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Books in Review

Nick Kanas
The Caloris Network: A Scientific Novel.
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Reviewed by **Steven Gentry**

The concept that science fiction and science fact are influenced by one another is well known, as evidenced by recent articles available from NASA and the BBC (see also Bixler, 2007). With *The Caloris Network: A Scientific Novel*, author Nick Kanas (Emeritus Professor of Psychology at the University of California, San Francisco) offers another example demonstrating this symbiotic relationship within the context of a multipart work consisting of a fictional story, *The Caloris Network*, and a scholarly essay, "Silicon-Based Life and the Planet Mercury: Fiction and Fact." Kanas's inclusion of facts and speculative theories ensures a fairly solid demonstration of the plausability of his story, despite an occasional inconsistency as discussed below. However, a sparse literature review may fail to convince readers of his lesser argument that *The Caloris Network* is a unique science fiction novel.

A hard science fiction novel set in the near future, *The Caloris Network* focuses on a scientific team sent to Mercury to investigate an unusual energy source. A silicon-based sentient crystal network in Mercury's Caloris Basin is eventually revealed as the energy's origin, a revelation that provokes curiosity and fear among the crew members, whose reactions range from wanting to understand the entity to seeking its destruction (due to the entity's natural discharge of radiation harmful to the team). In addition to this main narrative, Kanas includes snippets of the entity's thoughts, flashbacks to Evans's past, and her communication with her mother, with the latter two features playing a key role in Evans's efforts to communicate with the entity. After the novel concludes, Kanas provides readers with a four-part scholarly essay, "Silicon-Based Life and the Planet Mercury: Fiction and Fact." The first section of this essay defends *The Caloris Network* as a unique contribution to the science fiction field because "none of these [earlier science fiction short stories and novels] have included native life forms" of Mercury (p. 109). The next three sections provide information about the planet Mercury, including efforts to document Mercury's features, as well as arguments discussing and justifying the potential existence of silicon-based life on Earth and Mercury, and how such life "could…possess consciousness" (p. 120). Each section concludes with a paragraph entitled "Examples from the novel," in which Kanas demonstrates how he incorporated scientific fact and speculation into his work.

Altogether, Kanas is fairly successful in defending the idea that scientific discovery often goes hand-in-hand with the capacity to imagine hypothetical scenarios. Rigorous fact-checking revealed the bulk of Kanas's scientific information to be accurate. What's more, science fiction aficionados will also appreciate his efforts to reproduce real-world events within The Caloris Network (e.g. NASA's MESSENGER passing by Mercury or the origination of an ELF radio wave from Titan; pp. 116, 121). Employing accurate information in *The Caloris Network* is crucial, as failing to do so would completely undermine Kanas's thesis. Additionally, the author's inclusion of controversial theories, such as the unproven "clay hypothesis" that is used to explain the network's existence (p. 117-118; see also Henriques, 2016),

demonstrate Kanas's aim to "indulge in science speculation—describing intriguing, plausible yet unproven ideas" (p. iii). Finally, Kanas's concluding "Examples from the novel" paragraphs ensure that readers completely understand how the author represents his factual and theoretical knowledge within the Caloris Network.

However, Kanas's scholarly essay exhibits significant problems that reduce the effectiveness of his arguments. For example, readers will be hard-pressed to accept his claim that *The Caloris Network* represents a work unique to the science fiction field as his literature review addresses only six science fiction short stories or novels. Furthermore, Kanas describes a single non-print resource: Star Trek's "The Devil in the Dark" (p. 112). Kanas's omission of other relevant short stories and novels, such as Isaac Asimov's "The Talking Stone," Kim Stanley Robinson's *2312*; or Stanley G. Weinbaum's, "A Martian Odyssey," may leave readers unconvinced that *The Caloris Network* truly represents a unique science fiction novel.

The scholarly essay also exhibits several inconsistencies that distract readers from, or even undermine, Kanas's arguments. For example, the author states in the first section of his scholarly essay that "as seen by the above examples, Mercury generally has not been described as a proper home for native life" (pp. 109-110). However, only two of the three works to which Kanas refers (Ben Bova's *Mercury* and Alan E. Nourse's "Brightside Crossing") describe Mercury's environment. Another example of Kanas's tendency towards inconsistency occurs when he uses Johnjoe McFadden's "model of consciousness"—which "focuses more attention to the link between an individual's consciousness and its relationship to neurons"—to explain his silicon-based network's sentience (pp. 120-121). Although similar to Susan Pocket's "notion that consciousness can result from specific patterns in any EM field" and that "consciousness can occur in non-neuronal settings" (p. 120), McFadden's theory of consciousness requires the presence of neurons—which the non-biological network in Kanas' novel obviously lacks (see also p. 120). Readers may feel that Kanas pushes the boundaries of what be considered "acceptable" evidence to support his science fiction, as McFadden's theory cannot really explain or provide the foundation for how the entity could be sentient.

In conclusion, Kanas upholds his novel's primary thesis that science fiction and science fact are intertwined forces feeding into one another, while less successfully convincing his readers that the *The Caloris Network* represents a work unique to the science fiction field. Illogical statements further threaten his thesis and lesser argument, even as readers are drawn into an intriguing tale filled with foreshadowing and political intrigue. In many ways, *The Caloris Network* is much like its namesake crystal: a fascinating, thought-provoking creature that, with some additional polish, would have shined that much brighter.

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