

Narrative and the knowledge of persons

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Abstract

The rapid, perplexing increase in the incidence of autism (or autism spectrum disorder, as it is now often called, to indicate the variability of the disorder) has led to a correlative increase in research on it and on normally developing children as well. In this paper, I want to consider some of this research, not only for what it shows us about human cognitive capacities but also for its suggestive implications regarding the ability of science to teach us about the world.

1. Autism

One pair of researchers sums up the disorder of autism by saying that “the chief diagnostic signs of autism are social isolation, lack of eye contact, poor language capacity and absence of empathy” [1]. Trying to summarize his own understanding of autism, Peter Hobson, a developmental psychologist, says that these diagnostic signs of autism arise “because of a disruption in the system of child-in-relation-to-others.” He expresses himself in this deliberately unconventional and obscure way, because he is struggling to make a point which is at once scientific and philosophical. By way of explanation [2], he says:

[...] my experience [as a researcher] of autism has convinced me that such a system [of child-in-relation-to-others] not only exists, but also takes charge of the intellectual growth of the infant. Central to mental development is a psychological system that is greater and more powerful than the sum of its parts. The parts are the caregiver and her infant; the system is what happens when they act and feel in concert. The combined operation of infant-in-relation-to-caregiver is a motive force in development, and it achieves wonderful things. When it does not exist, and the motive force is lacking, the whole of mental development is terribly compromised. At the extreme, autism results.

And the mother of an autistic child, trying to summarize what it was like for her to live with that child, says that her daughters “eerie imperviousness, her serene self-sufficiency, belonged to those who, like the fairies, can live somehow untouched by the human experience” [3].

Whatever ties together the different clinical signs and symptoms of all the degrees of autism spectrum disorder, the most salient feature of the disorder is its severe impairment in the cognitive capacities necessary for what some psychologists call social cognition and some philosophers call mindreading. This is the knowledge of persons and their mental states.

2. Autism and typically developing children

Autisms deficits as regards social cognition or mind-reading have made researchers increasingly aware of what typically developing children can do effortlessly. So, for example, numerous studies¹ show that a pre-linguistic infant can know her primary care-giver as a person and can even, as it were, read the mind of her care-giver to some limited extent.² Attempting to describe what it is that typically developing infants can do, Hobson says [2]:

To be emotionally connected with someone is to experience the someone else as a person. Such connectedness is what enables a baby... to differentiate people from things. I dont just mean that it is used to classify people as one type of thing and objects as other types of thing. A baby could do this on the basis of a number of physical features such as size, the presence of arms and legs, spontaneous motion, and so on. I mean something deeper. It is through emotional connectedness that a baby discovers the kind of thing a person is. A person is the kind of thing with which one can feel and share things, and the kind of thing with which one can communicate.

In fact, it has become clear that a pre-linguistic infants capacity for social cognition is foundational to the infants ability to learn a language or to develop normal cognitive abilities in many other areas. The difficulty in learning language evinced by many autistic children seems to be a function of the fact that autism leaves a person severely impaired as regards the knowledge of persons. The knowledge which is impaired for an autistic child, however, cannot be taken as knowledge that something or other is the case. A pre-linguistic infant is not capable of knowledge that a particular person is her mother; but she can know her mother, and to one extent or another she can also know some of her mothers mental states.

Conversely, an autistic child can know that a particular macroscopic object is her mother or that the person who is her mother has a certain mental state. But the autistic child can know such things without the knowledge that comes with mindreading. For example, an autistic child might know that his mother is sad, but in virtue of the impairment of autism he is unlikely to have this knowledge because he knows the sadness of his mother. An autistic child can know that the person he is looking at is sad because, for example, someone who is a reliable authority for the child has told him so. This is clearly not the same as the childs knowing the sadness in the face of the person he is looking at [6]. What is impaired in the cognition of an autistic child is a direct knowledge of persons and their mental states. What sort of impairment is this? Hobson gives a psychologists view of a philosophical controversy

¹See, for example, the collection of papers in [4].

²For a philosophical attempt to explain the nature of mindreading, see [5].

by commenting that

developmental psychologists [and, he might have added, philosophers] have taken to calling a [normally developing] child's growing understanding of people's mental life a theory of mind. In many ways this is a daft expression because it suggests that a child theorizes about the nature of feelings, wishes, beliefs, intentions, and so on. This is not what happens at all. The child comes to know about such aspects of mental life, and the way the child comes to know is mostly very unlike theorizing [2].

Some neurobiologists working in a related area share this view. So, for example, Vilayanur Ramachandran and Lindsay Oberman put the point this way: "Saying that people with autism cannot interact socially because they lack a theory of other minds does not go very far beyond restating the symptoms" [1].

For his part, Hobson quotes Wittgenstein to help him explain the kind of knowledge which typically developing infants do have and with regard to which autistic children are impaired. He says: "'We see emotion' —As opposed to what?— We do not see facial contortions and make the inference that he is feeling joy, grief, boredom" [2]. For Hobson, we know the mental states of others not as knowledge that but more nearly by direct awareness, in the manner of perception, as it were.

As far as that goes, knowledge of mental states is conveyed not only by facial expression, but also by, for example, gesture and inarticulate vocal sound. The knowledge conveyed by these means, however, is also not always, or not entirely, translatable into knowledge that. Trying to explain what gesture adds to speech, one pair of researchers says: "... because gesture is less codified than speech and has the potential to convey information imagistically. . . , meanings not easily encoded into speech can be conveyed in the accompanying gestural stream" [7].

There is apparently some innate brain system for such non-linguistic communication by gesture. Congenitally blind children, who have never seen the gesture of another, tend themselves to develop patterns of gesture and to use them as a means of aiding communication by speech. Presumably, what one knows which one communicates by gesture is not propositional knowledge either. If it were readily translatable into propositional knowledge, it is hard to imagine why blind children would avail themselves of communication by gesture rather than communication by speech.

It is also not surprising to learn from recent neurobiological studies that the production and interpretation of the affective elements of vocal sound are subserved by a brain system different from that which is responsible for the semantic and syntactic elements of language (see for example [8, 9]). What is it that we know when we hear a person groan or giggle? What is the difference between what we know when we hear a groan and what we know when we hear a giggle? How would we translate what we know when we hear a person giggle into knowledge that? That the person giggling is amused? Is nervous? Is trying to be flirtatious?

Or that the person has a conjunction of some but not all of these attitudes? And how would those attitudes have been different if the person had chuckled instead of giggling?

For all these and many other reasons, it has become apparent that normally functioning human beings have the capacity for a knowledge of persons and their mental states which is fundamentally different from knowledge that. Insofar as autistic children are deficient in their knowledge that something is the case as regards the mental states of other people, it is because they are first impaired in their capacity for a kind of knowledge which is not reducible, or not entirely reducible, to knowledge that.

But what is this cognitive capacity? How are we to understand it and the kind of knowledge it makes possible?

3. Mirror neurons

There is as yet no uncontested explanation of autism; but at present two lines of research seem particularly promising in their ability to illuminate it. Studies done by developmental psychologists and discussed also by philosophers highlight a deficiency among autistic children in their capacity for engaging in what researchers call attention sharing or joint attention. In this paper, I will leave this first line of research to one side in order to concentrate on the second, that having to do with mirror neurons (it may be that the system of mirror neurons also explains the capacity of non-autistic human beings to participate in shared or joint attention, but consideration of the neural substrate of joint attention is outside the bounds of this paper).

We can approach the subject of mirror neurons by reflection on the capacities of infants. Recent studies have demonstrated that

newborn infants less than an hour old can [...] imitate facial gestures [...]. Even in circumstances of [...] delays (of 24 hours) infants clearly remember and imitate gestures. [...] Furthermore, the data [...] indicate that neonate imitative behavior involves memory and representation, since imitation can happen even after a delay [10].

Like an infants ability to recognize persons as persons and to know (some of) the mental states of other persons, an infants ability to imitate facial expressions is a perplexing phenomenon. As Shaun Gallagher says, "It is clear... that newborns do not have a visual perception of their own face...". It is also clear that a newborn is not able to know that the person whose facial expression she is imitating is a person, that that person shares with the infant the property of having a face, or any of the myriad other items of knowledge which seem necessary for a newborn to attempt to mimic the expression on someone elses face. How is it, then, that neonates can imitate facial expressions?

One hypothesis has to do with the recently discovered brain system of mirror neurons. In the 1990s, a team of Italian neuroscientists discovered that certain neurons — which they came to call mirror neurons — fire in the brain both when one does some action oneself and also when one sees that same action being performed by someone else. Since then, we have learned that, as Gallagher says, mirror neurons “constitute an intermodal link between the visual perception of action or dynamic expression, and the first-person, intrasubjective [...] sense of ones own capabilities”. A neonate is able to imitate a facial expression on the part of another person because it has the capacity to know, as it were, from the inside what it is that the other is doing.

It now seems as if the mirror neuron system is the foundation for the capacity of all normal human beings at any age to know the mind of another person. When John sees Mary smile at him and pick a flower in a certain way, he knows that she is going to give the flower to him.³ How does he know what she is doing? How does he know what she is feeling and intending to do? The Italian team of researchers responsible for the discovery of mirror neurons [11] says:

A decade ago most neuroscientists and psychologists [and, they might have added, philosophers] would have attributed an individuals understanding of someone elses actions and, especially, intentions to a rapid reasoning process not unlike that used to solve a logical problem: some sophisticated apparatus in Johns brain elaborated on the information his senses took in and compared it with similar previously stored experiences, allowing John to arrive at a conclusion about what Mary was up to and why.

The discovery of the mirror neuron system has made this sort of attempt at understanding the human ability to mindread look Ptolemaic. Trying to explain their discovery, the Italian researchers say:

John grasps Marys action because even as it is happening before his eyes, it is also happening, in effect, inside his head. [...] mirror neurons permit an observed act to be directly understood by experiencing it.

This summary of theirs is not entirely perspicuous since it is not clear what it is to experience an observed act. Nonetheless, the research of these neurobiologists, as well as that of many others, has shown convincingly that mirror neurons underlie the human capacity to know not only someone elses actions, but also her intentions and emotions. Describing their research on the role of mirror neurons in mediating the knowledge of intentions, another team of researchers says [12]:

The ability to understand the intentions associated with the actions of others is a fundamental component of social behavior, and its deficit is typically associated with socially isolating mental diseases such as autism [...] Experiments in monkeys [have] demonstrated

³The mirror neuron system is predicated on recognition of a person as a person, but by itself it does not seem to facilitate that recognition, as we currently understand the workings of the mirror neuron system. So the knowledge of persons cannot be explained by the mirror neuron system alone, as far as we now know.



that frontal and parietal mirror neurons code the “what” of the observed action [...] The findings [of this study] [...] strongly suggest that this mirror neuron area actively participates in understanding the intentions behind the observed actions [...] The present data show that the intentions behind the actions of others can be recognized by the motor system using a mirror mechanism.

Researchers in another study sum up their study of the mirror neurons in the inferior parietal lobule by saying, “these neurons not only code the observed motor act but also allow the observer to understand the agents intentions” [13]. And they generalize the results of their research this way:

Understanding “other minds” constitutes a special domain of cognition [...] Brain imaging studies suggest that several areas might be involved in this function [...] Given the complexity of the problem, it would be naive to claim that the mechanism described in the present study is the sole mechanism underlying mind reading, yet the present data show a neural mechanism [i.e., the mirror neuron system] through which a basic aspect of understanding intention may be solved.

Other research has shown that the mirror neuron system is also involved when a normally functioning person knows the emotion of another. One group of researchers exploring mirror neurons and emotion make it clear that, in their view, the mirror neuron system mediates one particular kind of knowledge of emotion. So, for example, as regards disgust, they say: “populations of mirror neurons in the insula become active both when the test participants experience the emotion and when they see it expressed by others. In other words, the observer and the observed share a neural mechanism that enables a form of direct experiential understanding” [11].

Like many people working in the field, these researchers are concerned to distinguish a mindreading kind of knowledge from knowledge that. And so they put the results of their research this way:

Observing another person experiencing emotion can trigger a cognitive elaboration of that sensory information, which ultimately results in a logical conclusion about what the other is feeling. It may also, however, result in the direct mapping of that sensory information onto the motor structures that would produce the experience of that emotion in the observer. These two means of recognizing emotions are profoundly different: with the first, the observer deduces the emotion but does not feel it; via the second, recognition is firsthand because the mirror mechanism elicits the same emotional state in the observer.

It is not entirely clear what these researchers mean by saying that the mirror mechanism elicits the same emotional state in the observer. It is certainly not the case that every time a person observes the emotion of another, he comes to have that same emotion himself. But perhaps these researchers mean only that one can feel something of the emotion of another as that others emotion.

Still other researchers try to explain the cognition in question by claiming that the mir-

ror neuron system allows us to simulate the mental states of others. So, for example, one prominent team of neurobiologists says: “One of the most striking features of our experience of others is its intuitive nature. . . . in our brain, there are neural mechanisms (mirror mechanisms) that allow us to directly understand the meaning of the actions and emotions of others by internally replicating (simulating) them. . . .” And in an effort to give their own philosophical explanation of what they take simulation to be, these neurobiologists say that the particular kind of cognition subserved by the mirror neuron system is achieved

without any explicit reflective mediation. Conceptual reasoning is not necessary for this understanding. As human beings, of course, we are able to reason about others and to use this capacity to understand other peoples minds at the conceptual, declarative level. [. . .] [but] the fundamental mechanism that allows us a direct experiential grasp of the mind of others is not conceptual reasoning but direct simulation of the observed events through the mirror mechanism [14].

This is not completely clear and accurate either, of course. It is not illuminating to try to understand the mirror neuron system in terms of simulation, in my view.⁴ And it is not correct to describe the cognition subserved by the mirror neuron system as non-conceptual. When John knows the emotion Mary is feeling, he must know it by means of some concept, such as the concept of affection, say, or gratitude. But what all these researchers are struggling to describe is the knowledge of another person and of that others mental states when that knowledge shares features with the phenomenology of certain kinds of perception. Like the perception of color, for example, the knowledge of persons at issue here is direct, intuitive, and hard to translate without remainder into knowledge that, but very useful as a basis for knowledge that of one sort or another. John knows that Mary is going to give him a flower because he first knows Mary, her action, her emotion, and her intention — but these are things which he knows by, as it were, seeing them, and not by cognizing them in the knowledge that way. This is, in effect, the phenomenon of the knowledge of persons.

And so these discoveries about the mirror neuron system help to explain the Wittgensteinian point Hobson made in the quotation I cited earlier. We see emotion, as we see intention, because the mirror neuron system gives us some sort of direct apprehension of someone elses mental state. Or, as Hume put it, many years before the discovery of the mirror neuron system: “The minds of men are mirrors to one another, not only because they reflect each others emotions, but also because those rays of passion, sentiments, and opinions may often be reverberated” [16].⁵ And that is why Hume says of himself: “A cheerful countenance infuses a sensible complacency and serenity in my mind, as an angry or sullen one throws a sudden damp upon me.”⁶

⁴For some of the papers influential in the early discussion of simulation, see [15]. In my view, the problem with trying to understand the cognition mediated by the mirror neuron system in terms of simulation is that it tries to turn into a first-person experience what is in its nature a second-person experience.

⁵I am indebted to Annette Baier for this reference. As she herself makes clear, Humes philosophy emphasizes the importance of what he calls sympathy for all of ethics.

⁶I am grateful to Annette Baier for this reference.

4. Second-person experience

One group of neurobiologists try to explain the knowledge mediated by the mirror neuron system by relying on a familiar philosophical distinction. They say [14]:

The novelty of our approach consists in providing for the first time a neurophysiological account of the experiential dimension of both action and emotion understanding. What makes social interactions so different from our perception of the inanimate world is that we witness the actions and emotions of others, but we also carry out similar actions and we experience similar emotions. There is something shared between our first- and third-person experience of these phenomena: the observer and the observed are both individuals endowed with a similar brain-body system. A crucial element of social cognition is the brains capacity to directly link the first- and third-person experiences of these phenomena. . . .

These neurobiologists are here availing themselves of the distinction by now familiar in contemporary philosophy between a first-person and a third-person experience or point of view. But, contrary to their view, it does not seem right to take the knowledge of persons which the mirror neuron system subserves as a first-person knowledge of oneself, or a third-person knowledge of another, or some combination of both together. Rather, it seems to be something entirely different. Under one or another description, some philosophers are now drawing our attention to the importance of what can be called a second-person point of view or a second-person experience (see for example [17, 18]). In my view, this is more nearly the notion which the neurobiologists need to express what is of interest to them.

For my purposes, I will understand a second-person experience in this way. One person Monica has a second-person experience of another person Nathan only if:

1. Monica is aware of Nathan as a person (call the relation Monica has to Nathan in this condition 'personal interaction');
2. Monica's personal interaction with Nathan is of a direct and immediate sort; and
3. Nathan is conscious.⁷

These conditions are necessary for second-person experience and sufficient for a minimal degree of it (it is clear that there can be more to a second-person experience than this bare minimum. It is evident that knowledge of persons comes in degrees).

Condition (1) implies that Monica does not have a second-person experience of Nathan if Monica is dumped unconscious on top of Nathan. Furthermore, if Monica is conscious but not

⁷Insofar as consciousness comes in degrees, there is some vagueness in this condition. I mean to rule out only cases in which a person lacks sufficient consciousness to function as a person. Drowsiness is not ruled out; certain drugged states, such as the so-called twilight sleep, are. There are grey areas here. I am inclined to say that a mother has second-person experience of her newborn infant, but that a condition such as advanced Alzheimers precludes second-person experience. My intuitions are not strong as regards those cases, though (I am grateful to Kathleen Brennan for calling my attention to the need to address these issues).

aware of Nathan —say, because Nathan is hiding and Monica does not know he is present— then Monica does not have a second-person experience of Nathan. Finally, if Monica has perception of Nathan but is not attending to him, so that she is not aware of him in spite of her perception of him (for some discussion of the role of attention in conscious awareness of something being perceived, see [19]), then Monica does not have second-person experience of Nathan. On the other hand, condition (1) can be met even if Monica does not have perception of Nathan.⁸ It is possible for one person to be aware of another as a person without seeing, hearing, smelling, touching, or tasting that other person. For example, if Monica and Nathan are engaged in an animated conversation with one another which they conduct by means of email, Monica is aware of Nathan as a person, even if she does not perceive Nathan.⁹

As for condition (2), I take Monica's personal interaction with Nathan to be mediated and indirect just in case Monica has personal interaction with Nathan only in virtue of having personal interaction with a third person Meredith. So condition (2) rules out cases of personal interaction which are mediated by one or more other people, but it does not rule out intermediaries which are machines or mechanical devices, such as glasses, telephones, and computers. If Monica's only contact with Nathan is by computer, but if the computer contact between them meets the other conditions for second-person experience, then Monica's computer contact with Nathan counts as a second-person experience.¹⁰ On the other hand,

⁸It is hard to know how to make this element of condition (1) precise. It is possible for two persons to make some sort of mind-to-mind contact even if neither of them has sensory perception of the other; Monica's having contact with Nathan through sensory perception of Nathan is not necessary for her having a second-person experience of Nathan. On the other hand, Monica's just thinking of Nathan in Nathan's absence does not count as Monica's having a second-person experience of Nathan even if in thinking about Nathan Monica is conscious of Nathan as a person in some sense. Second-person experience requires conscious awareness of another person considered as a person; contact of that sort does not need perception, but it does take more than an image or a memory of a person. It might also be helpful to have a gloss on the phrase "as a person". The requirement that Monica be aware of Nathan as a person rules out cases of the sort made familiar to us from the literature on agnosia, where the agnosia patient is conscious and one of the objects of her consciousness is another person, but because of her agnosia she does not recognize the other person as a person; she takes him instead to be, say, a hat on a hat stand — see the case which gives the title to the book of Oliver Sacks [20]. This requirement also rules out cases in which Monica has conscious awareness only of some sub-personal part (say, a brain) or sub-personal system (say, the circulatory system) of Nathan.

⁹The scientific descriptions of the mirror neuron system quoted above make it plain that the primary perceptual modality used in conjunction with the mirror neuron system is vision. Nonetheless, it must also be the case that the mirror neuron system can be engaged in conjunction with other perceptual modalities as well. If that were not the case, then congenitally blind children would be autistic. Although there is in fact a significant incidence of autism-like disorder among the congenitally blind, there are also many congenitally blind children who are not autistic (see, for example, [21]). Insofar as defects in the mirror neuron system are now thought to be implicated in autism, it must be the case that the mirror neuron system can be employed even in the absence of vision, through the sense of hearing, for example. And insofar as, for those who can read, written language can stand in for spoken language, it is possible that a second person experience based on written communication can also be facilitated by the mirror neuron system.

¹⁰Although Monica does not have sensory perception of Nathan in the process of emailing him (she does not see, hear, touch, taste, or smell Nathan in email communication), that fact does not rule out email contact from counting as second-person experience, provided only that it really is Nathan with whom Monica is in email contact. If someone other than Nathan is emailing Monica in the persona of Nathan, then the email communication does not count as Monica's having a second-person experience of Nathan. There are grey areas here, too. If it really is Nathan who is emailing Monica but Nathan is systematically deceiving Monica on all points about himself, it is considerably less clear whether the email communication counts as a second-person experience of Nathan for Monica. I am grateful to John Kavanaugh for pointing out these complexities to

Monica does not count as having a second-person experience of Nathan if her contact consists just in Merediths reporting to Monica something Nathan has said or done. In such a case, Nathan is conscious, and Monica is aware of Nathan as a person, in some sense; but this sort of awareness of Nathan is insufficient to count as a second-person experience of Nathan because it is mediated by a third person.¹¹

Finally, condition (3) requires that Nathan be conscious for Monica to have a second-person experience of him. It is not necessary, however, that Nathan be conscious of Monica. Polonius has a second-person experience of Hamlet when Polonius is hidden from Hamlet behind the arras, watching Hamlet interact with his mother.¹²

So this is how I will understand a second-person experience.¹³ This characterization of a second-person experience makes clear that a second-person experience is different from a first-person experience. In a first-person experience, I am directly and immediately aware of a person as a person, but that person is only myself. It is also clear that a second-person experience is different from a third-person experience. For a third-person experience, one has knowledge of the states of another person but not in virtue of being conscious of that other me.

¹¹There are complications here. If Monica reads a letter sent to her by Nathan, Monica counts as having a second-person experience of Nathan on the conditions I have given. That remains the case even if Nathan dictated the letter to his secretary, since when Monica reads the letter, Monica does not have any personal interaction with the secretary. When she reads the letter, Monica is not aware of the secretary; or even if she is, it is not the case that she is aware of Nathan as a person only in virtue of being aware of Nathan's secretary (of course, if the secretary has written what Nathan dictated but then added voluminous editorial glosses of his own, disguised as Nathans own words, it becomes less clear whether this communication counts as Monicas having second-person experience of Nathan. I am grateful to John Kavanaugh for making me attentive to this point). But if the same message from Nathan to Monica were delivered to Monica orally by Nathan's secretary, then Monica would not count as having a second-person experience of Nathan, because in that case Monica's awareness of the secretary mediates her awareness of Nathan. This seems to me intuitively the right result. On the other hand, however, suppose that Nathan's secretary delivers orally a message to Monica, who gives the secretary a response, which the secretary delivers to Nathan, who in turn gives the secretary a message to deliver to Monica, and so on. In such a case, is it still true to say that Monica does not have a second-person experience of Nathan because condition (2) is violated? And there are many other complicated cases here. Suppose that Monica is not aware of Nathan himself but finds a stack of highly revealing love letters written by Nathan to someone else — that is, to someone who is not Monica (I am grateful to Adam Peterson for calling my attention to the need to address this point). Does Monicas reading these letters constitute a second-person experience of Nathan? My intuitions are less clear in these cases. There may be boundary cases where adjudication regarding second-person experience could equally well go either way.

¹²I am indebted to John Kavanaugh and Adam Peterson for helping me to see that there are complexities here, too. If Nathan sends Monica email communication but then dies in the period between when he sent it and when Monica reads it, so that he is no longer conscious at the time Monica reads his message, does that communication count as Monicas having second-person experience of Nathan? And if it does, is the third of my conditions on second-person experience violated in such a case? I am inclined to say that Monica does have second-person experience in such a case but that the third condition is not violated. It is possible for the presentation of a conscious person Nathan to reach another person Monica after some delay, as the email example makes clear. Nonetheless, the Nathan with whom Monica is in contact by this means is a conscious Nathan, not the Nathan who is unconscious at the time of Monicas receipt of Nathans message. And in this way the third condition is not violated by this example.

¹³In my book "Wandering in Darkness: Narrative and the Problem of Suffering" [22] I argue that second-person experience is a component of joint attention. It is for that reason that the characterization of second-person experience includes the requirement that Monica be attending to Nathan in being aware of him.

person as a person. So a second-person experience is different in character from a first-person or a third-person experience because it is necessary for a second-person experience, as it is not for a first- or third-person experience, that you interact consciously and directly with another person who is conscious and present to you as a person, in one way or another.¹⁴

We are hardly in a position to give a clear and complete account of knowledge which is not knowledge that or even just of the knowledge of persons directly subserved by the mirror neuron system. But however we are to describe the knowledge of persons enabled by the mirror neuron system, in my view, it cannot be captured appropriately as knowledge of either a first-person or a third-person kind, contrary to the claims of the neurobiologists quoted above. It is more nearly accurate to describe it in terms of a second-person experience. Although the mirror neuron system no doubt also facilitates knowledge in ways which are variants of a second-person experience,¹⁵ the paradigmatic sort of experience in which one gains the kind of knowledge of persons subserved by the mirror neuron system is a second-person experience. The mirror neuron system seems to be a brain system designed primarily to enable second-person experience and the knowledge of persons it generates.

5. Second-person accounts

With so much clarification of the notion of a second-person experience, I want to consider the means by which the knowledge of persons communicated in a second-person experience is shareable with someone who was not part of the second-person experience in question. It will be helpful to have some short designation for this vehicle for sharing knowledge. So call it a second person account, by analogy with the more customary notions of first-person or third-person accounts or reports.¹⁶

¹⁴In “Wandering in Darkness”, I explain that a second-person experience is a matter of one persons being in a position to share attention with another person; it is a necessary but not sufficient condition for joint attention.

¹⁵Annette Baier has suggested to me that one can mindread the mind of a person who is sleeping, to some limited extent, but the experience one has of a sleeping person is not a second-person experience, as I have described second-person experience. It may also be the case that the mirror neuron system enables us to have a quasi-personal experience of things which are not persons, as when one has a sense of the personality of a robot, for example, or even when one has a sense of the personality of a building. But such experiences would not count as second-person experiences on my account. So there may be a broad genus of experiences of persons and quasi-personal things which is facilitated by the mirror neuron system and which enables a person in such experience to mindread, and second-person experience may be only one species within this genus. If so, second-person experience nonetheless seems to be the exemplar on the basis of which the other species within the genus can be understood. I am indebted to Alan Musgrave for calling my attention to the need to make this point.

¹⁶It is no part of my distinctions among first-person, second-person, and third-person experiences, points of view, and accounts to suggest that there is opposition among these so that an agent who adopts one of these about something is thereby precluded from adopting any of the others. So, for example, someone who has first-person experiences of beliefs and desires might also consider even his own beliefs and desires from a third-person point of view, as a neurologist would. It is also possible to combine first-person, second-person, and third-person perspectives in an iterative fashion. For example, I might tell you about my introspective experiences of listening to music; then you would have a second-person experience of me which included my first-person account. Or I might introspect reflectively on my second-person experience of you, considering how I really felt about what you said. Then I would have a first-person point of view about a second-person

Why think that there is such a thing as a second-person account? What would differentiate it from either a first-person or third-person account? In a first-person account, I give a report about some first-person experience of mine. In a third-person account, I give a report about some feature or condition of someone else. What is there left for a second-person account to do? Why wouldn't a report of a second-person experience simply be one more first-person account — if I report the conscious states which I had while in the second-person experience¹⁷ — or one more third-person account — if I report something about some other person which I observed during my second-person experience of her? Why couldn't a second-person experience be represented adequately in ordinary expository prose¹⁸ of either the first-person or the third-person variety?

If everything knowable in a second-person experience could be expressed in terms of knowing that, either with regard to oneself or the others with whom one interacts, then no doubt a second-person experience could be captured by first-person and third-person accounts, and there would be no room for anything that could be considered a second-person account. But the cumulative weight of the evidence and arguments I have given about the knowledge of persons is sufficient to show its distinctive character. Second-person experiences cannot be reduced to first-person or third-person experiences without remainder, and so they cannot be captured by first-person or third-person accounts either. As I have been at pains to show, knowledge of persons accessible in second-person experiences is not reducible to knowledge that.

To some people, this conclusion might seem equivalent to the claim that a second-person account is impossible. If the knowledge of persons is difficult or impossible to express in terms of knowing that, how can any account of it be given at all?

In one sense, the implied point of the question is right. There is no way to give an adequate account in expository prose of a second-person experience. But it does not follow that no account of it is possible at all. While we cannot express the distinctive knowledge of such an experience as a matter of knowing that, we can do something to re-present the experience itself in such a way that we can share it with others who were not part of it, so that the knowledge of persons garnered from the experience is also available to them.¹⁹

experience. Religious believers can consider religion from a first-person point of view, where that point of view includes reflection on what they take to be their own second-person experiences connecting them in some fashion with the person of God. I am indebted to Al Plantinga for prompting me to consider this issue.

¹⁷I am not here violating the explanation of first-person accounts given above, because, insofar as what is at issue is my conscious states, these are states I could have had during a hallucination of another person, when no other person was present. So the experience being reported in this first-person account is one I could have had by myself.

¹⁸For purposes of this chapter, I take 'expository prose' to mean prose which does not constitute a story and which does not fall into some other genre of literature (such as poetry) that is story-like in its artistry. I will describe accounts that are formulated in terms of knowing that something or other is the case as presented in expository prose. I am therefore using expository prose as a term of art, *faute de mieux*.

¹⁹In this respect, a second-person experience differs from a first-person experience of the sort we have in perception. There is no way for me to convey to someone who has never seen colors what I know when I

This is generally what we do when we tell a story.²⁰ A story takes a real or imagined set of second-person experiences of one sort or another and makes it available to a wider audience to share. It does so by making it possible, to one degree or another,²¹ for a person to experience some of what she would have experienced if she had been an on-looker in the second-person experience represented in the story. That is, a story gives a person some of what she would have had if she had had unmediated personal interaction with the characters in the story while they were conscious and interacting with each other, without actually making her part of the story itself.²² The re-presenting of a second-person experience in a story thus constitutes a second-person account. It is a report of a set of second-person experiences which does not lose (at least does not lose entirely) the distinctively second-person character of the experiences.

We can put the point the other way around by noticing what we lose if we try to reduce a narrative to expository (that is, non-narrative) prose. If we boil a story down to non-narrative propositions, so that all the knowledge it conveys is knowledge *that*,²³ then we lose the knowledge that the story distinctively provides just because we cannot convey by means of expository prose alone even a simulacrum of a second-person experience.²⁴ A real story cannot be captured in a set of non-narrative propositions; Cliff Notes, even ideally excellent Cliff Notes, are no substitute for the literary work itself. A Cliff Notes summary of *The Brothers Karamazov* would lose what is best about the novel itself.

Of course, how much of what can be known in a second-person experience is made available to others to learn by means of a story depends in part on the artistry of the story-teller. Harlequin romances no doubt give us something; the world's great literature, drama, and film give us much more.

So far I have been considering the way in which the knowledge of persons in real or imagined sets of second-person experiences can be transmitted. It is also helpful, however, to consider

know what it is like to see red.

²⁰I am not here implying that the only function, or even the main function, of narratives (in one medium or another) is to convey real or imagined second-person experiences. My claim is just that much less is lost of a second-person experience in a narrative account than in a third-person account, *ceteris paribus*.

²¹The degree will be a function not only of the narrative excellence of the story but also of the sensitivity and intelligence of the story-hearer or reader as well.

²²I do not mean to say that the story teller or artist does not contribute something of her own in the narrative presentation. On the contrary, part of the importance of narrative is that its artistry enables us to see what we might well have missed without the help of the narrative even if we had been present as bystanders in the events recounted in the narrative. It is for this reason that the quality of the artistry in a narrative makes a difference to what there is to know on the basis of it.

²³Someone might suppose that we could turn any story into expository propositional form just by prefixing to the story the words *It is true in this story that* and then filling out the remainder of the sentence with a conjunction formed from all the sentences in the story. But this swollen sentence would not constitute an example of expository prose since it would contain a story within it. And, in any case, it would not be true that all the knowledge in the story was conveyed by means of propositions *that*. The story would be embedded in a proposition *that*, but the distinctive knowledge of persons of the story would be conveyed by the story itself.

²⁴I can't, of course, specify what that knowledge is, since to do so would be to translate it into terms of knowledge *that*.

how the knowledge of persons in fiction can be appropriated by the audience for that fiction.²⁵ In my view, consideration of the mirror neuron system lets us think about audience appropriation of fiction in a helpful way.

We can begin by comparing the mirror neuron system with perceptual systems. Recent studies of the visual system, for example, have investigated what happens when a person sees a complex object and then watches that object rotating in space. Studies on visual imagery have shown that those parts of the visual system which are involved in the sight of the rotation of objects are also the parts of the system which are used when a person imagines the rotation of imagined objects (see, for example [26]). It is now clear that the visual system can be used for the actual visual cognition and inspection of objects in physical reality, or the same neural system can be used to form images of objects and to inspect the imagined rotation of those objects.

Nothing keeps us from supposing that the mirror neuron system which subserves the knowledge of persons can also be used in this dual purpose way, for the appropriation of second-person experience either in actuality or in thought only. If this is right, then it might be that when we engage with fiction, we also employ the mirror neuron system, but in an alternate mode, just as the visual system is employed in an alternate mode when we imagine the rotation of an imagined object. If the mirror neuron system is like the perceptual system in this regard, then the same system which explains our knowledge of persons in second-person experience could also explain our appropriation of the knowledge of persons through fiction.²⁶

I am not claiming here that the mirror neuron system is used in the appropriation of fiction to give us actual second-person experience. The appropriation of fiction does not give us real second-person experience, any more than the imagined rotation of imagined objects gives us real visual inspection of such objects. I mean only that when fiction functions as a second-person account and we gain some knowledge of persons from fiction, one possible explanation for why we do so is that the mirror neuron system can also be used in an alternate mode, for the engagement with fiction.

On this hypothesis, then, the knowledge of persons which is garnered in second-person experiences and preserved in narratives is communicable to those capable of exercising the

²⁵Philosophers have puzzled over audience reaction to fiction. In recent years some philosophers have considered the hypothesis that it can be explained by simulation. For an attempt to capture audience reaction to fiction in terms of simulation, see [23]. For a helpful discussion of the positions of Walton and others in connection with simulation, see [24]. For a discussion of the issue in connection with biblical narratives, see [25].

²⁶It can also help us understand the importance of pretend play in children. The predilection of children to engage in such play has been a puzzle to some philosophers and psychologists (see, for example [27]). But pretend play can be seen as the exercise of the mirror neuron system taken off-line, as simulation theorists say. In that case, the predilection for pretend play would be on a par with a predilection for ballplaying. It is a kind of play which trains the brain in a kind of coordination useful in adult activities. But, of course, this is simply a speculative suggestion.

cognitive capacities for knowledge of persons by means of engaging with the story. Excellence in interpretation, like excellence in narrative construction itself, will be, at least in part, a function of excellence in the exercise of the capacities for knowledge of persons on the part of the interpreters of the narrative.

6. The species of knowledge and the domain of science

So there is a broad array of knowledge commonly had by human beings which cannot be formulated adequately or at all as knowledge that. One important species of such knowledge is the knowledge of persons. In normally functioning human beings, such knowledge has a source in the mirror neuron system, which enables a person to know the actions, intentions, and emotions of another person in a direct, intuitive way analogous in some respects to perception. Such knowledge of persons is first gained through second-person experiences. And although the knowledge gained through second-person experiences is not reducible to knowledge that, it can be made available to others who lack the second-person experiences in question by means of a story of one sort or another that re-presents the experience. A story is, then, a second-person account.

Second-person experience and stories thus play a role with regard to the knowledge of persons analogous to the role played by postulates and arguments with regard to knowledge that. Experience and stories, on the one hand, and postulates and arguments, on the other, are devices for the acquisition and transfer of knowledge, although the kind of knowledge acquired or transferred and the sort of acquisition or transfer involved differ.

These two types of knowledge, knowledge that and knowledge of persons, are clearly not in opposition to each other; rather, as the studies on autism show, both are needed for adequate understanding of the reality in which we live.

And so it is important for us to realize and take seriously the possibility that however valuable and important the kind of knowledge given us by those academic disciplines which focus on knowledge that, including the sciences, that sort of knowledge does not exhaust all there is to know which is important to us. There is also the knowledge of persons available to us in second-person experience and narratives. In fact, if the major monotheisms are right in supposing that the ultimate foundation of all reality is a God, something with a mind and a will, then the sciences, whose focus is only on knowledge that, will not be able to teach us all there is to know even about the foundations of the universe. If the major monotheisms are right, then even to understand what is ultimately real, we will need to have not just physics and cosmology but also the non-propositional knowledge of persons, which cannot be mediated to us by the sciences.

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