Commentary on Steven Lehar "Gestalt isomorphism and the primacy of subjective conscious experience: A Gestal Bubble model"

Does perception replicate the external world?

Donald D. Hoffman
Department of Cognitive Science
University of California
Irvine, California 92697
USA
949-824-6795
ddhoff@uci.edu
http://aris.ss.uci.edu/cogsci/personnel/hoffman/hoffman.html

Abstract

Vision scientists standardly assume that the goal of vision is to recover properties of the external world. Lehar's "miniature, virtual-reality replica of the external world inside our head" is an example of this assumption. I propose instead, on evolutionary grounds, that the goal of vision is simply to provide a useful user interface to the external world.

Lehar asserts that "The central message of Gestalt theory is that the primary function of perceptual processing is the generation of a miniature, virtual-reality replica of the external world inside our head, and that the world we see around us is not the real external world but is exactly that miniature internal replica (Lehar 2003)." I wish to consider this assertion of indirect realism.

Suppose it is true. Then we do not see the real external world, nor do we hear, smell, taste, or in any other way perceive it. Instead we perceive just the miniature virtual-reality (henceforth, mini VR) that we generate.

Given this, what empirical grounds might we have for claiming that our mini VR replicates the external world? Perhaps we could compare objective measures of the external world against psychophysical measures of the mini VR. If mismatches are minor, we would have grounds for the replica claim.

This process seems straightforward enough. The basic sciences measure the external world, and psychology the mini VR. So we simply compare data.

But this is too fast. It is not just psychologists who only perceive their mini VRs; all scientists, regardless of discipline, only perceive their mini VRs. So how do the basic scientists manage to measure the external world?

The trouble is that every time scientists try to measure the external world they see only their mini VRs. They look through telescopes and microscopes, but only see their mini VRs. They extend their senses with countless technologies, but the technologies and their outputs are still confined to the mini VRs; for if they were not then, according to indirect realism, the scientists could not perceive them.

Thus all scientists are confined to perceive only their mini VRs. If they wish to make assertions about the external world, even assertions that an external world exists, then these assertions are necessarily, according to indirect realism, theoretical assertions. They are not direct measures. As Einstein notes, "...physics treats directly only of sense experiences and of the "understanding" of their connection. But even the concept of the "real external world" of everyday thinking rests exclusively on sense impressions." (Einstein 1950:17).

So indirect realism does not allow us incontrovertible empirical grounds to assert that our mini VRs replicate the external world. At best it allows us to postulate an external world as a theoretical construct.

Once we take the external world as a theoretical construct, then we have many options for the particular form of that construct. We can, as Lehar suggests, propose that our mini VRs are replicas of the external world. This is a particularly simple theory, and on the face of it quite unlikely. Our best evidence suggests that mini VRs vary dramatically across species (Cronly-Dillon & Gregory 1991), and there are no evolutionary grounds to suppose that our species happens to be the lucky one that got it right. To assert otherwise would be anthropocentric recidivisim.

Once we extend our gaze beyond the replica theory, many other possibilities arise. One class of possibilities is that there is little or no resemblance whatsoever between the external world and our mini VRs, but that instead our mini VRs are simply useful user interfaces to the external world, with no more need to resemble that world than a Windows interface needs to resemble the diodes, resistors, and software of a computer. Of course we could not call a theory from this class an "indirect realist" theory since, by hypothesis, there is no realism. So indirect realism leads us to

consider dropping indirect realism in favor of a broader, and more likely, class of theories. Let's call these new theories "user-interface" theories. For what they entail is that our mini VRs, rather than being replicas of the external world, are simply useful user interfaces to that world. Different species employ different user interfaces for their different purposes. The human user interfaces are simply a small set of the total, of special interest to us only for parochial reasons.

The move from indirect realism to user interface can be disconcerting, for it denies an anthropocentrism very dear to us: the assumption that our perceptions are privileged among all species. And it opens a Pandora's box of theoretical possibilities for the nature of the external world and its relation to our mini VRs. It has been convenient to assume that since there are neurons and synapses inside the heads that appear in our mini VRs, that therefore there must be corresponding real neurons in real heads in the external world. But convenience rarely coincides with truth. It looked for millenia like the sun and stars circled the earth, but we now know better. Even space and time themselves are not immune from this process, for as Einstein pointed out, "Time and space are modes by which we think and not conditions in which we live." (quoted in Forsee 1963:81).

Moving from indirect realism to user interface does nothing to impede progress in modeling of the mini VR itself along the gestalt lines proposed by Lehar. Nor does it impede progress in modeling the neural networks of the perceptual systems in our mini VRs. All this modeling can continue as it has. We simply realize that we are not modeling a replica of the external world, we are instead modeling our species-specific user interface to an external world. And in consequence we are far more cautious in our knowledge claims about the external world.

The move from indirect realism to user interface gives us more elbow room in dealing with the hard problem of consciousness. The hard problem arises when we assume that neurons as we perceive them in our mini VRs are replicas of real neurons in the external world, and we must therefore figure out how those real neurons could possibly give rise to conscious experience. But if we drop the replica assumption, we now have a broader range of theoretical possibilities for what, in the external world, might correspond to neurons in our mini VRs. In this case our only limits in solving the problem are not the straight-jacket of the replica assumption, but our imaginations.

References

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