# Possession and morality in early development

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## Abstract:

From the moment children say "mine!" by 2 years of age, objects of possession change progressively from being experienced as primarily un-alienable property (i.e., something that is absolute or non negotiable), to being alienable (i.e., something that is negotiable in reciprocal exchanges). As possession begins to be experienced as alienable, the child enters "moral space", a socially normative and *evaluative* space made of perceived values that are either good or less good, and where accountability and reputation begin to play a prominent role. The aim of the article is to show the close developmental link between possession and morality.

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#### Possession and morality in early development

The development of a moral sense in children finds a particularly rich soil in the early inclination to possess and appropriate things to the self. The reason is that possession, more often than not, leads to conflicts that need to be resolved to sustain social life.

The goal here is to outline the way young children from various cultural backgrounds develop a sense of ownership and entitlement over objects and people, and how such development correlates with and possibly causes the emergence of a moral sense.

Conflicts over possession and entitlement are pervasive in the whole animal kingdom, from mockingbirds, to hermit crabs, and obviously to any mammalian species. We are constantly fighting over territory, sexual partners, food, or any other resources that are scarce and have to be shared. What is arguably different in humans, however, is that such conflicts tend, most of the time, not to be resolved just on the basis of the "lion's share" principle, i.e., the coercion of the strongest and the fittest. This is not to say that transcending of the lion's share principle is unique to humans. Other animals show signs of it (see De Waal, 1998), but such transcending is particularly pronounced and explicitly promoted in all human cultures.

Human cultures evolved common principles and laws (institutions) that try to harness the raw dynamic of the jungle's law. The major function of human cultures is to regulate possession according to explicit principles that enforce the distribution of resources, beyond the raw coercive force of natural selection.

All human cultures prescribe what are the rights and privileges of ownership (who "ought" to own what). Such regulation is transmitted and modified from generation to generation and children have to harness their own proclivity to possess, by learning the rules and practices of the cultures in which they grow.

#### **Brief outline**

First, I will argue that there is an innate propensity to possess in children. What is proposed is that this propensity is probably the major mechanism by which children develop a moral sense, eventually the normative sense of what is right and what in wrong within their parental culture.

In support of this argument, I outline developmental changes in the psychology of possession that emerge between birth and 5 years of age. Six levels of possession are distinguished, unfolding from birth on. I will show that possession develops from being un-alienable (i.e., absolute or non negotiable), to being alienable (i.e., tradable and negotiable in exchanges). A crucial point in this model is that when children begin to experience possession as alienable, they are forced to enter "moral space", a socially *evaluative* space made of values that are either good or less good, and where accountability and reputation begin to play a prominent role (Taylor, 1989; Rochat, 2009).

From this point on, children have to situate themselves in a new, normative space (moral space), and begin to take an *ethical stance* toward others, as well as toward the self in relation to others. This transition marks a change in children's appreciation of others' relations to objects. I provide examples of such progressive ethical effort in 3-5

year-olds growing up in highly contrasted cultural and socio-economic environments around the world.

In all, the goal is to show that the conceptual notion of property and the moral sense deriving from it participates in the emergence of co-consciousness in children from approximately 2-3 years of age. Co-consciousness is the inclination to perceive oneself and the surrounding world *through the eyes of others* (Rochat, 2009).

#### **Introduction: Possession and moral sense**

Social life revolves around the sharing of resources that are typically scarce or "in demand". More often than not supplies are limited. This is the basic economic premise of social life, as first pointed out by Adam Smith (1776/1977). For social life to be sustainable, individuals in a group are required to have some common understanding, or at least a shared "sensibility" as to who possesses what, why some possess more than others, and in general, where possession begins and where it ends. Some closure among social participants on the issue of possession and property is thus a necessary prerequisite of any social life, the cornerstone of what can be said to warrant group cohesion and ultimately survival of the group. It also forms the root of a moral sense.

For most social animals, it appears that possession originates primarily from coercion and the tacit recognition of the lion share principle (the strongest, fittest, and most assertive has precedence in possessing over others). In contradistinction, monkeys and great apes in particular are reported to transcend the natural pervasiveness of the lion share principle (de Waal, 1996). Some individuals of these species are shown to share food, barter grooming for protection, seek alliance via reconciliation, or engage in cooperative acts while hunting and foraging by pairs or in groups.

The meaning of such observations, particularly their interpretation and whether they demonstrate some principled social reasoning and basic moral sense remain disputed (Silk et al., 2005). In contrast, one would be hard pressed to contest that humans are unmatched in their evolution of systems that formally determine who possesses what and why, and, more importantly, who *deserves and who should have it*. As diverse as human cultures are, all have in common institutions that formally sanction possession, from oral myths, etiquette, to honor codes, and courts of law.

These cultural institutions are "sedimentation" of practices that evolved over generations providing guidance and shared collective principles in the just distribution of resources. They dictate some sense of what is right and what is wrong in possessing and sharing available resources, not motivated by fear, avoidance, or sheer dominance. They provide norms for agreements to be reached in the just distribution of property among group members.

A good measure of the need for the basic cultural sanction of possession is the fact that 6 of the 10 Commandments in the Old Testament pertain to the issue of possession and property: *Thou Shalt Not Covet, Not Steal; Not Kill; Not Commit Adultery; Not Bear False Witness; or Have No Other Gods.* All 6 have something to do with protecting what should be one's own: life, wife, body, or truth. The question of what determines possession is an issue that is at the core of social life.

From antiquity onward, all great Western philosophers grappled with the issue of possession and property. It is also at the center of Eastern philosophies (i.e., all forms of Buddhism) that aim at the dilution of self with the world by primarily abandoning attachment to possessions. Philosophers and metaphysicians ask: what determines and

constitutes the essence of possession? What is owned or what can be claimed as such? What is it that I claim is mine as opposed to others? In psychological terms, these questions translate as: What are the mechanisms leading to the sense of possession, the claim of ownership, and eventually the notion of property?

Developmental psychology can illuminate these perennial questions in a new way, providing some natural grounding for what might be the constitutive elements of possession in general, and claimed ownership and the notion of property in particular. With that in mind, I describe next the various kinds and levels of possession manifested by children in their development. The proposed developmental road map (model) outlines 6 levels that unfold in a chronological order between birth and 5 years of age. It represents a natural history of possession in early human development.

## Six levels of possession unfolding in early development

Table 1 below summarizes the proposed developmental model. Six levels of possession are distinguished, in the chronological order of their emergence between birth and 5 years. Associated with each level are corresponding "kinds" of possession (the presumed psychological nature of possession at this level), as well as the corresponding subjective "self-experience" of possession the child might have at this level and the "process" or mechanism determining such experience.

What changes from one level of to another, is the psychological meaning of possession, one new meaning not erasing the preceding, but rather adding a new one, thus expanding the range of experience and ways of enacting possession. As a function of age, this range expands primarily because of growing social and cultural pressures regarding certain practices that parallel the growing autonomy of the child (e.g., practices of

sharing, fairness, reciprocation). Children have to adjust and abide by these practices in order to control and regulate their situation in relation to others, a situation in which they become increasingly accountable for what they do or don't do. Social inclusion and basic affiliation needs would be the major factors driving such development.

The model assumes that each new level necessarily builds and leans on all those that preceded it, starting with the innate and obligatory proclivity to possess that comes from the immediacy of physical contact (latching on) evident from birth. Each new level would therefore necessarily entail the preceding levels, although these might not be sufficient for its emergence. The levels co-exist: the latching propensities and the experience of comforts by newborns or the triadic sense of possession and the experience of social control emerging at 9 months continue to operate all through the lifespan, but in a larger psychological landscape. The model captures the growth of this landscape. Next, I review each of the 6 levels providing some behavioral illustrations for each.

## Table 1: Levels of Possession as they unfold early in Life

Six levels of possession in order of their age onset and corresponding psychological kind, subjective (self-) experience, and underlying psychological process. Each level is seen as *adding* to the other. In development, all these levels form *jointly* the psychological variables that determine the sense of possession, including the moral sense attached to it and becoming explicit and pre-conceptual starting 18 months of age, normative and metaconceptual by 5 years.

POSSESSION LEVEL by AGE	POSSESSION KIND	SELF EXPERIENCE	PROCESS
Implicit ownership I	Obligatory possession (Unalienable	Feeling of comfort and	Preference and orientation:
Level 1 (birth)	and Non- conceptual)	appeasing	Innate binding and latching onto
			preferred things.
Implicit ownership II	Acted Possession	Feeling of agency	Perception and action:
Level 2 (2 months)	(Unalienable and		Owning the effects on objects and
	Non-conceptual)		people of self-produced actions.
Triadic transition III	Exclusive Possession	Feeling of social control	Selective social attention:
Level 3 (9 months)	(Unalienable and Pre-conceptual)		Attachment to particular people and
			familiar things.
Explicit ownership I	Claimed Property	Feeling of assertiveness	Identification:
Level 4 (18 months)	(Unalienable and		Self-affirmation and
	Conceptual)		conceptualization
Explicit ownership II	Trade Property	Feeling of gaining	Self-maximizing
Level 5 (36 months)	(Alienable and		Recognition of trade and sharing
	Conceptual)		power.
Explicit ownership III	Ethical Property	Feeling of justice	Negotiation:
Level 6 (60 months)	(Alienable and		Recognition of shared values.
	Meta-conceptual)		
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#### Level 1 (birth)

Etymologically, possession comes from the Latin word "possidere" which literally means "to sit or to put one's weight or foot over". Etymologically, it is an act of grabbing and forceful physical binding, an appropriation of an object by one's own body. Literally, it is a physical act of power over things. Inversely, and as a case in point, one is qualified as being "possessed" when dominated by an occult power. At a basic semantic level, there is something irrevocable and automatic in what is captured by the term possession.

This is the first basic level of possession expressed by newborns in their innate propensities to latch and bind onto things that are nutritious (breast) or a source of warmth and comfort (soft, skin-like objects).

Infancy research of the past 30 years provide ample evidence that we are not born just automata, simple "modular" responsive systems endowed with biologically prescribed reflexes. Rather than born lacking unity and in a disorganized behavioral state, we now know that newborns are best described as oriented and exploratory. Neonates are open loop learning systems constrained by propensities to act as a function of pre-adapted action systems that tap into the resources of the environment necessary for the child's survival outside the womb (see Reed, 1982; Rochat & Senders, 1991). These action systems include feeding (sucking), exploring (novelty preference and habituation), orienting (guiding of action toward meaningful resources), or proximity seeking (maintenance of care, warmth, and comfort). Newborns learn quickly, predict outcomes, and can be selective based on past experience. More than reflex machines, they are constantly re-defining their field of phenomenal experience in learning and becoming

more proficient in their propensities to act (Rochat, 2001). For example, immediately after birth infants show more sustained visual attention and orientation to face-like displays, compared to any other objects in their environment (Johnson et al., 1991). They discriminate and show preference for the voice as well as the smell of their mother's milk or amniotic fluid, compared to the voice, milk or amniotic fluid of a female stranger (Marlier, Schaal, & Soussignan, 1998; 1998b; DeCasper & Fifer, 1980). All these facts demonstrate that we are born orienting and discriminating in relation to particular features and objects of the environment.

The selective nature of newborns' behavior suggests that they are capable of possession in the minimal sense of grabbing, latching onto things, and forceful *physical binding*, an appropriation of an object by one's own body. Probably the most telling example of Level 1 possession is the highly predictable neonatal rooting response toward the breast or any other mouth-able objects that comes in contact with the infant's cheek. The infant tends to systematically orient toward this object with the goal of orally latching onto it (Blass et al., 1989). The oral latching of the neonate to the breast or any other mouth-able object corresponds to possession in the minimal sense proposed here. Note that this act of possession is selective, as newborns root differentially toward an external object touching their cheek compared to their own hand. They also latch less when the object is eccentric in shape compared to the biological nipple (Rochat, 1983; Rochat, 1987; Rochat & Hespos, 1997).

At this first, starting state Level, the feeling of comfort and appearing dominates the child's sense of possession.

#### Level 2 (2 months)

If newborns show forceful physical binding with selected objects in the environment, they do not show yet a clear sense that they themselves are agents of their preferential binding. Evidence of such implicit (still non-conceptual) awareness emerges by the second month after birth (*Level 2 Possession*, see Table 1).

Evidence of *owning* as a new process adding to the binding and latching of newborns emerges in parallel with socially elicited smiling in the child (Wolff, 1987), an affective response by which infants start to manifest an implicit sense that they themselves can cause changes in others: the ownership of their own actions and the effects they have in the responses of others. By 2 months, infants manifest first signs of social agency. The joy they express is more than the contentment we read in the "reflex" smiles of neonates following a good feed. It becomes contingent on the expressions of caretakers who tend to mirror and exaggerate the emotional responses of the child (i.e., affective mirroring, see Gergely & Watson, 1999; Bigelow & Rochat, 2006). By the second month, such smiles and other emotional expressions become "inter-subjective" proper, an intrinsic part of reciprocal exchanges with others.

As they begin to smile socially and engage in face-to-face proto-conversation (Trevarthen & Hubley, 1978), infants also manifest an explicit awareness that *they themselves* are causing particular events or effects on people and objects. They begin to show ownership of their perceptual and sensory-motor experiences, eventually applying it to objects as "belongings" of such experiences.

For example, two-month-olds suck differentially on pacifiers that produce contingent sounds with pitch variation that are either analog or non analog to the pressure

they produce on the pacifier (Rochat & Striano, 1999). By 3 months, infants also very rapidly learn to kick a mobile hanging over their crib, kicking then freezing to explore the result of their own kicking action (Watson, 1995).

Such explicit expressions of self-agency is not evident in newborns. In relation to possession, infants by 2 months manifest the sense of their own agency onto things. They come to develop the sense that they possess the perceptual effects of their own embodied actions. They show awareness of an ownership of the effect of their own actions. At this 2nd Level, the feeling of agency over people and things dominates the child's sense of possession.

#### Level 3 (9 months)

By the second half of the first year infants begin to manifest secondary intersubjectivity (Trevarthen & Hubley, 1978; Tomasello, 2008), communicating with others about objects in the environment. They newly engage in triadic exchanges: the developmentally fateful triangle that links self, people, and objects in the environment (Rochat, 2001).

By 9 months infants initiate in novel ways the engagement of others when, for example, they adopt a sudden still face. They clap their hands, tap, and touch the other person to re-engage her (Ross & Lollis, 1987; Striano & Rochat, 1999). They manifest explicit bouts of joint attention toward objects, starting to point and grab objects *to show to others*.

At this level, infants break away from the primary context of face-to-face exchanges, becoming referential beyond the dyadic exchanges to include objects that surround the relationship. Social exchanges become object-oriented, literally "objectified" in addition to being the expression of a process of emotional co-regulation.

In relation to possession, what is new is the fact that from then on, infants willfully try to capture and control the attention of others in relation to themselves by using objects they capture in the environment, either physically or by gesturing toward them. They begin to check back and forth between the person and the object they are

playing with (Tomasello, 1995); or they begin to bring an event to the attention of others by pointing or calling for attention to share the experience with others.

What is new is that infants use objects to gain control over their social environment, to gain attention from others, increasingly enticed to share experience with others. They also concomitantly develop a new sense of others as equal possessors. With this development, the child learns the social power of capturing and possessing objects. It is the power to gain social recognition and attention from others. This corresponds to a third "triadic transition" level of possession that unfolds in early development.

By the time infants (approximately 9 months) start to engage in triadic exchanges and demonstrate secondary inter-subjectivity, they also start to manifest a new fear of strangers, what Spitz (1965) labeled the "8 month anxiety". Such fear is expressed by the ostentatious display of clinginess and exclusivity toward the mother or the primary caretaker. Infants start to call for rescue, seek refuge, and are quick to protest when they feel threatened to lose her attention, another expression of their attachment.

By this age, infants become remarkably astute in detecting their mother as object of exclusive predilection and attachment. For example, by 7-8 months, infants have the new capacity to discriminate their mother from a female stranger only based on the way she moves her head while gently talking on a video were contrast is inversed, making facial cues almost unusable (it is very difficult to recognize anybody on a negative photograph). They learned the particular motor signature of her head in motion, when all other cues are controlled for (Layton & Rochat, 2007). By 8 months, infants develop a sophisticated ability to track their object of love.

Interestingly, at around the same time (end of the first year) infants begin also to manifest a sense of exclusive possession toward specific objects, what Donald Winnicott (1982; 1989) coined as "transitional objects". For Winnicott, such objects of attachment are a psychological substitute to the mother and the control of her presence. Such exclusive possession helps the child to cope with separation, particularly when the child starts to crawl and walk, achieving new autonomous ways of roaming and exploring the world away from the secure base of the mother (Bowlby, 1969/1982). This level of possession is "pre-conceptual" because, unlike Level 1 or 2 possession that are non-conceptual, it is the source of clear and newly explicit categorization of objects and

people for which infants start to have exclusive "fetishist" predilections, commonly turning into "fetishism" as in the case of transitional objects. On the other hand, it is not yet fully conceptual because it is still limited in its range, primarily focusing on the mother, at least in the Western context of an intact nuclear family environment.

At this 3rd Level, a feeling of *social control* would dominate the child's sense of possession and "exclusivity" over certain things. Simultaneously, children also learn about others' sense of possession by how they use objects to exert power and control over them in the context of triadic exchanges (e.g., joint attention via pointing, gazing, demonstrating, requesting, offering, or teasing).

The triadic transition occurring at 9 months is instrumental in this development. It is at this point that infants discover the power of possessed objects in enabling them to gain social attention (emergence of joint attention and secondary intersubjectivity).

#### Level 4 (18 months)

From the middle of the second year, children begin to explicitly recognize themselves in mirrors, for example reaching for a mark surreptitiously put on their faces that they discover while looking at their mirror reflection (Amsterdam, 1972; Lewis & Brooks-Gunn, 1979). By 21 months, as children become proficient speakers and as the volume of their vocabulary explodes, their mouth also becomes full of personal pronouns and adjectives like "I", "Me", but also "*Mine!*" (Bates, 1990; Tomasello, 1998).

Beyond attachment and explicit exclusivity expressed toward familiar persons, including "transitional" objects, by 2 years children (at least in an industrial Western culture like the US) start to claim possession of most things they feel threatened to lose, particularly in a situation where they have to compete with playmates or siblings. Such behavior is part of the so-called "terrible two's", a period marked by frequent tantrums

and fights to possess things, aside from common stubbornness and the inclination to take off in order to escape control, monopolize attention, and ultimately gauge their own situation in relation to others.

Level 4 possession can be seen as a re-description of what happened at Level 2, but applied to objects instead of actions (owning objects instead of owning the effects of embodied actions shown at 2-months). By 18 months, the child applies what he established at Level 3, namely the power of objects to control social attention. Now, the child literally *incorporates* this power to the self by claiming that it is "*mine!*", also meaning that it is "*not yours!*".

What is new at this level is that the child explicitly projects herself into the object, identifying with it. "That" object is now publicly recognized as an extension of "Me". As opposed the preceding levels of possession, Level 4 is conceptual in the sense that the possession is recognized and explicitly identified as extension of the self. Because it is recognized and publically identified, possession is now elevated to the new conceptual level of *property*. The affirmation of self and the identification of "Me" as proprietor of the object characterize this new level of possession.

The trademark of Level 4 possession is thus the absolute, self-proclaimed identification of the child as proprietor. The claim possession is *self-elevating* and *self-magnifying* in relation to others. When the child begins to say "*Mine!*", it is primarily self-asserting, the primary message being that it is nobody else's.

At this 4<sup>th</sup> Level, the feeling of self-assertiveness dominates the child's subjective experience of possession as property, still construed by the child as un-alienable.

It is only progressively that the child will develop the central notion that objects that are possessed gain additional social power by being brought into a space of exchange. This is the major progress emerging with the last 2 levels of possession.

#### Level 5 (36 months)

Based on recent research on sharing in preschool children from various cultures and socio-economic backgrounds, the transition from un-alienable (absolute) to alienable (trade-able) possession occurs universally starting 3 years of age (Rochat et al., 2009).

The notion of possession, from being, by the end of the second year, primarily a claim of un-alienability and self-edification (Level 4), becomes alienable and shareable. Children discover the social power of possession in the context of exchanges (Faigenbaum, 2005).

When asked to share possession of valuable goods (e.g., food or toys), 2 year-olds often experience it as a loss and a threat. They show resistance. Potential returns or exchange are under their radar, not yet a considered option. Things change by 3 years. Children understand exchange and trading. However they start with a marked trend toward self-maximizing gains in such trades (a lot for me and a minimum to others). This starting trend appears universal, even if it is more or less prevalent across cultures (Rochat et al., 2009). If children do understand the alienability of possession, there are still remnants of the absolutist, unalienable sense of possession characterizing Level 4.

For example, in one study we enticed 3 year-olds to barter some stickers from their collection, to obtain a much more valuable sticker from the Experimenter (bigger, much more colorful and fancy). If the child accepted, the Experimenter asked her to make

a bid. Following the procedure, the Experimenter then turned down the child's bid, asking the child to make another one. What we find is that the 3 year-olds often make a second bid that is unchanged compared to the first one. They do not demonstrate an understanding of trading and what it would take to eventually conclude the exchange (i.e., make a different, higher bid; Rochat, Winning, & Berg, in preparation).

Three year-olds do understand sharing, but are not particularly inclined to practice it. They develop the notion that possessed objects can be given or exchanged, but their motive is strongly biased toward self-maximizing gains.

In one study we ask children to split 7 or 8 candies between themselves and an experimenter, distributing the candies in their respective containers. After a few rounds, the Experimenter then told the children that they are going to continue the sharing, but this time with a change of rule: the child now has to make two piles of candies, the experimenter choosing which pile she wants (biblical or "perfect sharing" condition). We found that 3 year-olds are significantly more equitable in their distribution in the perfect sharing condition compared to the one where they distribute the candies (Rochat et al, 2009). This result clearly shows that children understand sharing, thus the alienability of what is possessed, but are very astutely guided by an absolute drive toward the self-maximizing gains. At this 5<sup>th</sup> Level, the feeling of gaining dominates the child's sense of alienable possession.

#### Level 6 (60 months)

Level 6 of explicit ownership unfolds by 5 years with the development of ethical possession. The novelty of this Level is that children understand and experience possession at a meta-conceptual level. They now factor what others might feel and think

while trading with them. Children not only possess something that they construe as potentially tradable, hence alienable (Level 5), but also that a possession as property can be given or exchanged based on what other people want or need. They develop an explicit sense of justice. They also develop a sense of fairness that they assume is shared with others and should rule exchanges.

At this level, children are less inclined to self-maximize when asked to share and consider what might be fair or "just" between themselves and another individual, or between third party protagonists. For example, we found that children become explicitly selective in how they distribute resources between dolls that are described as either rich or poor, already possessing a lot, or little. By 5 years, children across cultural backgrounds (US, Brazil, Japan, Samoa, or Vanuatu) tend systematically to favor the poor doll (Rochat, Lawler, & Berg, in preparation).

Level 6 possession emerges in parallel with the development of theories of mind when children begin to construe the belief and knowledge of others, whether for example their beliefs are correct or false (Wellman, 2002). The development of theories of mind is robust and synchronous across cultures. Five year-old children from all over the world understand that other people can hold false beliefs (Callaghan et al., 2005). At 3 years (Level 5), very few do so.

The development of theories of mind ability is necessary for any negotiation of value in the trading of property to take place. Agreements on "what is worth what?" and "who deserves what?" can only be reached if the protagonists have an ability to anticipate with appropriate accuracy what is on the mind of others (what they want and think, what

they might need, or how attached they are to their possessions; i.e., some accurate theories of mind).

For example, five-year-olds become significantly more flexible in the bartering exchange of stickers, willing to raise or at least change their bid if it is turned down by the experimenter (see above, Rochat, Winning, & Berg, in preparation). At Level 6, children construe possession as alienable, but at a novel "co-conscious" level that factors not only self-experience, but also the feelings, thoughts, and experience of others (Rochat, 2009). At this last Level, the feeling of justice dominates the child's sense of alienable property.

#### Conclusions and summary: morality and possession in early development

Possession is deeply rooted in development, as it is deeply rooted in evolution. It is a central psychological issue expressed from birth. I tried to show that the psychology surrounding possession changes rapidly between birth and 5 years, following a chronology of 6 major Levels. More Levels could be distinguished based on a different and finer analysis. However, the developmental model presented here points to what I proposed are the major changes in children's experience of possession, from being implicit and unalienable, to becoming explicit and alienable property.

The triadic transition occurring at 9 months is particularly instrumental in this development. It is at this new Level that infants show first explicit signs of exclusive possession (stranger anxiety and transitional objects). It is also at the same time, not haphazardly, that infants discover the power of possessed objects in enabling them to gain social attention (emergence of joint attention and secondary intersubjectivity).

From gaining social control they also gain the affirmation of who they are by claiming property at the next level (Level 4). However, the claimed or identified, hence conceptual property by 18 months, brings with it much conflict and social tensions because it is still unalienable for the child. It is only at the next two levels (36 and 60 months approximately), that children, constrained by the necessities of social exchanges, understand the additional social power that one gains by trading property.

Possession as property becomes alienable, and this opens up a whole new horizon of social cognitive progress, including the emergence of an explicit moral sense. Starting 5 years of age, and contingent with the development of theories of mind capacity, children develop the sense of possession as ethical property. At this final level, children experience possession with the feeling of what is right and what is wrong. They begin to take an explicit ethical stance toward who should own what and why.

In conclusion, it appears that the innate inclination to latch on and desperately try to possess objects by assimilating them to the embodied self (via incorporation) might be the major source of the moral sense that children eventually develop when they reach school age.

The instinct to possess is obligatory, yet it is incompatible with a social harmony. Children transcend the dominance of coercive lion share principles that are pervasive in the social life of animals. Between birth and 5 years, they learn the social benefits of possessing, not just to defend and hold on to things, but to trade and exchange based on a shared understanding of practices and values.

If the ultimate benefits of the ethical stance that children take starting age 5 are obvious, the proximate mechanisms driving children in this development from birth

remain largely unexplored. Much more empirical research is needed in this area that would illuminate both the origins of possession and morality as a consequence of it.

#### References

Amsterdam, B. (1972). Mirror self-image reactions before age two. *Developmental Psychobiology*, *5*, 297-305.

Bates, E. (1990). Language about me and you: Pronominal reference and the emerging concept of self. In D. Cicchetti & M. Beeghly (Eds.). The Self in Transition: Infancy to Childhood. (Pp. 165-182). Chicago: University of Chicago Press.

Bigelow, A.E. & Rochat, P. (2006). Two-Month-Old Infants' Sensitivity to Social Contingency in Mother–Infant and Stranger–Infant Interaction. Infancy, 9(3), 313-325.

Blass, E., M., Fillion, T., J., Hoffmeyer, L., B., Metzger, M. A., & Rochat, P. (1989). Sensorimotor and motivational determinants of hand-mouth coordination in 1-3-day-old human infants. Developmental Psychology, 25(6), 963-975.

Bowlby, J. (1969/1982). Attachment and Loss. New York: Basic Books.

Callaghan, T.; Rochat, P.; Lillard, A.; Claux, M. L.; Odden, H.; Itakura, S.; Tapanya, S.; Singh, S. (2005). Synchrony in the Onset of Mental-State Reasoning: Evidence From Five Cultures. Psychological Science. Vol 16(5), 378-384.

DeCasper, A. J., & Fifer, W. P. (1980). Of human bonding: Newborns prefer their mothers' voices. *Science*, 208(4448), 1174-1176.

Faigenbaum, G. (2005). *Children's Economic Experience: Exchange, Reciprocity, and Value*. Buenos Aires: Libros EnRed.

Gergely, G., & Watson, J. S. (1999). Early socio-emotional development: Contingency perception and the social-biofeedback model. In P. Rochat (Ed.), *Early social cognition: Understanding others in the first months of life* (pp. 101-136). Mahwah, NJ, USA: Lawrence Erlbaum Associates, Inc., Publishers.

Johnson, M., Dziurawiec, S., Ellis, H.D., & Morton, J. (1991). Newborns'preferential tracking of face-like stimuli and its subsequent decline. *Cognition*, 40, 1-19.

De Waal, F. (1996) *Good Natured: The origins of right and wrong in humans and othr animals.* Cambridge (MA): Harvard University Press.

Layton, D. & Rochat, P. (2007). Contribution of motion information to maternal face discrimination in infancy. *Infancy*, Vol. 12(3), 1-15.

Lewis, M. & Brooks-Gunn, J. (1979). Social cognition and the acquisition of self. N.Y.: Plenum Press.

Marlier, L., Schaal, B., & Soussignan, R. (1998). Neonatal responsiveness to the odor of amniotic and lacteal fluids: A test of perinatal chemosensory continuity. *Child Development*, 69(3), 611-623.

Marlier, L., Schaal, B., & Soussignan, R. (1998b). Bottle-Fed Neonates Prefer an Odor Experienced in Utero to an Odor Experienced Postnatally in the Feeding Context, *Developmental Psychobiology*, 33:133-145.

Preston, S.D. & deWaal, F.B.M. (2002). Empathy: Its ultimate and proximate bases. Behavioral and Brain Sciences, 25, 1-72.

Reed, E.S. (1982). An outline of a theory of action systems. *Journal of Motor Behavior*, 14, 98-134.

Rochat, P. (1987). Mouthing and grasping in neonates: Evidence for the early detection of what hard or soft substances afford for action. *Infant Behavior and Development*, 10, 435-449.

Rochat, P. (2009) *Others in Mind – The social origin of self-consciousness*. N.Y.: Cambridge University Press.

Rochat, P. (1995). *The Self in Infancy: Theory and Research*. Amsterdam: North-Holland/Elsevier.

Rochat, P. (2001). The Infant's World, Cambridge, Harvard University Press.

Rochat, P., Dias, M.D.G., Guo L. MacGillivray, T., Passos-Ferreira, C., Winning A., Berg, B. (May 2009). Fairness in distributive justice by 3- and 5-year-olds across 7 cultures. *Journal of Cross-Cultural Psychology*, Vol. 40, Number 3, pp. 416-442.

Rochat, P. & Hespos, S.J. (1997). Differential rooting response by neonates: Evidence of an early sense of self. *Early Development and Parenting*, 6(3-4): 105-112.

Rochat, P., & Senders, S.J. (1991). Active touch in infancy: Action systems in development. In M.J. Weiss & P.R. Zelazo (Eds.), *Infant attention: Biological contraints and the influence of experience*. NJ: Ablex Publishers, 412-442.

Rochat, P. & Striano, T. (1999). Emerging self-exploration by two-month-old infants. *Developmental Science*, 2:206-218.

Rochat, P., Winning, A., & Berg, B. (in preparation/submitted). Increasing flexibility in bartering in the development of 3-5 year-olds.

Rochat, P., Lawler, J., & Berg, B. (in preparation/submitted). Distributive justice in 3-5 year-old children across 5 cultures (US, Japan, Brazil, Samoa & Vanuatu).

Ross, H.S., and Lollis, S.P. (1987). Communication within infant social games. *Developmental Psychology*, 23, 241-248.

Silk, J. B. Brosnan, S.F., Vonk, J., Henrich, J., Povinelli, D., Lambeth, S., Richardson, A., Mascaro, J., and Shapiro, S. (2005) Chimpanzees are indifferent to the welfare of unrelated group members. *Nature* 437: 1357-1359.

Smith, A. (1776/1977). *An Inquiry into the Nature and Causes of the Wealth of Nations*. Chicago: University Of Chicago Press.

Spitz, R.A. (1965). The first year of life: a psychoanalytic study of normal and deviant development of object relations. New York: Basic Books.

Striano, T. & Rochat, P. (1999). Developmental link between dyadic and triadic social competence in infancy. *British Journal of Developmental Psychology* 17(4): 551-562.

Taylor, C. (1989). *Sources of the Self: the making of modern identity*. Cambridge: Harvard University Press.

Tomasello, M. (1995). Joint attention as social cognition. In C.J. Moore & P. Dunham (Eds.), *Joint attention: Its origins and role in development*. Pp. 103-130. Hillsdale, N.J.: Lawrence Erlbaum Publishers.

Tomasello, M. (1998). One child early talk about possession. In J. Newman, (Ed.). *The Linguistic of Giving*. Amsterdam: John Benjamins.

Tomasello, M. (2008). *Origins of Human Communication*. Cambridge (MA): M.I.T. Press.

Trevarthen, C. and Hubley, P. (1978). Secondary intersubjectivity: confidence, confiding and acts of meaning in the first year. In A. Lock (Ed.) *Action, gesture and symbol*, pp. 183-239, N.Y.: Academic Press.

Watson, J.S. (1995). Self-orientation in early infancy: The general role of contingency and the specific case of reaching to the mouth. In P. Rochat (Ed.), *The self in infancy: Theory and research*. Advances in psychology, 112 (pp. 375-394). Amsterdam, Netherlands: North-Holland/Elsevier Science Publishers.

Wellman, H. M. (2002). Understanding the psychological world: Developing a theory of mind. In Goswami, U. (Ed.) *Blackwell Handbook of Child Cognitive Development* (Pp. 167-187). Blackwell Publishing.

Winnicott, D.W. (1982). Playing and reality. London/New York: Tavistock Publications.

Winnicott, D.W. (1989). *Psycho-analytic explorations*. Cambridge: Havard University Press.

Wolff, P.H. (1987). *The development of behavioral states and the expression of emotions in early infancy*. Chicago: University of Chicago Press.