One argument that Noë gives for his constitutive view depends on “change blindness”. An illustration of change blindness is given in Figures 2 and 3. These Figures are printed on different pages to prevent you from comparing them side by side. Subjects who view them successively can have a great deal of difficulty seeing what differs between the pictures. Noë regards change blindness as a pivotal item of evidence for his view, arguing that change blindness gives us “good reason to believe that there is a vast range of ways the scene around you could have been visibly different from the way it actually is, without any of these visible changes making a difference to the character of your experience.” (p. 192) He says

“But wouldn’t my neural duplicate have the same experiences as me whatever differences there might be between its environment and mine? This is the force of the claim that experience supervenes on the brain. Again, this is an empirical question. If, as I have suggested, experience frequently makes use of temporally extended, dynamic access to the world, then it comes down to the question of whether brains can suffice without actual reference to the world itself.

From this statement of the issue of whether experience supervenes on the brain, Noë moves to his reason for thinking it does not:

There is some reason to think that they cannot. This is one way to interpret the change blindness findings. Without reliable access to the detail around us, we lose track of detail. We don’t have access to a world model in the head.” (218)

Change blindness is supposed to show that we are subject to what one might call the “Refrigerator Light Illusion,” the illusion a naïve person might have that the refrigerator light is on even when the door is closed. We can see detail in the world when we look more closely, but, according to Noë, the detail was not there is our experience before we looked more closely—the world itself serves as a sort of visual memory buffer.

But how is this thesis about change blindness supposed to support externalism? ¹ The idea seems to be that there could be identical brains in different environments for which things would seem different over time—but because the environments are different, not because the brains are different. It

¹ I don’t agree with Noë’s gloss on change blindness. According to me, inattentive “blindness” would be better called “inattentional inaccessibility”. I think that subjects are not in general blind to the features that change but rather that they do not conceptualize these features at a level that allows for comparisons. See Block, “Paradox and cross purposes in recent findings about consciousness,” Cognition 79, 2001: Issues 1-2: 197-219 Interestingly Rensink and Simons, two of the original discoverers of many of the change blindness results are now moving towards this interpretation after initially having advocated a view much like Noë’s. See Simons, D.J. and Rensink, R., “Change blindness: past, present and future” Trends in Cognitive Sciences 9,1 2005: 16-20. A view similar to mine in the paper just mentioned is advanced in Dretske, F. ‘Change Blindness’, Philosophical Studies, July 2004
is easy to see what is wrong with this reasoning. Consider two perceivers at time \( t_1 \) who have brains in exactly the same state. Let us suppose that beginning at \( t_1 \), one of them has reliable access to the environment, whereas the other, because of some feature of the environment, does not. But at \( t_1 \), let us suppose, this difference in the reliable access has not yet made a difference in their brains, so their brains are physical duplicates. At \( t_2 \), however, the difference in reliable access has made a brain difference: the brain that is more closely connected to the environment embodies a more detailed perception. However, neither \( t_1 \) nor \( t_2 \) yield an argument against supervenience of perceptual experience on the brain. At \( t_1 \), there is no reason to think the experiences are different. At \( t_2 \), the experiences are different, but so are the brains. In neither case is there a an argument from the claim that the world serves as a visual buffer for the existence a situation of same brain, different experience—which is what is needed to refute supervenience—even if Noë is right that change blindness involves losing track of detail. Even if the world serves as an external memory that augments vision, there is no reason to think that this fact is reflected in a failure of supervenience of perceptual experience on the brain.

The reader may be helped by an illustration of the kind of evidence we get from neuroscience for constitutive claims about experience by way of contrast with the evidence that Noë offers for the claim that skilled activity is in part constitutive of experience. I don’t have space for much, but I will give a brief example. The first area of the cortex to receive visual signals is at the back of the head and is known as V1 (‘V’ for visual). Further up the visual chain of processing, there is an area known as V5 (more accurately, V5/MT+) which has a much higher concentration of motion-sensitive neurons than any other known area. This area is certainly necessary for the visual experience of motion since if it is destroyed, the subject has a syndrome called “akinetopsia” in which motion is experienced as a series of “stills”. There is reason to think that a constitutive part of one kind of visual experience of motion is an activation of V1 that activates V5 which in turn feeds back to V1, a “recurrent loop”. If V5 is stimulated by a magnetic coil placed on the scalp that induces a current in the brain (the device is called transcranial magnetic stimulation, or TMS for short), the subject experiences moving phosphenes. (If you don’t know what a phosphene is, you can find out by closing your eyes and pressing on your eyeball with your finger.) If V1 is itself stimulated by TMS, the subject experiences stationary phosphenes that are smaller and shaped differently. Pulses in V5 and V1 can be calibrated so as to produce phosphenes in the same part of the visual field. If a pulse to V5 is followed about 50 milliseconds later by a pulse to V1—about the time it takes for feedback from V5 to reach V1-- it interferees with the feedback from V5 to V1, stopping the moving phosphenes. And you can also interfere with motion perception by zapping V1 as perceptual signals from moving figures are on their way up to V5. But only one loop is necessary:
zapping V5 after a single V1-V5-V1 loop does not interfere with motion perception.\textsuperscript{2}

Of course the V1-V5 loop could also be shown to be merely contributory rather than constitutive of visual motion perception. For example, it could be discovered that the V1-V5 loop is only a gateway to some other brain system whose activity is truly necessary and sufficient for motion perception in humans. Without a solution to the “explanatory gap” (Why is it that the physical basis of a given percept is the physical basis of that percept rather than another or none?) it is difficult to know for sure.\textsuperscript{3} Nonetheless, I think we have reason to think that the constitutive physical basis of visual experience as of motion does not include eyes or hands, but only certain features of a brain.\textsuperscript{4}

\begin{itemize}
\item[\textsuperscript{2}] See “Two Neural Correlates of Consciousness”, op. cit., and Silvanto, J., Cowey, A., Lavie, N. & Walsh, V., “Striate cortex (V1) activity gates awareness of motion” \textit{Nature Neuroscience} 8, 2, 2005: 143-144, and Silvanto, J., Lavie, N. & Walsh, V., “Double Dissociation of V1 and V5/MT activity in Visual Awareness”, Cerebral Cortex, 2005. This picture of visual motion perception may have to be complicated in order to handle some unpublished experiments by Tony Movshon that suggest a distinction between global and local motion, only the latter of which is handled by V5.
\item[\textsuperscript{3}] Noë supposes that the enactive view is a partial solution to the explanatory gap. I don’t have the space to go into it here but I believe that the appearance of closing the gap comes from an implicit conceptual functionalism. To put it crudely, if you think that the concept of pain is the concept of saying “Ouch!” it is easier to explain why the physical basis of pain is the physical basis of pain rather than itching or nothing.
\item[\textsuperscript{4}] Don’t get me wrong. I am not saying that if a chunk of the visual cortex including V5 and V1 were put in a vat, it would be the physical basis of any experience. The right distinction here is that between a core and a total neural realizer of consciousness. The total realizer is sufficient for consciousness all by itself. The core realizer is the part of the total realizer that distinguishes one conscious content from another, the rest of the total realizer being considered as background. The V5/V1 loop is a core, not a total realizer of the experience of movement.
\end{itemize}