#19 Topic: Exploring approaches to understand the city superorganism

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Abstract:

The term superorganism refers to a group of cooperatively interacting organisms of the same species. Examples in the natural world include ant colonies and slime moulds. The superorganism emerges from fine-scale interactions among individuals which bring about higher-level patterns that determine how that species interacts with their environment. For example, slime moulds can coalesce and turn their bodies to hard cellulose, which creates tendril networks that facilitate members of the species to reach food sources. In a similar way, humans have developed into a superorganism via our coalescence in cities. Once that process began, we quickly used up local food, water and energy resources. As a result, we established trade networks to secure the flow of remote food, water and energy resources into our cities to sustain growth.

The city superorganism now dominates our world with almost all resource extraction and redistribution flowing via the networks we have established. Can we understand and manage unsustainable resource extraction by framing it in the context of a superorganism? Is there something we can learn from ecology about how superorganisms such as ant colonies maintain a stable equilibrium with their ecosystem, that can inform about our water use today? I would like to explore the idea of human superorganism in relation to unsustainable resource use.