

Manifest and Scientific Images of Time

I The Manifest Image (MI): an eclectic description

The 'everyday', 'common sense', 'folk' conception of 'man-in-the-world' (Sellars), 'Being-in-the-world' (Heidegger), 'Lebenswelt' (Husserl).

1 Socio-historical.

a) In the 'original image' (Sellars) all objects are understood as 'persons' e.g. the wind, river etc.

b) The MI develops by 'depersonalising' the original image to produce the category of ordinary objects as we understand them and applies the original notion of 'cause' to those objects.

2 Biology.

a) We are born into a world with survival needs. Our primary understanding of things in the world is related to those needs. The world is perceived as offering 'affordances' (Gibson): possibilities and opportunities for life. Sometimes these affordances conflict, and a choice must be made. Sometimes our responses to affordances can be manipulated.

b) This means that we must:

- i) Be self-sustaining with a basic interest in carrying on being
 - ii) Have an identity through being marked off from our environment
 - iii) Be able to perceive and make sense of that environment in the light of what is good for our continued existence.
 - iv) Be able to sense when our well-being is disrupted and respond appropriately.
- c) The feature ii) above establishes an interior and exterior aspect to the biological organism.

Feature iii) establishes the need for some form of cognition of the world.

Feature iv) establishes the need to sense the internal state of the organism.

3 Conceptual development (Carey and Wellman).

a) Very young children develop a range of conceptual dualities. They distinguish between the following:

- i) Animate and inanimate beings: those which are 'self-propelled' (people, animals) and those which are passive (bricks, chairs) and require external force to move them.
- ii) What is really the case and what is only thought to be the case
- iii) Material things in the world, which can be touched, externally perceived and publicly observed; and mental entities (thoughts,

emotions, dreams) which are immaterial, private, and cannot be externally perceived.

b) Features of conceptual leaps include:

- i) The mutual dependence of certain concepts – they come in related pairs
- ii) In all conceptual change, one crucial ingredient is the setting of a new explanatory agenda
- iii) There is no one moment of conceptual change on which it occurs as a single gestalt shift.
- iv) The development of concepts in language requires shared needs, purposes and beliefs (Wittgenstein)

c) Our concept of people, including ourselves, as agents implies that we see ourselves as able to make things happen, to cause things to happen. We can break a window by throwing a rock at it, the impact of the rock causing the glass to shatter. Without this sense of agency, it is hard to see how we could develop the concept of cause at all (pace Hume). This sense of agency requires a pre-scientific notion of how the world works (e.g. glass breaks if you hit it with hard things).

d) When things go wrong, or are unexpected – the stick breaks, the crops fail, the water tastes bad – and our everyday engagement with the world is disrupted, this raises an ‘explanatory agenda’. Our investigation into what went wrong overlooks and abstracts from the value and purpose of the stick, crops or water, and aims to find the causes of the disruption. By abstracting from these agent-dependent features we focus on the underlying physical causes. This is how the scientific image of the world begins to develop.

II The Scientific Image (SI)

1 Sellars does not see the MI as non-scientific. In the MI we develop our judgements of empirical correlations. Rocks thrown hard at windows tend generally to break them. The difference is that in the SI we postulate ‘imperceptible’ entities to explain those correlations – the molecular structure and velocity of the rock interacts with the molecular structure of the glass. The SI emerges out of the MI (see 3 d) above).

2

a) Sellars sees the physical sciences as reasonably straightforwardly nested in fundamental physics, which in principle gives us the measure of the world, including ourselves.

b) Psychology, sociology, economics etc are seen more in the light of the empirical correlations mentioned above, but at a more sophisticated level. An example of how we use both the MI and SI in our lives can be provided by parents of teenagers: ‘pubescent children tend to be moody’ is a correlation made in the MI. ‘The changes in hormone balances affect those parts of the brain associated with emotional response’ postulates ‘imperceptible’ entities and is part of the SI.

III The Relationship between the MI and SI

There are several possibilities here:

- a) The SI gives us the measure of reality, the MI is just a useful and comforting illusion. All that actually exists are the fundamental entities postulated by physics.
- b) Manifest objects (tomatoes, rabbits, tables, rocks, people) are 'appearances' to human minds of a reality which is constituted by systems of imperceptible particles.
- c) Manifest objects are identical with systems of imperceptible particles in that simple sense in which a forest is identical with a number of trees. A table is a system of particles arranged 'tablewise'. The particles are real, their arrangements are real, and so the tomatoes etc are real.
- d) The MI is real, and the SI provides fictions (quarks, quantum fields) that help us find our way around for practical purposes.
- e) The MI and SI are both real and relate to different levels of explanation. A satisfactory answer to 'Why did you go shopping today?' is unlikely to be given in terms of the cloud-like myriad of particles that, more or less, constitute my physical self.
- f) We need to add the agent focused MI to the SI in a 'stereoscopic' vision.
- g) The language and concepts of the MI can be reduced to, or translated into, the language and concepts of the SI.
- h) The SI depends on the MI for its meaning. It is meaningful only if the framework of the MI is true.

IV The 'methodological' primacy of the MI

1 Sellars' view is that although the SI is 'methodologically' dependent on the MI, the MI is not prior to the SI in a 'substantive' sense. Science necessarily arises from the world of the MI in the following ways:

- i) There must be some primary grasp of things in the world before scientific questions about their operation can begin. The MI must precede the development of the SI.
- ii) Science takes off from the empirical correlations we discover within the MI.
- iii) Science is a human activity which presupposes that scientists are agents who can choose what and how to investigate, can observe results and can reason about them and construct theories.
- iv) Individual sciences operate within a field of enquiry delimited by key concepts - biology with 'life' and 'organism', chemistry with 'element' and 'compound' etc - which are themselves drawn from the MI, our everyday pre-scientific view of the world.

2 Sellars, along with most current philosophers, denies that any of the above shows that the categories of theoretical science are logically dependent on the categories of the MI. Theoretical science may necessarily presuppose the MI, but it then develops theories which reveal the true underlying nature of the world, whereas the MI provides only “an 'inadequate' but pragmatically useful likeness of a reality which first finds its adequate (in principle) likeness in the scientific image.” Ultimately there is nothing over and above the postulated entities and properties of physical science. This is one version of physicalism, and we can refer to those who claim that the SI is in reality fundamental as ‘physicalists’.

This is reinforced by other philosophers who claim that the findings of science enable us to understand that our original folk concepts don’t describe the world, including us, adequately. Instead scientific theories replace our ordinary understanding of the world from which they arose, and can/should effectively eliminate the MI.

3 Let’s pursue the idea that the SI presupposes the MI, in two ways. First: doesn’t the fact that the SI arises out of the MI, as an activity pursued by persons who choose activities of their own, apparently free, choice, who observe, communicate and theorise with others, mean that the MI has at least as much of a claim as the SI to be an adequate conception of reality? Not necessarily. The SI advocate can say that this is what science does all the time: it starts from relatively naïve views of the world and then goes on to reveal their nature. People, along with trees, cats, books and rocks, are ultimately nothing ‘over and above’ physical particles arranged in certain ways. Once God arranged the particles, there was no need to create tomatoes in addition: the tomatoes just are the particles arranged in tomato-like ways. This is the ‘deep story’ underlying the nature of tomatoes.

4 Second: let’s look further at this notion of science as a human activity. Every science operates within a certain field of enquiry, delimited by certain key concepts, (biology with ‘life’ and ‘organism’, chemistry with ‘element’ and ‘compound’ etc). Scientists themselves usually have no need to concern themselves overmuch with an analysis of those concepts. This is especially the case in physics with the key concept of something as ‘physical’ (Sellars claims that ‘the scientific image of man turns out to be that of a complex physical system.’). So let’s look at that.

5 The strategy here is to get clear on the concept of the ‘physical’ which is at the heart of Sellars’ view of the person as a ‘complex physical system’; and second, analyse the necessary conditions of the possibility of that concept. So let’s get ‘physical’.

V Understanding the Physical

Here is an account of the concept of the physical required for key philosophical discussions. It combines aspects of both the MI and SI.

To be physical is to be:

- a) Bodily manipulable and publicly observable, either straightforwardly or by extension. Or

- b) An entity/property which is posited by a theory explaining the operations of entities/properties in a). And
- c) Not agent-dependent in a manner which excludes bodily manipulation and public observability.

We can now ask how it is possible for us to have this understanding of the physical. A summary of the argument goes as follows:

The primordial understanding of the physical is possible only through reflection on disturbance or rupture in a pre-existing totality from which the notion of the physical as such can be abstracted. This is a situation of disturbance in the normal processes through which agents pursue their purposes in their environment, and in relation to which they understand things in that environment. Thus, the stick we are using breaks, the crops fail, the water is polluted etc. Such disturbances present an 'explanatory agenda' (Carey 2010) and bring to our attention our expectations (implicit or explicit) concerning things in the world. They also allow us to focus on those things with a view to finding out what went wrong and fixing it: that is, with an interest in 'technical control' (Habermas). So we can abstract from, or overlook, the purpose, the beauty, the meaning or the value of the thing in question - its agent-dependent properties - and treat it purely in terms of its physical structure and properties. It is at this stage that science can begin to analyse the causal structures that underpin and make possible our ordinary dealings with the world, in the interest of practical control of our environment.

We can then extend our scientific explorations beyond local practical interest to theories about the nature of the physical realm which refer to quarks and neurons, leptons and synapses. Nevertheless, however far scientific theories may take us from our everyday concerns, and penetrate the composition of the material realm, they cannot justify the claim that the physical nature of things exhausts the world. For physical science necessarily presupposes the existence of a world of affordances, meanings and uses within which purposeful agents are situated and act: it explores that set of causal properties, structures and processes that we focus on when we abstract from those affordances, meanings and uses. Insofar as we are ontologically committed to the entities and properties described by the physical sciences we are also already ontologically committed to that richer meaningful world and its agents.

VII The MI and SI of Time

If something like the above is right, then an implication is that the SI of time presupposes the MI of time integral to our being in the world, and is itself an abstraction from that world. There are at least two aspects to this:

First, the understanding of an object is of something which persists through time. There would be no possibility of acting on it unless it did so.

Second, our being as agents has a temporal structure in that we project ourselves onto the future (we can eat that apple), having found ourselves already thrown into the world.