

## Reexamining Enactivism

GREGORY BLAKEMORE

In *Action in Perception* and “Experience without the Head,” Alva Noë argues that what is perceived emerges as one actively moves about in the environment. Moreover, the role of action is directly relevant for perceptual content, as it is enacted into existence. Noë’s goal is to develop an account of perceptual experience that supports an externalism in which perceptual experience does not need to be explained in terms of the brain, but includes external processes (Block, 2005; Hurley, 1998; Noë, 2004). He refers to this account as the “sensorimotor account of perception” (2004). More specifically for Noë, sensorimotor contingencies lead to an acquisition of sensorimotor knowledge. Sensorimotor knowledge is an intuitive knowledge that underwrites a perceiver’s understanding of how movement affects changes in sensation (O’Regan and Noë, *Visual*; Noë, 2004). Noë admits that he lacks a clear articulation of the precise nature of sensorimotor contingencies,<sup>1</sup> which undercuts the adequacy of his model. Sensorimotor contingencies and sensorimotor knowledge require a causal

<sup>1</sup>Noë acknowledges: “On the theory presented here, to have a sensation is to exercise one’s mastery of the relevant sensorimotor contingencies and in this sense to be ‘attuned’ to the ways in which one’s movements will affect the character of input. We characterize attunement as a form of practical knowledge. These terms are vague and may be somewhat confusing” (O’Regan and Noë, *Synthese*, 84).

*Gregory Blakemore is pursuing a Bachelor’s in Philosophy from Portland State University. His areas of interest include philosophy of mind and 19th and 20th century continental philosophy. In the fall of 2013 he will attend the graduate program in philosophy at Georgia State University.*

architecture that can explain how one acquires and masters sensorimotor skills and how these then mediate perceptual experience. Without such a causal explanation, Noë's externalism is subject to internalist critiques. For example, Ned Block argues that Noë's model is a new form of behaviorism, because it lacks an account of the processes that mediate sensorimotor inputs and outputs (2001; 2005).

This paper addresses the explanatory ambiguity in Noë's model. Positively, I contend that a broad reading of Hume's 'copy principle' and his associationist causal architecture provide the necessary structure needed to explain the sensorimotor account of perception (1.1.1.1, 1.1.4.1). More controversially, I will argue that while supporting Noë's externalism, Hume's copy principle, and his classification of perceptions in terms of liveliness and vivacity, can also explain how one acquires and develops sensorimotor knowledge.<sup>2</sup>

### An Overview of the Key Tenets of Alva Noë's Enactivism

#### *The context of enactivism.*

Enactivism is a view in the philosophy of perception and in perceptual psychology in which embodied action and the external world are the vehicles for perceptual experience (Bateson). The enactive view is a departure from previous views of perception such as behaviorism and functionalism (Block, 2001, 2005; Hickerson). Noë posits that the enactive view can solve what he refers to as the problem of perceptual presence (2006: 413). What distinguishes Noë's view from other perceptual theorists is that they tend to either ignore or leave the problem of perceptual presence unexplained.

#### *The problem of perceptual presence.*

The problem of perceptual presence concerns the irreconcilability of two perspectives regarding visual phenomenology of perception.<sup>3</sup> The

<sup>2</sup>In order to make this argument I will be drawing heavily on a new, and potentially controversial reading of Hume's copy principle and the role of vivacity (Seppalainen and Coventry).

<sup>3</sup>It is important to note that much of Noë's phenomenology focuses on vision. This is not the limit of his account as will become clear throughout this essay, but within the key writings examined in this paper, Noë's phenomenological concepts are underwritten through examples of the phenomenology of vision.

first of these perspectives is the ‘Euclidean’ perspective, which argues that nothing is seen in its entirety all at once. The second of these perspectives is the ‘commonsense’ perspective, which argues that when one sees an object, one sees the whole of the object; only in special circumstances should one say that one’s experience is of a part of an object (e.g., when referring to a specific quality of an object). For Noë, each of these perspectives is only partially correct (2006: 413).

Noë argues that each of these two positions is committed to the ‘snapshot’ conception of visual experience, which assumes that one just opens her eyes and a fully developed, high-resolution internal representation of the visual world is the basis of experience (2006: 420–421). He also argues that by incorporating actions and movement, rather than solely one’s internal experience, a perceptual model can be developed that more accurately resembles human phenomenological experience. Noë’s sensorimotor account of perception is helpful in understanding this account.

#### *Sensorimotor contingencies and sensorimotor knowledge*

Noë’s distinct concepts refer to the integration of sensation and movement. He defines sensorimotor contingencies as “*the structure of the rules governing the sensory changes produced by various motor actions*” (O’Regan and Noë, *Vision*, 941). Thus sensorimotor contingencies are the ways in which sensation changes are regulated by the body’s movements. For example, Noë states: “When the eyes rotate, the sensory stimulation on the retina shifts and distorts in a very particular way, determined by the size of the eye movement, the spherical shape of the retina, and the nature of the ocular optics” (O’Regan and Noë, *Vision*, 941). Noë’s reliance on the concept of sensorimotor contingencies allow him to argue that embodied action is how one acquires the concepts from the external world that lead to a mastery of perceptual experience and the development of sensorimotor knowledge (2004).

Sensorimotor knowledge is knowledge of how movement gives rise to changes in sensations (Noë, 2004; Hickerson). Sensorimotor knowledge is equivalent to an implied, practical ‘know-how’<sup>4</sup> in which individuals understand perceptual experience because they have an understanding of how things would look from different angles. Noë’s sensorimotor account of

<sup>4</sup>Here I am using Ryle’s distinction between ‘knowing-how’ and ‘knowing-that.’ Knowing-how is a pre-predicative practical knowledge. Knowing-that is propositional knowledge.

perception allows him his answer to the problem of perceptual presence: presence in absence.

*Presence in absence.*

To explain presence in absence, Noë uses H.H. Price's classic example, from the sense-data theory, of a tomato (2006: 413–14). Noë states that when examining a tomato, one can see the tomato from any given point of view. As one moves about examining the tomato new information is given to the senses, but there is always a part of the tomato that is out of one's field of view. Despite this, as one perceives the tomato, one perceives it as a whole. The back side or occluded parts of the tomato are 'felt' to be present. This felt sense of presence is 'presence in absence'.

For Noë, presence in absence provides insight into perceptual presence. His argument merges the two traditional phenomenological perspectives to allow for a phenomenology that acknowledges that one can see only parts of an object from any given vantage point, but also experience the whole object's presence. When one sees an object, such as a tomato, one does not simply think that the occluded parts of the object are present; it looks as though they are (2006: 414). One experiences the world as presence in absence, which is learned through mastery of sensorimotor contingencies and the acquisition of sensorimotor knowledge.

*Presence as access and its relationship to presence in absence.*

Also important to Noë's phenomenology is the idea of 'presence as access'. According to presence as access one has a felt sense that the world is available to her for access (2006: 422). Noë argues that one has a felt sense of a richly detailed world, but one does not see all of this detail in its entirety all at once. Instead, one feels that if one takes the right actions or movements, one can access the elements of the environment that are unseen or unattended.<sup>5</sup> There is an important interplay between the concepts of presence in absence and presence as access: what underwrites one's sense of presence in absence is presence as access. For Noë, sensorimotor knowledge is the basis of experience. The reason that action is key to his model is because, he argues, we are the type of entity that accesses the world

<sup>5</sup>Noë states: "What is experienced visually goes beyond what is actually seen" (2006: 424).

via movement. For Noë, one sense of intentional experience is enacted via movement in and exploration of the world. Without the ability to access the environment there can be no perception.

### **Block's Critique of Noë's Model as Neo-Behaviorism.**

Despite praise for Noë's work,<sup>6</sup> it is not without its critics.<sup>7</sup> Ned Block objects to Noë's sensorimotor model of perception as limited to an analysis of sensorimotor inputs and outputs; he finds that sensorimotor contingencies are a "highly restricted set of input-output relations" (2001: 978). For Block, what is important when examining perceptual experience is the internal processing that turns sensorimotor inputs into outputs, not the inputs and outputs themselves.

Block identifies a consequence of Noë's model that challenges its efficacy. He juxtaposes the 'experiences' of an individual who is blind and quadriplegic with those of a laptop, arguing that it is a consequence of Noë's model that the experiences of an individual with highly limited perceptual experiences would be simple enough that one could program these inputs and outputs into a laptop computer. For Block, Noë has presented his argument in such a way that there is no way to account for the differences between the laptop and the human experiencer; Noë does not account for internal processes of perception that intervene between perceptual inputs and outputs.

He argues that Noë's model is not standard behaviorism, because it is focused primarily on sensation and perception, but it can be criticized in the same way (2001). Specifically, Noë's view can be criticized on grounds that—as it lacks any explanation of the internal processes that mediate perceptual experience—simple input and output relations can be used to argue that genuine human experience and the experience of a laptop are the same. Yet Block objects: "There is every reason to think that these people have some visual experience and the corresponding laptop has none" (2001: 978). In order for Noë's model to work, he must be able to provide an account of perceptual experience that explains what happens internally

<sup>6</sup>Many scholars have praised Noë's enactivism and specifically *Action in Perception* (Lycan, 2006; Gregory, 2005; Pace, 2005; Shroeder, 2006; Hickerson, 2007).

<sup>7</sup>Keijzer (2007) points out that Noë's arguments for sensorimotor contingencies are diffuse, and that a robust taxonomy of the types and functioning of sensorimotor contingencies are necessary in order to make Noë's view plausible.

that mediates the relationship between action and perception. I contend that one can use Hume's copy principle and associationism to provide Noë with a potential solution to Block's critique. With this in mind I will turn my attention to David Hume's theory of cognition.

### Hume's Taxonomy of Perceptions

#### *Hume's impressions and ideas.*

Hume is traditionally considered to be an internalist about the mind (Price, 1940; Seppalainen and Coventry, 44). Hume's taxonomy of perceptions divides perceptions into two basic groups, viz., impressions and ideas.<sup>8</sup> Impressions are characterized by being 'more lively and vivacious than ideas'. Hume discusses 'impressions of sensation,' which are perceptions based on sensory experiences (1.1.1.1).

Hume argues that every impression and idea can be either simple or complex. Ideas, once copied, can be classified as ideas of the memory or ideas of the imagination (1.1.3.1). Ideas of memory preserve the original form of the impression (1.1.3.3), but ideas of the imagination are not bound this way. The imagination can rearrange the atomic ideas (1.1.3.4). Hume identifies certain regularities within the ideas of the imagination, which he refers to as the associations (1.1.4.1). Key to the connection between Noë and Hume are associations of resemblance; associations that come about when the imagination goes from an idea to another idea that resembles it (1.1.4.2).

#### *The copy principle, the targets of copying, and vivacity.*

According to Hume's copy principle, simple ideas are copies of simple impressions—they are correspondent (1.1.1.7). All simple ideas first appear only after a corresponding simple impression, and one does not have an idea unless one has had a corresponding impression (1.1.1.9) For the remainder of this discussion I will rely heavily on a novel—and potentially controversial—interpretation of vivacity as a target of copying (Seppalainen and Coventry, 38–43). I contend that this interpretation provides Noë with a potential solution to Block's criticism of his model. If one wishes to object to this reading of Hume, I contend that the view

<sup>8</sup>For the purposes of time I will restrict my discussion of Hume's taxonomy to only the concepts that are relevant to Noë's account of enactivism.

that I am espousing can still help Noë as a broader Humean reading of vivacity and copying.

Copying is usually seen as a process concerned with simple sensory objects and their properties. However, Seppalainen and Coventry argue that Hume's targets of copying include sensory objects, as well as the structures, activities, and functions that relate to these objects (39). One of the key activities that is a target of copying is vivacity. Hume uses the term 'vivacity' broadly (1.1.1.1; 1.1.3.1; 1.4.2.40–44). However, Hume's discussion of vivacity as an indicator of constant and coherent complex impressions can demonstrate that it plays an important role for ordered perceptual experience in the Humean theory of cognition (1.4.2.40–44; Seppalainen and Coventry, 41–42).

Vivacity has a varied function in Hume's epistemology. For purposes of relating Hume to Noë, there are two essential features of vivacity that are useful. First, vivacity tracks the changes in lively perceptual presence leading to a constant and coherent experience of external objects (1.4.2.41; Seppalainen and Coventry, 42–43). Liveliness is the experience of change in perceptions as one moves about in the environment; it is the vivacious quality of a series of impressions and the changes between them. Second, vivacity is an indicator of the believability of ideas (1.3.9.15; Seppalainen and Coventry, 42). As vivacity is copied, it carries an indicator of the believability of ideas, and it helps to differentiate between the real and the imagined (1.4.2.42). It is the role of vivacity and the associations of the imagination, which lead to constant and coherent complex impressions.

### Hume's Copy Principle and its Connection to Noë's Externalism

Block's criticism of Noë's model is an objection to the lack of an explanatory architecture regarding the internal processes that mediate perceptual experience. Block claims that Noë can be read as a neo-behaviorist. Hume—as presented above—can help to resolve this critique in two ways.

*Copying: acquisition of sensorimotor knowledge.*

Noë argues that one acquires the skills needed to perceive by actively moving around and exploring the environment. From this exploration a sensorimotor knowledge base is built up that grounds a perceiver's sensorimotor contingencies. Furthermore, the acquisition of sensorimotor knowledge and the functioning of sensorimotor contingencies is how one develops the phenomenological experience of presence in absence. Presence in absence is Noë's answer to the problem of perceptual presence.

For Noë, presence in absence serves to explain how one can see only a part of an object but yet the object appears (looks, feels, seems, etc.) as whole. Noë acknowledges that internal processes mediate inputs of sensations and outputs of perceptions, but he never at any point offers an explanation as to how this process occurs. The Humean explanation provided above wherein vivacity is a key target of copying can provide Noë with just such an explanation.

The interrelationship between Hume and Noë here is based on the fact that both posit a role for exploration in and of the world in order to get concepts from the external world into the head.<sup>9</sup> What Hume's thinking can add to Noë's model is an explanation of the processes that mediate between sensory input and perceptual outcome. These processes are the copying of impressions into ideas. Copying is a linking of two internal faculties of cognition for Hume (1.1.1.1; Seppalainen and Coventry, 39). The first mental faculty is sensory (impressions) and the second is cognitive (ideas). However—and this is key—they are faculties that are concerned with how one incorporates an experience that is of external objects and gets them into the mind (Seppalainen and Coventry, 39–40). The Humean explanation is focused on the cognitive processes that are internal to the mind and copied from the senses. Humean copying grants a contra-behaviorist way to explain what mediates between sensory inputs and perceptual outputs in Noë's model of sensorimotor processes of perception.

*Vivacity, associationism, and presence in absence.*

Hume's vivacity, as considered above, is strikingly similar to Noë's concept of sensorimotor knowledge as a skill that undergirds sensorimotor contingencies. However, it is the rest of Hume's model of cognition with regard to the senses that can fully add to the explanatory power of Noë's model.

Hume argues that perceptions are bound together by the associations of the imagination, which contain only previously copied information from sensory experience. Vivacity as the indicator of different sense perceptual

<sup>9</sup>It is uncontroversial that Noë posits action as necessary for perception to occur, and for the acquisition of concepts necessary for mastery of perceptual skills. To reiterate, the interpretation that I have provided of Hume can be read as controversial, but as an interpretation it provides a solution to a critique of Noë as neo-behaviorist and should be considered regardless of potential hermeneutical objections to my reading of Hume.



outcomes and potential alternative outcomes (i.e., sensorimotor contingencies) contributes to the interplay between experience and the imagination (i.e., sensorimotor knowledge).

In this sense vivacity can be used to provide an explanation as to the experience of presence in absence. Vivacity is a copyable aspect of intentional perceptual experience that is acquired via active movement in and exploration of the world. This aspect, once copied, can serve to indicate a relationship between the senses (impressions) and cognitive processes that mediate them (ideas) in such a way that it can justify Noë's claim of presence in absence. In the case of both Hume and Noë, discussions of vivacity, constant and coherent complex impressions, presence in absence and presence as access are concepts to do with how action and movement lead to a learned sensory knowledge base that makes intentional experience possible.

Hume's associationism can be used to undergird Noë's model here as well. For Hume, the imagination is based on information copied from the senses (1.1.3.1). Associations of the imagination function as a cognitive apparatus that can allow one to make experiential connections (1.1.4.1). As Hume states: "For nothing is more free than that faculty [the imagination]; but we are only to regard it as a gentle force" (1.1.4.1). The imagination forms associations that function as a 'gentle force' to unify our veridical experiences.<sup>10</sup> Presence in absence is experienced as such because one has acquired vivacity (knowledge of sensorimotor contingencies) to the point in which one can experience an object and have an associative knowledge of the ways in which that object would appear from other angles. This happens as one actively explores the environment and copies active lively series of impressions into ideas that can be paired with further impressions into constant and coherent complex impressions by associations of the imagination. Hume and Noë both deal with concepts of cognition and perception by identifying the causal role of action and movement for the development and feeling of perceptual intentionality. Hume's emphasis on cognitive faculties that structure intentional experience offer Noë one way to refute Block's critique of enactivism as neo-behaviorism.

<sup>10</sup>As Hume puts it: "Impressions are naturally the most vivid perceptions of the mind; and this quality is in part convey'd by the relation to every connected idea. The relation causes a smooth passage from the impression to the idea, and even gives a propensity to that passage. The mind falls so easily from the one perception to the other, that it scarcely perceives the change, but retains in the second a considerable share of the vivacity of the first" (1.4.2.41).

## Conclusion

I will end by focusing on two curious comments that Noë makes in *Action in Perception*. Noë discusses sensorimotor knowledge in terms of thought and experience in the following passage:

[A] reason to refer to sensorimotor skills as constituting a kind of knowledge is that . . . there is no sharp line where your perceptual awareness of something stops and your mere thought awareness of it starts. I can think of the Eiffel Tower right now but not perceive it. (It's in Paris. I'm in Berkeley.) But I am visually aware . . . of the occluded portions of the scene around me, even though they are strictly speaking, out of view. By calling sensorimotor skill "knowledge," I am signaling that we should be open to the possibility that thought and experience are, in important ways continuous. (2004: 118)

What's curious about this passage is that it represents the exact problem that Block can present. Noë gives us an account of the relationship between thought and experience, and he couches it in terms of the sensorimotor knowledge that undergird our ability to perceive, but he never explains how this happens. This is why Hume's copying and associationism can be useful to the model that Noë presents. Vivacity as a copied element of lively impressions is learned via movement and exploration, perceptual impressions are copied into ideas as one explores, and the associations are what connect experience in such a way that one can have thought and experience seem "continuous."

Noë appears to read Hume along standard lines as an archetypal qualia theorist (Price, 1940; Noë, 2004: 207–208; Seppäläinen and Coventry). He states:

Empiricists like Hume . . . were right that the experience of the world is the ground of thought about the world. If the suggestion that we are entertaining is right, they misunderstood the significance of this fact. What is primitive are not sensory qualities (Sensations, ideas, whatever). What is primitive is sensorimotor understanding. (2004: 207–208)

This is unfortunate, as the connections between Noë and Hume appear to be much more substantial than one might think upon first glance, or if reading Hume via standard historical interpretations within the secondary literature. Enactivists, and interested historians, could greatly benefit from reading Hume from a new perspective, with a fresh pair of eyes.

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