Steven Pinker's "How the Mind Works" Précis

Steven Pinker begins his explanation of "How the Mind Works" arguing that the mind is best understood in terms of a computational model and that, in part, by reverse engineering the mind one can understand many aspects of cognition. He also examines why aspects of cognition, such as consciousness, knowledge, meaning, free will, self, morality, etc. still remain beyond the purview of cognitive science. Pinker identifies natural selection as the process which shaped the mind; subsequently, history, cognitive and social psychology, and human ecology are the most important factors which for him continue to shape the mind. The significance of the book lies, in part, in Pinker's differentiation of what reverse engineering can show from what is still beyond the tools of cognitive science. Pinker suggests that the reason biologically unnecessary aspects of human behavior such as language, art, wit, music, literature, etc. are so significant to people and remain problematic may be because scientists don't yet have the cognitive equipment to solve them and suggests that consciousness and free will, for example, may ultimately remain elusive aspects of the mind.

By arguing that "the mind is a system of organs of computation, designed by natural selection to solve the kinds of problems our ancestors faced in their foraging way of life, in particular, understanding and outmaneuvering objects, animals, plants, and other people," (21) Pinker rejects most other views of the mind that have held sway in the last century. By insisting on the complexity of the mind, Pinker claims that a) thinking is a kind of computation used to work with configurations of symbols, b) that the mind is organized into specialized modules or mental organs, c) that the basic logic of the modules is contained in our genetic program, and d) that natural selection shaped these operations to facilitate replication of genes into the next generation (21, 25). Pinker thus shows that the computational model of mind is highly significant because it has solved not only philosophical problems, but also started the computer revolution, posed important neuroscience questions, and provided psychology with a very valuable research agenda (77).

By examining mental processes which are reverse-engineerable, Pinker lays the groundwork for examining which cognitive processes aren't yet understandable. For example, chapter 4, "The Mind's Eye," describes how the mind's vision process turns retinal images into mental representations, how the mind moves "splashes of light to concepts of objects, and beyond them to a kind of interaction between seeing and thinking known as mental imagery" (214). By describing a specific modular process, Pinker shows how this modular process fits together like a puzzle, as well as with other parts of the mind. Taken together the chapters thus also show what processes, such as sentience and especially consciousness, are still not readily explained.

Pinker asks not only how scientists might understand "the psychology of the arts, humor, religion, and philosophy within the theme of this book, that the mind is a naturally selected neural computer" but also why they are so resistantly inscrutable (521). He suggests that the arts "engage not only the psychology of aesthetics but the psychology of status," thus making the arts more readily understood by economics and social psychology (521).

According to Pinker, consciousness, too, resists understanding. He asks: "How could an event of neural information-processing cause the feel of a toothache or the taste of lemon or the color purple?" (558) thus highlighting the important 'Gordian-knot' question of causality in consciousness. In suggesting that such questions are difficult because Homo Sapiens' minds don't have the cognitive equipment to solve them, "because our minds are organs, not pipelines to truth" (561), he emphasizes the significance of natural selection in shaping the mind to solve matters of life and death for our ancestors (356) and leaves open the possibility of explaining consciousness at a later date. Pinker's book is significant, therefore, because it explains both how many aspects of the mind work, as well as what we don't yet know about how the mind works. In his conclusion, Pinker offers only tentative answers about why scientists don't understand consciousness, for example, and leaves open the possibility that we may never understand it.

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