

Inaugural lecture for Seth Merrin Professorship– 12/12/05

Cognition of Society, Culture, and Values

Ray Jackendoff

I want to start by thanking the Merrin family for their wonderful gift of this chair to Tufts. I feel deeply honored, by the Merrin family, by the Administration, and by the Board of Trustees, to have been named to the Merrin Professorship. As a new member of the Tufts community, I've been so impressed with the energy and enterprise of this university, and this honor today only adds to the challenges I feel I have to live up to here.

Although my principal research has been on language, I thought I'd talk today about a topic that has been playing a greater role in my thinking recently, and one whose connection to more general concerns is perhaps a little more evident. This topic is the cognition of society and culture. What do I mean by this? For a rough definition, I'll take social cognition to mean our ability to interact with other people and to understand how other people interact with each other, in the context of larger social institutions.

Now you may be wondering: Why should we have to worry at all about a cognitive capacity for social interaction? Aren't all our interactions with others just determined by (or constructed by) culture? My answer is that in order for an organism to interact with others, it has to have a brain. Rocks and trees don't have social interactions. And fish and cats and even chimpanzees don't have the same kinds of social interactions we do. So, even if you insist that our social interactions are determined by culture, it's still important to ask two questions. First, what is the character of human social and cultural knowledge, such that it can be stored and processed in a human brain? Second, what is it about human brains that makes them susceptible to being influenced and shaped by human culture -- and what is it about cat and chimp brains that makes them *not* susceptible, even when they are extensively exposed to human culture? It isn't enough to simply attribute this difference to human plasticity. Over the past few decades it has become clear that human brains are not equipotential blank slates, ready to take up whatever the environment happens to present them with. It has also become clear that a capacity to learn *is* a cognitive capacity, it's not just the absence of a rigid instinct. The evolutionary transition from ape to human cognition should be characterized not as a loss of instincts, but rather as a gain in ways to learn.

The starting point in thinking about social cognition is that humans manage to participate in and understand an unlimited number of social interactions, most of which they have never

encountered before in the exact same form. An individual's ability to interact socially therefore has to involve a mental framework that's partly conscious and partly unconscious, in terms of which he or she understands social situations in their vast variety.

Whether this framework is conscious, unconscious, or some mixture, children have to acquire it in the course of being socialized. For the conscious parts there is probably a lot of explicit teaching on the part of those with whom the learner interacts. For the unconscious parts, though, the only thing the child has to go on is examples of actual social behavior, without explicit interpretation. This means that the child must be actively creating interpretations that lead to acquiring the framework for social interaction. In order to accomplish this, the child can't be flying blind: there have to be inner resources in the child's brain that make this learning possible. Since these inner resources are by definition *not* learned, they must be a consequence of the inherent structure of the human brain, which in turn is determined by the interaction of the human genome with the processes of biological development.

If you happen to know anything about contemporary linguistics, you'll recognize in this approach to culture a strong parallel to the way language is studied these days. And as with the study of language, all aspects of cognitive neuroscience can be brought to bear on the problem. We can study the structure of social understanding and look for universals of human culture, using tools of anthropology. We can ask about the neurological and genetic bases of social cognition and about how the brain processes, accesses, and stores social information in real time. We can ask about the course of the child's social development, and about the consequences of various brain deficits – whether these are genetic deficits (perhaps autism) or deficits acquired through brain damage. In other words, all the angles available for studying the language capacity have analogues in the capacity for social interaction. And in fact all of these approaches are by now amply attested in the literature.

There's an additional line of evidence for human social cognition that isn't available for language: we can look at social interaction in other species. Primate societies are highly structured and vary along certain dimensions from species to species, such as characteristic size of social group, whether they have monogamous groups, harem-based groups, or polygynous groups, what their characteristic modes of aggression and reconciliation are, what the character of dominance hierarchies is. These factors hint at a strong innate genetic basis to primate social organization. Moreover, much of primate social behavior looks quite familiar to us. This suggests (following Darwin) that behind human culture lies a firm foundation of primate evolutionary ancestry. Of course, human social organization is far more elaborate than that of

our closest relatives. But using standard comparative methods, we can form hypotheses about the ancestral great ape social repertoire, and we can ask what tricks evolution had to add to the ancestral repertoire to get modern chimps, bonobos, gorillas – and us.

Overall, I'd like to think of the human faculty for social cognition not as a prescription of the way culture *must* be, but rather as a “toolkit” of issues that societies must address in one way or another. Through this toolkit, children learning a culture are alert to detect environmental cues for how the culture deals with these issues, and they are innately provided with some building blocks for constructing the relevant concepts. Among these issues are intention, kinship, group membership, dominance, alliance, friendship, enmity, rights and obligations, and the relation of humans to the natural and supernatural world. These concepts do not come for free in the cognitive repertoire. Cows don't have them, and chimps have only some of them, and these only in a limited way. So ultimately we come around again to the question of what it is about humans that permits us to have these concepts, which structure our perception of the world and our action in it.

So let me give you some idea of what I think social cognition includes. Social cognition stands alongside and interacts with our understanding of physical space. The cognition of space involves concepts of physical objects that are located in three-dimensional space, that move in this space, and that exert forces on each other. Among the physical objects are natural objects like rocks and trees and rivers, functional objects with affordances for use like bicycles and tables, and animate objects like ants and worms and rats and tigers.

In the social domain, the basic entities are *persons* – individuals with whom we can have social relations. This domain encodes the relations and actions among them *as* persons: among other things, persons have social roles and responsibilities, and they are subject to moral judgment. It is our personhood that is traditionally taken to “raise us above the animals.”

Like all concepts, the concept of person has a certain amount of leakage at the boundaries. Pets probably count as (sort of) persons, and so do personified animals in folk tales and cartoons. But the mosquito buzzing in your ear, though it's animate, certainly doesn't count as a person. And there's also leakage in the other direction: it's an all-too-common social tactic to characterize members of another group as animals (say pigs, dogs, or monkeys), and use that as an excuse for condoning ruthless behavior toward them: they do not qualify for social relations, so, as with mosquitoes, anything goes.

People are conceptualized as occupying both the physical and social domains. This

duality is culturally widespread in folk conception as the division between body and soul, or body and spirit. Personal identity invariably goes with the social domain, not the physical. Let me illustrate this duality with a couple of observations. First, there is a culturally ubiquitous belief in supernatural entities such as spirits, ghosts, and gods, and souls that survive death. These are all taken to be beings who lack definite physical bodies, but they still have social relations with people and with each other. Hence they exist in the social domain, but not the physical. Second, we have no problem conceptualizing persons coming to inhabit different bodies through reincarnation, metamorphosis, or body-switching (consider how easy it is to understand movies like *Freaky Friday*). Third, there is a strange disability called Capgras Syndrome. A person who suffers Capgras Syndrome as the result of a stroke will claim that, for example, his wife has been replaced by an imposter – a different person – who looks just like her. In all these cases, an individual’s personal identity – in the social domain – is cut loose in one way or another from the identity of the physical body.

A different sort of argument for duality and separation of the two domains is that people show extreme discomfort with notions like golems, humanoid computers, and the like – physical objects which suddenly sprout social identity or personhood. Such beings always play an unsettling role in folk culture, including our own (“Will computers get so smart that they’ll take over the world?”). Another argument, which I’ll return to at the end, is a sort of converse of this: people have extreme difficulty accepting within a materialist philosophy of mind – thinking about persons as defined only in physical terms (“How can we be just machines? That deprives us of our dignity and moral standing!”). The point is that conceptually there is a transcendental difference between the physical and the personal, one that is essential to our sense of our selves as human beings, and one that is virtually impossible to erase.

The social plane does not contain only persons. It also contains the relations and actions among them, insofar as these are socially defined. Consider something as simple as shaking hands. The point of the action can’t be stated just in physical terms. Rather, we perform this physical action for the sake of its social significance, for instance for greeting someone, taking leave of someone, or congratulating someone -- all of which are social actions. Choices of costume or speech style can also be used to signify social roles. In other words, physical actions become social because we construe them as such in terms of the social plane. This is the sense in which one can speak of the “social construction of reality.”

Of course, a very important part of social cognition is keeping track of your relationships to others. I want to mention a number of sorts of relationships, each of which has somewhat

different properties. Perhaps the most obvious is *kinship*. In every culture, each individual is in a special relationship with his or her parents, children, spouse, and siblings. Many aspects of this relationship arise clearly from our mammalian heritage, in which the parents (or mother alone, depending on the species) has to take care of the young for some period of time. Evolution has provided us, like other mammals, with patterns of perception and behavior that make this care possible and basically pleasurable.

Kin altruism extends beyond parent-child relationships to include siblings and potentially even more distantly related kin. Theoretical models based on the “gene’s-eye view”, such as have been popularized by Richard Dawkins, predict the existence of such relations: since your kin share genetic material with you, acts that you do on behalf of your kin can lead to proliferation of your *own* genes to some degree. In human societies, we extend kinship bonds to more distant relatives as well as immediate family. Most cultures have elaborate customs, obligations, and rights associated with being in particular kin relations. For example, every culture has an incest taboo, but its precise extent varies from culture to culture – with which extended kin are sexual relations forbidden and with which are they permitted or even encouraged?.

Although we have perceptual cues for who is in our immediate family (the people we live with), we don’t have any cues like that for more distant relatives. We rely on someone *telling* us we’re related, and miraculously we come to feel the bonds of kinship. People easily can feel warmth towards distant cousins they have never heard of, whom they meet for the first time at a family reunion. Likewise, an adopted child often feels affection for a newly discovered biological parent. When we conceive of being kin to someone, we feel and behave differently toward them.

A different sort of relation is that of allies or friends, unrelated individuals between whom there is a voluntary and lasting commitment to cooperative activity. The flip side of allies is rivals or enemies, between whom there is a lasting commitment to competition. In both cases, participants know what they can count on from each other. Such relationships are documented in the primate literature as well. My impression is that in many cultures alliances can be formalized by oaths and the like – institutionalized agreements to establish the mutual relationship.

Another sort of relationship is dominance, in which a subordinate individual regularly defers to a dominant individual in matters of food choice, sexual selection, grooming partners, and so forth. In animal societies, dominance is often based on size and aggressiveness, but it

doesn't have to be. For instance, it can depend on kinship relations: among vervet monkeys, for example, the children of highly ranked mothers inherit high rank.

In animal societies, dominance relations often fall into a linear order: every individual in the group has a distinct place in the "pecking order." In primate societies, individuals know not just their own relations to each other monkey in the group, but also the relations of other monkeys to each other. Dominance hierarchies characteristically remain stable over time, but subordinate individuals can mount challenges which, if they're successful, rearrange the pattern.

In human societies, dominance relations are pervasive too. But rather than there being a single pecking order, dominance can be organized along many different dimensions, such as parent to child, teacher to student, boss to worker, ruler to subject, celebrity to fan, president to faculty, and in many cultures, husband to wife. It seems to me that when larger-scale human dominance hierarchies develop, they differ from animal hierarchies in tending to be pyramidal rather than linear. There's a top person dominant to a number of relatively equal subordinates, each of whom is dominant to further subordinates, and so on. This drastically expands the size of the group over which dominance can be extended; but the basic notion of a stable asymmetrical relationship based on deference of one individual toward the other bears a strong resemblance to the animal model.

Another kind of lasting affiliation, which forms one of the most important elements of social structure, is group membership. The fundamental premise of the logic of groups is that some set of individuals constitutes a group, and everyone else is not a member. Typical examples are formalized groups such as a club, an orchestra, or a religious congregation. Families, extended families, and clans are particular sorts of groups which add kinship relations to the basic premise.

The point of groups is that your actions toward others can be conditioned not by who they are as individuals, but whether they are members of the group or not. The most basic principles of groups can be expressed in two axioms:

- Axiom 1. a. Other things being equal, if you are a member of my group, I will behave favorably toward you, e.g. I will be willing to cooperate with you
b. And I expect the same from you.
- Axiom 2. a. Other things being equal, if you are not a member of my group, I will behave unfavorably toward you, e.g. I will compete with you
b. And I expect the same from you.

If you think about it, this basic logic obtains in every kind of human group all the ways from teenage cliques to nations, with professions, religions, and social classes in between. And we find it in primate groups as well.

Given this logic, it's important to be able to determine who's in and who's out of your group, especially when groups get so large that members don't know everyone else in the group. Members of human groups often make themselves more easily identified by adopting characteristic dress, customs, and manner of speaking.

I'd like to consider a further hypothesis: that people tend to conceptualize a group not just as a collection of individuals, but as a sort of "super-individual", and that this leads them to apply the logic of individuals to the group.

Consider some of the hallmarks of group membership. Just as one has one's own self-esteem as an individual, one has self-esteem that derives from one's group membership. Members experience feelings of pride in their own group, a sense of its superiority to other groups, and on occasion a partial loss of individual ego within group identity. Groups characteristically stage events that reinforce this group identity and allegiance. For instance, think about rituals that grant membership or status, such as coming of age ceremonies, coronations, marriages, and award ceremonies (like this one). These are not just for the benefit of those who undergo the ritual: they are also for the benefit of the spectators. Funerals and even football games also play this role of strengthening the sense of the group and the concomitant sense of group self-esteem.

Within this "super-individual", a group member is conceptualized not as an individual, but as an instance of a category -- an American, or a psychologist, a member of the Lions Club, or maybe a Branch Davidian. So, like all other cases of categorization by humans, there is a pressure to conceptualize all the instances as being alike -- to reduce everyone in the group to an essentialized stereotype. This pressure is not confined to one's conceptualization of other groups: within the group there is also a pressure for everyone to be alike.

The view of a group as a "super-individual" also makes it easy to understand the relations among groups. Like an individual, a group can exert dominance over another, compete with another, or form alliances for cooperation with another. In turn, these relations are "inherited" by members of the group. Thus a member of a dominant group will presume that he or she is

personally dominant over members of a subordinate group (this is of course one of the bases of ethnic discrimination and racism). And on the other hand, members of groups that are considered allies are more likely to show affiliative behavior than are members of competing or hostile groups. So, it is natural to say, “My country is an ally of your country; therefore you are my friend”, or “My country is an enemy of your country, therefore you are my enemy”. And we do this all the time.

In studying other cultures and in engaging in our own, we take for granted all these parts to the logic of groups. Now this raises a developmental issue: do children learn all this? Or do they understand the logic of groups innately and just plug into it any groups with which they come to associate? Given that there’s a parallel though less complex instantiation of this logic in primate societies, I would be inclined to vote for a substantial innate component.

What sorts of things might children *learn* about their groups? Well, first of all, they have to learn which groups they belong to and what other groups are in their social milieu. What else? One important variable in the customs of a group, I think, is the degree to which it enforces conformity and sublimation into the group. For instance, it is sometimes said that American society encourages individualism and tolerates nonconformity, at least outwardly, whereas Japanese society tends to discourage both. Another variable among groups seems to be how intensely they apply Axiom 2 (“compete with those who are not group members”), and which other groups they apply it to. For instance, Islam in the Middle Ages and in the Ottoman Empire seems to have had a relatively live-and-let-live attitude toward other religions and ethnicities, in sharp contrast with contemporary fundamentalist Islam. Similarly, the catastrophe of the early 1990s in the former Yugoslavia can be seen in large part as coming from a radical shift in the public face of this parameter, changing rather suddenly from relative tolerance to intense intolerance of other ethnic groups. I don’t think I need to multiply the horrible examples. In any event, the settings of both these variables must be learned by individuals from their culture.

Now I want to think a bit about the codes of conduct associated with groups. These are made up of various sorts of normative rules such as obligations, laws, and morals. Rules take a general form something like this:

In such-and-such a context, if you {do/don’t do} X, consequence Y of good/bad value to you will ensue.

Notice that rules apply only to persons. Pet dogs are not subject to obligations, laws, or morals --

only their owners are.

Different sorts of rules differ in the kinds of consequences that they promise or threaten. Here are some examples:

□ An obligation (including a promise) specifies certain actions that the holder of the obligation is supposed to perform, for the benefit of the person to whom the obligation is made. If I fail to meet my obligation to you, you get the right to perform some action that harms me. For instance, if I fail to pay off a debt to you, you have the right to demand restitution and perhaps further sanctions against me.

□ A legal code designates certain actions as desired or sanctioned by the authority of the group; here the consequences of reward or punishment are carried out by designated representatives (like police and courts) who act as proxy for the group.

□ A system of moral or ethical rules designates certain courses of action as morally good and others as morally bad (and leaves the rest neutral). As far as I can see, the consequences associated with moral rules generally concern the approval and trust of community members. A person's moral value is based on the morality of his or her actions. If you do morally good things, like drop a few million dollars on your alma mater, people think more of you – they consider you a morally good person, you have a good reputation, and they trust you more. If you do morally bad things, the opposite. In turn, if people trust you, they're more likely to want to cooperate with you for mutual benefit, which is why it pays to be virtuous.

□ Religious codes replace approval by the community with approval by the deity or deities. In the Judeo-Christian tradition, the consequence isn't just approval or disapproval, it's specific reward or punishment, perhaps in the afterlife. Jewish tradition even sees its religious codes as a legal contract between God and the group.

I could go on and cite many other kinds of rules: parents' rules for their children, manners and rules of etiquette, dress codes, dietary customs, and so on. I think, though, that they are basically all of the same form; they differ only in the circumstances within which they're applied and in the general form of the consequences. A group's code of conduct is made up of such rules, explicit or implicit: each rule attaches a social value to a kind of action – again connecting the social plane to the physical.

Now certainly, the codes of conduct particular to a community have to be learned by

children. But it's quite possible that we don't have to learn *that there is such a thing as a code of conduct, that there are such things as normative rules*. Rather, the pervasiveness of this kind of organization suggests that the idea of a normative rule is a skeletal concept around which humans organize their social existence.

These different sorts of rules are not always clearly distinguished. For instance, moral/ethical codes are often taken to be entirely based in religious codes. Now it's true that religious codes often do state moral principles. But that does not make them the same thing. You can have an ethical code that's independent of religion (think of honor among thieves, and perhaps desert traditions of hospitality); and many religious codes such as principles for performing rituals hardly fall in the moral domain.

A particular action may have conflicting consequences in different normative domains. A classic case is the evil landlord in the melodrama. He's foreclosing on the poor widow, in exercise of his contractual right, but in so doing he's acting in violation of the moral code. He's right in one sense and wrong in the other. In the other direction is nonviolent civil disobedience along the lines of Gandhi and Martin Luther King. This violates the legal code but is in conformance with what is taken to be a higher moral value. More generally, my sense is that at best, explicit legal and religious codes are intended as codifications of a more inchoate sense of morality. At worst, of course, they can be used to legitimate the raw exercise of power.

One thing that intrigues me is the way normative rules -- of all sorts -- are taken to be objective entities in the world, albeit abstract. In particular, the rules that we call "moral values" are conceptualized as timeless, universal, and objective, whether or not they really are, crossculturally and historically. This is why moral relativism is so repugnant to many people: they reason that if a rule is relative, it *can't* be moral.

Yet: cultures differ in what they themselves consider to be morality, as opposed to mere social convention, for example with respect to issues such as sexual mores and slavery. Two hundred years ago, as we know, there were large portions of this country where slavery was considered morally okay. Does that make the status of slavery just an issue of social convention? We wouldn't say so now, in today's society.

In addition, when we look at a culture from the outside, what looks to us like mere social convention and what looks to us like morality are inextricably intertwined. Consider for instance the Ten Commandments. Alongside what we'd definitely call a moral dictate, "Thou shalt not

kill”, we find what looks like a social convention: “Keep the Sabbath.” Nevertheless, according to the Book of Exodus, violation of either one is punishable by death. So from the inside of the Old Testament world, these two strictures had rather similar status.

At this point the issues get very tricky -- and not just scientifically tricky. They run below the surface of a lot of intense public debate, not to mention thousands of years of philosophical and religious discourse. The underlying question is: What are the sources of moral/ethical values, particularly those that are conceptualized as universal and timeless?

A great deal of western and especially American tradition has regarded moral values as given by God, for instance in Thomas Jefferson's phrase "endowed by their Creator with certain unalienable rights." I am given to understand, actually, that Islam takes a similar stance on the source of morality. The moment Darwin's *Origin of Species* was published in 1859, everyone recognized the threat that evolutionary theory posed to this account of moral values. Certainly in the US today this issue is connected with the rise of religious fundamentalism and its continuing hostility to evolutionary theory. For if morals aren't given absolutely by God, where do they come from? If morals are relative or subjective, just made up by people, who says you can't make them up any way you want? How can you argue against nazism or communism -- or secular humanism or abortion or free love? It's better to trust in what God says. The consequences of this attitude for education and for public discourse in science and the humanities are obvious to anyone. And not only that, we see military actions being justified (by both sides) on grounds of timeless absolute God-given morality.

To my knowledge no one has offered a coherent answer to the question of how moral values are to be grounded within a society that does not rely on a particular God's authority -- that is, within the global society we all live in now. For the most part I don't find that people opposing the religious fundamentalists really try to answer the question; they just assert their own moral codes and point out the contradictions and vast helpings of self-interest in the religion-based position.

I am not so sure that a theory of social cognition can provide a proper grounding for values either, although perhaps it can offer some insight into sources of social conflict. Let me offer an example. I think it's been well established by evolutionary psychologists such as Richard Dawkins that there is an asymmetry between males and females in reproductive strategy. Reproduction is a small investment for a male -- he just has to perform the act. But it's a large investment for females, who have to produce large eggs, and in the case of mammals they have

to nourish the babies too. This asymmetry drives lots of behavioral asymmetries observed in lots of species. One particular game-theoretic consequence is that males are more likely (or more inclined) to be sexually promiscuous than females are. This is a phenomenon we observe in humans as well. But we wouldn't want to argue from this biologically-driven logic that this is the way it *should* be -- that we *should* condone or even encourage male promiscuity. Morality ought to be properly distanced from biology here (notice that I can't evade a normative conclusion here: I have to say *ought*).

Dawkins's way of putting this conclusion is that our rationality can free us from the dictates of our genes. But turning to rationality or science to tell us which way we ought to follow implicitly assumes some particular goal for how we want society to be -- sneaking values in the back door. And what justifies those values? We're back in the same boat.

A deeper issue emerges from the first element of social cognition that I brought up, namely the basic way we conceptualize ourselves as a combination of the physical and personal planes. Our bodies and our mere animacy (the "brute instincts") are understood in terms of the physical plane. But the parts of us that we hold most precious are part of the personal plane: our personal identity, our free will, and our moral responsibility. Now consider: the goal of the Enlightenment, broadly stated, was to discover what we humans are and what our place is in the world, using rational techniques rather than religiously dictated faith. Reason was going to tell us the point of our lives. But beginning with Darwin and especially in the last half of the twentieth century, reason has led us to the conclusion that -- there is no point to our existence! Our bodies are no more than the product of an unimaginably long mindless process of environmentally-shaped evolution, and our minds are the product of the activity of an unimaginably large collection of mindless neurons. The soul is a confabulation, free will is an illusion. One can certainly read our colleague Dan Dennett's work this way, for instance, along with much other contemporary work on neuroscience and evolution.

Although this result may be awe-inspiring to a scientist, it is cold comfort to ordinary human beings, who, *because of their mental constitution, cannot help but understand their deepest hopes and aspirations in terms of the personal plane*. Consequently, attempts by cognitive neuroscientists and evolutionary biologists to educate the public on the science are taken as attacks on personhood, human dignity, and moral responsibility. It is not enough for scientists to say to the public "Sure, evolution and neuroscience are counterintuitive, but so are relativity theory and quantum mechanics, so get used to it." Relativity and quantum mechanics don't threaten one's personhood. So it should be no surprise that one consequence of the modern

scientific view of human beings is a widespread suspicion of science, now extending to the highest levels of government. The associated turn toward religious fundamentalism is not just about morals: whatever the other faults of religions, they do grant human beings a central place in the workings of the universe, which is where, by our nature, we deeply want to be. In a sense the Enlightenment, by undermining its original goals, has failed us.

I have no prescriptions for how scientists ought to deal with these issues. The point of these examples is not to offer a solution, but only to show how a theory of social cognition impacts on these issues and perhaps sheds some light on why they arise. But it's important to remember that these political issues *are* part of the territory. Those of us who want to work in this area ought to be prepared to discuss the questions openly and thoughtfully, bringing to bear our (hopefully) growing understanding of what sorts of cognitive entities persons and moral codes are, of the role moral codes play in the functioning of a society, and of the innate underpinnings of social understanding that help shape moral codes in every culture.

The point is that we never can be just innocent objective scholars. We have to be alert to potential political consequences of our research, and in particular we should be concerned that our work is not taken up by demagogues eager to make pernicious political points (as happened both with Darwinism and sociobiology).

All right. This talk has been an extended meditation on big issues for a field of inquiry whose parameters are just beginning to fall into place. Many of the issues I've talked about have been discussed by everyone from the Greeks to all the great religious thinkers, and by long traditions in social and political philosophy. What I think is different in the approach I've been exploring today is that we now have contemporary tools of cognitive neuroscience at our disposal, which I think in the end can provide a far more comprehensive view of human nature.