



## 1 Chapter 24

2 **Sense of ‘sameness’ as foundation of**  
3 **infants’ embodied subjectivity and**  
4 **intersubjectivity<sup>1</sup>**

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6 **Abstract**

7 Early experience is embodied, as first proposed by Freud in his pulsion theory.  
8 More recent research show, however, that early experience is not just auto-erotic,  
9 not the expression of a primary narcissism, self-centred, and simply driven by  
10 excitation and satisfaction turned towards the own body. Current infancy  
11 research demonstrates that from the start early experience is also fundamentally  
12 *relational*: oriented towards objects, in particular the people infants rely on to  
13 survive. Here, I address the question of what kind of mechanism might drive  
14 early experience, considering that such experience is from the outset relational  
15 and cannot be simply reduced to auto-eroticism and embodied tension  
16 reduction. The idea is that the process underlying early relational experience is  
17 the innate propensity to *detect what is alike and what is not*. What underlies  
18 early experience would be the process of *detecting similarities* among things,  
19 including the inclination to experience sameness of feelings across sensory  
20 modalities (embodied ‘synaesthetic’ subjectivity) and the embodied vicariousness  
21 of experience with others (embodied intersubjectivity). There is now converging  
22 empirical evidence in support of the idea that from the outset, the detection,  
23 and eventually also the creation, of sameness in experiences with others is a  
24 cornerstone of human psychology, what William James (1890) already  
25 recognized as ‘the keel and backbone of our thinking’.

26 *Keywords*: synaesthesia; mirror systems; sameness; invariance detector;  
27 intersubjectivity.

28 **Introduction**

29 What is it like to be a baby? Is it ‘like something’? Do babies have subjective experience? Until a  
30 few years ago, the zeitgeist was to deny infants of any form of worthwhile awareness. This was not  
31 just an intellectual innuendo. In the 1940s and 1950s, surgery without anaesthesia was routinely

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<sup>1</sup> Based on ideas presented at the 10th International Neuropsychanalysis Society Conference in Paris, June 2009.



**Box 24.1 Term definitions**

*Synaesthesia*: Corresponds to the spontaneous, implicit ‘metaphorical’ experience of a sensation or percept in one modality that is simultaneously experienced in another. A synaesthetic experience might be for example, hearing the particular timber or pitch of a sound with the vivid experience of a specific colour or specific optical form.

*Mirror systems*: Brain systems that would support the phenomenological equivalence between the embodied experience of performing a specific action and witnessing of the same specific action performed by someone else. Such systems might underlie vicarious experiences with others that are foundational of intersubjectivity.

*Intersubjectivity*: Sense of shared experience with others.

*Invariance detection*: Extracting stability from changes, what remains constant and expectable across perceived events.

*Sameness*: Experience of equivalence between various subjective experience of objects, people, physical, and social events. The attunement and propensity to detect sameness in things would be foundational to how we perceive and think, in general how the mind works.

1 performed on infants and young children. Modern surgeons conveniently paralysed squirming  
2 infants by injection of curare or similar paralytic agents. Under such circumstances, adults recalled  
3 excruciating pain during surgery, but patients were not believed and the practice went on for 20 years.  
4 As pointed by Dennett: ‘The fact that most of the patients were infants and small children may  
5 explain this credibility gap’ (1981, p. 201).

AU: Is this better?

6 Less dramatic, but still revealing of the mainstream outlook on early affective life, until a few years  
7 ago, (and probably still practised in some hospitals today) local anaesthesia was not automatically  
8 used prior to routine painful procedures on newborns such as heel prick and circumcision, even  
9 by paediatricians practising in state-of-the-art maternity hospitals. Despite the fact that from  
10 birth infants cry when hungry or smile after a good feed, there has historically been a formidable  
11 resistance to attribute the rich affective and mindful life that we now know infants do have from  
12 birth, even prior to birth during the last four weeks of gestation (see Rochat, 2001 for a review of  
13 empirical evidence accumulated in the past 30 years). In this historical context, we measure the  
14 paradigm shift that Freud produced with his ‘pulsion theory’ of psychosexual development  
15 outlined in his *Three Essays on the Theory of Sexuality* (Freud, 1905/2000). When Freud took on  
16 the taboo idea that infants from birth might be driven by erotic desires that quickly prolong and  
17 transcend survival instincts evolved by the species (the taboo idea of infantile sexuality), he  
18 offered the most comprehensive account of what might drive behaviour at birth aside from  
19 conditioning.

AU: I think you mean ‘acknowledge’ here? If not, then the sentence seems incomplete.

20 Obviously, Freud’s theory was not the first published account on the questions of early experience  
21 and what it might be like to be an infant (see St Augustine’s confessions written 1600 years prior,  
22 not to mention the influential writings on education of Rabelais, Locke, and Rousseau). But  
23 Freud’s account was the most thorough and inquisitive to be proposed on what might constitute  
24 the psycho-affective forces driving behaviour at birth. This account, as we know, opened a whole  
25 new vista on what might be the constitutive elements of subjective life. As critical as we might be  
26 of Freud’s 1905 pulsion theory, we need to recognize that it pioneered an idea that is very much  
27 vindicated by current progress in both the behavioural and brain sciences. This idea is that from  
28 the outset, subjective life is ‘embodied’, grounded in the experience of the body as we perceive and  
29 act in the world. As we know, Freud pulsion theory grounds psychic life in the feeling of the body,





1 particularly certain bodily regions (oral, anal, genital) invested successively by the young child in  
 2 his or her development. At the core of this theory, there is the pleasurable quest for bodily feelings  
 3 (excitability) and its control (search and suppression).

4 The libido concept stands for the erotic force that drives psychic life from birth on, above and  
 5 beyond basic survival instincts expressed at birth in feeding, orienting, exploring, or habituating.  
 6 This force, for Freud, has a source and a goal that is somatic, grounded in bodily sensations  
 7 (Freud, 1905/2000, first essay, fifth section). Progresses in the cognitive and affective neuro-  
 8 sciences vindicate Freud's general intuition regarding the somatic grounding of psychic life, the  
 9 fact that the body is the primordial locus of exploration and meaning making. A growing number  
 10 of neuroscience research demonstrates that even higher order representational systems (categori-  
 11 zation, language, semantic memory, or theories of mind), all depend on somatic markers and  
 12 simulation of how we perceive and experience our own body in action (see Barsalou, 2008;  
 13 Damasio, 1995; Gallese, 2007, Gazzaniga et al., 1998 for a review).

14 Obviously much has changed since Freud. Current infancy research calls for a revision of  
 15 Freud's pulsion theory that is at the original core of psychoanalysis. Details of Freud's intuition  
 16 need serious reconceptualization. One Freudian idea in particular, I would argue, is not tenable  
 17 in the light of current infancy research. This idea is the assumed prevalence of infants' 'auto-  
 18 eroticism' that Freud viewed as the centrepiece of an infant's subjective life, the primary narcissism  
 19 expressed by the infant beyond survival instincts. This idea reduced the question of what it is like  
 20 to be an infant to some sort of blind, circular, non-objectified, and autistic quest towards bodily  
 21 excitation and suppression. We now know that there is much more than blind auto-eroticism in  
 22 the life of babes. In what follows, I try to develop the idea that if early experience is indeed embodied,  
 23 it is not just self-centred and driven by excitation and satisfaction turned towards the own body.  
 24 Rather, informed by current research, I suggest that from the start early experience is also funda-  
 25 mentally *relational*:<sup>2</sup> oriented towards objects, in particular the people infants rely on to survive.  
 26 Here I propose that the process underlying such early relational experience is the innate propensity  
 27 to *detect what is alike and what is not*. What underlies early experience would be the process of  
 28 *detecting similarities* among things, including the inclination to experience sameness of feelings  
 29 across sensory modalities (embodied 'synaesthetic' subjectivity) and the embodied vicariousness  
 30 of experience with others (embodied intersubjectivity). This is how and why, I will argue, early  
 31 experience needs to be considered as relational rather than primarily turned towards circumscribed  
 32 bodily tensions, release, and satisfaction ('auto-eroticism').

### 33 The idea

34 The chapter revolves around the concept of intersubjectivity, defined in the general sense of  
 35 *shared experiences with others*. The aim is to discuss what might be the *phenomenal and psychological*  
 36 *prerequisites* of the sense of shared experiences with others that infancy research documented as  
 37 emerging very early in development. We are interested in what constitutes its emergence and  
 38 manifestation at the outset of development. Based on recent infancy research, the main idea proposed  
 39 and explored here is that the ability to share experience with others rests first on an innate embodied  
 40 subjectivity and intersubjectivity, an ability of being in 'con-fusion' with crucial aspects of the  
 41 environment, particularly people. It is embodied because this ability is deeply rooted in the way  
 42 we experience the world through the body and the given its biological organization at birth.

2 The issue of whether from the outset infant psychology is relational and revolves around object relations continues to be controversial and a source of tensions in post-Freudian theorizing.





1 Embodied subjectivity and intersubjectivity is construed here as the basic ability to detect, from  
 2 the outset of psychological development, ‘vicarious’ aspects of phenomenal experience, what I will  
 3 call *perceived vicariousness*: the basic propensity to perceive the matching between what I see with  
 4 what I feel: the perceived fact that my experience of what I feel tends to match what I see expressed  
 5 by others in the way they move or stare at me. Or, even aside from people, that the way the leaves  
 6 of the tree move, pushed by the wind, or that the choreographed body of the dancer, the melody  
 7 I might suddenly hear in a coffee shop, all of these events are perceived not just as events occurring  
 8 ‘outside of me’, but on the contrary are perceived as external events experienced in *mutual resonance*  
 9 and in *mutual correspondence* with how I feel from within: whether excited, joyful, calm, or  
 10 depressed. This correspondence would give perception a crucial affective tone that is too often  
 11 overlooked by psychologists and even philosophers of the human mind.

12 The idea submitted here is that this innate ‘embodied’ subjectivity and intersubjectivity, rests  
 13 on the particular attunement from birth toward ‘sameness’, the particular ability to link invariant  
 14 features of the environment with invariant features of subjective experience.

### 15 **The primordial detection of ‘sameness’**

16 If there is one thing that we have learned in recent years by studying babies, and there has been a  
 17 huge wave of interest in studying infants in the past 30 years (Rochat, 2001), it is the fact that from  
 18 birth, infants are active in processing invariant information over changes. In their inclination  
 19 to scrutinize novelty hides a deep look for ‘sameness’. They avidly look for regularities in the  
 20 environment and this is the name of the game from the outset: we are born and built in a way that  
 21 what we are primarily preoccupied with is the detection of what remains the same in the midst of  
 22 many changes. Throughout our lives we try to establish what can be counted on and relied upon  
 23 to survive and make sense of being alive in this world. This quest is already embodied in the  
 24 neonate, and that is the built-in focus on what can be expected and trusted in a world that is by  
 25 definition constantly changing, associated with a subjective experience that is fundamentally  
 26 dynamic and changing.

27 But prior to developing these ideas, it is important to insist that the focus on *sameness* in the  
 28 environment that seems to be the core aspect of infant behaviour and development, remains a  
 29 core aspect of the human mind throughout the lifespan. I will try to show, tentatively, that it  
 30 might even be thought to be at the root of morality and the conception of justice and equity across  
 31 human cultures . . .

32 As William James (1890) wrote over a century ago:

33 The mind can always intend, and know when it intends, to think of the Same. . . . This sense of sameness  
 34 is the very keel and backbone of our thinking.

35 The idea developed in this chapter is that it is also the backbone of our very human feelings and  
 36 human experience of being alive and sentient in this world.

### 37 **Initial sensory conflation and current neuroscience**

38 The past 40 years of booming infancy research did certainly debunk a great deal of strongly held  
 39 common assumptions: that babies were born cognitively helpless and passive, their behaviour  
 40 disorganized. Prior to this research, it was not uncommon to construe infants as born blind and  
 41 oblivious of the world surrounding them, a blank slate in need of fundamental growth and learning,  
 42 often thought to be born in a vegetative state that kept them alive and tentatively able to receive  
 43 indispensable care and protection from others. These views have certainly changed but the fact  
 44 that human children are pretty helpless at birth should certainly not be overlooked, particularly





1 when comparing them with the infants of other species. These ancient views were not that coun-  
2 terintuitive after all.

3 Compared with other species, humans are indeed born too soon, greatly immature, and markedly  
4 dependent on others to survive. This is due to the combination of the proportionally larger brains  
5 we evolved as a species, together with the narrowing of the female's birth canal associated with  
6 bi-pedal locomotion, a posture uniquely evolved by our species and linked to protracted 'external  
7 gestation', namely the fact that we are born much sooner compared with other primate species.  
8 We start standing and roaming the world on our own only by 12 months and it takes many, many  
9 long childhood years to separate from one's own original niche and to become autonomous in  
10 order to reproduce this cycle of development with new progenies. The premature human birth  
11 leads to a state of protracted dependence during approximately one fifth of our life. This remarkable  
12 dependence shapes our psychology from the outset. It is a simple, straightforward fact, yet probably  
13 the major determinant of what makes us psychologically unique in the animal kingdom.

14 What the new wave of infancy research shows is not that infants are born much more mature  
15 than previously thought, but that infants are born much better equipped to tap into and exploit  
16 the prolonged state of dependence they are born in. As Bruner (1972) wrote years ago, there are  
17 'uses of immaturity' by the young child. Numerous research tapping into preferential looking,  
18 sucking, visual familiarization, violation of expectations, and other clever habituation and dis-  
19 habituation paradigms show that infants from birth are remarkably *quick to learn*. The most solid  
20 and reliable finding is indeed that healthy young infants get easily bored and are particularly  
21 inclined to seek novel information. From birth on, infants expect particular outcomes to occur  
22 based on past experiences and show a natural inclination to build up on new expectations.

23 Two-month-old babies are attuned to complex probabilistic algorithms or conditional proba-  
24 bility that one particular event will be followed by another, for example in their ability to dis-  
25 criminate among strings of speech sounds they hear successively, or the frequency of lights  
26 flashing at different locations in the environment (Haith et al., 1988; Saffran et al., 1996). Infants  
27 show all this remarkable learning ability while not having to worry about being fed, getting  
28 enough cuddling, or living in wet diapers. Their protests are typically heard while able to explore  
29 and encounter the world around in playful ways. Childhood is indeed, for the most part, a pro-  
30 longed immaturity that translates into a prolonged, socially secured and assisted opportunity for  
31 a free licence to learn and to explore, to fantasize, and to realize these fantasies in the unbridled  
32 works of children's imagination. But children's free licence to explore and to play is not just free  
33 and self-organized. It is highly constrained as demonstrated by recent findings in cognitive and  
34 affective neuroscience. I will focus on two sets of recent findings that seem particularly relevant to  
35 the topic of this chapter. The first set pertains to *synaesthesia*, and the other to the so-called *mirror*  
36 *neuron systems*.

### 37 **Innate synaesthesia**

38 As you certainly know, synaesthesia corresponds to the spontaneous, implicit 'metaphorical'  
39 experience of a sensation or percept in one modality that is simultaneously experienced in another.  
40 For example, one might experience the particular timber or pitch of a sound with the vivid experience  
41 of a specific colour, the experience of time duration corresponding to the obligatory experience  
42 of a particular spatial layout or form (Simner et al., 2006). Neuroscientists have now established  
43 the embodied (neurobiological) reality of such 'synaesthetic' experiences that according to existing  
44 surveys, are part of the life of approximately 5% of all adults (Hubbard et al., 2005; Spector and  
45 Maurer, 2009).

46 Of interest to us here is the idea recently proposed and tentatively documented in infancy  
47 research by Spector and Maurer (2009), that adult cases of synaesthesia might in fact be remnant







1 with, as expected, enhanced activity in the auditory cortex, unlike adults and children, they also  
 2 respond with enhanced activity in the visual cortex (Neville, 1995). Finally, in support of the  
 3 natural primacy of synaesthetic experience, Mondloch and Maurer (2004) show in a series of  
 4 studies that two- to three-year-old children tend to be naturally inclined to perceive the same  
 5 pitch-lightness, colour-letters, or sound-shape correspondences typically expressed by synaesthetic  
 6 adults (but also to some extent, by non-synaesthetic adults). Young toddlers tend, for example, to  
 7 perceive systematically that a higher pitch sound goes with a brighter colour; a nonsense word  
 8 made of rounded vowels goes with a jagged shape (e.g. te-ta-ke goes with a sharp edged form), or  
 9 that the letter A goes with the colour red).

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 Neville et al.?

10 In all, these few empirical examples taken from the developmental literature on synaesthesia—  
 11 and there are many others—support the idea of a highly organized intermodal and resonating  
 12 experience at birth. Early perceptual experience is made of rich sensory correspondences and  
 13 implicit 'a-modal' representations that can be said to be metaphorical because they transcend the  
 14 particularities of the sense modalities as singular perceptual systems. It is, and this is important,  
 15 an experience that carries rich conflation and correspondences, not the cognitive confusion that  
 16 has been assumed by many infancy researchers, including myself, since James' misconstrued  
 17 'blooming, buzzing confusion'. Let us turn now toward another set of findings in the neuroscience,  
 18 the recent discovery of *mirror neuron systems*, which contributes in changing the view on  
 19 the nature of early experience, in particular what might characterize phenomenal experience  
 20 at birth.

## 21 Mirror neuron systems

22 Again, you will certainly know there is now abundant empirical evidence and even precise animal  
 23 models that would substantiate the possibility of an experiential (phenomenological) equivalence  
 24 between the observation and the execution of actions. As a quick reminder, in the original experi-  
 25 ments, Rizzolatti and his team from Parma (1996) found that the responses of single nerve cells  
 26 recorded in area F5 of the premotor frontal cortex of the macaque monkey discharge equally  
 27 when the monkey itself performs a specific action (e.g. reaching for a peanut), or the same monkey  
 28 observes another monkey—or another person—perform the same action. These cells are thus  
 29 multimodal by nature, activated when a particular action is performed by the individual or seen  
 30 performed by another. This discovery has had much resonance as it might provide (although  
 31 many are still sceptical) some biological validation to the idea that there might be a deeply rooted  
 32 system matching self and others' representations, a mirroring system that could be the constitutive  
 33 element of higher order phenomena such as empathy, language learning, and in general, basic  
 34 embodied intersubjectivity, as defined at the beginning of this chapter.

35 Plausible, yet *indirect* behavioural evidence of mirror systems functional at birth is provided by  
 36 the abundant research on facial imitation in neonates, the 'matching' reproduction of facial  
 37 expression, tongue gestures, or emotional displays, actions that are seen repetitively being  
 38 performed by an adult model at close visible range and that are systematically reproduced by the  
 39 infant (e.g. Meltzoff and Moore, 1977, 1997). Such imitative responses in neonates suggest that  
 40 we are born with the necessary mechanism that would allow for the experience of an equivalence  
 41 between the perception and the execution of actions (Lepage and Théoret, 2007).

42 In William James' terminology from the quote at the opening of the chapter, infants would be  
 43 born with the opportunity to experience the 'sameness' of what is done by the self or what is seen  
 44 done by somebody else, or vice versa. Rather than in a state of cognitive confusion, infants would  
 45 thus be able from the start to experience and exploit in future learning, the *analogical link* between  
 46 the products of two different agents: something self-generated and the same thing generated by





- 1 others, in the same way that they would be able to experience the analogical link between the
- 2 varieties of sensory experiences in their incipient *synaesthesia*.

### 3 Summary

4 Much evidence shows that rather than in a state of cognitive confusion, psychic life begins in a  
 5 state of unity made of correspondences among the diverse sensory experiences that originate  
 6 from within or outside of the body. What babies express from birth, is not just the lack of all the  
 7 competencies they will eventually develop, but more importantly, they express the basic ability  
 8 that will enable them to develop such competencies, including language, humour, theories of mind,  
 9 complex thoughts, and even morality. The demonstration of an early state of phenomenological  
 10 correspondence as expressed in neonatal imitation or cases of infantile *synaesthesia* suggests that  
 11 the basic ability we might be born with and that would contribute to the development of all future  
 12 social and cognitive competencies is the *ability to sense sameness in things that are ontologically*  
 13 *different*.

14 It seems increasingly evident that we are born with the propensity and neurological support  
 15 to be attuned to the relative equivalence among things that are physically individuated and that  
 16 we are prepared to experience in their ‘sameness’: a touch or a sound, his face or my face, her  
 17 emotions or my emotions, his intention or my intentions, his beliefs or my beliefs. This might  
 18 be the major and necessary ingredient of all future development, be it cognitive or social, an  
 19 ingredient already revealed at birth. The ‘sameness of experience’ is what I would suggest *embodies*  
 20 subjectivity and intersubjectivity, particularly when considering the latter in the perspective of  
 21 development.

### 22 From detecting to creating ‘sameness’ in development

23 Between birth and two months remarkable changes occur, particularly in the social domain. By  
 24 six weeks, infants universally begin to respond to faces with smiles that are not just automatic or  
 25 linked to feeding or satiety, but that are socially elicited, taking place in face-to-face exchanges  
 26 and active emotional co-regulation. This is what is generally recognized as unmistakable demon-  
 27 stration of primary intersubjectivity or first sign of an infant’s active sense of ‘shared experience’  
 28 with others. These face-to-face exchanges are, in the broad sense, aimed at co-regulating feelings  
 29 and at creating mutual affective attunement, a *sameness of feelings* with others in a mutually  
 30 affective proto-dialogue and emotional entrainment that has been extensively documented in  
 31 the past 30 years.

32 This mutual affective entrainment is typically geared toward the maintenance and co-regulation  
 33 of a shared ‘happy’, often exuberant, state that is first initiated by the adult but is also increasingly  
 34 initiated by the infant, particularly from approximately seven months (Rochat, 2001; Striano and  
 35 Rochat, 1999). It should be noted that such co-regulation around a shared state does not require  
 36 the context of face-to-face exchanges particularly nurtured in Western industrial cultures. **It also**  
 37 **occurs via different sensory channels when a baby is carried on the back of an adult in a sling or**  
 38 **backpack, day in and day out, or on the hip of an older siblings.**

39 In general, once again, but transferred into the realm of social exchanges and intersubjectivity  
 40 with a focus on shared feelings, the name of the social game is to mutually monitor *sameness* in  
 41 affects and emotional expression, including the timing of such expression that specifies mutuality:  
 42 whether, for example, the mother is more or less responsive to changes in the emotional expression  
 43 of the infant, and vice versa, whether the infant is more or less responsive to the mother. We  
 44 now know that by two months, infants become very much attuned to this relative mutuality of  
 45 emotional responses, showing reliable negative responses when its expectation is violated as in the

AU: Is this sentence okay now?







1 case of the famous 'still-face situation' (Tronick et al., 1978). Early on, infants detect and overtly  
 2 react to the violation of mutuality expectation, in other words react to the fact that others are  
 3 not responding with *equivalent* emotional responses. What developmental research shows is that  
 4 possibly from two months, and certainly by seven months, infants create and promote similarities,  
 5 hence 'sameness' in feelings. They express the active propensity to create equivalent experiences  
 6 with others.

7 What is intriguing is that this propensity becomes what is often identified as the central piece  
 8 of cognitive and symbolic development, in particular language development. This central piece is  
 9 the emergence by nine months of so-called *secondary intersubjectivity* with the active sharing of  
 10 attention in reference to objects in the environment (i.e. joint attention; see Tomasello, 2008).  
 11 Once again here, this important development rests on the new active sense and monitoring by the  
 12 child of an equivalence (thus 'sameness') in the focus of visual attention between self and others.  
 13 The name of the game remains essentially the same.

14 The sense of sameness is the broad concept used here to capture the natural inclination already  
 15 expressed at birth to bridge experiences and draw analogies between things that are intrinsically  
 16 distinct, between physical objects, but also between self and others. The sense of sameness does  
 17 not only pertain to linking physical objects, self, and people because they phenomenally look  
 18 alike or share the same qualities. It pertains also to spatial-temporal relations among things  
 19 and probabilistic co-occurrences of events: that something entering one end of a tunnel typically  
 20 tends to reappear some time later from the other end, or that if I smile and coo towards someone,  
 21 I expect this person to somehow respond in comparable ways. As mentioned previously, research  
 22 demonstrates that these latter aspects (contingency and conditional probability detection) are  
 23 expressed very early on. They are the other expressions of infants' propensity to sense a link  
 24 between things as belonging to a same set, a same 'chunk', or category of experiences. It appears  
 25 to be all part of the embodied propensity to sense 'sameness' or equivalence (i.e. same-value or  
 26 same meaning). It is part of the analogous sense that is at the origins of concepts, symbols, and  
 27 other representational signs that *stand* for something that exists in the world as separate entities:  
 28 my own reflection in the mirror that I recognize and identify as the same as my embodied self.

29 To conclude, I will propose a major leap by suggesting that it is also the basic sense of 'sameness'  
 30 that we find somehow conceptually redescribed in the ethical stance that children develop between  
 31 three and five years of age. Detecting and creating 'sameness', in particular 'equi-valence' by the child  
 32 is at the core of moral development.

### 33 **Conclusions: 'sameness' experience and morality**

34 When young children are asked to share resources, more often than not, they do so reluctantly.  
 35 This seems to be a universal trend, yet exaggerated in some cultures as compared with others  
 36 (Rochat et al., 2009). In general, three-year-old children tend to self-maximize and hoard 'goodies'  
 37 significantly more than five-year-old children do when asked to split. So what develops?

38 Recent research suggests that what develops is a general aversion to 'inequality', hence a lack of  
 39 'sameness' in resource distribution. Fehr et al. (2008) show that increasingly, between three and  
 40 eight years of age, children prefer equal over unequal distribution of desirable goods (e.g. candies)  
 41 between themselves and somebody else, even if the unequal distribution would favour them. In  
 42 the same vein, Olson and Spelke (2008) confirm such a trend even when children are not recipi-  
 43 ents of the distribution, preferring equal as opposed to unequal distribution of goodies among  
 44 third-party protagonists. Interestingly, both the Fehr and Olson studies demonstrate that from  
 45 three years of age, children show signs of 'parochialism' in their distribution of justice. All things  
 46 being equal, children tend to favour protagonists they perceive as 'in-group' members, therefore those





1 they perceive as belonging to the same group as theirs, those being of the ‘same’ kind. Note in  
 2 passing the shared etymology of the word ‘kind’, capturing something that makes another thing  
 3 more or less comparable, and the word ‘kindness’ that captures a positive, prosocial disposition  
 4 towards others. The value of parochialism is well rooted in semantics.

5 Research shows that the early development of distributive justice as the expression of an emerging  
 6 ethical stance is linked to growing inequality aversion: the increasing tendency towards the detection  
 7 and application of a ‘sameness’ principle in resource distribution. The application of the sameness  
 8 principle (i.e. equality and equivalence) is also compounded with the other sense of sameness  
 9 expressed in the child’s growing sense of affiliation with others that are of the *same kind*, the in-group  
 10 members. The sense of ‘sameness’ is at the core of what amounts to a universal norm of equity in  
 11 distributive justice that develops from five years of age, but also at the core of social affiliation and  
 12 ultimately also, parochialism and social prejudices.

13 In a recent book (Rochat, 2009), I developed the idea that what universally drives behaviour  
 14 from birth is the search for social affiliation. It is the quest for intimacy and social comfort found in  
 15 the elusive sense of mutual recognition, a quest that I propose derives from a universal avoidance  
 16 and deep fear of being socially rejected and ostracized by others . . .

17 What would drive such system is a *basic need to affiliate with others*, what I call the ‘BAN’, an  
 18 acronym standing for ‘basic affiliation need’, a need expressed all through the lifespan. I would  
 19 add that the sense of sameness represents the *necessary constitutive element* of our BAN. In this  
 20 chapter, I tried to show that it guides behaviour and constrains the growth of the mind from the  
 21 outset. It is what is behind the social phenomenon described in this last quote from William  
 22 James (*Principles of Psychology*, 1890. p. 280):

23 Our father and mother, our wife and babes, are bone of our bone and flesh of our flesh. When they die,  
 24 a part of our very selves is gone. If they do anything wrong, it is our shame. If they are insulted, our  
 25 anger flashes forth as readily as if we stood in their place.

26 In our more mundane media world, it is also what is behind pop singer Janet Jackson’s comments  
 27 in a recent interview regarding her latest boyfriend: ‘When I see him, I see myself . . . that’s how  
 28 close we are’.

29 Similarity creation, and detection are pervasive and pervasively expressed in human lives, in  
 30 our daily embraces, dances, or shaking of hands; all culturally choreographed embodiments of  
 31 mutual agreement and shared experience, all originating from propensities that we appear to be  
 32 born with.

AU: Please  
 give the  
 source of the  
 quote.

### Box 24.2 Questions for future study/research

1. Considering that sameness detection is foundational to how the mind works from the outset of development, what kind of sameness is detected as a function of age, in particular as a function of emerging new possibilities for action and interaction with others (e.g. language)?
2. What is the exact functional link between the early propensity to detect sameness across experiences, and emerging new psychological stances in development: intersubjective stance by two months via social smiling, referential stance by nine months via joint attention, intentional stance toward others by 14 months via true imitation, ethical and moral stance from approximately three years of age via empathy and principled social acts? The question is whether these emerging new psychological stances could also correspond to radical changes in what orient sameness detection?





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