The Virtual World We Inhabit:

From Dawkins back to the Future with Hobbes

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In *Unweaving the Rainbow* (1999, rpt. Penguin, 2016) Richard Dawkins explains why we all move in a perceptual world which is not "the" world, but a virtual reality model of the same, a mental model which we take for the real thing itself.



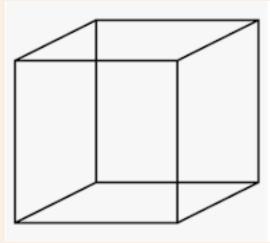
This may seem far-fetched to the naive assumptions (and perceptions) of many people, yet it is self-evident from the moment we realize that although we may partly share our mental maps and models of the objective world, the section of the world I perceive and attend to is different from yours, a different location, a different point of view, etc. etc. Fairly *obvious*, actually.

Listen to Dawkins:

You and I, we humans, we mammals, we animals, inhabit a virtual world, constructed from elements that are, at successively higher levels, useful for representing the real world. Of course, we feel as if we are firmly placed in the real world—which is exactly as it should be if our constrained virtual reality software is any good. It is very good, and the only time we notice it at all is on the rare occasions when it gets something wrong. When this happens we experience an illusion or a hallucination, like the hollow mask illusion we talked about earlier.

The British psychologist Richard Gregory has paid special attention to visual illusions as a means of studying how the brain works. In his book *Eye and Brain* (fifth edition 1998), he regards seeing as an active process in which the brain sets up hypotheses about what is going on out there, then tests those hypotheses about what is going on out there, then tests those hypotheses against the data coming in from the sense organs. One of the most familiar of all visual illusions is the Necker cube. This is a simple line drawing of a hollow cube, like a cube made of steel rods.

The drawing is a two-dimensional pattern of ink on paper. Yet a normal human sees it as a cube. The brain has made a three-dimensional model based upon the two-dimensional pattern of ink on paper. yet a normal human sees it as a cube. The brain has made a three-dimensional model based upon the two-dimensional pattern on the paper. This is, indeed, the kind of thing the brain does almost every time you look at a picture. The flat pattern of ink on paper is equally compatible with two alternative



three-dimensional brain models. Stare at the drawing for some seconds and you will see it flip. The facet that had previously seemed nearest to you will now appear farthest. Carry on looking, and it will flip back to the original cube. The brian could have been designed to stick, arbitrarily, to one of the two cube models, say the first of the two that it hit upon, even though the other model would have been equally compatible with the information from the retinas. But in fact the brain takes the other option of running each model, or hypothesis, alternately for a few seconds at a time. Hence the apparent cube alternates, which gives the game away. Our brain constructs a three-dimensional model. It is virtual reality in the head. (...) The model in the brain (...) is constructed. But (...) it is, like the surgeon's computer model of the inside of her patient, not entirely invented: it is constrained by information fed in from the outside world. (275-77)

One might compare the brain to a Popperian scientist, projecting hypotheses onto the world, as a working model of the same, and correcting those hypotheses only when reality fails to replicate the experiment. If the perceptual/conceptual model is thus falsified, a new perceptual pattern or "hypothesis" is generated to see if it delivers in terms of workable action.

This "top-down" model of perception corrects the naive "bottom-up" account of the same, which gives a more passive role to the mind. On this account, the mind would simply receive the input from the senses, and would construct its mental model of the world as the result of a one-way process, world-to-mind. Using the scientific analogy, this would be a Baconian model of experience: from the collection of data, through induction and generalization, to the building of laws which account for the world (the mental models). Our Popperian account of the mind makes for a much more dynamic role of the mind: it is top-down to a large extent (although of course it is a dynamic two-way model, both top-down and bottom-up in a continuous feedback cycle). The mind is not merely receiving the input of "reality", it is also constructing and projecting that reality around the mental subject, so that minds are reality-generation machines, and the more elaborate the mind, the more mental and more virtual the reality it inhabits. The mind generates its own space for interaction with the world and with other minds, to the extent that both physical reality and (especially) social reality are the result of *self-fulfilling expectations*.

Expectations that we call *institutions*, *frames*, *places* (as socially defined), *encounters*, *situations*, *discourses* and *disciplines*.

For another take on this issue, I refer the reader to these two articles:

 <u>"Goffman: La realidad como expectativa autocumplida y el teatro de la</u> <u>interioridad"</u> — On the nature of social reality as a system of self-fulfilling expectations as theorized by Erving Goffman in his *Frame Theory*.

- <u>"Constitución reflexiva de la percepción"</u>. By way of Hegel, a reflection on the construction of visual space as a mental intervention on reality, with our eyes (in a way) acting as a kind of Super-8 film projectors in a dark room, a bit like those 17th-c. prints which show Anatomical Men projecting light beams from their eyes, beams which illuminate the objects and allow them to be seen. (This is of course an image or analogy the better to visualize my point).

But it brings me nicely to the my last observation about our Virtual Reality in the Mind, having to do with the discovery of this artifact. Of course we would have to go back through a number of shades of awareness in a number of idealistic philosophers, from Plato's cavern to Descartes' evil genius. Nevertheless my example of choice comes from a celebrated *materialist*, Thomas Hobbes. We are of course at that point of reasoning about the world where matter becomes mind becomes matter, and thus Hobbes gives us (in his account of perception in *Leviathan*) a memorable definition of how exactly the world we perceive is a mental construct—minds being nothing but machines for the construction of such constructs, including, at a further ratchet of virtuality, their past and their future states, that is, time itself as *a moving image of reality*. (1)

CHAPTER I. OF SENSE

Concerning the Thoughts of man, I will consider them first Singly, and afterwards in Trayne, or dependance upon one another. Singly, they are every one a Representation or Apparence, of some quality, or other Accident of a body without us; which is commonly called an Object. Which Object worketh on the Eyes, Eares, and other parts of mans body; and by diversity of working, produceth diversity of Apparences.

The Originall of them all, is that which we call Sense; (For there is no conception in a mans mind, which hath not at first, totally, or by parts, been begotten upon the organs of Sense.) The rest are derived from that originall. To know the naturall cause of Sense, is not very necessary to the business now in hand; and I have els-where written of the same at large. Nevertheless, to fill each part of my present method, I will briefly deliver the same in this place. The cause of Sense, is the Externall Body, or Object, which presseth the organ proper to each Sense, either immediatly, as in the Tast and Touch; or mediately, as in Seeing, Hearing, and Smelling: which pressure, by the mediation of Nerves, and other strings, and membranes of the body, continued inwards to the Brain, and Heart, causeth there a resistance, or counter-pressure, or endeavour of the heart, to deliver it self: which endeavour because Outward, seemeth to be some matter without. And this Seeming, or Fancy, is that which men call sense; and consisteth, as to the Eye, in a Light, or Colour Figured; To the Eare, in a Sound; To the Nostrill, in an Odour; To the Tongue and Palat, in a Savour; and to the rest of the body, in Heat, Cold, Hardnesse, Softnesse, and such other qualities, as we discern by Feeling. All which qualities called Sensible, are in the object that causeth them, but so many several motions of the matter, by which it presseth our organs diversly. Neither in us that are

pressed, are they anything els, but divers motions; (for motion, produceth nothing but motion.) But their apparence to us is Fancy, the same waking, that dreaming. And as pressing, rubbing, or striking the Eye, makes us fancy a light; and pressing the Eare, produceth a dinne; so do the bodies also we see, or hear, produce the same by their strong, though unobserved action, For if those Colours, and Sounds, were in the Bodies, or Objects that cause them, they could not bee severed from them, as by glasses, and in Ecchoes by reflection, wee see they are; where we know the thing we see, is in one place; the apparence, in another. And though at some certain distance, the reall, and very object seem invested with the fancy it begets in us; Yet still the object is one thing, the image or fancy is another. So that Sense in all cases, is nothing els but originall fancy, caused (as I have said) by the pressure, that is, by the motion, of externall things upon our Eyes, Eares, and other organs thereunto ordained.

Perhaps *augmented reality*, a kind of Google Glass vision, is a better analogue for Hobbes's account of perception. The mind, subject to perceptual stimuli, constructs a fanciful or imaginary version of the world, so that *the real and very object seem[s] invested with the fancy it begets in us*. Objects may well be in the world, but objects of perception are mental constructs: there is no visual appearance of the object without an eye and a brain, there is no sound whatsoever in a waterfall without the ear and the brain.

George Berkeley would extract some further consequences of the empiricist account of perception, and would brazenly define objects and the world in which they are placed as the products of the mind's activity, synthesizing the input from the senses and generating something which is not in the senses, nor in any understandable sense in a "world without minds".

A world without minds.... Which is not of course what we usually mean by "the world": it is not the least of paradoxes that this non-mental "raw" world is only conceivable, when we come to examine it, as the result of an elaborate scientific abstraction from the much more intuitive world we inhabit, the virtual world constructed by our minds and our senses.

⁽¹⁾ For more on the cognitive construction of time, see my paper on "La cartografía narrativa en la articulación del mundo humano: El papel de los esquemas y los textos narrativos."

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