

Relations between three-dimensional, volumetric experiences, and neural processes: Limitations of materialism

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Abstract: Certain features of perception – the quale red, for example, and other qualia – must be regarded as additions to the materialist neurophysiological picture of perception. The perception of three-dimensional volumetric objects can also be seen as qualitative additions to the neurophysiological processes in the brain, possibly without additions to the information content.

In the history of science and philosophy, the world has been regarded as material, mental (idealist philosophy), or dualist (both material and mental). Like many people today, Lehar has chosen the materialist view, and he attempts to avoid dualism by assuming the mind-brain identity position (“consciousness is a physical process taking place in the physical brain” – sect. 2.3, para. 5). Still, he writes that there remains a subjective quality (or *quale*) to the experience of red, for example, which is not in any way identical to any physical variable in the brain. I think this must mean that the experience of qualia adds something to the assumed material world and that Lehar therefore does not stay consistently within the materialist frame of reference. Lehar also writes (sect. 2.3) that sense data, or the raw material of conscious experience, are the *only* thing we can know actually exists, and that all else, including the entire physical world, is informed conjecture based on that experience. To me this statement appears as a departure from materialism; it is actually close to the idealist view.

I now suggest that the perceptual experience of three-dimensional, volumetric objects, and of empty space is also something that “subjective conscious experience” adds to the assumed material electrochemical processes in the brain, possibly without changing the information content – a qualitatively different representation. Lehar thinks that the gap between the materialist descriptions of neurophysiology and the phenomenological descriptions of Gestalt features of perception may be due to the present “embryonic” state of neurophysiology, but I regard this as a promissory belief rather than an explanation.

Analogously (and staying within the materialist frame of reference) I believe that a computer can produce a three-dimensional, volumetric figure, namely, if it is connected with a device that can construct that figure. The figure will then be another representation of the information content which is represented inside the computer by electrical processes. Of course, a human person can also construct a three-dimensional figure with his hands or describe it in words and drawings, as Lehar does. In this case, it is the connection with the body, particularly with the muscles and the hands, that enables the brain to make these constructions and descriptions from its information content.

I think that materialism has served science well within a rather large domain, but with studies of cognition such as Lehar’s, we move into a domain where materialism reveals significant shortcomings. I find that such shortcomings appear in Lehar’s work.

Hence, on his materialist background, Lehar rejects direct (naïve) realism which suggests that we can have experience of objects out in the world directly, as if bypassing the chain of sensory processing. Provided that the materialist background is retained, I agree with this rejection. But if we apply an idealist worldview, our perceptions are of course experienced directly, and based on these perceptions we form concepts, such as the concepts of a “material” object, a “material” world, and perceptual models such as Lehar’s Gestalt Bubble model. I see these concepts and models as mental constructs representing features of the perceptual reality, such as quantitative features and three-dimensional Gestalt features. These constructs are of course also experienced

directly, and they can be made unambiguous and precise. Here I agree with Lehar, who thinks that perceptual models remain “safely on the *subjective* side of the mind/brain barrier” (emphasis in original) and writes about “objective phenomenology” leading to “perceptual modeling” (sect. 4). It is when we accord “material” concepts a special existence of their own, principally different from the existence of conscious experiences, that is, when we move to materialism, that we run into trouble with direct realism.

Lehar finds troubles with indirect realism as well but eventually accepts this view on the premise that the world we see around us is not the real external world but a miniature virtual-reality replica, an internal data structure within our physical brain. I think this view gives only an incomplete, imprecise conception of the “external world,” including our “physical brain.” This incompleteness and imprecision are shared with other philosophies assuming indirect realism, such as “hypothetical realism” (Löw 1984; Randrup, submitted; Wuketits 1984), “commonsense realism” (Ruse 1986), and Kant’s concept of “the things in themselves” versus “the things for us.” According to Kant’s philosophy, we actually know nothing about things in themselves, except that they are supposed to exist. I think that this uncertainty or renunciation of knowledge compares unfavorably with the precision of the “material” concepts based directly on perceptual data in the idealist worldview.

Another shortcoming of materialism in relation to the study of cognition is that it is difficult consistently to avoid dualism, as appears from Lehar’s views about qualia mentioned above. And if dualism is admitted, it is hard to see how conscious experiences can be generated by material processes in the brain, as Lehar thinks they are (sect. 2.4). In the alternative idealist view of the world, it is not so hard to see, conversely, how “material” concepts are generated by the mind; the history of science shows how such concepts have been created (e.g., quanta, superstrings) or deleted (impetus, phlogiston, the ether) following the advent of new perceptual (observational) experiences. The special material type of *existence* is not a part of the idealist philosophy. (For a more extensive discussion of the mind-matter and mind-brain problems in relation to cognition, see Knight 2001; Randrup 1997; 2002.)

Actually I think that Lehar’s study, based on “the primacy of subjective conscious experience” and leading to a model of phenomenal perception, is most readily understood within the idealist worldview, and within this view his troubles with direct and indirect realism, with materialist monism, and with mind-matter relations will be significantly reduced. For more about the idealist worldview proposed here, see Randrup (1997; 2002).

Consciousness as phenomenal ether?

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Abstract: The Gestalt Bubble model of visual consciousness is a courageous attempt to take the first-person perspective as primary in the study of consciousness. I have developed similar ideas as the Virtual Reality Metaphor of consciousness (Revonsuo 1995; 2000). I can, hence, only agree with Lehar about the general shape of a proper research strategy for the study of consciousness. As to the metaphysical basis of the research program, I have, however, several reservations about panexperientialism.

I agree with Lehar on several points but disagree about the ultimate metaphysical nature of consciousness. I shall first describe points of agreement and then proceed to a criticism of panexperientialism. First, any research program on consciousness should start by taking the *explanandum* seriously, constructing a systematic description of it. This is Lehar’s “objective phenomenology.” In the context of the biological sciences, this is the initial, de-