Review of: "Growing Confidence and Remaining Uncertainty About Animal Consciousness"

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Review of Growing Confidence and Remaining Uncertainty About Animal Consciousness, by Louis Irwin

By Howard S. Kirshner, M.D.

I found this article very interesting, in light of the extended discussion of evidence for consciousness in animals with what appear to be less than highly advanced nervous systems. The consideration of animal consciousness was particularly interesting in the setting of a recent book on consciousness by John Parrington (1), which treats human consciousness as qualitatively different from that of animals, based on human language and tool-making ability. There is evidence, not mentioned in this paper but supportive of its arguments, that pigeons can recognize themselves in a mirror, one of the requirements for “self-consciousness.” Irwin mentions in the Abstract that consciousness is “a process arising in a nervous system engaged with a body and its environment,” a statement supporting a sense of self as a major component of consciousness.

Another area in which I appreciated this article is the “requisite biological substrate” necessary for consciousness. Many reviews and conceptual articles about consciousness fail to consider what neuroscientists and neurologists know about consciousness, mainly that it requires an intact reticular activating system in the brainstem and thalamus. These systems interact with the cerebral cortex. Focal damage to this system can disrupt consciousness, whereas damage in the cerebral cortex must be extremely widespread to result in long-term loss of consciousness. This concept, as Irwin explains, is central to the account of consciousness by Gerald Edelman. Irwin further reviews evidence that many vertebrates, birds, and reptiles have such activating systems, including virtually all arthropods and coleoid cephalopods such as octopuses, and even insects. Irwin goes on to say that “consciousness became necessary especially once animals started moving about, in order to solve the logistical problems of decision making while in motion.” He does point out that many elements of the neural network can be active and yet unconscious; a major gap in our understanding of consciousness relates to the specific patterns of activity or structural brain components that make neural processes conscious. This problem applies to both human and animal consciousness. The “Cartesian theatre” model, in which a part of the nervous system witnesses consciously what is going on in other parts of the nervous system, has appeal for Irwin, despite its lack of acceptance by others.

Overall, this review of animal consciousness is critical to our understanding of consciousness as a phenomenon in humans, as well as animals. I am not sure what Irwin meant in the Abstract by consciousness having a “pessimistic

prognosis," though he is clearly correct in saying that it has a "controversial history." In the title of the paper, "Growing Confidence and Remaining Uncertainty about Animal Consciousness," Irwin makes clear that his consideration of animal science and its contribution to our understanding of consciousness should help to advance our understanding of human consciousness.

Reference

1. Parrington J. Consciousness: How Our Brains Turn Matter into Meaning. London, Icon Books, 2023.