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Neurofeminism

Issues at the Intersection of Feminist Theory and Cognitive Science

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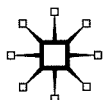*Assistant Professor of Philosophy, Old Dominion University, USA*

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Seeing as a Social Phenomenon: Feminist Theory and the Cognitive Sciences

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1 Introduction

Is seeing a social phenomenon? Are there political dimensions to the question of what can be seen? These questions are worth feminist notice, particularly since doubts about basic ways of knowing are being raised by the cognitive sciences. The problems surrounding recent doubts about human knowledge intersect with feminist concerns at many familiar points.

Recent investigations into human cognition strongly support the idea that individual human cognitive capacities are significantly less than many have been inclined to think, as we will see. The outcome is that we are not the individual knowers that we often think we are. It is then important that much in feminist thought has a context in which to place such a conclusion, since feminists are often engaged in showing how at various levels knowledge accomplishments involve the community (Longino 1990, 2002; Potter 1995; Lloyd 2000; Jaggar 2008). To put it very roughly, recent research on human cognition reveals gaps and errors, while those working on the social dimensions of knowledge are often investigating how gaps and errors get rectified in the creation of knowledge. Perhaps the most obvious of the problems are biases, such as the confirmation bias; in this case, the corresponding community role may be just to review one's work for such biases. But more generally, these two projects – the deconstruction of individual knowledge and the delineation of social knowledge – together point us toward a constructive project in understanding human cognition.

We will focus on vision. What we are learning today is that most of us are unaware of the nature of our actual visual experience and its many limitations. As (Pylyshyn 2000: 203) notes:

> less information is encoded with each glance than has been previously assumed. Research by several workers has shown that information about the properties and relative locations of small changes in a scene are rarely noticed during saccades. Nevertheless, humans have the impression of a large, panoramic scene. Such a scene does indeed exist, but it is in the real world and not in the mind.

The phenomenon Pylyshyn describes, change blindness, is further reported in Chabris and Simons (2010).

From the point of view of distinctly human interests in getting to the true facts of the case, human vision is an often faulty guide. Thus, recent research shows that our actual visual experience is very partial in comparison to the way we are inclined to think of it. Our considerably fuller perceptual reports must be drawn on resources additional to our inner experience. As such, they can be affected community contributions as much as any other statements.

2   Cognitive capacities

We can see much of Anglo-American philosophy as having inherited from the Enlightenment investigations a confidence in human cognition, where 'cognition' is understood widely to cover memory, senses, and the emotions, as well as more higher level cognitive activity such as explicit reasoning. To a considerable extent, more ordinary culture has followed with a strong faith in the senses as instruments for uncovering truths. For example, eyewitness testimony has been considered nearly incorrigible by the lay public and by judges and prosecutors. A jury may find the idea that one failed to see what was before one's eyes as simply unbelievable (Chabris and Simons 2010).

The connection between vision and the discovery of truths is reflected in many recent philosophical statements on vision. For example, the introduction to the influential collection *Perceptual Experience* (Gendler and Hawthorne 2006) takes the central problem for philosophy of perception to be reconciling the fact of perceptual errors with our view of our perceptual access to the world; here truth seems to be the aim of seeing. And in the collection Mark Johnston famously asserts that the function of sensory awareness is to disclose to our awareness

the truthmakers and content providers of our sensory judgments; the senses show us what makes our judgments true (Johnston 2006). Such a claim presents as unproblematic the idea that the senses do disclose the world to us. But such views are very questionable.

> We all believe that we are capable of seeing what's in front of us, of accurately remembering important events from our past, of understanding the limits of our knowledge, of properly determining cause and effect. But these intuitive beliefs are often mistaken ones that mask critically important limitations on our cognitive abilities... As we go through life, we often act as though we know how our minds work and why we behave the way we do. It is surprising how often we really have no clue. (Chabris and Simons 2010: xii)

Sight, memory, and the grasp of causal relations are the products of evolution, which responds to such things as survival, reproduction, and, in many cases, social needs. Through much of our evolution, variations were selected on the basis of their serving the needs we share with many other species, which have little to do with human interests in the construction of factual narratives. Such constructions constitute much in our sense of ourselves, and our views on the structure and purpose of our societies, but our interest in them is an anomaly in nature. That fact shows up when we examine our cognitive capacities. For example, vision and memory give us the gist of things, but they are not well suited to the fact gathering and explaining that Western society values so highly. We may want to know just what happened, and how and where and when it happened. But, as extensive experimentation tells us, we miss out on a great deal that is right before our eyes, and what we do pick up is only partially retained by an often distorting memory.

3   Feminism and social knowledge

As we remarked above, while cognitive science has been deconstructing individual knowledge of the facts, feminist theorists have been looking at social bases for knowledge and who has it. Social factors may make us know even less, but they may also contain resources for compensating for individual deficits. Thus there are many ways in which society affects the knowledge of individuals. For example, both the means to produce knowledge and the ability to reveal the results of such production are often heavily influenced by decisions outside the control of any individual investigator. In ways discussed in many feminist-influenced

works on science, even people very interested in pursuing a set of questions can find that the training needed is closed to them. In a synopsis of his forthcoming work on Victorian female scientists, Holmes (2010) notes that the female scientists were largely confined to roles that, while important, were often ancillary to the actual production of science.

And that, we may say, is just the beginning. Inquirers who resist the presence of some groups may develop theories that justify the continuation of exclusion of those groups from the community of knowers, too often with the result that knowledge about them is not developed or is distorted. Perhaps most notoriously, over the centuries many writers have claimed men are more able to do scientific research; among the most recent is Simon Baron-Cohen (Baron-Cohen 2003), whose work is discussed in a chapter in this volume.

There are, then, often communal controls on the production of and access to knowledge, which may also promote or reinforce biases in inquirers. Also important for our purposes are the positive effects the community can have. Thus a community of inquirers may correct biases in its members (Longino 1990; Potter 1995). Here we can think of a community as enhancing the members' ability to know (Lloyd 2000). Relatedly, the community may help complete projects that are too large for an individual inquirer to undertake alone, or that bring in essential pieces of expertise no one person will be able to encompass. Further, as some feminists have stressed, outsider status may confer on one situated knowledge that is not available to officially sanctioned groups of cognizers (Harding 2004). For example, those who are discriminated against may have a much clearer view of the deficits in understanding in the dominant group than that group can discern for itself.

Perhaps most philosophically challenging is the idea that the community is involved in an individual's knowledge all the way down, as it were. Could knowledge acquisition be social in the way playing chess or waltzing are? If so, then what one is doing is in part constituted by what others are doing. This view is articulated in various places by Baier (Baier 1991, 1994, 1997; Jacobson 2000) and appears to maintained by Longino in comments such as "The subject of experience, the individual, is a nexus of interpretation coming into existence at the boundary of nature and culture" (Longino 1990: 221). It is not hard to understand the thesis that knowledge of mathematics is partially constituted by the grasp of codes whose rules for use are determined by the community, and not any one individual. Seeing and remembering, we might think, are very different, since they are just a matter of the individual experiences we have. However, it can look very implausible to say that

our memory reports and our perceptual reports are reports of rather full internal experiences, since it does not look as though we have such experiences. Rather, the view that we do looks like something constructed, and the construction draws on a host of factors external to us. Or so I will argue.

As we look at sensory capacities, and in particular vision, we can discern room for many roles for a community. Those good at seeing something may have needed special training, ranging from recognizing a style of painting to being able to see the affordances made possible by machinery. Seeing may deeply reflect cultural biases, since what we notice in a scene are often what stereotypical biases lead us to expect (Eberhardt et al. 2004). In addition, very importantly seeing can leave us with large gaps in our knowledge of a scene we surveyed. Bringing other witnesses together can help. Similarly, getting someone to help even in a simple search, such as finding the keys, which are in fact on one's desk, may be important to the task's success. Further, and more generally, when seeing involves recognition, that is often the result of cultural learning.

That is, I will argue, perceptual reports are not best construed as reports of internal experiences. Rather, they are contributions to shareable discourse about what is. We can consider the approach to reports of psychological states that are undertaken here to be 'analytic,' rather than 'synthetic.' A synthetic approach is based on the recognition that there is a gap between the supposed inner experience and our corresponding reports. It looks at the important ways in which community has a role in creating the material for the report. A prominent example is Sue Campbell's recent work on memory (Campbell 2003; Campbell et al. 2009) which recognizes the limited and precarious nature of the factual recording our memories do. For Campbell, an active audience can participate in the construction of a person's memory reports; memory reports can be understood as public performances shaped by interactions. Such reports also provide one a sense of one's self extended through time. We are not yet, I think, able to undertake a synthetic approach to vision; hence, I will take an analytic approach, one which examines the elements of vision to investigate how reports of visual experience contrast with the experience itself, and the ways in which the content of one's report is or can be sensitive to one's audiences, either potential or actual.

In sum, feminists have often been interested in dispatching the ideal of a solitary knower. The cognitive sciences appear happy to help. Nonetheless, the results of the wholesale questioning of a traditional

conception of cognition are not always sanguine for feminists. If women are already situated as unequal in their capacity to know, their credibility may be further diminished by the new understandings. This result has actually occurred in part because the new ideas about memory have become intertwined in the public eye with the question of whether reports by women of recovered memories of sexual abuse are just the unreliable products of suggestive therapy. Sue Campbell's work in this area also highlights the extent to which women with such claims, and feminists supporting the possibility of their being true, have been dismissed as delusional or as activist zealots (Campbell 2003). Campbell concludes that the result is to deprive women of full personhood. Memories, she argues, are in part social narratives that involve the construction of selves.

Campbell's work is on a complex situation, where moral, political, and philosophical concerns intersect in creating a problem for feminists. Looking at vision gives us a chance to consider a range of issues about gaps and errors without immediately encountering political problems. As we see at the end, though, the political implications are there.

4 Vision: scope and limits

It is well to start with a number of ways vision's contribution exceeds what until recently we thought it could do. Vision has links to reactions that are important for our social behavior. The most recent research confirms the existence of 'mirror neurons' in human beings (Mukamel et al. 2010); because of them, most of us, for example, can mirror others' actions and expressed emotions, and such mirroring appears very important in numerous ways to our understanding and actions (Iacoboni 2008). Interestingly, there is very recent evidence that inhibiting our motor imitations in response to the visual uptake of facial expression degrades our ability to understand others. Thus Botox when used to suppress facial movement may do more harm socially than good (Bower 2010).

Vision is often excellent at guiding action in other ways. The magnocellular pathway in the visual system enables some highly important signals – such as ones from snakes and facial expressions – to get to the limbic system before they are recognized by any higher cognitive function (LeDoux 1996). Because of this, we can act and react very quickly. Ordinary experience reveals that vision can help us cope with complexity we would find very hard to think our way through. For example, walking along a very irregular terrain can be quite risky, but if one

simply looks where one is going, the walk becomes much safer, even though it might be impossible for one to describe the variety of angles at which one places one's feet as one adjusts one's walk to the surface.

There are also many ways in which vision falls short of what we think it does. Vision does not enable us to pick up the details of our environment in the way we think it does. Thus we think we can take in a room in a glance, but in fact we pick up relatively little. In a way, this information should not be surprising. We hear stories about car accidents that occur because one driver just did not see the other car. Many of us know someone (and may be someone)'who regularly fails to find keys that are in plain sight. The deliverance of unschooled common sense seems to be that one opens one's eyes and sees what is around one, but that is wrong.

It is, then, a commonplace of vision science that we get much less information at any one point in time than we tend to think we do. The visual system that produces our experience of a world of stable objects is selective in many ways. But we can understand the limitations Pylyshyn and others (see above) are interested in if we think of vision as having two great consolidation stages and two stages in which limitations are introduced by the way our attention works. In both consolidation and limitation we can encounter ways vision is restricted of which we are largely unaware.

In looking at a scene, our eyes tend to scan it by moving in saccades, which are rapid small movements punctuated by brief fixations. In such fixations, attention works to produce binding, so that qualities processed separately in very early vision are brought together in our experience. Thus, color and shape are originally processed separately, but we tend to experience colored shapes as single things. This is the first great consolidation.

We also experience a world of steady objects, but saccades give us a jerky series of very partial takes on parts of such a world. A second great consolidation is created when we transform the jerky input into an experience of objects. The second consolidation also produces partial results in comparison with the whole scene that we think we can take in. In putting the products of our short takes together it tends to be heavily selective and very object oriented. This second consolidation is sometimes said to be or to involve amodal completion.

The limits of attention add to the partiality of the results for both stages of consolidation. Thus the discontinuous nature of our saccades is compounded by our ability to bind only a limited number of elements. And a similarly restricting and interest-driven attention limits what objects we see. We are, for example, more likely to see what we

expect to see, so that motorcycles and bikes are less safe to ride in areas where they are uncommon (Chabris and Simons 2010).

There has been a recent upsurge in research on the transition from saccades to objects. The 2008 *Journal of Vision*, for example, devoted an issue to new research (Martinez-Conde et al. 2008). The subsequent research that I will concentrate on (Öğmen et al. 2006; Öğmen 2007; Ayden et al. 2008), supersedes earlier distinguished research by philosophical enactivists (Noë 2004; Rowlands 2010), which stressed our intuitive grasp of the interactions among our movements and what is seen in our environment (the 'sensory-motor contingencies').

The transition from saccades to objects as it is investigated by the research we are considering is bottom-up; it is independent of any knowledge of features other than those revealed in early vision. Consequently, what we have so far gives us experiences that provide us with a world in some sense segmenting into objects. As far as what is relevant for our discussion goes, the scene is a three-dimensional partial array of colored objects and motion; we also have some changes in early visual processing that reflect our experiences of positively and negatively valenced features in the world. Action-relevant factors that might once have been matters of conscious recognition come to affect very primitive features of early sensory processing. This is particularly true of the reward signals that can show up in V1 and allow one to predict the timing of rewards (Shuler and Bear 2006; Montague 2007). We could think of such experiences as giving us a schema that is produced rapidly and that is often a very good guide to action. There is, however, a wide gap between such a schema and the contents of such perceptual reports as "I see the red light of the setting sun filtering through the black and thickly clustered branches of the elms; I see the dappled deer grazing in groups on the vivid green grass" (Noë and Thompson 2002).

Some of the added content comes in as we are able to classify objects. There is an important period in development, which is completed around 12 months, when a child moves from taking spatio-temporal continuity to be enough for the persistence of an object to taking the persistence of a kind as required (Carey and Xu 2001). Before this stage, an object that is occluded may change into any other sort of object, at least as far as the perceiver is concerned. After this stage, the perceiver grasps the predictability of kind persistence. It is here that we seem to have an individual who experiences the world as made up of stable, lasting objects.

What is also important is that the conceptual content of kind concepts, on any recent theory of concepts in psychology, is full of learned data. With classifying objects, we leave the realm of the pure sensory bottom-up processing and start to draw on the results of learning.

Amodal completion by itself gives us a kind of perceptual organization. A great deal more is provided by further conceptualization, which is learned through our social groups.

In addition to conceptualization, we have adding-in, which helps to account for the sense we have of experiencing a gap-less panorama. This last part is accomplished at least largely by experience-based adding or filling-in. Here our sense of what we see goes far beyond what we get from the consolidation of saccades and the resulting objects.

We add in descriptions of things we do see, such as "my neighbor's child," "the President of the United States," and "someone bald from chemotherapy," where what makes these descriptions true is arguably not some feature that affects our retinas. Not only may visual reports add on such descriptions, but we can also correctly put into them things we do not – in some clear sense – see at all. For example, one might say one saw someone next to the bear enclosure or over by the pond even though neither the enclosure nor the pond were visually accessible from where one stood. Though these descriptions of 'extra, unseen things' are part of descriptions of seen things, we can also add in things independently of describing other things. Thus, asked what a burgled store looked like when I entered it, I might report that the vegetables were over to the right of the door even though all I got were some unbound shapes and colors in my peripheral vision. That sort of material can be transformed into a report about things seen if we have good epistemic grounds for taking it to be that which causes in some way our experience.

The adding-in that takes us from the schema to the completed scene in fact draws on a host of factors, including surely our grasp of the relation between our environment and our movement, results from further saccading and conceptualization of its products, past experience with the location and kinds of things to be seen, cultural conventions about artifactual objects, the input of other senses, and so on and so forth. The result is that we no longer have a somewhat schematic and partial scene; rather, as our sensory reports reveal, we have a much fuller picture of the environment. We may still, however, not have the detailed grasp of the faces before us, for example. We may also completely miss out on things we do not expect, including motorcycles, or things we look for frantically, such as car keys.

5   Vision and truth

What should we say now to the idea that vision is a matter of truth-revealing inner experience? The second consolidation allows us a

schematic take on the scene before us; without the inclusion of any learned material, we have some movement, some organized objects, along with some material about rewards priming us for action. There is a problem with assessing this material as correct or incorrect; the second consolidation does not cover the whole scene or provide all the details. The gaps, however, need not be in the world itself, and an accurate grasp of what is seen involves an at least implicitly employed distinction between gaps in the experience and gaps in what is experienced. The situation is quite like that of maps. Given a map with an X on it, and told that it shows where the treasure is, one does not begin to know how to look for the treasure. Even the information that the map gives of our environment is not enough. We need more of an interpretation, not just about the scale and orientation of the map, but also in many situations, we need information about, for example, how we incorporate in our plans all the things in the environment that are not on the map. Even in the wonderfully detailed survey maps of England can be seriously ambiguous. Is a broken down and decayed fence the fence on the map? Or is that a bit further on? Is this raised clump of stones the decayed burial mound or not?

We can see much of the adding-in as at least part of the interpretation of our schematic take. Such adding-in is typically automatic and very rapid. If we employ pre-verbal conceptual abilities that recent theorists drawing on sensory experience describe (Barsalou 1999; Prinz 2002), we should expect the adding on to have phenomenological import. This is because of the close connection on such accounts between sensory experience and the deployment of concepts. Consequently, as we have been stressing, what we report ourselves as seeing, and what it feels like phenomenologically to have seen these objects, are quite different from the initial schema. The initial schema is often enough for action, but it falls far short of what we ordinarily think of as what we see.

A familiar point in the philosophical literature on vision provides an important clue for how the adding or filling-in is nonetheless an appropriate thing to do. It is often said that sensory experience is transparent and that even if we try to describe its features, in fact we describe the features of objects. As Gil Harman has famously remarked:

> When you see a tree, you do not experience any features as intrinsic to your experience. Look at a tree and try to turn your attention to the intrinsic features of the visual experience. I predict that the only features you will find to turn your attention to will be features of the presented tree. (Harman 1990: 667)

What we have seen provides something of a correction on this view. Our intrinsic experience is very partial and cannot account by itself for the full description we give of our environment; rather our conceptualization and adding-in creates our understanding of the environment. To articulate our understanding is normally just to describe what is in the environment we have experienced. We learn locutions such as "I see" in the context of experiencing a world full of already named kinds. We cannot report seeing a cat unless we have mastered the reports of there being a cat. From this perspective, "I see the cat" reports an epistemic achievement, not an internal experience. We could say that the initial schema we get is more like an invitation to describe our environment than some sort of message about all that is there.

That we are as a species designed for action too rapid to require much higher level engagement (Montague and Quartz 1999; Montague 2003; Allman 2005; Montague 2007) – still less of internal debates – suggests that beliefs are a separate product caused by an action-oriented vision and a great deal of background information. To hold that in addition to the beliefs, the experience has that content appears to multiply entities without necessity.

Theorists who believe we have truth-revealing inner experience have arguments in their arsenal that I consider elsewhere (Jacobson forthcoming). Principal among these is the claim that the subjective similarities between genuine seeing, on the one hand, and illusions and hallucinations on the other, reveals an ontology needed by theories of vision. In reply I argue that the idea that subjective similarities provide an ontology for science has proved in error enough times to now be incredible.

We have seen enough to provide strong support for the idea that learned material affects our perceptual reports in a way that goes far beyond the visual data that we receive and process in early vision, the visual processing that does not draw on background knowledge and beliefs. As a consequence, much of our reporting of our visual experiences that incorporate the rich panorama are the products of a great deal of learning, including learning to employ the classifications encoded in our language. The result is the product of the physical world, our eyes and brain, and our culture. The accuracy we aim for in our reports, when that is our aim, depends on extensive practice and corrections as we learn to bring our culture and the visual input together. In the next section, we will look briefly at some of the features of vision that become highlighted when we look at it in this way.

6   The politics of seeing

Given recent research, we can see reports of our perceptual experience as close to reports of the environment. Their content draws on the resources of agreed upon classifications, themselves reflecting shared causal knowledge. The community's role in bringing out such a state of affairs is highly significant. Community reactions can also contribute to an increased accuracy in our views about what is plainly available.

Given such a role for the community, we might expect that vision is more of a site of political activity than it might have first occurred to us. And some of it is highly gendered in ways that produce different visual abilities in men and women. But other aspects react also to race, ethnicity, and class. Many of the effects we will look at are foreshadowed above.

6.1   The effects of bias

One variable in one's experience is attention, and stereotypes, conscious or not, can have a large influence on what one attends to. As a consequence, seeing may not be believing, but believing may create much of the seeing. For example, vision can reinforce stereotypes. Even implicit biases that draw on stereotypes we might not articulate can prime us for noticing items related to the stereotypes. The result is visual experiences that enact and confirm bias. For example, if we have the stereotype of black men as dangerous then we will be primed to pick out items around him that might be weapons. Perhaps worse, the more stereotypically black a man is, the more he is to be seen as dangerous (Eberhardt et al. 2004). This puts darker black men at considerable risk in the criminal justice system.

Many factors such as these reduce the evidential value of eyewitness testimony. Nonetheless, prosecutors tend to place great weight on them, and to be skeptical of any concerns that jurors may be mislead (Mukamel et al. 2010). The website of the Innocence Project tells us:

> Eyewitness misidentification is the single greatest cause of wrongful convictions nationwide, playing a role in more than 75% of convictions overturned through DNA testing. While eyewitness testimony can be persuasive evidence before a judge or jury, 30 years of strong social science research has proven that eyewitness identification is often unreliable. Research shows that the human mind is not like a tape recorder; we neither record events exactly as we see them,

nor recall them like a tape that has been rewound. Instead, witness memory is like any other evidence at a crime scene; it must be preserved carefully and retrieved methodically, or it can be contaminated. (Innocence Project)

6.2   Who sees what?

Another area of feminist concern comes into view when we realize vision is used to build potentially social narratives of what there is. This feature fits in with the fact that there can be public standards for competent seeing, and that socialization can make a large difference to a child's ability to meet them. In stereotypical situations, young men may unable to itemize the various components of diaper changing that are on a shelf, while a young woman may be lost at the sight of a car motor. It is arguable that the benefits of this arrangement are to the men. There are serious ramifications, then, for the gender-specific socialization children receive. We know, for example, that spatial imagination can be important for, among other things, doing well on various parts of the SAT exams and later pursuing careers in quantitative fields. But it looks increasingly as though spatial imagination is developed through visual interactions with the environment. Boys' games may well be more helpful here than the stereotypical girls' domestic play.

Some of the evidence that the effect is environmental is that environmental factors can correct some of the deficits. For example, women who play video games for ten hours increase their ability to rotate figures spatially so that they are close to the abilities of their male counterparts (Jing, Spence et al. 2007). IQ scores, it appears, can draw on gendered and malleable abilities.

6.3   Vision and embodiment

One final feature we can note is that the emphasis in philosophy on vision and truth-acquisition and the consequent neglect of vision's excellence in facilitating acting and social connections enacts a familiar bifurcation present in philosophy at least since Descartes. This is the divide between cognition very narrowly construed in terms of truth-seeking and bodily matters, such as actions and shared emotions. Traditionally, the body and emotions are considered outsiders in the philosophical realm, and their frequent and familiar identification with women assigns to women, on a symbolic level at least, a position on the margins of philosophy.

The appropriation of vision as a servant of those who seek truth is worth pursuing a bit. Vision's role in social connections and in action

can place it on the side of the instinctive. Some more recent theorists have consigned the instinctive to the female brain, arguing that the analytical brain of men is what is needed for science and leadership, for example (Baron-Cohen 2003). We come full circle in finding that vision's excellence and women are both consigned to a 'lower order' than that needed for genuine truth-seeking.

7   In Conclusion

As Alva Noë has pointed out, it can seem natural to think of vision in terms of a photograph-like experience (Noë 2004). However, recent research makes us aware of how wrong that model is, as Noë also maintains. The product of the visual system is, in contrast to a photograph, incomplete and partial in striking ways that vary with our interests and beliefs. Vision is for meeting the organism's needs in its environment, and not for deciding complex matters of fact.

This chapter has focused to some extent on the resulting gap between perception and our ordinary view about it, much of the latter reflected in the completeness of the examples in the literature of perceptual reports. I have argued that the gap signifies the extent to which our seemingly individual views about the world are replete with influences from social contexts, particularly those in which we learn to conceptualize our environment. In acquiring terms, one also experiences agreement in judgment, a foundation for public discourse.

Arguing that we can understand perceptual reports as more like public performances than like reports on internal experiences goes on the 'analytic' side of project of providing a socially embodied theory of cognition. It is prepares us, though, for the realization that our conception of vision can disguise many ways in which vision has a political dimension. This chapter has just begun investigating that dimension.