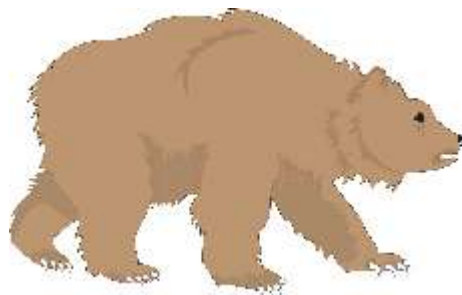


Ursus Philosophicus

Essays dedicated to Björn Haglund on his sixtieth birthday



The manifest image

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Abstract

It is often stated that the image of the world which our senses present to us contradicts the scientific worldview in important respects. I challenge this position through a number of arguments centered on the nature of perception and of perceived qualities.

One of the main tasks of philosophy is surely to try to reconcile our everyday view of the world and the scientific one, or in Wilfrid Sellars' terminology, the manifest and the scientific images of the world. It is of course not impossible that such a reconciliation will turn out to be a very unsymmetrical affair, in that the manifest image is shown to be defective on almost every major issue. I.e., the outcome will not be a defence of the everyday view, but its nearly total demolition. Philosophers who entertain a close contact with the physical sciences have often been favourably disposed towards such a demolition of common sense, and recently some astonishing results in neuroscience have been brought to bear on the same issue and with the same goal of demolition in sight. I am here first of all referring to certain research on action initiation which seems to show that the neural commands to perform an action are sent before the actor has entertained the goal consciously. So not only do our senses deceive us as to the nature of the external world (as the physically minded philosophers have always said), it is also the case that our sense of initiating and steering our own actions in the same world is one grand illusion. Concludes the neurophilosopher.

Having thus referred to neurophilosophy, I must hasten to say that I will not discuss the issue of the reality of agency in this brief paper, but instead focus on our knowledge of the external world. I will take issue with the demolition men (and the few women who work on their side) and deliver a few simple arguments which, hopefully, tend to show that the manifest image of the world is more true than false. My arguments require that a number of issues are disentangled from each other. The first distinction to

be made is that between *common sense* and *everyday perception*. And the first conflict of some relevance to our topic is that *between common sense and science*. Common sense, in the common sense of the opinions of a relatively uneducated majority (and of the educated minority before it becomes educated) on specific matters of fact, is of course often both contrary to the best of science, and wrong, for the simple reason that it includes both outdated science and pre-scientific views on matters scientific (such as the age of the earth, the biological relatedness of whales and fish, and the physical nature of the rainbow). This is true even if we widen the concept of common sense to include the opinions of well-educated scientists, although the proportion of outdated to recent science is hopefully smaller in their worldview (at least when it concerns their own specialty). But these clashes are best conceptualised as intra-scientific conflicts of opinion – conflicts between old and new scientific beliefs, or at least between beliefs on matters of science. These are conflicts which can in principle be solved by methods acceptable to both parties, and which are often so solved. Moreover, the widespread occurrence of such false common-sense beliefs on specific matters of fact is not incompatible with the view that most of common sense is correct, nor with the view that the fact that a belief belongs to common sense is, everything else being equal, a good reason for holding it. So, I dare say that the perennial conflict between science and common sense, as defined here, does not *as such* pose any serious *philosophical* problem.

A conflict which is of larger relevance to the philosophical debate of the manifest versus the scientific image is that *between everyday perception and the scientific worldview*. Pertinent examples are given by the fact that we perceive physical objects *as* being coloured while physics (aided by neuroscience) tells us that they are not, and by the fact that we do not *see* the stars as being more distant in time than a seen change in the traffic lights usually is, although we perhaps ought to in order to perceive truthfully. This kind of conflict differs from the previously described ones in at least two important respects. First, even physicists with a thorough training in optics usually *see* grass as green, and even astronomers *see* the visible events at the stars as present in time. Second, it is not at all obvious that all perception is propositional in character – which is a necessary condition for the existence of any contradictions between perception and science. Maybe the second point can even help explaining the first: since seeing does

not necessarily entail believing, the astronomer can without contradicting herself *see* the supernova eruption as contemporary with herself and still *believe* (even *know*) that it is not, or *see* the sky as the inside of a light blue, flattened hemisphere without *believing* that there is anything with such a shape up there. Hence, not all cases of perceiving the world as being otherwise than science says it is, really entail a belief in something different from what science says. It is quite another matter that the tight coupling which usually exists between perception and belief most probably is an important source of false common sense beliefs (in the above-mentioned sense). The nature of the rainbow and of the blue sky, respectively, are again two good examples; another one is our natural propensity to believe that the sun *really* rises. It is also an interesting task to try to reconcile these systematically misleading perceptions with a biologically motivated theory about our perceptual systems. The solution to *this* problem must surely lie in the fact that the perceptions in question have not been seriously maladaptive, since either they concern objects and facts far outside our reach (the sky, the stars and the sunrise), or the degree of deviance from truth of the beliefs that they give rise to is small in comparison to the evolutionary advantage of having a simple and manageable cognitive system (the simultaneity of seeing and the seen for near objects, Euclidean space as a good approximation of close space). Be that as it may; I would like to conclude that many cases of alleged conflict between science and everyday perception are not conflicts at all and that the overwhelming majority of the beliefs which arise in immediate connection with grown-up, educated people's perceptions are sufficiently correct for all practical purpose. This by the way is good for science, since science rests on such beliefs.

It is not obvious, however, that the conflict over the greenness of grass fits in the simple scheme of "perceptions without corresponding beliefs". Isn't it the case that the physicist not only *sees* his lawn as green in the summer but also *believes* that it is, at the same time as he should *know* that it is not? Further, can one not *see that* a certain leaf is green, while another one is red? Here, it seems, a simple distinction between perceiving and believing will not resolve the conflict, since what is seen is also believed, even by the typical representative of modern science. Also, it is not clear that this is a minor issue in the way the Euclidean or non-Euclidean nature of close space surely is. Isn't it a matter of great importance, at least emotionally, whether or not colours are ever

objective properties of physical things? Of course the same problems arise for other “secondary” qualities such as taste and smell: the physicist feels, and believes, and says, that the wine tastes like earth and blackcurrant, although he should know that there is no taste quality at all *in* the wine. Maybe the ascription of taste to wine, like the ascription of colour to physical surfaces, is but the expression of a mental defence mechanism without which we would not endure emotionally?

It could be argued, though, that these cases *can* be treated in the same way as the cases of the stars, the rainbow and the sky. Maybe the natural scientist who says that her lawn *is green* is just playing a kind of *as-if* game – just as when she says that this star *is to the left of* that. In the case of the star, she knows very well that the fact of the matter is that the stars were at certain past moments in time located in such a way that the virtual position of the first is now to the left of the virtual position of the other one. But it is easier to describe the situation as it is naively perceived, and no one is hurt by that; on the contrary, everyone understands what kind of astronomical fact is really referred to. Similarly, she knows very well that the fact of the matter when it comes to the colour of grass is that grass reflects certain wavelengths of visible light and therefore tends to produce experiences of green in normal people. But it is easier to fancy that it is green in itself, and therefore we say so in everyday communication. Hence, this argument continues, perceiving grass as green does *not* after all entail believing that grass is really green, even if people’s linguistic behaviour may suggest that the entailment works. So, there is no conflict between science and perception when it comes to colour (and by implication, to other secondary properties).

The main cost of this solution is that according to it, most people are habitually and deliberately uttering a lot of falsehoods all day, while suppressing the known truth of the matter, trusting that their listeners will see through their pedagogical simplifications. There is an obvious and well-known alternative which avoids this cost by simply putting the known truth of the matter into the meaning of the judgement in question. “Grass is green” *means* that grass reflects light in such a way that sensations of green are produced in normal people, “this star is to the left of that” *means* that these star (or galaxies) were once..., etcetera. Now, again, the conflict between science and perception has been dissolved, this time without any cost in terms of an abundance of false everyday utterances. I am strongly inclined to believe that although the specific

details of the just-mentioned suggestion concerning the meaning of colour terms are most probably wrong, the analysis still exemplifies a proper approach to the meaning of sentences expressing statements about secondary qualities in that it treats their truth as an important criterion of adequacy. It should be noted that statements about secondary qualities abound in science as well as in everyday life: for example, botanists speak about the colours of flowers as diagnostic of their taxa, and chemists still describe some compounds in terms of their characteristic colour and smell. If you don't want to be a fictionalist about observation statements (a rather uncommon position in the philosophy of science), these statements just *have* to have an analysis which makes most of them true.

If one feels uneasy about the position expressed in the last paragraph, it may be because one equates *the physical properties of an object* with *(all) the properties of a physical object*. Physics does not speak about colour (except as wavelengths), but the physical objects so-called are typically coloured in a most ordinary sense (except of course the transparent ones, and the very small ones for which colour is not defined). The laws of motion can be formulated without recourse to the concept of colour, and so can the classical and modern theories of light. But the objects which obey the laws of motions are the ordinary, coloured ones (imagine Galileo dropping the Mona Lisa from the tower of Pisa), and these ordinary, coloured things are also the objects which emit or reflect light rays with specific wavelengths. The failure to recognize these simple facts can partly be blamed on our common way of illustrating physical laws by means of very simplified black-and-white or grayscale diagrams. (It is of some interest in this connection that chemistry, which historically spoken is based more on colour, smell and taste than physics, often uses colour illustrations of for example tertiary molecular structure.) These diagrams tend to make us think of physical objects as “lacking colour”, but now in the very special sense of being *gray*. But surely this is not the sense in which the classical argument about secondary properties wants us to recognize that physical objects lack colour (neither, of course, is visible transparency). Another source of the mistake is a confusion of the abstract with the concrete, a confusion which is built into the very phrase, “physical object”. “Physical” is not a first order predicate here but denotes, elliptically, a certain subset of an object's properties that is currently under consideration. In other words, physical objects are also chemical, biological, historical

and human-scientific objects – and they are also objects of our aesthetic appreciation because of their colours.

So, then, have we dissolved the last major conflict between science and everyday perception? I would be inclined to say that we have, if it were not for another uneasiness. Look at the grass. Do you not, when seeing the grass, put the seen green colour *into* it in a way which is unjustified and even untenable, considering the results of science (including neuroscience)? Do we not usually locate the colour *in* (or at least *on*) the object in this very way, although we should not? The philosopher who argues in this way is not referring to the fact (which we showed above to be of no problematic consequences) that we usually believe that grass *is really green*. What she is after is instead the mental operation of, as it were, moving the colour quale from the mind (where it belongs) and into, or onto the surface of, the object (where it could not possibly be located). This operation leads, as it were, to a misunderstanding on our part as to what is *really* involved in the greenness of grass, or the taste of a wine. Here, she concludes, we have at last pinpointed a widespread, blatant contradiction between everyday perception and the natural-scientific world view.

I think there is a grain of truth in this, but this grain can be removed by a manoeuvre that we have already used twice. Here is one possible interpretation of the idea of “projecting the colour quale onto the surface of the physical object”. We have already pointed to the fact that our senses often give us a *simplified* picture of the world, in the sense that they naturally lead to certain simplified beliefs about the environment – the perceived Euclidean nature of the latter is a nice example. These natural propensities can, however, be overcome by learning, although they need not if they are of no practical consequences. Now, it could be argued that among such perceptually based simplifications of beliefs we should also count what could be called *naive realism about colours*. By this is then meant a natural propensity of *taking the colour a thing is looking to have as being its real colour*. Here, the phrase “is looking to have” must of course not be taken in the *cognitive* sense in which it describes the tendency for the perceiver to believe that the object has a certain real colour, but rather in a *sensory* sense in which it describes a directly experienced colour. If there is such a propensity to go automatically from the look of a thing to its real colour – and I do think there is such a thing – then it could very well be a source of abundant contradictions with science.

However, it should be noted that such a naive realism about colours is not only contradictory to science, but equally (and more obviously) to common sense. That things which look grey are sometimes red is surely a matter of common sense, not of science. This is to say both that naive realism about colours does not need science for its correction, *and* that normal, grown-up people *do* correct it in all their important dealings with coloured objects. It is a rare event indeed that we believe that our cat has turned grey just because we have just seen it in the dark.

A linguistic matter of interest here is the fact that we not seldom use the same colour ascription phrases to describe how things look in a certain context as we use for describing what we think are their real colours. I can without violating any rules of English language say “Now the snow is blue!”, or even “The snow has turned blue!”, to direct my friend’s attention to the fact that the snow looks blue here and now. It might be argued that such statements should also be analyzed in dispositional terms – as statements about how the snow would look to you, or any normal observer, if you looked at it here and now. But then consider the fact that when my eyesight is under investigation and I am looking through a new set of glasses, I can properly say things like “Now the two figures have the same colour!”. Here the context is limited to only one observer: the speaker, and a dispositional analysis does not seem to fit. In neither of these situations does the speaker or the listener usually feel the slightest tendency to believe that the object has the corresponding “real” property – that the colour of the snow has turned into blue in the way a litmus paper sometimes does, or that the figures in the optician’s armatory have changed their colours in the way they might do if painted anew. In other words, my use of these language games should not be taken as an expression of an operative naive realism, but rather as evidence that I am in the possession of systematically related but different senses of “blue” and “the same colour”. I readily admit that the existence of these different senses may be a remnant of a naive realism about colour entertained by children; this, however, is again a matter of little relevance to our main issue.

I have suggested naive realism about colours, defined as the propensity to identify the real colour of a thing with the colour it is looking to have, as an explication of the idea that we project our colour qualia onto the surfaces of the physical object. I have also argued that grown-up people are not naive realists, in this sense, to any significant

degree. My imagined opponent will most probably not rest content with my suggestion but will continue, “Look, the very examples you have given of ascribing *contextual* colours to objects are actually perfect illustrations of my thesis. I am very happy to agree that when you speak of the snow as being blue here and now, you are actually referring to how the snow now *looks* (to you, or to us) – that is, to a *sensed* colour. For this only makes it more obvious that you are projecting qualia when speaking about the snow as blue. Of course, sensed qualities cannot belong to the surfaces of physical objects. Hence, the ascription of contextual colours to objects is the best example of the clash between the manifest and the scientific images.”

However, faced with this last bastion of defence for the traditional view of secondary properties I want to launch a bold attack in the spirit of G. E. Moore. Do you want to say (I challenge my opponent) that it is not *the snow* which is blue in the sunset, but something else? Or that *nothing* is? The last-mentioned possibility is what remains if you believe that sensed colours should be ascribed to sense-data rather than to physical objects, but do not believe in the existence of sense-data – a surprising but not too uncommon combination. But note that physics does not say that physical objects cannot have sensory qualities, since physics only concerns the *physical* qualities of objects. Neither is the standard philosophical argument that a physical object cannot have several different colours of any use here, since we are now talking about its *contextual* colours – not its “real” colour. So, what we have here is just a clash between well-educated common sense and an unsubstantiated *philosophical* (not physical) thesis about the nature of so-called physical objects (which could as well be called common-sense objects). In this situation, common sense wins the game.

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