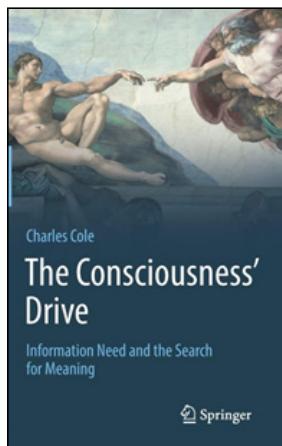


ment. Yeo's book serves as yet another reminder that, while technology may be a disruptive force, it need not displace the basics. Digital records may be different from analog records, but they share in common those properties Yeo identified as intrinsic to all records. This is a smart work, which should be of use to students, faculty, and practitioners.—Michael Ryan, *New-York Historical Society*

Charles Cole. *The Consciousness' Drive: Information Need and the Search for Meaning*. Cham, Switzerland: Springer, 2018. 247p. Hardcover, \$79.99 (ISBN 978-3-319-92455-7). LC 2018-946105.



Author Charles Cole's understanding of human consciousness is built foundationally upon the work of evolutionary psychologist Merlin Donald, who visualized the development of human cognition in four phases, with three transitions. According to Donald's Theory of Mind, preceding types of cognition do not cease to exist after human cognition transitions to a new phase, but exist as four layers within the modern consciousness. Cole's narrative in the first part of the book recounts Donald's model of human cognition, categorizing episodic, mimetic, mythic, and theoretic phases of cognition. The second half of the book sets up a particular situation of consciousness using the frame theory of Marvin Minsky, uses Meno's paradox (how can we come to know that which we don't already know?) in a critique of framing as Minsky conceived it, and presents group and national level framing and shows their inherent danger in allowing information avoidance and sanctioning immoral actions. Cole concludes with a solution of information need being sparked or triggered that takes the human consciousness out of a closed information loop, driving the consciousness to seek new information.

Cole's reliance upon Donald's Theory of Mind is limiting; it represents a major weakness of the book. Donald's Theory of Mind has been an influential model in evolutionary psychology, appearing in his 1991 book *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition* (Harvard University Press). Donald's approach is a top-down, conceptual model that explicates what makes the human mind different and exceptional from other animal intelligences.

However, there are other alternative, useful, science-based models of animal and human cognition that begin with a bottom-up approach to understanding the building blocks of cognition shared in common by humans and other "intelligent" animals. For example, in "A Bottom-Up Approach to the Primate Mind," Frans B.M. de Waal and Pier Francesco Ferrari note that neurophysiological studies show that specific neuron assemblies in the rat hippocampus are active during memory retrieval and that those same assemblies predict future choices. This would suggest that episodic memory and future orientation aren't as advanced a process as Donald posits in his Theory of Mind. Also, neuroimaging studies in humans show that the cortical areas active during observations of another's actions are related in position and structure to those areas identified as containing mirror neurons in macaques. Could this point to a physiological basis for imitation?

A more serious weakness of this book than the limited foundations of its argument is Cole's writing style and presentation, given the author's stated intentions. Cole seeks to present his research and philosophy of information needs by crafting "...the writing more conversational for a broader readership..." (Preface, V). I cannot agree that he has achieved this goal. Cole's writing style is characteristic of the advanced academic specialist who normally writes for

those working within an isolated niche of conception and language. The narrative presented by Cole might be conversational in the library studies faculty lounge, but it will prove difficult for academics from other disciplines to follow, let alone those from a broader audience beyond advanced higher education. This reviewer found it necessary to track down and read secondary literature from the references list to understand the nature of Cole's thesis and the development of his argument. Many of the diagrams presented as visual aids were obscure and/or idiosyncratic by nature, and the help of a graphic designer or expert in information visualization for general audiences would have improved the work. As an example among many of this type, Figure 9.7 (118) contains an array of visual elements of varying forms that clash and confound; it requires an entire section of text to explain. The adage "a picture is worth a thousand words" in this case almost becomes "this picture needed a thousand words." At times Cole explains a conceptual point in close detail, only to relate it to several other ideas that lack a full explanation in the text of either the associated ideas or the links between them. The entirety of the book lacks explicit, clear organizational narrative, with transitions between sections and chapters that can throw the reader off the thematic thread.

A writing's conversational style can be evaluated by reading the work aloud and listening to how it sounds, as well as by having a friend try to interpret the meaning of a passage or section based upon a listening instead of a close reading. I found this book impossible to understand without close, extended reading effort and consulting additional sources. This assessment corroborates earlier reviews of Cole's writings. For example, Cole has written a scholarly monograph on this topic previously, *Information Need: A Theory Connecting Information Search to Knowledge Formation*. In reviewing this earlier scholarly work for the *Journal of the American Society for Information Science and Technology*, Nigel Ford noted that "...the author's explanations and illustrations were in places rather cryptic. On several occasions I had to reread passages several times to extract precise meanings." (2596) The chances of *The Consciousness' Drive* reaching a broad audience as intended are probably less likely due to its style.—*Scott Curtis, University of Missouri-Kansas City*

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