

### Self-Conceptualizing in Development

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### Abstract and Keywords

What constitutes self-concept? Current developmental literature suggests that there are different layers of meaning attached to self-concept and self-experience. Three distinct basic layers are discussed: the *minimal self*, the *objectified self*, and the *personified self*. These layers emerge and accumulate successively in child development. Each corresponds to specific levels of representational complexities that accumulate “like onion layers” in an orderly fashion between birth and approximately 10 to 12 years of age, the developmental span considered here. This development is part of a general meaning-making construction of what *constitutes* selfhood (what it is made of). It illuminates the representational content and what the notion of self is referring to in development, from birth and in the course of infancy, when children start to recognize themselves in mirrors by their second birthday, show embarrassment, refer to themselves by using personal pronouns and adjectives such as *I*, *me*, or *mine!*, but also start to express righteousness and prejudice toward others.

Keywords: self-concept, minimal self, self-consciousness, co-consciousness, moral sense, affiliation, ownership

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### Key Points

1. Infants at birth manifest an implicit sense of self.
2. There is an innate sense of the body as a situated, differentiated, substantial, and agentive entity among other entities in the world.
3. From an ecological sense of self at birth, children by 18 months of age develop an objectified sense of their own body that they now recognize.
4. As children start to recognize themselves in mirrors, they also manifest self-conscious emotions.
5. Mirror self-recognition combined with the expression of self-conscious emotions is an index of a new metacognitive stance children take toward themselves.
6. From the third year, children start to construe how other people see and evaluate them, integrating first- and third-person perspectives on the self.

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7. Early on, children express a general tendency toward self-enhancement. They tend to overestimate their own value from a first-person perspective.
8. From 30 months, children start to conceptualize and measure themselves in reference to social norms.
9. Starting in the third year, children develop a social identity by group affiliation and rejection, eventually expressed in social prejudice beyond 5 years of age.
10. In all, self-conceptualizing in development is inseparable from children's developing conceptualizing of others as differentiated and sentient entities that can judge and reject them, with whom the child has to live and share resources.

(p. 379) When I say "I" or "Me," what am I referring to? Is it my body, my beliefs, my intentions, my temperament, my smell, my look, or is it simply my voice uttering such sounds? What constitutes the concept of self and where does it come from? These are profound, perennial questions this chapter intends to address from the perspective of infant and child development, based on recent empirical psychological research. From this perspective, we ask: *What constitutes the sense of self in development, and how do children come to conceive who they are?*

## Ongoing Philosophical Debate

In the history of Western philosophy, the preoccupation with selfhood has evolved in relation to at least two main foci: a focus on the *origins* of selfhood and a focus on its *content*. The former is specifically concerned with the question of self-knowledge, namely how we come to know what we conceive as ourselves. The latter is specifically concerned with the question of what constitutes self-knowledge.

In relation to the first focus (*origins*), over 16 centuries ago, in what is often considered the first self-narrative in the history of Western thought, Saint Augustine in his confessions expresses the idea that the origins of self-concept are primarily social. Self-knowledge would be learned from others, particularly women because of the primal maternal bond:

I give thanks to you, lord of heaven and earth (...) For you have granted to man that he should come to self-knowledge through the knowledge of others, and that he should believe many things about himself on the authority of the womenfolk. Now, clearly, I had life and being; and, as my infancy closed, I was already learning signs by which my feelings could be communicated to others.

(*Confessions*, 1.6.10. Saint Augustine [398 AD/2007])

The intuition of the social origins of self-knowledge has not always prevailed. Centuries later, Romantics like Rousseau believed in the existence of a core self and the "inner" good nature of the child, an intrinsic nature-given quality of young individuals that is eventually corrupted by experience with the adult world.

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In contemporary philosophical jargon, these two opposite intuitions on the origins of selfhood correspond to polarized *internalist* and *externalist* views: a view of self as originating from internal forces such as maturation or introspection, versus the idea that the self emerges in reference to external or environmental forces such as the social context and circumstances of the individual. One origin would be in essence more private, the other more public.

This theoretical polarity between internalist versus externalist views on the origins of selfhood, although ancient and to some extent overly schematic, still dominates current philosophical debates regarding, for example, the origins of metacognition (the knowledge of knowing) and the validity of constructs such as introspection in relation to mindreading (e.g., Carruthers, 2009).

In relation to the second main focus that pertains to the *content* of selfhood (what it might be and what might constitute its existence), the question was fiercely debated among philosophers of the eighteenth-century Enlightenment, following the intellectual turmoil triggered by Descartes' *Meditations*, which was first published in 1641 and which includes his *cogito* idea (I think therefore I am), his proof that the self exists.

Following the new "ego-logical" debate launched by Descartes with the *Meditations*, Scottish empiricist David Hume (1711–1776) famously proposed that if something like a "self" exists, it exists as an illusion, not as a real entity. When introspecting in search of the self, Hume claims that he finds nothing but fleeting feelings and perceptions, no object *per se*. He concludes that what we tend to consider as self are in fact just sensory and perceptual impressions, not a real or core thing. It might exist, but if it exists it is not as real as a rock or a chair that can be thrown or sit upon; it is fleeting and impressionistic, a representational construction of the mind.

Varieties of Hume's basic idea are still very much alive today in the philosophical theorizing of the mind, especially by researchers who, well informed of the current progress in brain and cognitive neurosciences, deny any ground for the assertion that there is in reality such a thing as a self (see Metzinger's 2003 book *Being No One*, which comes to the conclusion that "no such things as selves exist in the world: Nobody ever *was* or *had* a self" [p. 1]).

To the Humean's skepticism, if not denial of the self, a radically opposite view is espoused by phenomenologists in the more recent tradition of Husserl, Heidegger, Merleau-Ponty, or Sartre, to name a few, all writings mainly from the first half of the twentieth century. Phenomenologists anchor their investigation of the mind in the systematic description of a first-person perspective, the experience of the world through one's own body, which is the primary locus of this experience as it unfolds in (p. 380) real time. The self exists primarily as a preconceptual, implicit entity that arises from the embodied experience of being in the world.

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Historically, the phenomenological approach is a deliberate departure that shies away from intellectualism, rationalism, or any kind of purely formal, “disembodied” conceptualization of the mind. In basing its investigation of the mind, in particular the mind–body problem, on a first-person perspective, hence on “subjectivity,” the phenomenological approach in philosophy gives back to selfhood the ontological status contested by Hume and his followers (see the 2006 book by phenomenologist Dan Zahavi, *Subjectivity and Selfhood*).

In summary, this short schematic philosophical overview of the selfhood question shows that it is old, perennial, and unresolved. The debate goes on. Theories of selfhood continue to oscillate between externalist and internalist views on the *origins* of the self, that selfhood might derive from introspection and maturation, or on the contrary from social exposure and experience particularly with others. They also oscillate regarding the *content* of the self, assuming that such a thing ontologically exists. Debate exists between theories that assume the ontological existence of something like a core self, versus the rather nihilist or Humean views stating that if selfhood exists, it is something virtual, a mental or perceptual reconstruction, even possibly just an illusion. No such thing as a self would exist in itself, as recently proposed by Metzinger (2003), *contra* current phenomenological theories in cognitive sciences that push for the embodied existence of selfhood (Gallagher & Zahavi, 2008).

## Gaining from the Developmental Approach to Selfhood

The focus of the chapter is on the origins and process by which self-concept develops, with a particular emphasis on how it unfolds in early human ontogeny. I ask: What are the origins of self-concept (what are the shaping forces behind it) and what is its content (i.e., what is it made of)?

In raising these questions and in relation to the ongoing philosophical debate briefly staked above, the existence of selfhood as an object of conceptualization is assumed. To the extent that we accept the intuition that there is some ontological validity to the idea of a self, the question is: How does it come about and what are the constitutive elements of the perceived and conceived sense of self in ontogeny?

Raising the question of selfhood during child development provides an empirically based “natural history” of self-concept as it unfolds in ontogeny. The strong intuition underlying such perspective is that looking at and documenting the developmental emergence of the sense of self ultimately should reveal what such sense has to be made of to become part of our subjective and rational experience.

The overall assumption driving the chapter is that looking at the question from the perspective of child development is necessary to unveil and to provide some empirical grounding to what might be the ontological nature of self-experience or subjectivity; what

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are the constitutive elements of self-concept, an issue haunting both Eastern and Western philosophy since Confucius and the Greeks. Approaching the question from a developmental perspective is indispensable and probably the best way to naturalize the issue. It has the promise to transform issues related to the self, from an armchair problem in the tradition of philosophy to an empirical question within a scientific and experimental framework. Furthermore, psychiatrists and neuroscientists who do address the question empirically typically do so in reference to an adult population, often with neural damage or other psychopathologies (e.g., Damasio, 1999; Parnas et al., 2005). The developmental perspective adds to such an approach by allowing us to grasp the building blocks of what might constitute fully formed self-experience and the actual foundation of the adult's conceptualization of such experience. This is the theoretical bet of the developmental approach adopted here.

## Defining Self-Concept in Development

A concept is an idea or a *mental construct*. In the most generic dictionary sense, a concept is “something formed by mentally combining all its characteristics or particulars” (*Random House Dictionary*). Conceptualizing or forming concepts is thus about seizing the essence of things: what they consist of and the *gist* of their meaning. Self-concept can thus be construed as the product of such a conceptualizing process turned toward oneself, which product would capture essential aspects of “it” (the elusive self).

This definition assumes, *a priori*, that the self exists, simply because it is something that can be conceived. Accordingly, the self or selfhood is taken to be something real to the extent that it can be conceptualized. Concepts, by definition, do indeed refer necessarily to “something.” The relevant questions therefore are: *What* is conceived, and *how*? Both, once again, pertain respectively to the content and the origins of the self as concept.

**(p. 381)** From a developmental perspective, we can also assume that the process by which the idea of the self is mentally constructed (conceptualized) is anything but fixed and static. It does change, as infants and children develop. Self-conceptualization is, by necessity, an embodied process. It is embodied in both a physical and behavioral sense. It is inseparable from the marked physical and brain growth of infants and children, and by consequence also inseparable from perception, action, attention, and intention development, notwithstanding affectivity, social-cognitive abilities, and general cognitive development.

The self to be conceived by children is rapidly changing in experiential, physical, and psychological aspects. It is therefore a moving target that requires constant reappraisal, and hence reconceptualization.

The developmental question is therefore: What is there to be reconceptualized? In other words, what is new or gained from such reappraisal? What might trigger such changes, and how do they come about?

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For the rest of this chapter, I will review relevant and selected empirical research from the perspective of development that document what I view as the basic, constitutive categories of self-concept. These categories would correspond to different layers of meaning attached to self-concept, successively emerging and accumulating in child development. Each corresponds to specific levels of representational complexities that I hypothetically view as accumulating “like onion layers” in an orderly fashion between birth and approximately 10 to 12 years of age, the developmental span we will consider here.

As a working hypothesis and for the sake of clarity, I view this development as part of a general meaning-making construction of what *constitutes* selfhood (what it is made of), in other words its representational content and what the notion of self is referring to when children start to recognize themselves in mirrors (at around 2 years of age) or begin to refer to themselves by using appropriate personal pronouns and adjectives such as *I*, *me*, or *mine!*

## Three Constitutive Categories of Selfhood in Development

William James (1890) distinguishes the “Me” and the “I” as two basic aspects of the self: The “Me” corresponds to the self that is identified, recalled, and talked about. It corresponds to the conceptual self that emerges with language and that entails explicit recognition or representation. It is beyond the grasp of infants, who by definition are preverbal, not yet expressing themselves within the conventions of a shared symbol system. On the other hand, there is the “I” that is basically implicit, not depending on any conscious identification or recognition. The “I” is also referred to as the *existential self* (Lewis & Brooks-Gunn, 1979), *machinery of the self* (Lewis, 1994), the *implicit self* (Case, 1991), or the *ecological* and *interpersonal self* (Neisser, 1991). It is, for example, the sense of their own body and personal agency expressed by young infants when they start to reach and grasp objects around them. Infants implicitly express a sense of themselves as agent (reachers) as well as a sense of their own physical situation in the environment (objects around them are perceived by the infant as reachable and graspable depending on size and distance; see Rochat, Goubet, & Senders, 1999). Infancy research shows that the “I” is expressed long before any signs of a conceptual (explicit) sense of self (the “Me”).

The “I” corresponds to basic biological and perceptual processes that are implicitly expressed from birth and during early infancy. Following James’ basic distinction, the “Me” corresponds to the compound of represented characteristics that can be explicitly, hence publicly, expressed by the individual who identifies them to specify the self. However, if we accept the generic definition of “conceptualizing” proposed above (seizing the essence of things: what they consist of and the *gist* of their meaning), the “I” might be differentially conceptual in nature than the “Me.” The “I” would correspond to the body as a coherent and unified locus of subjective experience rather than an object of rational thoughts.

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In this context, instead of asking how children become conceptual about themselves, how they develop from expressing a nonconceptual to expressing a conceptual sense of self, it makes more sense to ask: What are the different levels of self-conceptualizing expressed from birth and in the course of development? This question is indeed more reasonable if we accept the idea that conceptualizing in the generic sense does not need to be explicit, but can also be implicitly expressed in perception and action, prior to language. This is what we will posit here, the rationale being that if we don't do so, we elude dealing with the sense of self expressed prior to language, what is viewed here as the *necessary foundation* of what is conceptualized beyond infancy.

We can distinguish at least three basic levels of self-conceptualizing considered here as "superordinate" constitutive categories of selfhood: *minimal*, *objectified*, and *personified* categories of selfhood. (p. 382) These constitutive categories would correspond to three basic levels (or layers, following the onion metaphor) of self-conceptualizing that develop from infancy on. These layers of meaning making about the self would grow in succession, on top of each other, together contributing to the developing notion of selfhood.

Table 15.1 summarizes the proposed model of a developmental roadmap we will use for the rest of the chapter, reviewing in turn each of these basic levels of self-conceptualization, following the chronology of their emergence in ontogeny. Each level is viewed as adding to the other.

### Minimal Self

The infancy literature provides an abundance of empirical observations demonstrating the existence of an early, if not innate, experience of the body as an entity perceived by the infant as unified. These observations refute the view of the original (p. 383) "blooming buzzing confusion" of neonates proposed by William James over a century ago (James, 1890). We now know that infants are not born in a mere state of confusion with the world but rather show signs of a perception of their own body as well as nonself entities as unified discrete things (Kelman & Atterberry, 2006). Based on selected research findings, I review next some of the content of the presumed unified and meaningful self-perception and action expressed at birth, or shortly after birth. These findings indicate that newborns' perception of their own body in action is anything but disorganized, meaningless, or confused. It appears that there are innate frames to self-perception and experience. These frames correspond to biologically prescribed propensities that are embodied in action systems (i.e., feeding, orienting, avoiding), above and beyond the collection of reflexes structuring behavior at birth (Amiel-Tison & Grenier, 1980; Reed, 1982; Rochat, 2001; Rochat & Senders, 1991).

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Table 15.1. Three Basic Levels of Self-Conceptualization with Corresponding Content, Behavioral Index, Process, and Approximate Age of Emergence

	<b>Category</b>	<b>Content</b>	<b>Behavioral Index</b>	<b>Process</b>	<b>Age</b>
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<p><b>I</b></p>	<p><b>MINIMAL SELF</b></p>	<p>Implicit sense of the body as an entity that is bounded, differentiated, substantial, contained, situated, organized, agentive, and the locus of changing subjective experience (emotions)</p>	<p>Food ingestion and digestion, oral gravitation, oriented perception, action and exploration, discrimination of self vs. non-self, external stimulation, organized bodily experience, sense of the body as an obstacle, sense of agency and situation of the body in the physical environment, in the social environment, and in the particularly rich context of reciprocal exchanges with others.</p>	<p>Reflex mechanisms and enactment of pre-adapted action systems driven by evolved and innate behavioral propensities that are part of the necessary endowment (“survival kit”) of infants at birth, including feeding and orienting action systems, affective coregulation and mirroring systems</p>	<p>Birth</p>
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<b>II</b>	<b>OBJECTIFIED SELF</b>	Explicit sense of the body as an object of recognition and representation for self as well as for others	Self-recognition in the social mirror provided by reciprocating others in mutual imitation games. Emerging request for epistemic help and social referencing. First signs of explicit mirror self-recognition.	Projective mapping of the body and bodily expressions in people and things	14 months
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<b>III</b>	<b><i>PERSONIFIED SELF</i></b>	Explicit sense of the body as embodiment of a person with qualities and traits potentially evaluated and eventually judged by others	Emergence of secondary (self-conscious) emotions such as pride, contempt, hubris, or guilt; empathy-driven actions, ethical stance toward others and principled moral decisions	Negotiation of shared values with others about the body as an enduring entity, the embodiment of physical as well as psychological characteristics that are identifiable and sources of social affiliation or rejection	30 months and up
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The strong behavioral propensities expressed at birth and already in the womb during the last trimester of gestation (e.g., bringing hand to mouth followed by sucking and swallowing; see Prechtl, 1984) constrain subjective experience from the start, in particular the embodied proprioceptive sense of the own body as a distinct entity among other discrete entities in the environment. They also constrain what develops in relation to this minimal, perceptual sense of self. But what is the evidence in support of such an assertion?

Looking at the research literature, we can extract characteristics of the *minimal self* expressed at birth and in the first weeks of life, long before children begin to show signs of self-objectification, or the explicit sense of themselves as object thoughts, the next layer of conceptualizing discussed later. These characteristics pertain to the content of subjective or self-experience at the outset, a “proto” experience that is implicit but seen here as a first level of self-conceptualizing in the generic sense of seizing the essence of selfhood: what it consists of and the *gist* of its meaning, as implicit as this meaning might be. These characteristics do not have to be construed as innate representational modules and probably are more accurately conceived of as primary representations that are *emergent* from the innate structure of the body and its propensities to act. It also means that these representations are not fixed but subject to enrichment based on learning and experience.

### Subjectivity and Body Schema at Birth

The basic emotions expressed at birth and reliably identifiable by caretakers as joy, disgust, interest, or various kinds of pain expressed in crying are symptomatic of a rich affective life (see Barr, Hopkins, & Green, 2000). Newborns express these emotions with their whole body, becoming spastic and tense in particular ways, emitting particular sound pitches and contours, when for example crying out of pain as opposed to hunger. A rich palette of distinct affective motives underlies newborns’ bodily movements. For example, a drop of sucrose on their tongue leads them to calm down and systematically bring hand to the mouth in the most direct trajectory, coming to closure after oral biting and sucking (Rochat, Blass, Fillion, & Hoffmeyer, 1988). The drop of sucrose engages the feeding or appetitive system of the infant, which in turn mobilizes his or her whole body in orienting and rooting activities. These functionally purposeful activities come to rest only when something solid such as a finger or a nipple comes in appropriate contact with the face, eventually finding its way into the mouth for sucking (Blass, Fillion, Rochat, Hoffmeyer, & Metzger, 1989).

In relation to the body as a whole, hand–mouth coordination is closely associated with the engagement of the feeding system, as in this case of the drop of sucrose on the tongue of the infant. In itself, it is suggestive that newborns do possess rudiments of a body schema (Gallagher & Meltzoff, 1996). Such coordination implies some mapping of the body whereby regions and parts of the own body are actively and systematically (as opposed to just randomly) put in contact with each other, in this case hands and mouth with a coordinated spatiotemporal trajectory (hand movements, head orientation, and mouth opening, often in anticipation of hand contact).

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Neonatal imitation of tongue protrusion, but also of hand claspings or head rotation (Meltzoff & Moore, 1977), is another expression of a body schema whereby the sight of active bodily regions in another person (the model) is mapped onto homologous regions of the own body. Another evidence of body schema at birth is demonstrated in neonates who are turned to the side in their crib and plunged in the dark with just a thin beam of light cutting across their visual field. Newborns observed in this condition tend to bring systematically their ipsilateral hand and arm into the beam of light for active visual exploration (Van der Meer & Lee, 1995).

(p. 384) In all, body schema and the active propensity of neonates to bring sense modalities and regions of their own body in relation with each other are now well documented. This, in itself, supports the idea that infants sense their own body from birth as an *invariant spatial structure*, as rudimentary and in need of further refinement as this spatial structure might be. This structure is obviously not Euclidian in the sense of not synthesized (represented) in the mind of the young infant as a precise map of accurate spatial coordinates and configurations. It does not yet entail that the infant has already a recognizable image of his or her own body (a body image). This structure is essentially *topological* in the sense that it is made of focal attractor regions on the body surface that have great degrees of freedom and a high concentration of sensory receptors such as mouth and fingers. This topology is embodied in action systems that are functional from birth and drive early behavior.

Evidence of a body schema at birth provides some theoretical ground for the ascription of basic selfhood from the outset. Other research of these past few years shows that neonates behave in relation to their own body in ways that are different from how they behave in relation to other physical bodies that exist independent of their own. They feel and unquestionably demonstrate from birth a distinct sensitivity to their own bodily movements via *proprioception* and internal (*vestibular*) receptors in the inner ears. Both proprioceptive and vestibular sensitivities are well developed and operational at birth. They are sense modalities of the self *par excellence*.

### Differentiated “Ecological” Self at Birth

Research shows, for example, that neonates root significantly more with their head and mouth toward a tactile stimulation from someone else’s finger than from their own hand touching their cheek (Rochat & Hespos, 1997). Other studies report that newborns do pick up visual information that specifies ego-motion or movements of their own body while they, in fact, remain stationary. These studies indicate that neonates experience the illusion of moving, adjusting their bodily posture according to changes in direction of an optical flow that is presented in the periphery of their visual field (Jouen & Gapenne, 1995). This kind of observation points to the fact that from birth, infants are endowed with the perceptual, intermodal capacity to pick up and process meaningfully *self-specifying* information.

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Questions remain as to what might be actually synthesized or represented as an outcome of the self-specifying perceptual capacity manifested at birth. What might be the experience of selfhood in neonates? What is the subjective experience of the own body considering that selfhood is first embodied, only later becoming recognized as “Me?”

Neonates experience the body as an invariant locus of pleasure and pain, with a particular topography of hedonic attractors, the mouth region being the most powerful of all, as noted by Freud years ago in his account of the primitive oral stage of psychosexual development. Within hours after birth, in relation to this topography, infants learn and memorize sensory events that are associated with pleasure and novelty: they selectively orient to odors associated with the pleasure of feeding and they show basic discrimination of what can be expected from familiar events that unfold over time and that are situated in a space that is embodied, structured within a body schema. But if it is legitimate to posit an *a priori* “embodied” spatial and temporal organization of self-experience at birth, what might be the content of this experience aside from pleasure, pain, and the sheer excitement of novelty?

Neonates do have an *a priori* proprioceptive sense of their own body in the way they act and orient to meaningful affordances of the environment, as well as in the way they detect visual information that specifies ego motion (Jouen & Gapenne, 1995, see above). The proprioceptive sense of the body appears to be a necessary correlate of most sensory experiences of the world, from birth on. As proposed by James Gibson (1979), to perceive the world is to *co-perceive* oneself in this world. In this process, kinesthetic proprioception is indeed the sense modality of the self *par excellence*.

From birth, proprioception alone or in conjunction with other sense modalities specifies the own body as a differentiated, situated, and eventually also agentive entity among other entities in the world. This corresponds to what Ulric Neisser (1988, 1991) called the “ecological self,” a self that can be ascribed to infants from birth.

### Bounded and Substantial Embodied Self

As pointed by Neisser (1995), criteria for the ascription of an ecological self rest on the behavioral expression by the individual of both an awareness of the environment in terms of a layout with particular affordances for action, and of its body as a motivated agent to explore, detect, and use these (p. 385) affordances. Newborns fill the criteria proposed by Neisser for such awareness. In addition, however, I would like to add that they also seem to possess an *a priori* awareness that their own body is a distinct entity that is bounded and substantial, as opposed to disorganized and “airy.”

Newborns perform self-oriented acts by systematically bringing hand to mouth, as already mentioned. In these acts, the mouth tends to open in anticipation of manual contact and the insertion of fingers into the oral cavity for chewing and sucking (Blass et al., 1989; Watson, 1995). What is instantiated in such systematic acts is, once again, an *organized body schema*. These acts are not just random and cannot be reduced to reflex arcs; they need to be construed as functionally self-oriented acts proper. Because they bring

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body parts in direct relation to one another, as in the case of hand–mouth coordination, they provide neonates with invariant sensory information specifying the own body’s quality as *bounded substance*, with an inside and an outside, specified by particular texture, solidity, temperature, elasticity, taste, and smell.

The *a priori* awareness of the own body as a bounded substantial entity is evident in neonates’ postural reaction and gestures when experiencing the impending collision with a looming visual object, an event that carries potentially life-threatening information. Years ago, Ball and Tronick (1971) showed that neonates aged 2 to 11 weeks manifest head withdrawal and avoidant behavior when exposed to the explosive expansion of an optic array that specifies the impending collision of an object. Infants do not manifest any signs of upset or avoidant behavior when viewing expanding shadows specifying an object either receding or on a miss path in relation to them. Consonant with Ball and Tronick’s findings, Carroll and Gibson (1981) report that by 3 months, when facing a looming object with a large aperture in the middle, as an open window in a façade, they do not flinch or show signs of withdrawal as they do with a full textured solid object. Instead, they tend to lean forward to look through the aperture. In all, the detection of such affordance in the looming object indicates that there is an *a priori* awareness that the own body is organized and substantial. There is an innate sense that the own body occupies space and can be a physical obstacle to other objects in motion.

In summary, I briefly reviewed empirical observations that warrant the ascription of an innate sense of self in perception and action. What is proposed here is that it corresponds to a first implicit conceptualizing of a *minimal self*. It is a perceptual awareness of the body that is framed by innate propensities to act in particular ways. It is the early characteristics that infants perceive of their own body in perception and action as *bounded, organized, differentiated, and substantial*, but also *situated* (e.g., in the early detection of reachable objects) and *containing* (e.g., food ingestion and digestion, early transport of suckable objects to the mouth). In the generic sense used here, it is also the implicit conceptualizing by young infants of their own body as an agentive entity: sucking to hear a sound and obtaining food, kicking in a certain way to set a mobile in motion. It is as well the conceptualizing of the own body as a specific bounded spatial *locus* of fluctuating emotions with a permanent address in space and where, from the outset, a rich affective life made of pleasure and pain is experienced: the locus of a continuous string of *embodied* satisfaction and frustration.

### Objectified Self

The early embodied self-experience and implicit conceptualizing of a minimal self is done both in relation to physical objects and also, if not primarily, in relation to others. Parallel to the expression of an ecological self, infants also express a highly organized interpersonal sense of themselves (Neisser, 1991). This implicit interpersonal sense of self is evident at least by 2 months with the emergence of socially elicited smiling in face-to-face proto-conversations (Rochat, 2001; Trevarthen, 1980; Wolff, 1987). In this context, infants develop social expectations, expecting others to behave in certain ways following certain

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emotional bids in proto-conversation. They express distress when an engaged social partner in playful interaction suddenly adopts a frozen still-face (Tronick et al., 1978) and show a marked loss of attention toward an adult who suddenly scrambles the narrative envelope of a peek-a-boo game (Rochat, Querido, & Striano, 1999).

All these findings indicate that early on, and at least from 2 months of age, infants develop a sense of their own agency in relation to people, manifesting a sense of themselves as differentiated and situated emotional entities. They detect invariants in social exchanges and expect certain outcomes from people, showing surprise, if not disengagement and sadness, when such social expectations are not met. But all this experience happens in dyadic social exchanges, in the pragmatics of turn-taking face-to-face interactions that are primarily initiated and driven by the adult. But at around 9 months of age things change. (p. 386) This is a change that some authors go as far as characterizing as the “9-month miracle” (Tomasello, 1995). In relation to self-conceptualizing, it marks the beginning of the second layer of meaning making about the self: the *objectified self*.

The cardinal feature of the 9-month transition is the emergence of so-called secondary intersubjectivity or the shared experience expressed by the child with people *about* things that surround them. In the first face-to-face exchanges that emerge by 2 months, if there is a sense of shared experience, it is contained within the infant-adult dialog, not referring yet to anything *outside* of it. It corresponds to a primary intersubjectivity or primary sense of shared experience accompanying dyadic, face-to-face exchanges that include affective mirroring and other typically repetitive, well-outlined, playful, and adult-driven routines like peek-a-boo games. It is not yet a conversation *about* something outside of the relationship. This “aboutness” in conversation starts to emerge by around 9 months with the new propensity of the child to manifest systematically and with ostentation joint attention, social referencing, and referential gesture production and comprehension (Tomasello, 2008).

From this point on, infants begin to bring objects to the attention of others, checking back and forth whether their attempt is successful or not (joint attention). They begin to point and understand pointing gestures by others as referring to something “out there” (gestural communication). They check on the emotions of others while facing a shared ambiguous situation in the environment such as a stranger or a potential physical danger (social referencing). In all, infants begin to triangulate on things with others, starting to dialog in reference to and about objects that exist outside of the rich one-on-one dyadic emotional transactions infants from 2 months are already capable of.

In the primary intersubjectivity associated with early face-to-face exchanges, infants may already have the opportunity to see themselves in others, to engage in self-objectifying and possibly self-recognizing in how others react and respond to them. Adults tend indeed to engage in affective “mirroring,” repeating and exaggerating the emotions expressed by the infant (Gergely & Watson, 1999). Infants facing the engaged adult could in principle recognize and *objectify* themselves in the imitating other who would become a social mirror that reflects the self, thus becoming “objectify-able” and recognizable. They



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could possibly already engage in self-conceptualizing at an explicit level, a level beyond the experience of a minimal self. But there is no clear evidence that this is the case yet. It is also not clear that with the emergence of referential (*secondary*) intersubjectivity, infants already by 9 months begin to objectify themselves, contemplating themselves as an object of evaluative thoughts, thus adding a new layer of self-conceptualizing to the primary experience of the minimal self. It certainly announces such an additional layer, but prior to 14 months there are no clear signs of referential “aboutness” to the self proper.

Self-objectification as a new level of self-conceptualizing appears to emerge unambiguously from approximately 14 to 18 months. Evidence comes from observations of children being imitated or impersonated in their games (Agnetta & Rochat, 2004).

### First Signs of Self-Objectification

For children to become referential in relation to themselves, two processes are necessarily required: *projection* and *identification*. In the process of projection, children become able and show the propensity to “eject” from their embodied self and mentally project their own physical embodiment and subjectivity onto another embodied entity, whether a thing (e.g., a doll) or a person (Baldwin, 1906). With this subjective projection, they experience both self and nonself entities as differentiated but coexisting and *equivalent*, mutually referring to each other (identification). So, for example, a child able to project and identify with things and people will recognize that someone is imitating him or her, that the other person attempts to behave in reference to himself or herself via impersonation. With such recognition, the child shows self-objectification in the imitating other. The same holds true for mirror self-recognition, as will be discussed next.

By 14 months children manifest an unambiguous understanding of being imitated, looking and smiling preferentially toward a mimicking rather than a contingent adult (Agnetta & Rochat, 2004; Meltzoff, 1990; Meltzoff & Moore, 1999). From this age on, they demonstrate a new capacity to see others as potentially standing or impersonating them, taking a “like-me” stance toward them.

In one of our studies, 9- to 18-month-old infants faced either an experimenter mimicking their actions on an identical object or the object mimicking the results of their action independently of any manual contact by the experimenter (Agnetta & Rochat, 2004). Only 14- and 18-month-olds showed clear discrimination between the person mimicking them (p. 387) and the object emulating the consequence of their own actions on an identical toy. Interestingly, we found that this discrimination positively correlates with infants’ relative ability to follow gaze and points in triadic exchanges, hence possibly a link with their relative ability to be referential in relation to others (Agnetta & Rochat, 2004).

This latter study indicates that by 14 months, children differentiate between a person and an object trying to impersonate what they do, showing more equivalence between themselves and an impersonating person than an emulating object. We interpret these findings as indicating that by this age, children begin to show signs of *self-objectification in others*, beginning to construe them as intentional agents, like them.

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Until the middle of the second year, when linguistic and symbolic competencies start to play a major role in the psychic life of children, self-awareness remains *implicit*, as we have seen. It is expressed in perception and action, not yet expressed via symbolic means such as words. Prior to approximately 14 to 18 months there is yet no clear evidence that children perceive traces of themselves as *standing for* themselves—only themselves, and no one else, such as the little footprints they might leave in the mud or the image they see in the mirror.

Note, however, that infants do, months earlier, discriminate between their own image and the image of another infant. Preferential looking studies show that by 5 to 6 months infants tend to be significantly more captivated by a prerecorded video of another, same-age infant compared to a prerecorded video of themselves wearing an identical, same-color outfit (Bahrick, Moss, & Fadil, 1996). It appears that by this age, and presumably via previous exposure to mirrors and other self-reflecting devices, infants pick up invariant features of their own face. It does not mean, however, that they construe these features as *standing for* themselves; it is the product of perceptual learning of subtle invariant facial features they quickly become familiar with. When placed in a situation where they have the choice to explore either their own familiar face or the face of another child, they show a typical preference for novelty (e.g., Fantz, 1964; Rochat, 2001). Although certainly a necessary precursor and a sign of remarkable perceptual learning ability, this preference does not mean yet that infants do *recognize* that it is they on the TV.

The same kind of interpretation applies to the findings that 4- and 7-month-olds show clear discrimination between seeing themselves live on a TV while moving around in their seat versus seeing a live experimenter on a TV engaged in the systematic imitation of what the infant is doing (Rochat & Striano, 2002). In our experiment, the experimenter shadowed the infant as mirrors do. We found that infants smiled, vocalized, and looked differentially at the imitating experimenter seen on TV compared to the self. In addition, infants tended to react differentially in either condition when the image was suddenly frozen in “still-face” episodes.

In all, young infants demonstrate once again their perceptual ability to distinguish between the familiar sight of themselves and the novelty of the experimenter appearing on the TV (see Rochat & Striano, 2001, 2002).

Despite all this perceptual discriminability between what pertains to the self and what pertains to others, up to the middle of the second year (approximately 21 months; Lewis & Brooks-Gunn, 1979), infants are oblivious that some rouge has surreptitiously been smeared on their face or that a yellow “Post-It” might appear on their forehead when looking at their own specular image (Bertenthal & Fisher, 1978; Povinelli, 1995). It is only by 18 months that infants start to reach for the mark on their own body, often in order to remove it. To most developmental and comparative psychologists, this behavior is the litmus test of explicit self-awareness and self-objectification. It is often viewed as the evidence of a conceptual or “represented” sense of self in any organism behaving like this in front of mirrors, whether the human child, nonhuman primates, avians, mammals like ele-

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phants, or even cetaceans like dolphins (Parker, Mitchell, & Boccia, 1994; Reiss & Marino, 1998; Plotnik & De Waal, 2006). By showing this behavior, individuals are thought to demonstrate an ability to refer to the specular image as *standing* for their own embodied self. In other words, they refer the silhouette they see reflected in the mirror to precise regions of their own body they cannot see directly (e.g., their forehead). This would be impossible without a body schema or own body representation that is mapped onto what is seen in the mirror. Therefore, this behavior indicates that the mirror reflection is seen as standing for the representation of the embodied self. It is identified as referring to the body experienced and represented from within, not anybody else's. Identity is used here in the literal, dictionary sense of "recognizing the condition of being oneself, not another" (*Random House Unabridged Dictionary*).

Mirror self-recognition expressed via the "successful" passing of the mark test is predictably linked to (p. 388) major progress in symbolic (referential) functioning of the child in other domains, in particular language development. By 18 months, infants start to mark contrasts between themselves and other people in their verbal production. They express semantic roles that can be taken either by themselves or by others (Bates, 1990). An explicit and hence reflective conception of the self is apparent at the early stage of language acquisition, at around the same age that infants begin to recognize themselves in mirrors.

This chronological link in development provides indirect validation of the mirror test and the interpretation I provided above. Indeed, as Bates argued, language acquisition requires a preexisting conceptual or represented sense of self as "Me" as opposed to simply "I": "a theory of the self as distinct from other people, and a theory of the self from the point of view of one's conversational partners" (Bates, 1990, p. 165).

With the expression of self-objectification, of an *objectified self*, from approximately the middle of the second year, children become explicitly referential about themselves via processes of projection and identification. It represents a qualitative shift in self-conceptualizing in the generic sense used here, a crucial step that makes children explicitly referential in relation to the embodied self they experience implicitly from birth in perception and action (minimal self).

This shift represents a necessary step toward *self-personification*, the third and final level of self-conceptualizing (personified self following Table 15.1) that emerges in the third year and continues to develop all through the lifespan, as will be discussed next.

### Personified Self

The emergence of an ability to refer to the embodied self as an object of recognition, and hence potentially as an object of thought in communication and evaluation with others (the *objectified self* discussed above), opens up a whole new possibility for the development of self-concept and self-conceptualizing. It gives way to the development of the notion of the self as a person: the third level of self-conceptualizing proposed here.

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### The Self as a Person

The etymology of the word “person” comes from the Etruscan word *persona*, standing for “theater mask.” Semantically thus, in the broadest sense, the meaning of a *person* is inseparable from some staging of the self or self-presentation (i.e., the social mask), as coined by Erving Goffman (1959). The concept of person is inseparable from the idea of staging or the public presentation and management of the self as an entity that can be judged and evaluated by others in relation to norms and shared rules. This concept thus relates to the notion of self as being “accountable” in relation to others and by others, literally a self that has a reputation (Rochat, 2009). By definition, a person is a self-entity that is public in relation to others who are entrusted with the capacity to judge and evaluate. This is how we understand and will discuss the notion of person here to capture this third level of self-conceptualizing.

The self as a person is a self that is *moral* and has a sense of its ethical stance and situation in relation to others, as well as to norms and standards: whether what he or she is doing or presenting of the self is right or wrong in relation to others, whether it transgresses or follows norms that are shared. It corresponds to the notion of a normative self, an entity that is constantly gauging its own situation and perspective in relation to norms, particularly social, moral, and ethical norms. In this sense, the personified self is more than just an object of thought; it is an object of evaluation (self-worth) in relation to others and particularly in relation to norms that are shared with others, including etiquette, aesthetics, or expected ways to behave and perform in relation to others.

The self as a person derives from a level of self-conceptualizing that is essentially comparative and normative in relation to others. It is inseparable from the internalization (stored or mentally held representation) of social norms and rules, against which the self can be measured (evaluated) and managed in its presentation to others. According to this view, self-worth is the product of an evaluation against values that are collectively rather than individually represented, not just reducible to discrete positive and negative “private” assessments of the self. It is a moral product in the broad collective sense, a product that is defined in reference to social norms and rules that are co-constructed, values that are negotiated with others (Rochat & Passos-Ferreira, 2008; Rochat, 2009).

### Becoming a Personified Self

The basic prerequisite for the awareness of the self as a person is a sensitivity to norms, this sensitivity emerging by the middle of the second year. A large corpus of developmental studies document that during the second year and from the time children manifest self-recognition in mirrors as well as (p. 389) the use of personal pronouns and adjectives, they also begin to manifest a sense of pride in work well done or in succeeding at resolving a problem (Kagan, 1981; Lewis, Sullivan, Stanger, & Weiss, 1989; Stipek, Recchia, & McClintic, 1992). They start to show empathy and act in ways recognized by others as prosocial (Eisenberg & Fabes, 1998; Zahn-Waxler et al., 1992). Interestingly, they also notice abnormalities in objects, preferring intact over damaged, even slightly damaged things (e.g., a nondented over a dented cup) (Dunn, 1987). They start to manifest sur-

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prise, concern, and disappointment when something is or gets broken, such as a doll losing its arm. As stated by Kagan (1989), “the central victories of the last half of the second year are (1) an appreciation of standards of proper behavior and (2) an awareness of one’s actions, intentions, states, and competences” (Kagan, 1989, p. 236).

Kagan’s conclusion regarding the cardinal social-cognitive achievements in the second year is based on empirical evidence demonstrating the robust emergence during this developmental period of behaviors like mastery smiles, directives to adults, distress to an adult modeling a novel action (interpreted as expression of inadequacy feeling on the child’s part), as well as the first emergence of self-descriptive utterances.

From this period on, children add to their ability to conceive themselves as objects of thought, the comparison of themselves as objects to others. This comparison of the objectified self in relation to others, and in general in relation to social standards, entails awareness of an objectified self that is *enduring over time*. The child must be able to reflect on the self as an object, but also as a permanent entity that is reminisced from the past and projected into the future, beyond the here and now of experience.

### Self-Conception in Space and Time

If infants begin from approximately 18 months to self-refer when confronted with their own mirror reflection, the “Me” they identify remains enigmatic and ambivalent. They appear to still oscillate between an awareness of the self and an awareness of seeing someone else facing them (Piaget, 1962; Povinelli, 2001; Rochat, 2001).

Recognizing oneself in the mirror is a major feat, not only for the referential mapping between the mirror reflection and the own body schema, but also because what the child sees in the mirror is the way he or she often sees others: in an “en face” posture, often with eye contact. In relation to this basic experience of social encounters, what the child experiences in the mirror might be “Me,” but it is also what others typically look like. The child therefore has to suspend and override his or her overall visual experience of others, the specular image standing for “Me as another.”

The mirror experience of the self carries this fundamental ambiguity, and children struggle with it until at least their fourth birthday. Note that this ambiguity is pervasive all through the lifespan. As adults, we look at ourselves in mirrors, working on our presentation by simulating or representing the evaluative gaze of others onto our own body. What we are seeing is *de facto* our appearance as seen by others, hence the pretense of someone else (see Rochat, 2009, for further discussion and broad theoretical considerations).

In his seminal observations of his own children, Piaget (1962) reports anecdotes that pertain to the mirror dilemma. Jacqueline, aged 23 months, announces to her father as they are coming back from a walk that she is going to see her father, her aunt, and herself in the mirror. Perfectly capable of identifying herself in the mirror as “Me” when prompted by her father asking “Who is there?,” Piaget observes that Jacqueline provides also at times a *third-person* account of what she sees in the specular image. Likewise, she tends

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to oscillate between claiming that it is “Me” or that it is “Jacqueline” when viewing photographs with herself on it (Piaget, 1962, pp. 224–225).

As part of a series of more recent studies on the developmental origins of self-recognition, Povinelli reports the commentary of a 3-year-old viewing herself on a TV with a sticker on her forehead. She says: “it’s Jennifer. it’s a sticker” and then adds: “but why is she wearing my shirt?” (Povinelli, 2001, p. 81). These observations illustrate the Me-But-Not-Me dilemma (Rochat, 2001); children struggle with it months after they show signs of mirror self-recognition.

Povinelli and colleagues demonstrate that children slowly bypass the Me-But-Not-Me dilemma when viewing live or prerecorded videos of themselves. For example, 3-year-olds and younger do tend to reach for a large sticker they see on top of their own head while viewing a live video of themselves, but they don’t when viewing the replay of the same video taken only 3 minutes prior. Furthermore, when asked who was on the TV, it is only by 4 years that the majority of children say “Me” rather than their proper name, suggesting a first-person stance rather than a third (see Povinelli, 1995, 2001, (p. 390) for a review and discussion of this research). This third-person stance is an indication of increased metacognitive abilities turned toward the self, from 4 years of age.

The studies of Povinelli and colleagues on delayed self-recognition show that it is not prior to 36 months that children begin to grasp the temporal dimension of the self—that the self pertains not only to what is experienced now but also to what was experienced then, what can be seen in a mirror now or in a movie tomorrow: the same *enduring entity*. It is also from this point on that the blind veil of infantile amnesia appears to be lifted with the emergence of first explicit memories about the self. In contrast to presumably earlier forms of explicit or declarative memories requiring external and internal cueing (Mandler, 1994), the first autobiographical memories emerging from approximately 3 years of age are self-cued and auto-noetic: memories accompanied by a sense of reexperiencing an event one has been actively participating in (Nelson & Fivush, 2004).

Research shows that from 3 years of age, most children are capable of providing detailed and coherent accounts of their own past experiences (e.g., a visit to Disneyworld that occurred 6 months earlier); children become more competent at reminiscing about such events with more details and precision at 4 years and beyond (Hammond & Fivush, 1991). Autobiographical memory skills and narratives pertaining to the self thus appear to emerge by 3 years, developing in complexity and organization in the preschool years (Nelson & Fivush, 2004; Peterson & McCabe, 1982).

### Emerging Self-Conception with Others in Mind

By the time young children begin to express and recognize the self as an enduring entity, they also begin to show major advances in their understanding of others. By 4 to 5 years, children demonstrate the ability to hold multiple representations and perspectives on objects. They can decide accurately whether people hold accurate or false beliefs about the state of the world. Across cultures, 5-year-old children acquire folk theories or theories of

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mind (Callaghan et al., 2005; Wellman & Liu, 2004). For example, they can infer the particular age, relative sentience, temperament, and emotionality of a person by merely looking at the quality of a simple drawing he or she produced. By this age, children infer the mind and affects of the artist behind a graphic symbol (Callaghan & Rochat, 2003). This ability is linked to the developing child's ability to construe false belief in others, as well as to grasp the representational status of graphic and other symbolic artifacts such as maps, photos, or scale models (Callaghan & Rochat, 2003, 2008; DeLoache, 1991; Olson & Campbell, 1993; Perner, 1991; see the chapter by Callaghan in this handbook).

The development of representational abilities in general and theories of mind in particular corresponds also to evidence of *meta-awareness* in relation to the self. For example, when children begin to understand explicitly that another person holds a false belief, they necessarily understand that they themselves hold the right belief. In the same way, when infants demonstrate some construal of object permanence, they also demonstrate their own permanence in relation to objects (Rochat, 2001). These terms are inseparable.

The expression of embarrassment in front of mirrors by 2 to 3 years is associated with the child's growing metacognitive abilities, in particular his or her growing ability to hold multiple representations and perspectives on the same thing, including the self. The recognition of self in the mirror is also for the child the recognition of how the self is publicly perceived.

From the point of view of neurophysiology, there is an apparent link between the emergence of metacognitive abilities around 2 to 3 years and the documented orderly maturation of the rostrolateral region of the prefrontal cortex. The growth of this prefrontal cortical region would correlate with the development of new levels of consciousness, in particular the transition from minimal to metacognitive levels of self-consciousness (Bunge & Zelazo, 2006; Zelazo, Gao, & Todd, 2007).

Elsewhere (Rochat, 2009), I interpreted the negative affective connotation of mirror self-experience (embarrassment and self-conscious emotions as opposed to positive jubilation, for example) as expression of a universal tendency to hold an overestimated representation about the self that is at odds with what is actually seen by others, the latter "truly" revealed in the mirror. First-person (private) perspective on the self is generally overestimated compared to third-person (public) perspective. This interpretation is supported by the well-documented illusory superiority phenomenon found in adults (Ames & Kammrath, 2004; Beer & Hughes, 2010; Hoorens, 1993).

Mirrors would bring about the experience of a generalized gap between private (first-person) and public (third-person) self-representations, a gap that (p. 391) is a source of basic psychic tension and anxiety, the expression of a generalized social phobia and universal syndrome expressed from age 2 to 3 years (Rochat, 2009).

An alternative interpretation would be that young children shy away from their reflection in the mirror not because they are "self-conscious," but rather because they wrongly construe the presence of another child staring at them with some kind of a persistent still-

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face, hence to be avoided. But this is doubtful considering, as we have seen, that very early on infants discriminate between seeing themselves or seeing someone else in a video (Bahrack et al., 1996; Rochat & Striano, 2002).

By showing embarrassment and other so-called secondary emotions (Lewis, 1992), young children demonstrate a propensity toward an evaluation of the self in relation to the social world (the “looking-glass self” first proposed by Cooley in his 1902 book). They begin to have others in mind, existing “through” in addition to “with” others.

Secondary emotions such as the embarrassment children begin to express by 2 to 3 years parallel, and are probably linked to, the emergence of symbolic and pretend play. Such play entails, if not at the beginning but at least by 3 to 4 years, some ability to simulate events and roles, to take and elaborate on the perspective of others (Harris, 1991; Striano, Tomasello, & Rochat, 2001; Tomasello, 1999; Tomasello, Striano, & Rochat, 1999).

The process of imagining what others might perceive or judge about the self, whether this imagination is implicitly or explicitly expressed, is linked to the cognitive ability of running a simulation of others’ minds as they encounter the self. There are fantasy and phantasms involved, the stuff that feeds the self-conscious mind and characterizes a metacognitive level of self-awareness (i.e., the construal and projection of what others might see and evaluate of us).

### Self-Categorizing and Description in Children

Metacognitive self-awareness and the evaluation of self through the eyes of others entail what Michael Lewis called a *categorical self-concept*: a concept of self as a distinct entity with *identifiable characteristics* (see Lewis et al., 1989). With language development, the verbal expression of self-conceptualizing changes, not only in richness and complexity, but also in quality or value, showing increasingly a more balanced, less inflated, less one-sided, and in some sense more ethical approach toward the construal of identifiable characteristics of self.

Explicit self-description is related to the vocabulary explosion occurring between 24 and 36 months, children rapidly acquiring new words to qualify what they identify as self (Bates, 1990). From the third year on, children begin to depict themselves as owners, agents, as well as performers, with grammatical accuracy and precise uses of personal pronouns (e.g., “I am 3 years old and I live in a big house with my mother and father, and my brother, and I am very strong”).

Harter (1999), following the work of Damon and Hart (1988), distinguishes three main periods in the development of explicit (verbal) self-description: very early childhood (3- to 4-year-olds); early to middle childhood (5- to 7-year-olds); and middle to late childhood (8- to 11-year-olds). Harter shows that 3- to 4-year-olds’ self-description is made essentially of highly concrete and compartmentalized (nonarticulated) representations of observable features (e.g., “I can count,” “I know my ABCs,” “I live in a big house”). It consists of a taxonomic amalgam of physical (“I have curly hair”), performing (“I am very strong”), psychological (“I am happy”), and social attributes (“I have a lot of friends”). These attrib-



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utes also revolve around possessions (“I have a doll and a brother”) and preferences (“I love pizza and candies”).

Interestingly, self-attributes in the young child’s description entail valuation, typically “unrealistically positive” self-representations, presumably pointing to a lack of skills for social comparison and the distinction between ideal and real self-concepts (Harter, 1999). Young children often allude to their own self-esteem via depicted potency and pretend enactments (“I am very strong. See? I can lift that chair!”).

Thus, the early expression of self-worth appears more often than not exaggerated and inflated, at least by North American 3- to 4-year-old children growing up in a culture where parents tend to worry at any signs of self-deflation and excessive timidity in their child. Self-assertiveness (as opposed to respect and self-effacement) is particularly valued and nurtured by parents and educators of Western middle-class children, compared probably to non-Western, more traditional and less urban cultures. The role of socializing agents is indeed important in early self-evaluative and self-esteem processes (Higgins, 1991).

From 5 years of age (early to middle childhood period), Harter finds that children continue in their tendency to inflate their own capacities and “virtuosity,” cataloging various self-attributed, (p. 392) typically exaggerated talents and competencies in the cognitive, social, or physical (athletic) domains. Compared to 3-year-olds, they begin nevertheless to show signs of forming representational sets combining multiple competencies (e.g., I am good at school, at riding my bike, at having friends, etc.). Another trend in 5-year-olds is their new propensity to present opposite characteristics about the self: “I am good at that, but bad at this.” Such progress would correspond, according to Harter, to children’s growing general ability to map representations onto one another, here expressed in opposite sets. This interpretation is in resonance with the neo-Piagetian, information-processing developmental account proposed by Fischer (1980).

In the third and final period proposed by Harter (1999), 8-year-olds and older children begin to form higher-order concepts in their self-description, including more global evaluations of the self and its worth as a person. Children might depict themselves as “smart,” a trait acknowledged and understood by the child as encompassing many different skills, including interpersonal, academic, or athletic skills. Children from this age on do tend also to consider in their self-description that they are made of positive and negative attributes that *coexist* in determining what is relevant to the self. In other words, beyond a mere amalgam of cataloged traits, children integrate in their self-description the opposition of identifiable characteristics—for example: “I can be happy but also sad...do good things but also bad things obey but sometime also disobey.” With such integration of opposites, the child becomes less black or white, all or nothing, in his or her explicit grasping of selfhood, obviously an important cognitive but also emotional and socioaffective step in development. As already stated, by 8 years of age children begin to show a more balanced view in self-description, a tendency that expresses an overall progress in taking an ethical stance toward the self in relation to others as evaluators.

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In short, it appears that children become more relativist and measured in their self-depiction, developing a construal of the self that is morally personified (see above), with a sense of shame, pride, or potential guilt, combining strength and weaknesses in relation to socially shared standards. Reflected in the development of self-description in children, social norms are progressively internalized, as a function of social experience and social adaptation; the experience of communing with family, teachers, and peers; conflicts and rivalry with parents and siblings; but also in the creation of new relationships and social alliances outside of the family (Dunn, 1988). We can assume that it is primarily from this experiential context that children develop self-identification or *categorical self-concept* as defined above.

The social life of children is made up of novel attachments, intimacy, and self-defining social affiliation, beyond the first family bonding or attachment to primary caretaker(s) (Bowlby, 1969/1982). But it is also a life made of conflicts, prejudices, and fears, particularly the fear of being rejected and not recognized by others (Rochat, 2009). In this context, *self-assertion*, or the need to affirm and make room for self in relation to others, plays a central role in shaping and driving self-concept development.

### Assertion of the Personified Self in Development

In an intriguing study performed some years ago, researchers asked a sample of over 500 U.S. third- to sixth-graders (8- to 11-year-olds) to fill in a 16-item self-report questionnaire assessing their subjective experience of *loneliness* and social dissatisfaction (Asher, Hymel, & Renshaw, 1984). On a 5-point scale, children were asked to assess the relative truth of statements such as “I am lonely” or “I feel left out of things.” The authors found that over 10% of all children, independently of age or sex, reported strong feelings of loneliness and social dissatisfaction. Validating this self-assessment, the reported feelings of loneliness and social dissatisfaction were significantly correlated with the sociometric status of the child based on peer assessment.

This study shows how much self-conceptualizing in children, particularly its content, depends on perceived popularity and peer recognition. It also shows how self-conceptualizing in development is more than a cognitive exercise: it often involves the objectification of social strength and fragilities, the relative situation of the self in relation to others.

Self-conceptualizing is indeed primarily the process by which we situate ourselves in relation to others: how close or how estranged we are in relation to others, what impact and power we have on others. In this respect, children show us that conceiving ourselves might serve a primary social function: the function of asserting who we are in relation to others, an important process by which we capture identifiable characteristics that shape our behaviors, intentions, and social decisions.

Early on, and from the time children are able to objectify themselves as persons, the content of these (p. 393) identifiable characteristics (what they are ontologically) is mainly determined by how they compare to the perceived and represented (belief) characteristics of others. This is evidenced by the inseparable development of self-conceptualizing and

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the early formation of *gender identity* and *social prejudice*, the way children construe their relative *affiliation* to particular others by ways of self-inclusion and group identification, as well as by social exclusion: the necessary counterpart of any social identification, affiliation, or alliance (Dunn, 1988; Nesdale et al., 2005).

Extending the original cognitive-developmental work of Kohlberg (1966) on sex-role concepts and attitudes, researchers observe that by the middle of the third year (i.e., 31 months), children correctly identify their own gender either verbally via labeling, or in a nonverbal sorting task in which they have to match their own picture with the picture of other male or female individuals (Weintraub et al., 1984). Interestingly, the degree of gender identity expressed by 3-year-olds depends on parental characteristics. Weintraub and colleagues found that, compared to other parents, fathers who have more conservative attitudes toward women, who tend to engage less in activities that are stereotyped as feminine, and who score low on various femininity scores have children scoring *higher* on the sorting and labeling gender identity task. This finding is consistent with the role of social experience with more or less highlighted parental sex-role differences in determining the onset of gender identity in development.

In relation to social prejudice, research investigating children's social identity development suggests that, contrary to gender identity, it is only by age 4 to 5 years that children are aware of their own *ethnic and racial identity*. They begin to show identification and preference for their own ethnic group. They are also aware of the relative status of social groups they might or might not belong to, preferring affiliation with majority (e.g., white Caucasian) rather than minority groups (e.g., Latino or African-American).

Early on, children derive self-esteem, and hence a conception of self-worth, from group membership and group status. According to Nesdale (1999, 2004), ethnic and racial preference manifested by 5-year-olds is based on a drive to assert their own ingroup affiliation, and not yet focusing on the characteristics of outgroup members that they would eventually discriminate or exclude. Social prejudices, whereby some children might find self-assertiveness in focusing on negative aspects of outgroup members, are manifested in development beyond the early ethnic preference phase of young children, no earlier than 7 to 8 years of age based on Nesdale's research and interpretation.

From 7 years of age, children's sense of social affiliation determines their self-identification in relation to others. The norms of the group they feel affiliated with lead them to apply particular rules of inclusion or exclusion that determine stereotyped judgments and attitudes toward others. These include ethnic and racial prejudices that are shown to be exacerbated in situations of competition or threat from an outgroup (Nesdale, Maass, Durkin, & Griffiths, 2005). From this age on, the social dynamic of group affiliation plays a significant role in how children conceive of themselves in relation to others, particularly in relation to a selected group of individuals they identify with. In a complementary way, they also begin to specify themselves by disassociation with outgroup members, expressing prejudices and attitudes of exclusion toward them (Nesdale et al., 2005).

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From 7 years on, the self and social identity begin to be conceptualized on the basis of combined social affiliation and exclusion processes. These combined processes are contrasting or “bringing out” the self *positively* by association with some persons and *negatively* by dissociation with other. From then on, children are subject to group norm influences. They begin to construe their own person through the looking glass of the group they affiliate with, as well as the members of other groups they exclude. In this dual complementary process, combining affiliation and contrast or opposition to selected others, children manifest new ways of asserting and specifying who they are as persons, for themselves as well as for others.

In summary, social psychology research on identity development, particularly the origins of social prejudice and attitudes, reveals an important aspect of self-conceptualizing in development. This aspect is the process by which children eventually establish and assess their own situation and value in relation to others by combined affiliation and opposition. It reveals how children develop self-concept ultimately to recognize and situate themselves in relation to and through the evaluative eyes of others (see Rochat, 2009, for further discussion of this idea).

Self-esteem or the construal of self-worth depends on such a process. It is an eminently social process that plays a major part in self-concept development from the time children start to conceive (p. 394) of themselves as *persons*, from the time the self is measured against social norms and standards and conceived as a moral entity among other moral entities.

## Summary and Conclusion

In this chapter, I tried to capture major changes as well as determinants in the development of self-conceptualizing. I suggested that from being implicitly aware of their own body from birth, children become capable of objectifying themselves and eventually construing who they are as persons in relation to others as well as shared social norms. I captured and referred this development to three major steps, each corresponding to what I construe as three layers of meaning about the self. Following the “onion metaphor,” in development these layers of meaning would grow on top of each other like three large peels.

From approximately 3 years of age, the concept of self is constituted by these three levels, each growing as a function of experience and maturation, particularly social experience and physical growth, including the growth of postural and bodily capacities as well as accompanying brain changes (not alluded to in the chapter, but see Kagan [1989] for a more detailed brain maturation and biologically oriented interpretation of self-awareness in development).

As children grow and develop new capacities for action and a sense of shared experience with others, they also develop new ways of construing what they are as embodied, and eventually categorized, represented, compared, and evaluated *selves* in relation to *others*.

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The main idea conveyed in this chapter is that self-concept and self-conceptualizing in development is inseparable from children's developing concept and conceptualizing of others as differentiated and sentient entities that can judge and reject them, with whom the child has to live and share resources.

From the organized experience of an embodied self expressed from the outset (minimal self), children eventually recognize the self as an object of thought and representation (objectified self). Self-objectification, emerging from approximately the middle of the second year, is not just the expression of a new solipsist, self-reflective cognitive skill. It is a process whereby children make themselves public to themselves as well as to others. It is the prerequisite for the development of the child's conception of self as a person, literally the image or mask of "Me" projected and presented to the outside social world, controlled and managed by the child himself or herself via processes such as emotional display rules, deception, role adoption, or exaggerated effusion (personified self).

The personified sense of self emerges from the new consideration by children of social standards and norms against which they begin to compare and measure their self-worth. With the personified self expressed from approximately the middle of the third year, children manifest new kinds of emotions, so-called "self-conscious" emotions, in particular shame, guilt, and pride, but also hubris and contempt. They all capture a new subjective experience arising from some assessment of the self in relation to others, whether they are present or in imagination via social standards that the child starts to internalize (e.g., how things should be and should be done; the stigma of success or failures; the sense of reputation; the sense and values of higher or lower social status).

Developmental research on self-description and social self-identity demonstrates that from the time children objectify themselves and develop as persons, a major aspect of self-concept, possibly even its major function, is *self-assertiveness*: the assertion of self in relation to others. First explicit self-descriptions as enduring and permanent entities revolve around not yet articulated, discrete identifiable characteristics of the self regarding skills, possessions, power, or preferences. Frequently, as shown by Susan Harter and colleagues, they entail unrealistically positive valuations of the self, representations that contrast and assert the self in relation to others. By 7 to 8 years of age, children become more balanced in describing themselves and more subtle in branding the self, weighing opposite characteristics that can coexist and fluctuate in their expression over time.

Finally, I tried to show that self-conceptualizing in development should not be considered exclusively as a self-contained, "internal" process. Rather, it is a process ultimately geared toward and in response to the outside world, particularly the social world. In the context of the ongoing philosophical debate about the origins and content of the self that I briefly outlined at the beginning of the chapter in order to stake the debate and provide some historical background, I defended a view that is more externalist than internalist.

The self does exist and is a real phenomenon as an experience and psychological representation. It develops following a certain order in the ontogenetic unfolding of various levels of meaning making. If we look for causal explanations, I would say that it is more

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likely that this development is triggered by the constraints and basic need of the individual to (p. 395) be recognized by others, even selected others, and to maintain affiliation with them (Rochat, 2009).

In terms of proximal psychological mechanisms, my intuition is that self-concept development is more likely driven primarily by external (social) rather than internal (e.g., introspective skills or maturation) factors. This is most evident when considering the influence of the group on an individual's self-conception, the expression of social attitudes and burgeoning prejudices of children from approximately 7 years of age.

With prejudices and social stereotypes, children express self-assertiveness and an explicit concept of who they are via *social contrasting*, a process that combines affiliation (identification) with selected individuals as well as its necessary counterpart: the rejection of others. As children develop to construe themselves as persons; when they begin to compare and recognize themselves by transcending the minimal embodied experience in perception and action that is a given from birth; when they begin from the third year to conceptualize and measure themselves in reference to social norms; and finally, but not least, as they develop a social identity by group affiliation and rejection, what children achieve ultimately is to become not only self-conscious, but also *conscientious* individuals. Ultimately, children develop to conceptualize themselves as principled and moral persons in relation to others.

As philosopher Charles Taylor reminds us: "What we are constantly losing from sight (here) is that being a self is inseparable from existing in a space of moral issues, to do with identity and how one ought to be. It is being able to find one's standpoint in this space, being able to occupy a perspective in it" (Taylor, 1989, p. 112). In relation to self-concept, children develop ultimately to find and define their own perspective in this space.

## Questions for Future Research

1. What is the link between the development of self-concept and the development of theories of mind or folk psychology?
2. What drives self-concept development and what accounts for interindividual differences?
3. What is the relation between individual temperament profiles documented in the early months and the development of self-concept?
4. Is there a link between early attachment and the development of self-concept?
5. What is the impact of culture on children's self-concept development (cultures, for example, that tend to emphasize either the value of autonomy and independence or in contrast the value of interdependence)?

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