

On Developing a Mind

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My aim is to consider how children develop a mind. I shall argue that the distinctive human capacities for self-reflection and creative thought have their origins in the abilities of infants to perceive and engage with the attitudes of other people. I contrast this social-developmental account with a currently influential theory, according to which innately programmed brain mechanisms determine a young child's cognitively-based 'theory of mind' and capacity for symbolic thinking. The study of early childhood autism is yielding evidence to amplify, if not to resolve, conflicting accounts of this fundamental aspect of human psychological development.

Mind, self and symbol

William James (1890) drew a distinction between an organism's awareness of the world, what he called 'sciousness', and the more sophisticated capacity of being aware that one is aware. I shall assume it is self-evident to anyone who has read this far that he or she is, or can become, aware of thinking about what I have written; moreover, such a self-reflective person will realise that by the end of the paper, he or she will be in a position to believe or doubt or disbelieve that my suggestions are valid or 'true' of reality. These facts raise a clutch of related questions for the developmentalist. At what stage in development does a human being acquire a mind to think in these ways? What is the relationship between thought and language? If language is necessary for these kinds of thinking, for example, how has man acquired the capacity to symbolise and to think by means of linguistic symbols? What relationship does this have to becoming aware of oneself? How does a child's awareness of minds and of selves relate to perceiving and interacting with bodies?

In my view, these are matters of practical philosophy to which developmental psychologists and psychiatrists have much to contribute. Before turning to such contributions, however, I shall offer some overly forthright propositions (discussed at length in Hobson, 1993) about a number of the central issues. I hope they will provide a framework for what follows.

It might be fitting to begin by characterising what we mean by having 'a mind', so that then we can consider how the human child might have acquired the psychological capacities required for such a thing. I have already referred to the significance of self-reflective thought and language. To have a mind is to be sufficiently disengaged from the world and from immediate sensorimotor responding to the environment, to be able to think *about* the world and about alternative courses of action within it. A critical component of this ability is that we human beings know that our thoughts are not the same kinds of things as physical objects or overt actions. In fact, we experience a range of mental states in this way, not merely thoughts but also wishes, intentions, imaginings, beliefs, and so on. In order to have acquired a developed mind, then, children need to have distinguished thoughts from things, and to have realised their potential for operating in a psychological domain that is both connected with (about) and yet partly independent of the world around them.

I shall take up these issues with reference to symbolising, a capacity that is pivotal for specifically human modes of conceptualisation and thought. Consider a two-year-old girl who chooses to make a wooden block stand for a house in the course of symbolic play, and who refers to the block as a 'house'. The child knows that the block of wood is a block of wood, and only in certain respects does she apply house-appropriate attitudes (thoughts) to it. At the same time, the block serves as symbolic anchorage for a concept of houseness, so that this particular meaning can be manipulated (in this case literally as well as metaphorically) by granting the block a role in the playful scenario. The symbol 'block' refers to a house for the child, and in order to qualify as truly symbolic activity, the child must know that this is the case. In other words, the child must be self-consciously aware that she is *making* the block stand for a house. When the child uses the word "house", moreover, she is adopting a linguistic symbol which is shared by others to refer to an appropriate kind of thing. If she does so communicatively, she recognises that the meaning the word has for others will be the same as the meaning the word has for herself (Mead, 1934).

Indeed, she must have learned from other people that the word “house” can be applied with just this meaning.

Most children acquire these abilities before the age of two, yet it is not until two years later that they manage to grasp the difference between mere appearance and ‘reality’, and to understand enough about beliefs to predict a person’s faulty actions on the basis of that person’s false beliefs (Wimmer & Perner, 1983; Flavell *et al*, 1986). This is what some cognitive psychologists (e.g. Perner, 1990) consider to be the benchmark for children to have acquired a true ‘theory of mind’, insofar as now they mentally represent the ways in which other people represent reality.

The origins of mind

So how does a very young child come to fulfil her potential to apply pretend meanings to objects in creative symbolic play, and to use language appropriately? How does the four-year-old come to recognise what it means to distinguish appearances from reality, and what it means for a person to hold beliefs and false beliefs?

Here are two contrasting approaches to answering these questions. The first may be exemplified by the work of Alan Leslie (1987). Leslie posits that at around 18 months of age, an innately determined cognitive device, a ‘decoupling mechanism’, comes on line and yields new ‘computational functions’ for the child’s mind. More specifically, this decoupling mechanism not only contributes a vital new component to the child’s ability to understand the nature of mental states (or as Leslie would express it, to represent mental representations, or to metarepresent), but it also enables the human mind to characterise and manipulate its own attitudes to information. This means that primary veridical representations of the world are no longer tied to the reality that is represented. Now the child can represent someone else as pretending that something is the case (this block is a house) in an imaginary, playful context. Leslie considers that subsequent developments in the second to fourth year of life concern the child’s growing understanding of how beliefs relate causally to situations in the world – especially, how they are caused by what someone perceives and how they can cause behaviour.

It is important to note how radical and challenging an account this is. It is radical in positing an innate cognitive mechanism to account for the child’s ability to quarantine thoughts from the reality those thoughts are about. The mechanism switches on more or less by itself; it does not develop through

social experience; it has nothing to do with feelings; and it leads to, rather than derives from, the ability to recognise the nature of mental states. The account is challenging in forging a link between two kinds of ability which on the face of it seem very different – the ability to pretend and to think creatively and hypothetically, and the ability to understand the nature of people’s minds. This theoretical position opens up exciting new possibilities for conceptualising what is distinctive to the human mind, from an evolutionary as well as ontogenetic point of view.

I have tried to build upon Leslie’s insight into the relationship between pretending and understanding minds, in articulating a very different kind of theory about the origins of these abilities. To put it briefly, I think Leslie has overlooked the developmental significance of an important sphere of infantile experience – that of affectively patterned interpersonal relations. In so doing, he has (I believe) got things the wrong way round; I suggest it is in the special qualities of human interpersonal relatedness that we shall find the foundations for understanding minds and for creative symbolic thought.

Before outlining my account, I need to highlight some of the difficulties faced by theories such as Leslie’s that model cognitive functioning on conventional symbol-manipulating computers (and here I draw a partial distinction with connectionist models). I need to do this, partly because the underlying controversies are so profound – just how far is it feasible to suppose that mental functioning can be modelled on the workings of a computer, or to imagine that we can explain the development of mind by offering increasingly sophisticated computational designs?

So let me restate our problem. How does a child come to understand what thoughts, feelings, beliefs and so on, are? This is only half the question; the other half is concerned with the child’s awareness of persons (which includes the child’s own self) who *have* such mental states and the subjective experiences that go with them. It would seem that much of contemporary cognitive–computational science has chosen to ignore this latter issue, insofar as computer symbol-manipulating simulations of human cognition can account neither for the fact that human beings ascribe self-conscious life to other embodied people (but not computers), nor for the fact that symbols are meaningfully connected with the world (e.g. Fodor, 1980). Leslie himself has found it “hard to see how perceptual evidence could ever force an adult, let alone a young child, to invent the idea of unobservable mental states” (Leslie, 1987, p. 422), but he leaves it unclear how mental

representations are understood to be properties of people with bodies and subjective attitudes.

My approach is to start with the fact that infants are drawn willy-nilly into affectively patterned intersubjective engagement with other people. They do not first perceive bodies and later attribute mindfulness; rather, on the basis of an innately-given capacity for interpersonally coordinated non-verbal communication, they both perceive and react to bodily *expressions* of another person's subjective states with subjective states of their own. For example, infants register when they are in tune with or sharing attitudes with others (Murray & Trevarthen, 1985). Towards the end of the first year of life, with the advent of what Trevarthen calls secondary intersubjectivity, the infant begins to share experiences of the world with others. For example, the infant will show objects to a care-giver, often looking back and forth between the object and the care-giver's eyes; the infant will seek out and register a care-giver's attitude to an anxiety-provoking object or event, and alter his or her own attitude to that object or event accordingly; and the infant will make and respond to gestural requests, and will imitate meaningful actions with objects (Trevarthen & Hubley, 1978; Bretherton *et al.*, 1981). The infant is reacting to the overt directedness of the other person's attitude towards a shared world, and is treating the other person as someone with whom this world is shareable. It is not that infants of this age have a concept of mental states, but rather that they directly perceive and are engaged with people's attitudes. Concepts of mind are constructed on this basis.

According to this account, therefore, infants begin with biologically-given and perceptually-anchored mechanisms for establishing connectedness of mind between themselves and others. Moreover, person-person-world transactions provide opportunities for the infant to discover that a common focus of attention may be the target of different attitudes; the infant may feel differently about an object or event than does the person with whom it is shared. A specific object or event may elicit two different attitudes, and so have a meaning-for-self and a meaning-for-other. 'Things' are therefore different from 'attitudes to things'. Note that the infant herself is often the focus of another person's attitudes. Moreover, in imitating, the child manifests a capacity and an inclination to identify with the attitudes as well as actions of others. This is important for distancing the child from her own egocentric orientation, and for yielding the child's ability to adopt attitudes to her own attitudes (i.e. to acquire self-reflective awareness). The infant is enmeshed in interpersonal communication with the intense

negotiation of attitudes and intentions that this involves. All this provides the context for the 'discovery' I alluded to earlier, when during the period from 9–20 months or so, the infant develops the concept of herself and others as persons who can employ symbolic play materials and words to designate objects, attitudes and actions. It is no coincidence that new forms of self-consciousness and role-taking, such as coyness and sympathetic actions towards others, appear at roughly the same time as the emergence of creative symbolic play and an often dramatic increase in vocabulary (Kagan, 1982). The reason is that around the middle of her second year, the child has become aware of her own and other people's potential to think and confer meanings.

Finally, the child needs to progress to conceptualising the mind as a potentially private domain which is characterised by representational states such as those involving beliefs. I think the critical issue here is that reality contrasts with appearances in being a description of the facts that is transpersonal, in the sense that it would be agreed by anyone who was not distracted or misled by considerations peculiar to individual viewpoints. Only with this hard-won view of what reality is, a supra-individual and potentially agreed-upon description of the way things are, does the child understand that people may base their actions on true or false beliefs, where to believe is specifically to 'represent-as-reality'.

In his classic work *Thought and Language*, Vygotsky (1962, p. 8) suggested that "every idea contains a transmuted affective attitude toward the bit of reality to which it refers". It is because certain attitudes can be perceived in the 'bodies' of others, that we ascribe minds to *people*. It is because a child's concept of mental representations is derived from the capacity to apprehend attitudes, that such representations are understood to connect a person's mind with the world. Finally, it is because perceptual-affective processes serve both to connect and to differentiate persons that a child is able to develop a self-reflective and creative mind in accordance with her growing understanding of her own and others' shareable but distinctive subjective mental states.

What reasons might we have for giving attention to such far-reaching (some might say far-fetched) theories? One set of reasons derives from a logical (philosophical) analysis of what it means to symbolise, to understand mental states, and so on; another derives from the study of observed sequences and stage-like advances in the development of normal young children. I shall focus on a third reason: the

need to account for perplexing phenomena in the domain of developmental psychopathology. Here is one example.

Early childhood autism

One of the central challenges for our understanding of autism is to explain why it is characterised by a particular kind of impairment in interpersonal relations, with patterns of communication including language which are frequently delayed but also abnormal in form and usage, and a typical profile of cognitive deficits that include severe restriction in symbolic play and imaginative activity.

It is not my intention here to sift through detailed observations and experiments concerning autistic children, even though I believe such painstaking attention to the texture of these children's social and cognitive functioning reveals a great deal that is lost in summary accounts. Instead, I want to highlight how valuable the study of a condition such as autism may be, for our thinking about normal development. For in autism we find just the constellation of deficits that would be expected if there is indeed an intimate relation between the development of interpersonal understanding and the emergence of creative symbolic thought and context-sensitive language. From a theoretical perspective, Leslie (1987) attributes autistic children's impairments in symbolic play and 'theory of mind' to an absence or malfunction of the decoupling mechanism, and/or to difficulties in forming and/or processing metarepresentations. He sees the social-affective and communicative difficulties as secondary consequences of this basic cognitive deficit. Evidence for autistic children's specific limitations in understanding mental states such as those of belief and false belief (Baron-Cohen *et al*, 1985), and in making the appearance-reality distinction (Baron-Cohen, 1989), as well as for their deficient grasp of the pragmatics of language (Tager-Flusberg, 1989), is in keeping with such a view. On the other hand, experimental and clinical evidence for deficits in autistic children's social-affective perception and nonverbal communication (Kanner, 1943; Hobson, 1991; Klin *et al*, 1992) might suggest that underlying such abnormalities is severe disturbance in intersubjective personal engagement with others. The account I have outlined would serve to link such biologically-based impairments in communication with autistic children's difficulties in understanding how objects and events can have different subjective meanings to different people, their relative lack of creative symbolising, their limitations in achieving self-reflective awareness, and their impairments in

appreciating the context-sensitive subtleties of language, as well as their deficits in so-called 'theory of mind' (Hobson, 1993).

If either of these accounts is correct – and there are alternative theories, such as that positing dysfunction of the frontal lobes and their connections, which may explain facets of the clinical picture (Rogers & Pennington, 1991) – then the phenomena of autism will have provided dramatic illustration of the deep interconnectedness between the development of interpersonal understanding and the acquisition of a self-reflective and creative mind.

Conclusions

My aim in this paper has been to illustrate how we may need to reconsider the role of interpersonal relatedness in the acquisition of 'mind'. Self-reflective awareness, creative and coherent thinking, context-sensitive language – the phenomena of early childhood autism as well as observations of normal development suggest that each of these vitally important domains of psychological function has essential connections with children's experience of interpersonal relations and their understanding of 'persons' with minds. The nature of these connections remains contentious, but they will surely influence our views on how human beings develop a mind.

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