of self-consciousness already in the very first months of life. The exercise of these early abilities in interactional contexts with caretakers shapes gradually a sense of self, or a primitive form of what we also call “personal identity”, following a psychological terminology. The reader is thus alerted that our use of “personal identity” does not refer to the problem of cross-time identity, as is instead usual in philosophy.

In this paper we shall argue that the hypothesis of a very precocious personal identity can accord an important role to the Other in the formation of the Self without being committed to some outdated versions of empiricism; indeed the importance of the Other for the Self does not undermine the importance of biological endowment for self-consciousness. Children are precociously endowed with capacities that are modulated rather than constituted by interpersonal relationships.

In the first section we introduce a pair of views about selfhood that seem to lead to relativism. In the second section we present what we call the “precocious identity view”. In the third section we describe the role of the Other in the precocious identity view. Finally, in the fourth section we make some remarks concerning what kind of (self-)consciousness is actually involved in the precocious identity view.

1. From the private self to the social view of self

According to a well-established philosophical tradition, personal identity is characterized by two features that can both be historically traced back to Descartes. The first feature is the idea that the possession of an identity requires highly developed cognitive capacities, and specifically metacognitive capacities – the ability to think about our own mental states. The second aspect, clearly related to the previous one, is a strong solipsistic stance concerning self-knowledge: the primary act of knowledge is the act of the mind which addresses and “finds” itself in the thinking activity (Metaphysical Meditations, II). Intrinsic to such a view is the idea that personal identity is essentially an individual, intrapersonal matter: the role of other persons in the constitution of identity is at most secondary.

Since the end of 19th century the second postulate has come radically under discussion, starting mainly from psychology. Suffice it to think about the notion of the social self that was introduced by William James and later elaborated by his student George H. Mead in the following decades. According to Mead, our mind – and more specifically our self-image – is the product of a specific society, and is achieved through linguistic-symbolic communication. Our identity is built on the basis of the image other people possess of us and is revealed to us by communication. In other words, our identity is a sort of mirror image reflected by the social context. Moreover, as our lives are generally split into many
different social environments, the social mirror reflects more than one identity: we can simultaneously be an Italian male or female, a professor of philosophy of language, a supporter of Juventus, and so on. Thus, identity turns out to be multiple and multifaceted, but also open, to the extent that each new significant experience is apt to create a new identity.

Clearly, Mead was still bound to the classical philosophical tradition, insofar as he was interested in a “high-level” notion of personal identity, applying only to adults and characteristically metacognitive. According to this framework, personal identity is deeply influenced – we could say constitutively determined – by the social role or function that other people (not to say the whole society) attribute to us through communication. If this claim might seem too strong, it should be recalled that Mead was specifically interested to the process of North-American cultural integration characteristic of those years, when an impressive number of people came to the United States and had to integrate in a new society in order to become “good American citizens”. Whatever culture they were from, in their new country they had the opportunity to take new identities, based on the new social roles played in the North-American society.

Notice that Mead’s claims are to be understood both in their general and particular senses: without a culture in general there is no identity; and every particular culture shapes a particular identity. Mead’s position is therefore radically relativistic, and distinct from that of other authors, who take society as the context that modulates personal identities which are well integrated, stable and enduring.

The theoretical framework outlined by Mead underestimates seriously the developmental process issuing in a fully-fledged identity. Indeed, it seems difficult to believe that one can appropriately grasp the nature of identity without considering the concrete ways it comes to be constituted. In this sense, it is extremely interesting to call into play the approach of another author, who, though not so distant from Mead as regards the constitutive role accorded to society (Soviet society, in this case), still made a very influential contribution to developmental psychology. Of course, we are talking about Lev S. Vygotsky.

Vygotsky is quite explicit when he claims that «The social dimension of consciousness is primary in time and in fact. The individual dimension of consciousness is derivative and secondary». In other words, consciousness arises with a social function, and only later acquires that intrapersonal, individual dimension that has attracted so much attention in the philosophical tradition, strongly influenced by the Cartesian legacy.

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1 Mead 1934.
Vygotsky put forward the idea that child development in any cognitive domain is based on the adult's assistance, what he calls the “scaffolding”\(^4\). The caretaker first, and then the teacher and other adults as well, somehow constantly “challenge” the child, posing him problems that always go a little beyond his current capacities. To be fruitful as a motor of development, the problem has to belong to the child's *zone of proximal development*. Development is a kind of learning process whose outcome is the internalization of a certain cognitive capacity, which originally emerged with a social function performed in an interpersonal context. It is only at the end of that process that this capacity becomes part of the child’s “intrapersonal mind”.

Language, understood as concrete, historical language, notoriously plays a central role in Vygotsky’s theory of concept formation; nevertheless, from the outset, when communication with the infant is not yet language-based, the adult's scaffolding is already in place. As a concrete example we may consider the development of the infant pointing gesture. At the very beginning, pointing is just a failed effort to grasp an object. Nevertheless, having understood the infant's goal, the adult intervenes and solves the problem — e.g., the adult grasps the object and gives it to the child. Therefore, it is the adult who first attributes a meaning to the gesture; and this meaning has a clear social connotation: it is a request for help to someone in order to obtain something. In turn, the child is able to understand this attribution of meaning and thus the grasping act is transformed, from a failed behaviour, onto a successful symbolic gesture. Notice that the child is the last to become aware of this shift: the communicative meaning first belongs only to the adult, then to the interaction, and finally to the child\(^5\).

The same kind of developmental process applies to the constitution of self-consciousness, insofar as the child begins to be aware of himself thanks to the adult’s help. Knowledge of his own mind emerges in the context of interaction with a mature, metacognitively conscious mind. Being constantly involved in interactions with adults who continuously talk about his mental states and explain his behaviour through intentional concepts, the child progressively comes to realize that he has an internal mental life.

Despite some important differences that distinguish Mead from Vygotsky, the permeability to social influence leads both authors to defend a form of relativism about the Self. Mead’s relativism arises straightforwardly from his high-level conception of personal identity, which strongly depends on the cultural context the subject lives in. As he put it: «…one has to be a member of a community to be a self»\(^6\). The link between Vygotsky’s account and relativism is less apparent, since he is interested in early, dyadic communication between an adult and a child. Nevertheless, also the mind of a young child develops in a social context,

\(^4\) Vygotsky 1934/1961. 
\(^5\) Vygotsky 1981. 
\(^6\) Mead 1934: 162.
made of both linguistic and prelinguistic communication. Thus, according to both authors, the environment we live in strongly affects our identity. It is not just any kind of influence, but a much more radical intervention that, at least in Vygotsky, depends on his strong empiricist attitude, according to which the mind at birth is a blank slate, a sort of container to be filled in. This theoretical presupposition, added to the hypothesis of the social permeability of self identity, makes relativism unavoidable.

In our opinion, relativism is untenable as soon as recent data about infant knowledge are taken into account. Many experimental results coming from developmental and clinical psychology, have recently suggested that from the very first months of life a young child already possesses a pre-linguistic and pre-conceptual notion of herself. In this framework, a nativist perspective on self identity cannot but suggest an opposed, universalistic attitude.

This is not at all to say that relational contexts do not exert any influence on self-knowledge. On the contrary, we are strongly persuaded that they do, thus believing that the second Cartesian postulate we started with has to be emended. We have to take seriously empirical data in order to determine to what extent the thesis of the social permeability of the self is vindicated.

2. The precocious view of identity

Many experimental studies provide evidence for the thesis that there are some very precocious mechanisms of self constitution. In a seminal paper Ulric Neisser (1988) describes five kinds of self-knowledge, each corresponding to one level of personal identity: the ecological self, interpersonal self, extended self, private self, and conceptual self. Neisser focuses on the first two levels, which are ways of perceiving the self, whereas the last three levels involve a form of metacognitive knowledge about the self. The ecological self and the interpersonal self are in fact structures of introspective information already accessible in the very first months of life by perceptual processes. Indeed, in a distinctively Gibsonian spirit Neisser claims that every perceptual act, even such as lead to a representation of the external world, is a perspectival process that provides information about the self. Recently, in a different context, Antonio Damasio (2010) has also stressed the idea that the self precedes consciousness and is a precondition for it. In this sense, identity would be extremely precocious and independent of cognitive structures such as concepts, language and metacognition.

Let us look in some detail at these two precocious structures.

The first step in the development of identity is the ecological self. This corresponds to the sense of being an autonomous entity, endowed with physical boundaries, embedded in the physical world and interacting with it. The in-

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8 Gibson 1979; see also Bermúdez, 2001; 2009.
formation necessary to the constitution of the ecological self comes primarily from movement, both self-generated and perceived in the surrounding reality. Even very young children can perceive the movement of proximate objects, and, though imperfectly, are also able to move their bodies. From their first months of life, they are able to distinguish between self-generated and other-generated movements through vestibular and kinestetic cues. They tacitly understand that, in certain situations, an object can only be partially perceived — for instance, when one is looking at something partially occluded by another object in the foreground — but at the same time they (so to speak) “realize” that, by moving their head or their body, they can make the hidden object visible. In a purely ecological spirit, Neisser takes the conjoint abilities of perceiving and making a movement as the essential step for children to know that their bodies are distinct from the external world. In Neisser’s words, they attain the ecological self.

The “presence” of an ecological self can be appreciated in the “moving room” experiment. In the experimental laboratory, two small contiguous walls forming an angle are built on invisible rollers, so that they can be moved independently of the rest of the room. Indeed, the sudden movement of the small walls towards a person standing in the middle of the room causes him to have the sensation of being displaced. Young infants too are struck by this illusion, as they visibly lose their balance and have trouble staying upright (when they do). They make muscular readjustments to compensate from the movement they “believed” to have made; but, as they did not really move (only the walls did), in making their readjustments they lose their balance. In Neisser’s interpretation, their ecological self has been deceived by the illusory situation.

In another well-known experiment, some young children are presented with two videos and can choose which one to look at: Either they can look at the real-time movement of their own legs or they can see the movements of another child, who is of the same age and is identically dressed. Clearly, the on-line images of the infants’ own bodies represent their movements synchronically and faithfully, whereas the other movie represents a situation which, though apparently similar, is actually different, because another person is involved. Children turn out to be capable of discriminating the first situation, which is perfectly contingent (ibidem), that is, represents the current situation, from the second one, which is highly-but-less-than-perfectly contingent. Not less notably, they show a clear preference trend depending of their age. Four-month-old infants prefer to observe the other child, while less than three-month-old children tend to look at their own moving bodies. This pattern of responses suggests that infants can distinguish between themselves and their peers on the basis of temporal contingencies. Indeed, unlike from the actions programmed and realized by ourselves, other people’s movements are never perfectly “contingent”. Even when other

9 Stoffregen 1985.
persons are imitating us, they never perfectly mirror our movements. Arguably, the ecological self is associated with the perfectly contingent image, whereas the delayed image is taken as extrinsic, not self-referring\(^\text{11}\).

What is the meaning of the change of preference systematically evidenced around the end of the third month? Why does every infant begin to prefer less-than-perfectly contingent images? This reversal of preference probably witnesses the growth of interest towards the social world, which at the very beginning was restricted to primary caretakers.

We thus turn to the second dimension of self-knowledge, the interpersonal self. The interpersonal self, whose possession still does not require concepts, is a precocious level of self-awareness corresponding to the ability to perceive ourselves as distinct from other agents as agents (whereas the ecological self consists, as we saw above, in the ability to distinguish ourselves from an indistinct external world). Therefore, for the first time in ontogeny, personal identity assumes an interpersonal and relational nature.

From two to three months after birth, children actively engage in interpersonal relationships. They interact with people in a distinctive modality, wholly different from the way they interact with objects. Yet, also in this interpersonal domain, primitive self-awareness is built on the basis of dynamic cues. What is at stake in this case is no longer something like the perception of an approaching object, but rather the dynamic of reciprocal interactions with other persons. The prototypical interactive exchanges occur during proto-conversations, the most common context of dyadic, emotional relationship between a child and her caretaker\(^\text{12}\). Both partners actively interact, reciprocally exchanging information during a conversation made of imitations, improvisations, searches for eye-contact etc.

Proto-conversation does certainly not possess the same features as intentional communication between adults, since this latter one requires the metacognitive ability to analyze the speaker’s communicative intention. Nevertheless, even in precocious face-to-face communicative sessions there is a common effort to maintain a high level of reciprocal attention; moreover, many controlled observations have shown that precocious communication has a recurrent structure, composed of an introduction, a central section characterized by imperfect imitations and improvisations, and a final section. Notably, the imperfection of imitations, far from being a manifestation of immaturity, is a very important feature that makes these interactions a genuine kind of conversation, in which new information arises from a shared context. The adult tends to reflect the infant’s behavior in a way that often stimulates a different sensory channel. For example, the adult

\(^{11}\) For other experimental data on the ecological self see, e.g., Neisser 1988, Meini 2012 and Bermúdez 2001.

\(^{12}\) Trevarthen 1979, 1993; Stern 1985.
can respond to the infant’s bodily movement producing a vocalization that has the same intensity, rhythm, melodic contour and cadence – the same vitality effect, to use Stern’s terminology.\textsuperscript{13} In short, very young children seem to be already able to appreciate in an immediate, perceptual way the presence of another person. To use the Gibsonian terminology,\textsuperscript{14} the newborn child already knows that other people provide a distinctive affordance, different from that provided by inanimate objects. While the affordance of a baby bottle is sucking (or drinking), the affordance of a person is communicating (or “establishing a relation with”): the person presents herself as a possibility of relationship. Of course, also the perception of this peculiar kind of affordance is not conceptually mediated: the child sees the relational/communicative possibility.

3. The role of the Other in the precocious view of identity

On the whole, these data show that the self is much more grounded in nature rather than in culture. Thus, relativistic claims based on the double assumption of radical empiricism plus total social penetrability seem no longer to be tenable. The personal identities of the American citizen described by Mead and the Soviet citizen described by Vygotsky are clearly influenced by their culture to a certain extent, but both are based on a natural core, due to their belonging to the same natural species.

This anti-relativistic stance, however, does not amount to denying any role to the Other in the development of the self. On the contrary, many years of research in developmental and clinical psychology have shown how much personal identity, though being grounded in nature, is modulated by interpersonal relationships.

Bowlby’s attachment theory (1988) is probably the clearest evidence of the impact of personal interaction on self-knowledge. Many years of rigorous observations of interactions between the child and her caretaker(s) led Bowlby to distinguish four different “attachment styles”: secure, avoidant, resistant-ambivalent, and disorganized. Even if the secure attachment style turns out to be the most desirable condition with respect to all the others, the most important distinction for our present discussion is the opposition between organized and disorganized attachment.

The method used to determine the kind of attachment style consists in the observation of the interaction between the child and her primary caretaker in a particular context, called “Strange situation” (Bowlby 1988). Briefly, the child is accompanied by her caretaker into a unfamiliar room, where she meets a kind

\textsuperscript{13}Stern 1985.

\textsuperscript{14}Gibson 1979.
and collaborative adult. After a short familiarization phase, the caretaker leaves the room for some minutes. During all this time the behavior of the child is observed. While any style of organized attachment (secure, avoidant, resistant-ambivalent) is characterized by a typical, recurrent behavioral pattern, the disorganized attachment is characterized by the absence of any coherent organization. For example, when the caretaker comes back, the infant appears to be in a sort of state of trance, looking in no direction with a vacant expression, or even expressing at the same time two opposite emotions with her face and the rest of her body.

Disorganized attachment is statistically more frequent in dyads where the adult recently suffered from a loss. In this condition the caretaker, who is supposed to offer protection, needs himself to be taken care of, thus forcing the baby to reverse her own natural role: the child, being a weak person, is supposed to receive protection from the adult, must instead give protection, comforting and reassuring the caretaker. In this situation the child assumes the role of the Rescuer. Moreover, with her mere physical presence, the child often evokes the absent person to the caretaker, thus provoking further intense suffering, which in turn can trigger violent or otherwise dysfunctional reactions. Because of the extreme suffering, the adult is not able to inhibit his impulses, and can frequently become violent towards the infant, who cannot but perceive herself as a Victim and a Persecutor at the same time. Finally, when a more peaceful situation is reached, the child luckily regains her role of cared-for person, able to give joy and serenity to her caretaker. However, this is not enough to ensure her mental health. Apart from the suffering intrinsically produced by the above-described interaction patterns, the child is exposed to a pathogenic dissociation due to the fact that she often experiences at the same time, or in temporally short sequences, several incompatible roles: Rescuer, Victim and Persecutor. Following Bowlby’s terminology, traces of such repeated pathogenic episodes are registered in the Internal Working Models (IWMs), an interpersonal mnestic organization that structures the autobiographical-narrative dimension of self-consciousness (ibidem). In other words, IWMs are an important part of a long-standing personal identity. They constitute a part of personal identity that systematically depends on interactions, both in the secure attachment style and in the insecure ones. But it is in the disorganized attachment that identity is most seriously exposed to the risk of personality disorders, as is unambiguously witnessed by statistical data showing a higher than usual correlation between adult pathologies (from Borderline Personality Disorders to Dissociative Identity Disorders) and infantile disorganized attachment style.

15 Liotti 2000.
16 Actually, IWMs could not even be the most precocious structures of interpersonal memory. While, in Bowlby’s theory, IWMs start to be assembled at the end of the first year of life, Daniel Stern’s RIGs (Representations of Interactions that have been Generalized) are slightly different memory structures developing from the first months. As well as IWMs, RIGs constitute an interpersonal memory and strongly influence the construction of personal identity.
In conclusion, developmental and clinical data show that 1) the mind is highly structured from birth, even in the interpersonal domain; 2) interpersonal relationships strongly modulate the innate base of self-identity; and 3) when interpersonal relations are strongly dysfunctional, as frequently happens in disorganized attachment styles, the self does not attain an acceptable level of coherence and continuity.

4. Is the young infant really self-conscious?

As we saw in section 2, there is evidence for holding a “precocious” view of identity. Indeed, several authors talk about a “pre-reflective self-consciousness” to refer to notions such as the ecological self and the interpersonal self. Clearly, the idea is that the above-mentioned abilities to discriminate, for instance, one’s own body from other pieces of reality constitute, taken together, a kind of self-consciousness.

In this last section, we would like just to point out that it is possible to read the data in a slightly different way. This different interpretation does not undermine at all the gist of the precocious view, consisting in the fact that, from their first months, children are endowed with representational schemas of the body allowing them to interact successfully with the inanimate and animate environment – and in this sense, they possess both ecological and interpersonal selves; however, on this interpretation, the precocious abilities are better regarded as a form of simple consciousness rather than a self-consciousness. Let us explain.

Take, for instance, Bahrick and Watson’s experiment. Children’s behavior can plausibly be described by saying that they have the implicit ability of distinguishing themselves from others. To what extent, however, are we justified in calling this ability “self-consciousness”? What is the assumption or the intuition that suggests to Neisser that this kind of performance carries with a Self (the ecological self)?

Authors who are skeptical about the notion of pre-reflective consciousness do not doubt that there are some bodily structures that ground, for instance, the ability to discriminate one’s own body from the environment; at the same time, however, they remark that in these cases the body is not experienced as one’s own body; the body is rather perceived as an object among the others in the world. Animals and children under one year are conscious only in the sense that they are able to build representations of objects, including their bodies, and operational plans. This is just object-consciousness: when animals and infants interact with things and people, they are aware of themselves just as objects among others.17 For instance, although the young child can construct representations of separate parts of her body (hands, feet, etc.), she is not able to grasp these parts as parts of her

17 The expression “aware of themselves” is indeed misleading, since its most natural meaning is “aware of themselves as themselves”, which is not the case.
own body. In fact, when put in front of a mirror in Gallup’s famous mirror test, she can only see another child, and she never (in that period of her life) touches her forehead, i.e., the part of the body where the red spot is.

More or less about the age of eighteen months, the child passes the mirror test. She is now able to perceive the bodily image of herself as a subject, that is, as the active source of the representation of the Self. Is she now self-conscious? Not yet, arguably. This latter ability can better be regarded as a precursor, or proto-structure of self-consciousness. Genuine self-consciousness, on this perspective, comes only about the age of three years, when the child comes to be the owner of the “internal” space of the mind; that is, he becomes able to identify and objectify his own subjectivity. Subjective experience now takes as its object not only the world and the body, but also itself, at least as regards the part accessible to introspection. And this is the foundation of human consciousness in its most classical, Cartesian sense: self-consciousness as personal identity.

Therefore, before three years, the child cannot objectify his own subjectivity, knowing that it is her own subjectivity. However, the acquired awareness of the body as one’s own body is a basic necessary premise for attaining the “discovery” of the Self. In this sense it is a necessary precursor of the Self.

The crucial assumption underlying this view is that an experience, in order to be self-conscious, must be an experience of the self as the self. In other words, personal identity is identified with full-blown self-consciousness, while, on the previous views, an early form of self-consciousness was enough to possess identity. As we saw, there are precursors of children’s capacity of thinking of themselves as themselves, but these precursors cannot be traced back to the very first months of life; they do not appear before twelve months.

In other words, the two interpretations differ on the following point. The supporters of pre-reflective consciousness think that a tacit form of self-consciousness is constitutive of the very early perceptual acts: it is the structure itself of perception which implies, albeit implicitly or tacitly, a sense of ownership of one’s own experience, which is arguably a form of self-consciousness. By contrast, people who favor the alternative interpretation think that a tacit form of recognition (for instance) of one’s own body is not genuine self-consciousness, in any form. When one experiences a part of his body as an object among the others, there is no trace of self, not even if one is disposed to identify the self with the body. The very idea of self-consciousness involves an explicit access to our own body (and mental states); one could say that it involves a conceptual representation of the Self.

In what follows we will try to deflate this opposition, arguing that the conflict is more terminological than substantive, and that the real point at stake is that

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18 The child, for instance, is not yet able to properly assess dreams, which he regards as real events, or as “visions” that entered his bedroom coming from outside.

the higher form of consciousness are build on the lower forms. It is this thesis which allows us to have a view of personal identity which faces successfully the threat of relativism, even if it should be conceded that the view which accords self-consciousness to at least 3 years-old children is more adherent to the standard use of the word.

The question at stake is whether or not we should count as forms of self or of self-consciousness what are called “ecological self”, pre-reflective self-consciousness” etc. Is this just a terminological matter? One could give a positive answer, remarking that the qualifications “ecological” and “pre-reflective” are used exactly to highlight that the relevant abilities do not yield to a complete and mature self-consciousness, but only some parts or precursors of it. Therefore this use of “self-consciousness” is harmless and probably useful, insofar as it calls attention to the fact that identity develops gradually from certain basic abilities. In other words, it is trivial that, if one assumes that the concept of self-consciousness necessarily implies the concept of reflexivity, then the very idea of a pre-reflective self-consciousness turns out to be incoherent. This, however, seems not to be very interesting.

On the other hand, it must be acknowledged that there actually is a difference between the ability of perceiving themselves as themselves and the mere ability of perceiving one’s own body as an object distinct from the others. Even if one wants to qualify this level of ability as an ecological self, it is clear that being an ecological self does not amount to being a full-blooded self, though the former is a necessary condition for the latter.

Yet, independently of how exactly one might describe the different abilities manifested in the development between birth and the third year of life, both interpretations agree on a crucial point: higher forms of consciousness, including self-consciousness in its central (i.e., metacognitive) sense, develop from lower forms, and some of these lower forms are based on innate competences. This is crucial in order to escape relativism in the current theoretical picture in cognitive psychology. In fact, although the later we date the attribution of the sense of Self, the more it will be subjected to the influence of cultural and social factors, early forms of identity or its precursors are essentially biological, and the role of the others in shaping them can better be described as a modulation. The clinical studies described in section 3 show how “modulation” should be understood: changes in the kind of interaction can lead to alterations of some aspects of identity, for instance, pathologies.

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20 Distinguishing merely terminological matters from substantial issues is a familiar problem in philosophy. On the one hand, terminological issues are not much interesting: they are hardly taken seriously. But, on the other hand, appropriateness in use of concepts (and, of course, of words) is an essential task of the philosophical activity, and not anything goes. For this reason, there are cases difficult to assess, and the case under discussion is one of these.

21 See again Marraffa and Paternoster 2013: § 2.4.
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