

Bryce Huebner, "Kinds of collective behavior and the possibility of group minds."

What are the main points of the bacterial behavior analysis that starts the paper? What emerges and how is it explained? What is missing in bacterial behavior that is a classic criterion the presence of mind? How do these points set up the topic of the paper, i.e., the main question Huebner is pursuing? Where is the forecast statement? What is the thesis statement?

Behavioral alignment

What does the locust example show about cooperation vs self-interest in generating self-organized behavior? What does the fish schooling example show? How are false positives dealt with? What advantages does schooling offer individual fish? Why is this not an example of a group mind?

Social minds?

What roles do positive and negative feedback play in the types of non-group-mind collective behavior previously discussed? In general, how does information flow in those cases? How do individuals treat each other? What is the relation of aggregation of individual, local, decisions and emergent self-organized collective behavior?

Adaptive decisions

What are the types of behaviors and the conditions under which ant colonies can be said to be "parallel information processing systems"? What is Hebbian learning? Why is it important for Huebner to be able to say the colony can adjust its behavior in light of its current situation? What is the criterion for, or mark of, "mind" for Huebner that the ant colony displays in bridge building? What does the nest selection analysis reveal?

Group minds?

What is the relation of genetic similarity and cooperation vs self-interest? What are the points of similarity between ant colonies and brains? What is required to allow the ascription of "mentality"? Why does the failure to solve coordination problems mean most social animal groups do not attain group minds? What is it about human societies that might enable some, if only transient, forms of group of "transactive" cognition?