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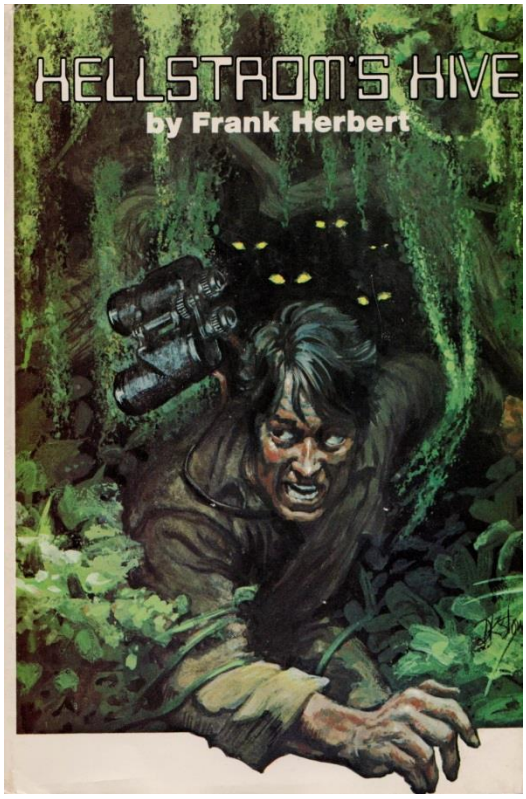

HELLSTROM'S HIVE

Frank Herbert

About the Book

Frank Herbert (1920-1986) is a well-known science fiction writer. His book *Dune* (1965) is the best-selling science fiction novel of all time. It morphed into a series of novels that were made into films. The focus of the books is an arid planet with giant sand worms that produce a mind expanding drug that can be put to a number of uses. One of the many sub-plots of *Dune* is human survival in a harsh environment. Technologically and socially the culture of the natives of the planet is based on the preservation of water.

Hellstrom's Hive (1973) follows Herbert's success after his launch of *Dune*. The theme of this novel is more horror than science fiction. He outlines a vision of how a society can organize

itself using social insects as a model. It is loosely based on the film *The Hellstrom Chronicle*, conceived and produced by David L. Wolper and released in 1971. The film proposes that insects become the dominant species because they can reproduce effectively and adapt. Humans, in contrast, are too individualistic to survive as a species. This is also an issue in Herbert's novel *Hellstrom's Hive*.

While fragments of the origin of the commune are hinted at here and there in the novel, the main issue is the conflict between the hive society and the "outside." Dr. Nils Hellstrom is a famous film maker who specializes in making films about insects. The facility where he produces films, called "the farm," attracted the attention of an unnamed secret government organization. The government has evidence that a sect or cult headed by Hellstrom is working on a weapon code named "Project 40." Underneath the farm is a series of tunnels that houses about 50,000 humans. It is known as "the Hive." The story is largely told from Hellstrom's perspective. He was raised in the Hive and also has experience in the outside world. Hellstrom and a few select Hive leaders are completely convinced of the superiority of the Hive. They do not follow conventional morals much less religion. There are a few hive members who live outside permanently (such as the local sheriff as well as a member of the House and the Senate). These individuals live under deep cover, and allow the Hive to interface with outsiders.

Many aspects of the book reference the natural world, but it is not clear if the model of an insect society was based on bees, ants, termites, or some combination of all of them. The colony is a "hive" and it was run by a "Brood Mother" before Hellstrom was appointed as a leader by her. At the end of the book the military is called in to attack the Hive. Hellstrom's scientists test their super weapon, and the government is forced to make a deal to allow the Hive to exist in secret. The ultimate aim of the Hive was not to destroy the outside world. As Hellstrom states (p. 278): "They were going to swarm before long and there was nothing the Outsiders could do to prevent that swarming. Swarm would follow swarm thereafter and the wild ones would be assimilated and pushed back into smaller and smaller portions of the planet they shared now with tomorrow's humans." The horror element is implied. Given time Hellstrom could win.

Discussion Guide

1. At the beginning of the book (on page 5) there is an excerpt from "Hellstrom's Hive Manual" that states that the significant achievement of insects is the reproductive neuter. According to this statement the rise of the neuter fixed the colony as the unit of natural selection and removed all previous limits on specialization. Vertebrates, with vastly larger brains, would therefore become superior specialists when organized in such a way. Considering vertebrate societies, has any vertebrate community relied upon reproductive neuters? Why have some insect societies done so?
2. On page 16 it is stated that key workers must take "supplemental leader foods" as well as eat the common foods of the workers in order to join the "chemical sameness" of the hive. In a honey bee colony, royal jelly is given to all colony members when they are developing. The queen/worker divide is controlled epigenetically (they have the same genetic profile) by feeding potential queens much more royal jelly. This appears to be due specifically to the protein royalactin. Is there is similar analogue in human societies?
3. The Hive has a very dense population of humans who are nude when in the hive. Since humans have evolved for such an extended period of time for life in clothes, is it likely to have a human society that could exist long term without clothing?
4. Outside of a few individuals, like the queen, are insects in a hive able to differentiate between individuals?
5. Part of the social glue that holds the Hive together is the threat of the outside. The origin of the Hive is tied up in religion (as stated on page 43): "We will perfect our way and thus become the 'meek' whose earth will one day welcome them." While religion might be a motivator for humans to dig into the earth and developing a distinctive culture, what would have motivated many ant species to build their colonies underground?
6. The novel makes the Hive seem like a model of efficiency (p. 51): "No precise scheduling of crews was required here. Workers left when hungry or overcome by fatigue. Others entered to fill in the gaps. All knew what was required of them." In the Hive, humans are engaged in complex behavior, including building a futuristic weapon. Nevertheless, social insects perform a number of different activities in a colony. What dictates their roles, and do these roles change over time?

7. Food production is a major activity in the Hive. There are nightly sweeps where animals are collected. Dead Hive members are eaten after processing in "the vats." There are also descriptions of harvesting plants as well as fish that are raised underground. The Hive in this aspect is clearly based after leafcutter ants (of the genera *Atta* and *Acromyrmex*). While the ants gather vegetation for their fungal colonies, the Hive serves humans with wider dietary needs. Leafcutter ants are known for generating the largest and most complex animal societies. Is communal effort in food production a feature which encourages ever-larger colonies of animals?
8. There are several species of slave making ants. They are often related species to the ants they steal. Their scents are similar. They steal young ants for incorporation into their colony. The Hive typically kills adult outsiders who learn of their secret, but incorporate young children into their social structure. Part of the reason is to broaden the gene pool. How does the Hive differ from real life slave making ants?
9. In the Hive, some individuals designated as workers have been chemically neutered. Are reproductive members of social insect colonies born that way?
10. The novel introduces a "wild card" by suggesting that the Hive is starting to feel swarming pressure as the population reaches 60,000 individuals (p. 53). In the novel the Hive is growing restless, and it is collectively starting to behave erratically. The Hive collectively wants to split into two Hives. In bees, swarming mainly takes place in the spring. Swarms involve a fraction of the workers. Swarms can be led by either the old queen (prime swarm) or one of the virgin queens that are produced by the hive (afterswarm). A swarm can die if no suitable food or shelter is found. This naturally leads to the question, what are the reasons why bees swarm?