

1. Towards the end of the discussion I think you said something like this:

The basic idea is that children can *use* sensory modalities as a source of knowledge before they *understand* them as a source of knowledge. Similarly for utterances as a source of knowledge. The problem is to explain what understanding is.

I think this is a good philosophical problem. Children's correct decision to feel or touch suggests that they do understand that only one type of experience can lead to knowledge; and their failure to say how they know suggests that they don't understand this after all. Roughly speaking, they can act but not understand, or they have practical but not reflective understanding. (Cf. "children behaved as if they understood the connection between information access and belief without necessarily having reflective awareness of that" {Whitcombe, 2000 #1129@345}.) The puzzle experiment suggests that some form of the practical/reflective distinction is also needed for the case of understanding utterances as sources of knowledge. The problem is to explain what the distinction amounts to.

2. Rather than a distinction between using and understanding, I think you set out a progression of three increasingly hard things to do. I'm not sure I have third step of the progression correct (or even if there really was a third step):

- decide whether to look or feel
- say whether I know because I saw or felt
- say whether I would need to look or feel in order to identify the object

I also have in my head that your view is that the same progression applies in the case of feel vs. ask someone to tell me, but each step happens later than the corresponding feel vs. look step. As Johannes said when you asked what we each think The Question is, I think understanding the progression is interesting as an end in itself.

3. I found this exchange from the meeting quite helpful as a pointer towards what might be required for understanding that I need testimony to solve a problem:

JR: Why isn't infants' social referencing a form of asking for help? ER: because social referencing doesn't require children to identify a gap in their knowledge.

4. I think the problem of understanding the progression from doing to full understanding of sources of knowledge is a good philosophical problem in its own right. I also hope it might indirectly relate to some other issues (although I couldn't say how):

*Why does awareness of our own beliefs matter?* Many philosophers and some psychologists (e.g. Josef Perner) hold that awareness of our own beliefs matters because it allows us to control how we think or act, thereby enabling us to do things we couldn't do without this form of self-awareness. For example Paul Grice claims that the rationale for being able to think about our own mental states is "to control or regulate [our] own judgments or willings" (Grice 1974-5: 48). I think this view is wrong and would like to find alternative ways in which awareness of our own beliefs matters.

*Practical vs. reflective (or implicit vs. explicit) understanding.* There are various developmental cases where distinctions like that between practical and reflective understanding might be needed (for instance: standard vs. word-learning tests for false belief tasks; violation-of-expectation vs. reaching tests for object permanence; gesture vs. verbal tests for explaining problem solving strategies). Philosophers have usually implicitly assumed that at most one such distinction is needed, but given the variety of the cases it looks like several quite different distinctions may be required. It also seems important to ask how (if at all) having practical understanding facilitates the acquisition of reflective understanding.

*Causal understanding and psychological concepts.* [I'll ask Johannes about this.]

5. Before the meeting I was thinking that the puzzle experiment suggests a surprising asymmetry in children's ability to "understand and coordinate with intentional agents": children understand that they can sometimes provide others with information they need, but they fail to understand that others can sometimes provide them with information they need. Either they are unable to identify gaps in their knowledge or they fail to understand others as sources of knowledge. Johannes criticised these ideas on the grounds that informative pointing at 18 months does need not be given such a rich interpretation, so there is no real asymmetry (this seems right to me, but I still want to think about how the puzzle experiment relates to the research on collaboration and communication with much younger children). The discussion also suggested that this way of thinking about the puzzle experiment may not be at all what you had intended. Is the problem identified by the puzzle experiment that six-year-olds fail to understand something about other people (e.g. that other people can be sources of information)? Or is it that they fail to understand something about themselves (that they need help, or have a gap in their knowledge)? Or is it that they fail to understand something quite general about certain sources of knowledge (e.g. they have a problem understanding testimony; or—Johannes' mentioned this—they fail to understand indirect/non-perceptual sources of knowledge, including testimony and inference)? I'm not sure whether you already have a view on this or whether it's to be discovered.