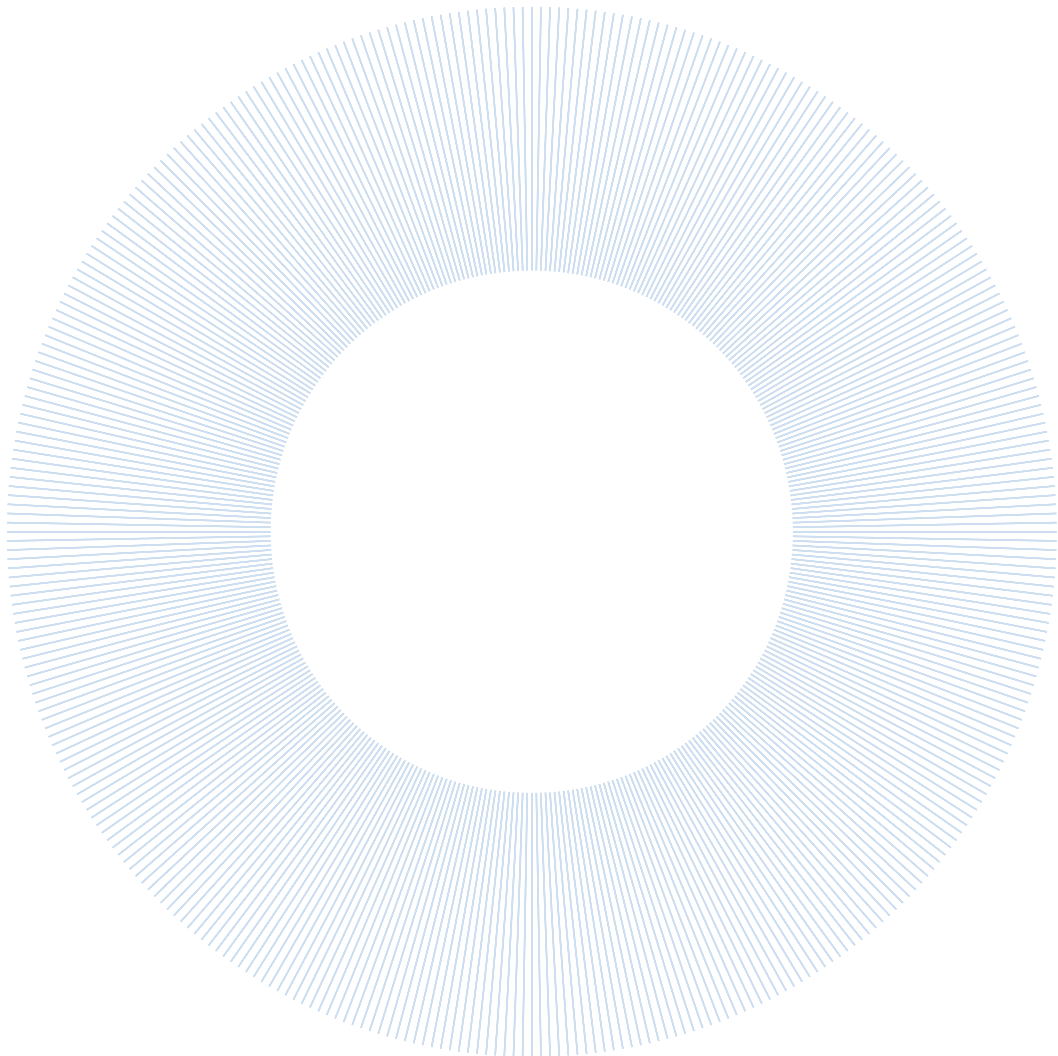


What is it Like to Be a Small Child?



Charles Fernyhough

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WHAT IS IT LIKE TO BE A SMALL CHILD?

In this paper, I challenge assumptions of continuity in inner experience between infancy and adulthood. I begin by considering some differing views about when it is appropriate to attribute phenomenal consciousness to human infants, drawing on neurodevelopmental evidence and philosophical argument. The paucity of literary depictions of the early years of human life is balanced by some recent attempts at scientifically informed speculation about infants' first-person experience. Although much is now known about the perceptual world of human infants, the inner experience of young children has received less attention. One particular reason for taking an interest in the experience of the young child is that it can inform theorising about the development of psychological capacities proposed to utilise data on one's own inner experience. Carruthers' (in press) recent theory of the development of metacognition (the understanding of one's own mental states) is considered in this respect. I examine three possible reasons why young children's inner experience may not have the necessary qualities to support Carruthers' 'mindreading is prior' mechanism. Even if young children's inner experience is not impoverished relative to our own, it is likely to be qualitatively different.



For some well-documented reasons, we can know little about our experience in the earliest years of our lives. Infantile amnesia – human beings' lack of reliable memories from the first few years of life – hinders all attempts to reconstruct the experiences of this period from the perspective of adulthood (Freud, 1963). Although toddlers become experts in their own languages astonishingly quickly, most are not linguistically competent enough at the ages of two or three to give detailed descriptions of their inner worlds. It is highly likely that these two obscuring forces are related. Recent research in children's episodic memory has pointed to a specific difficulty of recalling events in a medium (language) which were not encoded in that medium. Events that occur before the advent of effective linguistic encoding are typically lost forever (e.g., Solter, 2008).

I suspect that the status of toddlerhood as a *terra incognita* is one reason why the qualities of inner experience in early childhood have received little attention. I have framed the question in Nagel's (1974) terms, but this is not because I want to see toddlerhood as alien and its exemplars members of a foreign species. I think that the 'what is it like?' question is worth asking because of the prevalence of unwarranted assumptions about continuity in inner experience between early childhood and adulthood. For several reasons, we would be wrong to assume that the properties of experience are similar between these two developmental epochs.

This concern is related to the question of when consciousness emerges in human ontogeny, but it is not reducible to it. There remain diverse views about when it is appropriate to attribute phenomenal consciousness (Block, 1995) to a developing human being. Neurodevelopmental evidence points to the presence of the necessary neural substrates for phenomenal consciousness, particularly thalamo-cortical connections, from the middle of the second trimester (Lee et al., 2005). Perner and Dienes (2003) consider five criteria by

which we might wish to attribute consciousness to a human child: the presence of verbal communication, executive control, explicit memory, an understanding of mental orientations and an understanding of perspective. Although the last criterion suggests a relatively late onset of phenomenal consciousness, most evidence concerning these psychological capacities points to the emergence of something approaching adult-like consciousness by the beginning of the second year of life. An alternative approach to this question is provided by Zelazo et al. (2007), who propose a gradual progression through levels of consciousness as a result of changing neuro-developmental constraints.

Informed speculation about the timetable for the emergence of consciousness does not, however, in itself enlighten us about the qualia of toddlerhood. Another potential source of evidence is literature. Writers through the ages have applied their imaginative powers to an extraordinary range of human and non-human experience. Surprisingly, though, depictions of the first-person experience of preschoolers are very rare. In Edward St. Aubyn's acclaimed novel, *Mother's Milk* (2006), five-year-old Robert's rich perception, imagination and emotional acuity are portrayed with considerable sensitivity and psychological accuracy. When Robert is recalling events from earlier in his life, however, such as his own birth, his perspective is essentially that of an older child or a young adult. Other well-known child narrators from fiction, such as Scout Finch in *To Kill a Mockingbird* (Lee, 1960), tell their stories from later in childhood (Scout is six when the novel begins). It is hard to avoid the conclusion that the absence of younger children's consciousnesses from fiction reflects prevailing cultural assumptions about the richness, or otherwise, of these individuals' experience.

There is nevertheless a tradition of informed reconstruction of early childhood experience based on an ever-strengthening scientific research base. Maurer and Maurer (1988) authored a ground-breaking investigation of the world of a newborn baby, incorporating up-to-the-minute research on infant perceptual development. The focus of Stern's (1990) psychodynamically themed *Diary of a Baby* was on reconstructing the emotional world of the new baby. In my own book, *The Baby in the Mirror* (2008b), I used scientific theory and detailed interviews with, and observations of, my daughter as a starting-point for an imaginative reconstruction of a child's world from birth to three.

Some of these attempts at imaginative reconstruction have very firm empirical bases. In the domain of perceptual development, for example, decades of careful research have given us a rich body of knowledge about the development of infants' visual acuity, colour vision, perceptual constancies, and so on (e.g., Kellman and Arterberry, 1998). A growth of interest in infants' socioaffective responsivity has greatly enhanced our understanding of how babies perceive social partners (e.g., Striano and Reid, 2006), which in turn allows us to speculate on how infants experience the presence of their conspecifics. Advances in camera technology, particularly the development of head-mounted video cameras and eye-tracking equipment, have meant that researchers have a clearer understanding than ever of the dynamics of infants' visual attention and scene construction (e.g., Yoshida and Smith, 2008).

Despite these advances in the realm of perceptual development, the qualities of other aspects of small children's inner experience have not been widely investigated. For present purposes, I follow Hurlburt and Schwitzgebel's (2007) characterisation of inner experience as incorporating 'our sensory experiences and pains [...] our inner speech and imagery, our felt emotion' (p. 3). Sufficient difficulties attend the characterisation of the properties of inner experience in adults, who can reflect and verbally report upon their experience in ways that would far exceed our expectations of children. Young children typically have only a weak understanding of mental processes in themselves and in others. In addition to the

challenges of verbal report and metacognition, young children's mental abilities are in such rapid flux that attempting to assess their subjective, first-person qualities is likely to present a considerable challenge.

A general increase in interest in the phenomenology of inner experience (Fernyhough and Jones, in preparation) should make us optimistic that young children's inner experience might eventually submit to scientifically informed attempts at reconstruction. Beyond its general value for enhancing our understanding of small children as people, considering how children's inner experience might differ from our own may have broader importance for psychological theorising and philosophical thought.

This potential importance is emphasised by Carruthers (in press), who has considered how reflecting on inner experience may relate to the development of the psychological capacities of metacognition (the understanding of one's own mental states) and mindreading or theory of mind (the capacity to make interpretative attributions of mental states to others). Rejecting the possibility of direct introspective access to propositional attitudes, Carruthers proposes a 'mindreading is prior' model in which adults gain information about their own mental states (their beliefs and desires, for example) through a process of self-interpretation. In this view, I do not obtain information about my own beliefs in relation to a goal, for example, by introspecting on my own mental states. Rather, I interpret my own behaviour (my performance of actions that would contribute to my attaining that goal) and cognition (thoughts about how to attain the goal, visual images of the desired end-state, etc.) in acquiring metacognitive knowledge. Sources of evidence that can feed into self-interpretation include information about one's overt behaviour and physical circumstances, along with elements of inner experience such as inner speech, visual imagery and feelings. In Carruthers' model, we obtain information about our own mental states by interpreting our behaviour and experience in a folk-psychological fashion.

Carruthers considers, and rejects, the value of evidence for developmental asymmetry between mindreading and metacognition, on the basis that it cannot adjudicate between interpretative and non-interpretative accounts. However, there is another way in which developmental evidence could have a bearing on his model (Fernyhough, in press). Available information about overt behaviour and physical circumstances, such as what the individual is doing and in what environmental context, is likely to be comparable between children and adults. With regard to inner experience, however, assumptions of comparability may be unwarranted. Carruthers' argument raises questions about whether children's inner experience is rich enough to support self-interpretation, and specifically how children's inner experience might differ from that of adults.

One relevant piece of evidence is the finding that young children will frequently fail to attribute inner experience to others in situations where it would be appropriate to do so (e.g., Flavell et al., 1993; 2000). In a typical task, preschoolers are asked to make judgements about the mental activity of an experimenter engaged in no overt activity. Below the age of four, young children will typically attribute no mental activity to an inactive adult (Flavell et al., 1993). Such findings are usually interpreted in terms of young children's relatively weak powers of introspection (1993). Equally plausible, however, is that young children's denial of a stream of consciousness happens because children do not themselves have this experience (Hurlburt and Schwitzgebel, 2007). For example, replicating the findings of Flavell et al. (1993), Meins et al. (2003) suggested that the development of the understanding of the stream of consciousness may be constrained by similar factors to those that constrain the development of inner experience more generally. As discussed further below, these include sociocultural

factors which affect the development of verbal thought, upon which at least part of the burden of self-interpretation is placed in Carruthers' model.

Similar considerations apply when we turn to more direct methods for gaining information about children's inner experience. Although young children cannot be expected to provide richly detailed accounts of their inner experience, some progress has been made recently in applying methods for assessing such experience in younger participants. One such method is Descriptive Experience Sampling (DES), a technique developed over two decades by Hurlburt and colleagues (e.g., Hurlburt, 1990; Hurlburt and Heavey, 2006). Involving detailed interviews around records made of inner experience just preceding the random sounding of an electronic beeper, DES has to date been used on a handful of occasions with child participants. In one example, Hurlburt (Hurlburt and Schwitzgebel, 2007, Box 5.8) describes a DES interview in which a nine-year-old boy described an image of a hole in his backyard that was filled with toys. When asked whether this was an accurate portrayal of what was really in his backyard, the boy responded 'Yes, but I don't have all the toys in it yet. If you had beeped me a few minutes later I would have had time to put all of the toys in the hole.' (p. 111). Hurlburt's conclusion from this and other comparable observations is that constructing a mental image is in part a skill that takes some time to develop. Making further progress with developing experience sampling techniques suitable for child participants is an important objective for future research. In the meantime, a plausible assumption is that children's inner experience may differ from that of adults in important ways, particularly in developmental periods that are beyond the reach of current sampling methodologies.

A third piece of evidence concerns another aspect of inner experience deemed to be relevant to self-interpretation, namely inner speech. Here, there are theoretical reasons for suspecting that the inner experience of young children may differ from that of older children and adults. In his insightful analysis of the relation between thought and language, Vygotsky (1934/1987) argued that inner speech develops through a gradual process of internalisation of linguistically mediated social exchanges, such as dialogic, mutually regulating interactions between caregiver and child. The developmental precursor of inner speech, known as private speech, represents self-regulatory language (destined in time to become inner speech or verbal thought) which has only been partially internalised (see Winsler et al., 2009, for a recent collection of articles on this topic). Empirical studies of private speech (e.g., Winsler and Naglieri, 2003) confirm Vygotsky's predictions that linguistically mediated thinking is unlikely to be fully internalised until middle childhood at the earliest. This view of the gradual development of inner speech is consistent with proposals for a gradual shift towards verbal mediation of cognition and behaviour in the preschool and early school years (Al-Namlah et al., 2006).

A Vygotskian developmental approach to inner speech has various implications for our assumptions about young children's inner experience. Firstly, it suggests that we would be wrong to assume that young children experience adult-like inner speech. Secondly, it gives us a basis for the imaginative reconstruction of a small child's experience during the stage (probably lasting several years) in which inner speech is in transition. What would it be like to experience verbal thought which is not yet fully internalised? In thinking about this question, it is necessary to consider some of the developmental transformations which Vygotsky proposed to accompany the internalisation of inner speech.

Foremost among these transitions is the emergence of what I have termed condensed inner speech (Ferryhough, 2004). Condensation involves syntactic and semantic transformations which ensure that our inner speech typically has somewhat different properties to the external

speech from which it derives. To give one example of these transformations, imagine sitting in your living room late at night and hearing a loud noise outside which sounds like a dustbin lid crashing to the ground. After a certain understandable alarm, you hear an inner voice saying 'The cat.' The voice does not say 'The cat has just knocked the dustbin lid onto the ground,' in a fully-formed grammatical sentence. All that is necessary for your having that thought is to identify the cause of the crash – the cat – and so that is all that the thought contains.

I have argued elsewhere (Fernyhough, 2004) that Vygotsky's theory predicts that adult inner speech will take both condensed and expanded forms. For present purposes, the most important implication is that the processes of condensation cannot be completed before inner speech has been fully internalised. The empirical evidence suggests that children's private speech (the developmental precursor of inner speech) is only partially condensed. Speech that is still in the process of being internalised is therefore likely to appear as something other than adult-like inner speech. Since private and inner speech retain the dialogic structure of the social speech from which they derive (Fernyhough, 1996; 2008a), young children's inner experience will be characterised by partially internalised dialogue, or voices in the process of being internalised.

This line of reasoning suggests that healthy children will experience the voices of their social partners even when those partners are not present. Combined with young children's relatively weak metacognition, the partially internalised nature of inner speech will lead to children hearing voices which they do not recognise as their own rudimentary thoughts (or utterances in inner speech). In recent work, we have suggested that this experience may in turn relate to the common and developmentally typical phenomenon of engaging with imaginary companions. We showed that children who reported having an imaginary companion (and whose report was corroborated by a parent) were more likely to report hearing verbal stimuli in an audio recording of jumbled (recognisably human, but meaningless) speech (Fernyhough et al., 2007). Our interpretation of these findings was that the common childhood phenomenon of imaginary companions may be a function of the experience of voices in dialogic interaction which characterises the development of inner speech.

These three sources of evidence – weak understanding of the stream of consciousness, children's responses in studies involving experience sampling and theoretical considerations relating to the emergence of inner speech – give us reason to be cautious of Carruthers' implicit assumption that young children's inner experience is like our own. If inner speech is one of the sources of evidence upon which self-interpretation is based, then the time it takes for inner speech to develop should lead Carruthers to predict a developmental lag between mindreading and metacognition (Fernyhough, in press).

I have suggested that we should be cautious in making assumptions of continuity between the inner experience of young children and adults. To observe such caution is not the same as to suggest that children's inner experience is somehow impoverished. If the arguments presented here are correct, our best efforts to imagine the world of the small child would make it appear strange to an adult visitor. In my own writing on the topic (Fernyhough, 2008b), I have argued that young children's inner experience deserves far greater scrutiny than it has previously been afforded. These most mysterious years of our lives conceal considerable psychological riches, a better understanding of which can only benefit our interactions with infants and preschoolers in whatever contexts we encounter them.



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No.	Author	Title	Series
1	Boris Wiseman	Lévi-Strauss, Caduveo Body Painting and the Readymade: Thinking Borderlines	General
2	John Hedley Brooke	Can Scientific Discovery be a Religious Experience?	Darwin's Legacy
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2010 Volume 3

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2	Zoltán Kövecses	Metaphorical Creativity in Discourse	Modelling
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5	Eduardo Mendieta	Political Bestiary: On the Uses of Violence	Being Human

Insights

Insights is edited by Michael O'Neill, IAS Director and Professor of English. Correspondence should be directed to Audrey Bowron (a.e.bowron@durham.ac.uk).