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Do babies know what they look like? *Doppelgängers* and the phenomenology of infancy.

When an infant imitates a face, is it possible that he can *see* the resemblance between his own face and the model's – that's to say, see it as a visual image, so he can compare what the two faces *look* like?

To be able to picture oneself in any such literal sense is surely beyond the capacity even of most adults. So the suggestion that a baby might be doing it may seem absurd. Yet extraordinary data, of the kind Andrew Meltzoff has reported over the last twenty five years, invite extraordinary hypotheses. And it's in this spirit that I want to introduce into the discussion a singular phenomenon: the illusion of the *doppelgänger*, or autoscopic hallucination, where a person does indeed *see* his or her own double.

The phenomenon, as it occurs in adults, is quite rare. It is sometimes experienced by healthy individuals, but is more common in those with epilepsy, and appears to be linked to right-hemisphere parietal lobe malfunction (Blanke et al., 2002, Krizek, 2000). Graham Reed (1972, p. 54) has described the typical manifestation:

Usually the *doppelgänger* apparition appears without warning and takes the form of a mirror-image of the viewer, facing him and just beyond arm's reach. It is life-sized, but very often only the face or the head and trunk are "seen". Details are very clear, but colours are either dull or absent. Generally the image is transparent; some people have described it as being "jelly-like" or as though projected onto glass. In most cases the double imitates the subject's movements and facial expressions in mirror-imagery, as though it were his reflection in a glass.

Sometimes, however, the subject may have a more detached perspective, as in this case (Lukianowicz, 1960, p. 985; see also 1958):

At first “B” usually “saw” his double only sideways, i.e. his profile, “but now I can see him from any possible position, from behind as well as from his front, just as if I was walking round him and choosing the position from which to look at him. He is absolutely identical with me in every detail of his features, expression of his face, his dress and movements.” The “double” does everything the patient does in the given moment.

The fact that the human mind can create illusions of this kind, albeit when in a pathological state, would seem to imply that there must exist a “normal” capacity for modeling the body of a remarkable kind. Reed (1972, p. 55) relates it to Sir Henry Head’s notion of the “multimodal body schema” – “a plastic and isomorphic representation of one’s body which must be incorporated in our nervous system if we are to account for our constant awareness of our posture and position in space” – and suggests that perhaps “the *doppelgänger* experience may be a displacement or projection of that internal model.”

Meltzoff (this volume?) proposes an idea similar to Head’s to explain normal infant imitation – his notion of “active intermodal mapping” (AIM). Thus he suggests that the baby, when imitating another person, maps a visual representation of the other person’s body onto a proprioceptive representation of his own.

Now, it’s surely possible that just the reverse of this could be happening in the case of the *doppelgänger*, so that the subject maps a proprioceptive representation of his own body onto a visual representation of another as-if person (though, in this case, it’s himself!).

In the context of this book it hardly needs saying that mirror-neurons might be just the ticket for creating such intermodal equivalences (and the suggestion of right-parietal involvement in creating the *doppelgänger* phenomenon jibes nicely with the brain imaging data being reported by Decety and Chaminade, this volume).

However, what interests me more than the *mechanism* of the *doppelgänger* is the question of what such a sophisticated mental construction might be *good for*. Does the *doppelgänger* have any functional utility? And if so what, and when?

It’s true that in adulthood the *doppelgänger* is seemingly not good for anything (and in fact it is generally regarded by subjects as a nuisance); moreover, it is experienced only by the very few. But could it be that the *doppelgänger* is primarily a phenomenon of early

infancy? Could it even be that most babies experience their own bodies projected as an external visual image most of the time? *Doppelgänger*s as Near Birth Experiences?

I think the *doppelgänger* might, in this case, be a remarkably useful “teaching aid”. Meltzoff writes: “Infants can imitate and recognize equivalences between observed and executed acts” (Meltzoff, 2002). And my proposal is that the baby’s experience of his visual double would give him a relatively easy means of doing just this. But more than this, his capacity to see himself, not so much as others see him, but *as he sees others* would be an invaluable tool for entering other people’s minds (as many, from Nietzsche on, have pointed out¹). For it would mean that when for example the baby feels sad, angry, happy, and so on, he would be able to know just how he himself looks – and so have a basis for inferring what other people are feeling when they look the same way (see Humphrey, 1986, pp. 94-9).

We live in interesting times for the understanding of cognitive development. I suspect we have only just begun to discover how strange – but wonderfully designed by nature – the phenomenology of infancy may be.

Note.

1. Nietzsche not only advanced a “simulation theory” of mind-reading, but explicitly linked simulation to bodily imitation. “To understand another person, that is *to imitate his feelings in ourselves*, we . . . produce the feeling in ourselves after the *effects* it exerts and displays on the other person by imitating with our own body the expression of his eyes, his voice, his walk, his bearing. Then a similar feeling arises in us in consequence of an ancient association between movement and sensation. We have brought our skill in understanding the feelings of others to a high state of perfection and in the presence of another person we are always almost involuntarily practicing this skill” (Nietzsche, 1881 / 1977).

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