

Pragmatism and Subjectivity

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Rorty's notion of a *final vocabulary* articulates an anti-rationalist conception of reason. It is indebted to Gadamer's attempt to capture the finite, limited, situated and perspectival nature of understanding as a mediation of tradition in which reflective, critical consciousness participates, but is not master. Rorty's recognition of the force of a final vocabulary—those aspects of our articulate practice beyond which, at the moment, there can be no compelling appeal, has drawn much criticism. His emphasis on the contingency and historicity of a set of basic evaluations and commitments has been met with accusations of relativism and subjectivism. In response, Rorty has claimed that these accusations trade on implicit allegiance to the scheme-content distinction, the idea of the knowing subject as something inner, confronting the world. The notion of a final vocabulary must be seen, Rorty suggests, as a part of the pragmatist revolt against a philosophically basic subject-object opposition. *Objectivity* is to be reinterpreted in terms of rules for social practice—solidarity, in brief, while *subjectivity* is to be deconstructed—abandoned, in Davidson's terms, as philosophical myth.

Subjectivity, however, is not only a philosophical term of art; it denotes a range of phenomena that matter scientifically, morally and politically. A task, then, for a Rortyan pragmatist now is to liberate the idea of subjectivity from its entanglement with anti-naturalistic conceptions of philosophy, while making space within our own vocabulary for an idea of the subjective

that is richer than the notion of subjects as bearers of propositional attitudes. The liberation would amount to a modification of the vocabulary in which we articulate the commitments that make up Rorty-style pragmatism. Allowing subjectivity to put pressure on our vocabulary is not a matter of analysis, or of choice, or redefinition, but of a certain kind of engagement. The idea, a fundamental one for Rorty, is that engagement of a vocabulary will allow reasoned modification—progress—even while we make no appeal to context- or vocabulary-transcending sources of authority.

Gadamer on subjectivism and authority

For Gadamer, the notion of subjectivism is important and complex, always indicating a tendency toward some kind of excess. A central Gadamerian use of the term associates it with Enlightenment Rationalism, indicating the idea that the critical powers of the individual thinking subject are such as to ensure, in principle, guided by the right method, understanding and knowledge untainted by the contingencies of time, place and variable human interest. Much of *Truth and Method* is devoted to criticizing this idea. Thus, Gadamer says,

Long before we understand ourselves through the process of self-examination, we understand ourselves in a self-evident way in the family, society, and state in which we live. The focus of subjectivity is only a distorting mirror. The self-awareness of the individual is only a flickering in the closed circuits of historical life. That is why the prejudices of the individual, far more than his judgements, constitute the historical reality of his being. (TM 276-277)

As most will agree, however, Gadamer's aim is not to promote anti-rationalism. The real object of his criticism is not rationalism, but a mode of thinking about human understanding that seems to leave us choosing between reason as a subjective power capable of neutralizing

the contingencies of history—and, I would add, biology—and human thinking as nothing but the conscious manifestation of essentially normless processes happening to happen to us. Actually, it is misleading to say, as I just did, that Gadamer is criticising a mode of thinking at all. It is not as if Gadamer is setting out to discover the presuppositions behind a false dilemma—subjectivist objectivism, as we may call it, or Cartesianism, or Enlightenment rationalism, on the one hand, and wild irrationality, hopeless subjectivism or relativism, on the other. To put things this way, to think of Gadamer as exposing the presuppositions of a false dilemma, the thesis and antithesis of which happen to have been instantiated by the Enlightenment and by the Romantic reaction, really runs against the grain of the deep historicism of Gadamerian hermeneutics. This would be a kind of analytic version of Hegelianism that distorts fundamental aspects of the message as well as modus operandi of Gadamer's work (and no doubt of Hegel's). We get a little closer to what is going on if we say that Gadamer is trying to trace the beholdenness to the Enlightenment and to the Romantic reaction to it in his own thought, and in the thought of his day—coming to terms and grips with the commitments that are at work in our own thinking.

Enough of this, however—the elaboration of the nature of genuinely historicist thought will quickly take us along a tangent away from what I would like to talk about. In what I have said already, it is clear that there is another important use of *subjectivity* in Gadamer's work—a use associating it with tendencies he has to defend himself against. *Subjectivism* in this second sense is the idea that understanding something succeeds in so far as the understanding meets needs specific to the understanding individual, that it serves to satisfy, in the hermeneutic case, the need of the inquiring—or listening, or reading, or watching—individual to experience an object as meaningful. This is to say that no norms of correctness or appropriateness are operative other than the ones the subject herself puts in play, and that the

only norms at her disposal, the only ones she is able to put in play, are ones that appeal to the effects that an object of understanding may *have on her*.

One might say: Gadamer, in *Truth and Method*, attempts to break free of subjectivism of the first kind, the Cartesian Enlightenment kind, by showing us that the alternative is not to retreat to a subjectivism of the second, irrationalist kind. Gadamer is trying to get us to acknowledge that our beholdenness to norms, our answerability to something beyond individual consciousness and need, our correctability as understanding creatures, is real enough, actual enough, also when we think of understanding as an ability of finite, historical, situated creatures.

A critical point, in Gadamer's case, his reworking of our conception of the source of the normative force we subject ourselves to when we try to understand something, is the notion of *authority*. This notion is critical, I suggest, because without it Gadamer's account of the historicity of meaning, of the traditionary, prejudicial, evolving nature of any understanding of which we as thinking, acting, interpreting subjects are capable, would amount straightforwardly to a paralyzing relativism. But, says Gadamer, in fact we do not find ourselves in the grips of paralyzing relativism. And why not? Because we recognize, in Gadamer's terms, the binding force of tradition—its authority over us. As I understand it, the thought goes like this. *Affirming* the binding force of the tradition is something we do constantly, in so far as we comport ourselves as agents in the world, because *tradition*, at its most abstract, is just a name for resources that we do not control, or oversee, but that we may thank for the fact that stuff makes sense to us at all. However, this affirmation through comportment in the world is an *implicit* affirmation, and we can be brought *explicitly* to give it up, locally, through experience, or reflection. And that is a good thing, since we often

enough make mistakes, and need to change our outlook. However, *recognizing* the authority of cognitive resources that transcend reflective consciousness is another matter. That is a matter neither of bluntly *choosing* (always an out for the relativist), or *implicitly affirming*, but of *coming to see* that we may, *ought*, to trust the fundamentals of our view of things, our understanding of things, even if we can never reflectively master, or certify, its factual or evaluative elements. As Gadamer says, "...the possible truth of the tradition depends on the credibility that reason accords it. It is not tradition but reason that constitutes the ultimate source of all authority." (TM 272)

So the elaboration of the idea of the recognition of authority is in fact a critical element in Gadamer's attempt to move us toward a recognition of ourselves as reasonable, not in spite of, but *through* our historical immersion; not in spite of, but *because of* the fact that in understanding, interpreting, we are always applying more resources than we can account for. In Gadamer's terms: the prejudices that we apply in interpretation are what make understanding possible at all.

In what remains of my talk, I am going to try to link up this flash excursion into *Truth and Method* with pragmatist thinking about subjectivity. I have two guiding ideas. One concerns, as I've advertised already, Rorty's idea of a final vocabulary. The problem that Rorty faces is that final vocabularies seem somehow to be arbitrary, and for that reason without authority. I think this Gadamerian way of putting the relativist and subjectivist charge often brought against Rorty may suggest an ameliorating perspective. The second thought is that we can well regard pragmatism as a self-conscious engagement with a certain kind of final vocabulary. So ongoing attempts to rearticulate pragmatism and its commitments may, so I hope, actually serve to illustrate that there is a difference between reasoned modification of one's final vocabulary and bluntly, subjectively, choosing one's commitments.

These thoughts, though, I will not spell out much further. Instead, I will try to *exemplify*, with some critical considerations regarding the notion of *the subjective* that is operative in a strand of pragmatism that I generally endorse. If all of this were fully worked out, the message would, I hope, be this: Final vocabularies, as structures of commitment and orientation, are—just as Gadamer says of language—something we as thinking agents operate in and through, they are not objects of reflective awareness to be endorsed or rejected or explicitly compared. *Reasoned modification* of final vocabularies happens not through choice, nor through analysis, but through the judicious, careful and tentative *application* of something that we as thinking creatures *are*, in new ways or in places where we have not before *been*.

Pragmatism and the subjective: Speaking machines vs. smooth operators

Davidson's elaboration of anomalous monism is useful to pragmatists, because it provides the following key ideas:

- different descriptions, true of the same thing, differ, among other things, in terms of the *human purposes* they serve.
- different descriptions of the same thing may be true of that thing without standing in any *definitional or nomological* relation to each other.
- there is no special or *privileged* way for a description to be true of a thing. There's nothing to be said about how a description is true of a thing beyond explicating the truth theory that accounts for the way the parts of the affirming expression contributes to its having the truth conditions it has.

Davidson was an anti-representationalist—he did not think that the notion of a mental representation would get us anywhere in understanding how it is that we are able to express

truths about the world. Davidsonian anti-representationalism deeply moved Rorty, who like Davidson, was also a physicalist. Indeed, AM is typically presented as a defence of a variety of physicalism—non-reductive physicalism, as Rorty calls it. I think the real insights of AM are quite independent of the commitment to physicalism, and that the latter leads to more trouble than it's worth. Physicalism is a species of what Huw Price calls *object naturalism*, with its familiar placement problems. By contrast, Price suggests, *subject naturalism* begins with the idea that we, speakers, thinkers, agents, are natural creatures (Darwinian products). This may then, as Price argues, in various ways serve to temper and constrain the kind of metaphysical ambition that physicalism represents. As Rorty came to see, his version of pragmatism is indeed a kind of Pricean subject naturalism. However, the commitment to physicalism, and incidentally the focus on representation as an idea harnessed to classical epistemology, drove Davidson and Rorty to a variety of naturalism about the subjective that I think pragmatists ought not to be comfortable with. I think that pragmatists, as subject naturalists, also ought to recognize *the authority of the subjective*; instead of treating subjectivity as a philosophical hypostatisation, we should take seriously the suggestion that the experiential dimensions of organisms' interaction with their surroundings matter, and that they are worth capturing in distinctive terms. I will try to make this claim plausible, first, negatively, by a quick contrast with the anti-subjectivity naturalism that unites Davidson and Rorty, and, secondly, more positively, through exemplification.

The anti-subjectivity variety of naturalism to which Rorty pays allegiance is expressed in a series of papers by Davidson from the nineteen eighties (papers which also contain some really juicy pragmatist stuff). Let us dwell for a moment on "The myth of the subjective" from 1988. In this paper, Davidson affirms an externalist, interpretationist view of content, the compatibility of interpretationism with physicalism, and the constitutive relation between

content states and causal relations to subject-external objects and thus the public nature of meaning. He rejects the scheme-content division and the concomitant conception of the mind as a synthesizer of given materials, and denies that there are objects of thought analogous to sense data or propositional entities. He then asks:

What remains of the concept of subjectivity? So far as I can see, two features of the concept of subjectivity as classically conceived remain in place. Thoughts are private, in the obvious but important sense in which property can be private, that is, belong to one person. And knowledge of thoughts is asymmetrical, in that the person who has a thought generally knows he has it in a way in which others cannot. But that is all there is to the subjective. (SIO, OUP, 2001, 52)

Now whether the claim about classically conceived subjectivity is true or false, I can't really say. What is clear, however, is that it is an extremely impoverished conception. What leads Davidson from the five sensible pragmatist doctrines to abandonment of subjectivity? It is physicalism. It is the idea that the fundamental kinds of things that we attend to are either things as they are captured in physical theory, or things as they are captured in the language of propositional attribution. When we are serious about things, we are wielders either of unified field theories or we are wielders of Tarskian truth-theories. For pragmatists like Rorty, still damaged by the possibility-spaces of philosophy of mind of the 1960s and seventies, this actually seemed like a liberating set of options. A pragmatist could now be a good naturalist—that is, a good physicalist—yet find space for what we care about, what has value, the human—that is to say, the mind—in the discursive space of propositional attitude ascription. We are not just physical things; we are also bearers of propositional attitudes. While this picture of the human mind as a matter of the possession of language by the human brain does alleviate the pressure exerted by physicalism, it also enforces a kind of dualism,

where we get to regard ourselves either as rationality-constrained speakers (in the wide sense of being bearers of propositional attitudes), or as physical entities. The view of the subjective that this picture encourages, what we might call the *speaking machine* view, reduces to the idea of a perspective on the world characterized by a particular set of propositional attitudes, expressed in action construed by principles of rationality. The rest, ultimately, is physics.

Now, for someone who, like Rorty, wants to displace our capacity for objective knowledge from the centre of our conception of human dignity, the *speaking machine* view of the subject should not be very attractive. Sure, we do many things with language besides representing things objectively, but many of those things that we do with language connect up with, or are versions of, forms of interaction that are manifestly present in non-speakers. We are, before we speak, while we speak, and after we speak, *smooth operators* in the world; we move about, respond, achieve things, sensibly, effectively, and, often, to our own good. This is what sets off subjects from other sorts of things; subjects are always doing stuff. But why should we think of smooth operation as an important feature of subjectivity? Isn't reflection, deliberation, the conscious application of reason to practice in a manner possible only for bearers of propositional attitudes what sets us apart? Aren't we essentially what I will call—no prejudice intended—*jerky operators*? In any case, aren't we here simply at a point where we can make a choice, and just *decide* what to load into our notion of the subjective?

I'd like to try to put this in the quasi-Gadamerian framework I suggested earlier. The investment of authority in a form of description means that we are guided by it in our thinking and acting—in how we construe the space of options for thinking and acting. The forms of description in which we invest authority are what make up our final vocabularies. I suggested earlier that modification of a final vocabulary is a matter of application of familiar notions in

new ways or in new places. Now, how might we work to convert ourselves into recognizing as authoritative a conception of subjectivity that encompasses the *smooth-operator* conception? There are the familiar naturalist demands; we want continuity with the rest of nature, nothing supernatural, no mysteries. We do not want a view of subjectivity that blocks out such continuities. So we do not want our notion of subjectivity, using Rorty's phrase 'to get the way of' the developing vocabularies that enable us to understand the emotional, cognitive and behavioural capacities of non-speaking creatures—or even speaking creatures that may happen to be slightly different from the exemplary, normal-ideal wielder of propositional attitudes. One obvious way of making sure we find ourselves in places where we have not been, is to do science—evidently, a very great deal of philosophy has been about, to put it in pragmatist terms, redrawing final vocabularies from the vantage point of the new places to which science has transported us. So a key strategy, in a project of subjectivity-revision, is to consider the capacities involved in smooth operation, and to try to understand the ways in which jerky operation—reflective, deliberative action—is parasitically dependent upon them.

Science and the subjective: Playful creatures and mental monsters

I'll offer two examples of the sort of engagement I have in mind.

One marvellous demonstration of the inter-special nature of subjective capacities is the phenomenon of play. In *The genesis of Animal Play: Testing the Limits*, Gordon M. Burghardt provides a unique perspective on play, whether the players are reptiles, fish, birds and mammals.ⁱ After a probing discussion of method and literature, Burghardt works his way toward a definition. "Play," says Burghardt, "is repeated, incompletely functional behaviour differing from more serious versions structurally, contextually, or ontogenetically, and initiated voluntarily when an animal is in a relaxed or low-stress setting." (82) The definition

proves to be strong enough to allow us, as we follow Burghardt's investigations, to recognize—and to recognize ourselves in—the playing activity of a vast range of animal species. In play creatures express both natural function and, at the same time, in exercising the natural function of play, freedom from the instrumental rationality of those particular functions that are being played out. Precisely because play expresses nature both as lawfulness and as openness, Burghardt's detailed descriptions and careful documentation is a source of conceptual movement; it isn't just that we have come to know something surprising about how much play there is in the many counties of the animal kingdom, rather, *we are left with a new insight into what it is we ourselves are doing when we play, that is, a richer understanding of what play is.*

The fundamental Darwinian lesson to be drawn from Burghardt and similar (though rarely as comprehensive) projects is that while differences between us and other species are of particular interest to us, these differences are not, in scientific terms, more categorical or deeply rooted than species differences in general. This means, as we sometimes need to remind ourselves, that their particular saliency to us depends on interests that go beyond a mere wish to gain knowledge of how things are. It also means, as has long been appreciated and as has become increasingly evident over the last three decades that we are well served by our knowledge of other species when exploring the psychological and social make-up of human beings. Furthermore, it suggests that the common experience of the ability to understand and communicate with members of other species—that is to say, encounter their subjectivity—is not without a scientific basis (even if we in this area, as in many others, tend to overemphasize the significance of the lexical). Finally, Burghardt brings home a point concerns the form of continuity that a naturalistic approach to the characteristics of subjectivity brings into view. It is easy, intuitively, to imagine this continuity as additive.

However, it brings one before a misleading image to imagine human play as, roughly, the usual primate repertoire plus some additional factor(s). Similarly with communication; no doubt, cognitively and communicatively we can achieve dramatically more than the chimpanzee or the bonobo, by virtue of being language users. However, even through and by means of language we perform varieties of social and communicative action recognizable as kinds performed also by other species. As with play, so to talk is to do many different things at once. And some of the things that we do when we talk and play we easily hide from ourselves—we can learn to see them by studying other playing, communicating animals.

Burghardt provides, so I claim, support for the claim that knowledge of other species and of the ways in which the worlds of human being and other species relate and interlink will alter our self-perception, our understanding of (at least some of) our own capacities as subjects.

This claim is explicitly argued by the animal behavior researcher Temple Grandinⁱⁱ.

Grandin's work has brought about several important improvements in the area of industrial husbandry, particularly with regard to transportation methods and the design of slaughter plans. She is undoubtedly unusually gifted when it comes to spotting causes of anxiety and stress for animals being handled in transport and in slaughterhouses. This talent consists in her ability to see (and to hear and to smell, but sight is primary) the surroundings the way that cattle (or chickens or birds) do. Such an ability is of course developed only through diligent practice guided by vast knowledge, but, according to Grandin, its fundamental source is neuro-physiological. Most of us humans have a large neocortex with well developed, well functioning frontal lobes. We owe the lobes, among other things, are ability—unique in its range to humans, it appears—to perform abstractions, and our ability to filter and integrate sensory information; humans see the big picture, we extract what is relevant in light of our aims and expectations. In this area we are remarkably more advanced than other animals.

Fowl, cattle and swine fix on detail, simply because the apparatus of integration and abstraction through which the sensory information is run is, compared to the human version, of extreme simplicity. And this is the point: that, to a significant extent, is how it is or Grandin as well. True, her cerebral anatomy is in large features similar to that of her conspecifics, but as an autistic person she possesses frontal lobes the synaptic connections of which, connecting them to the other areas of her brain, are observably less dense than in the non-autistic part of the population.ⁱⁱⁱ The specifically human ability to reflectively consider the forest and ignore the individual trees has proved, in critical selective conditions, to be an enormous advantage. Perhaps that is why it is not governed by conscious will; it has no dimming switch, and can only to a small extent be adjusted by conscious choice. And it does come with a price tag. The downside of integration-through-abstraction is what psychologists call "inattention blindness." Such mental blindness is a lacking ability to consciously take in what is in fact occurring within the field of one's sensory apparatus. As Grandin points out, well-known experiments reveal that even a person in a gorilla suit running around the court during a basketball game may simply slip under the mental radar of an involved human spectator.

What she calls hyper-specificity, which she shares with animals, is one of several features of the mental life that Grandin attributes to her autism, and which she believes enables her—more than most humans—to appreciate the experiential dimensions of animal life. A well-known approach to autism characterizes the condition as "mind-blindness", a lacking ability to see the actions of others as meaningful expressions of subjective goals and individual perspectives on the world.^{iv} This, and related features of the affective and cognitive life of an autistic person, means that important aspects of an otherwise shared part of human psychosocial experience is not directly accessible to her. While there is much uncertainty

about this, there is some reason to think that the ability to take on board the perspectives of other agents—to ascribe to other beings subjective beliefs and attitudes and emotions and to understand their behaviour by means of such meta-representation—is extremely limited in species other than our own.^v In this respect, too, Grandin’s autistically configured brain gives rise to an immediate social phenomenology that differentiates her from non-autistic people. At the same time, it affords her access to another, far less common and matter-of-course experience of human being in action. To animals, people may be strange and incomprehensible beings—and therefore frightening beings—in ways that non-autistic humans simply do not register.

Undoubtedly, Grandin’s interpretation of her own autism and the claims she advances on that bases will trigger resistance. My concern here, though, is not to defend it, but to note the way in which Grandin’s self-understanding portrays a transitional figure, a mediator between varieties of subjectivity. She combines the uniquely human ability to undertake rational communicative commitments—thus the ability for reflective thinking—with a subjectivity that, she claims, brings her closer than most of her conspecifics to the phenomenological experience characteristic of the worlds of other species. And while such transitional figures, blends—monsters, in the original sense of the term—are by no means unfamiliar to us, it is noteworthy that Grandin’s variety is a self-presentation and, moreover, one that uses natural-scientific terms to underpin its claims. The point here is that Grandin’s position is entirely understandable, that we have developed a scientific vocabulary that may be used to support her self-understanding; while philosophers of ages past (including some still breathing and writing) have tried to analyze their way to necessary or at least sufficient conditions general conditions for the possession of reason, rationality, or consciousness, Grandin offers her own

particular form of involvement with the world as a practical argument for a naturalistic, and thus also anti-essentialist and gradualistic, approach to subjectivity.

Where, then, does this leave us? Addressing the authority of forms of description means to investigate the hold they have on us, partly in affirmation and partly also in reformation, as we come to appreciate new aspects of the relations between our vocabularies and our needs and interests and abilities. Attending to subjectivity outside the scope of the speaking-machine picture, is to allow us to soften the dualism that it imposes, and to enrich the notion in ways that will affect also how we understand ourselves. We are indeed bearers of propositional attitudes, but we are so much more, and not just qua objects of physical theory but qua subjects, creatures with capacities of subjectivity, indeed, qua natural subjectivities.

Pragmatism, in so far as it endorses the speaking-machines view, saddles itself with a conception of subjectivity that cuts subjectivity off from what isn't subjectivity in a way that constrains our thinking about how we fit in with the rest of nature, and about what the capacities are that make up a living experiencing subject in the world. But there is no need for naturalist pragmatists to stay with this conception—subject naturalism does not require it, and subject naturalism is the only naturalism we need. Subject naturalism, allowing the sciences of the enabling capacities of smooth operators to permeate and enrich our notion of subjectivity, opens up the possibility for re-conceiving what we value about ourselves as humans, and also the relation between what we value about ourselves and what we value in other creatures. Thus, this is not just about the adequacy of concepts to evolving knowledge; also the scope of our solidarity may be affected, in ways that the speaking-machine view of the subjective does not encourage. This, one may suspect, is part of the reason why it is so hard to dislodge, and also why dislodging it would indeed be a very a good thing.

Conclusion: authority and anti-authoritarianism

Picking up, in conclusion, on this last point; investigating *subjectivity* (or “the mental”) along the lines I have been gesturing at, is to thematize the varied roles that this notion (and all the ones in its tow) play in a number of linguistically infused practices where varied and not easily harmonized interests may be at stake. What need to be addressed are these interests. So a pragmatic approach to subjectivity focuses on the concept of subjectivity both as a locus of accruing empirical knowledge and understanding and as a locus of normative concerns. To allow that notion of subjectivity should retain or regain authority in our vocabulary, is to stand by and to guard the hunch that these normative concerns should not be allowed to slip from attention. In Rortyan terms, then, subjectivity is important because we may come to use it as a notion for extending, rather than limiting, solidarity.

At stake here, however, is not only the Rortyan virtue of solidarity. If we think of the philosophical question of the nature of mentality, or the articulation of theories of subjectivity, as a matter of determining conceptual or metaphysical fact, we run the risk of obscuring what are actually substantive judgments and rankings of the diverse and competing human and animal interests that shape our language-use, our evaluations, and our practices. We then risk disguising from view ways that we are shaping the world we live in, treating as simply given a range of distinctions and kinds in an area that might well have been construed differently, to some consequence both ethically and practically. That is why Rorty called such philosophy—metaphysics—authoritarian, and why he claimed, rightly, that pragmatism at its core is anti-authoritarianism. I’d like to say that the project I am engaged in, then, and that I take fellow pragmatists to be engaged in, is a continuous effort to work out anti-authoritarian commitments—looking always for new ways, new places, to face up to and to affirm human freedom.

ⁱ Burghardt, Gordon M., 2005. *The Genesis of Animal Play: Testing the Limits*. Cambridge, MA: MIT Press.

ⁱⁱ Most recently in Grandin, Temple and Johnson, Catherine, 2009. *Animals Make Us Human: Creating the best life for animals*. Boston and New York: Houghton, Mifflin, Harcourt.

ⁱⁱⁱ My rendition in these paragraphs is based on Temple Grandin's own account, in, Grandin, Temple and Johnson, Catherine, 2005. *Animals in Translation: Using the Mysteries of Autism to Decode Animal Behaviour*. New York and London: Scribner.

^{iv} *Locus classicus* is Baron-Cohen, Simon, 1997. *Mind-Blindness: An Essay on Autism and Theory of Mind*. Cambridge, MA: MIT Press. At the Autism Research Centre, Cambridge University, Baron-Cohen's team has developed a far more controversial theory of autism, based on evidence for systematic sex-related differences between human brains, which they call the "extreme male brain" theory. About the EMB approach to autism, and the basis for it, see Baron-Cohen, Simon, Knickmeyer, Rebecca C., and Belmonte, Matthew K., 2005. Sex differences in the brain: Implications for autism. *Science*, 310, 5749, pp. 819-823.

^v A thorough and thoughtful handling of the question is offered in, Tomasello, Michael, and Call, Joseph, 1997. *Primate Cognition*. New York and Oxford: Oxford University Press, chapter 10.