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Intuition and the invertebrate dogma

Commentary on [Mikhalevich & Powell](#) on *Invertebrate Minds*

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Abstract: Just as intuition, fueled by hubris, led us to exclude insects from moral consideration, so intuition can lead to the opposite conclusion. Observed insect behavior, combined with scientific support for insect consciousness summarized in Mikhalevich & Powell’s target article, and bolstered by the Precautionary Principle, all militate against completely denying moral status to insects.

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I applaud Mikhalevich & Powell (2020) (M&P) for elucidating our persistent “invertebrate dogma” that almost universally disqualifies creatures without spines from moral concerns and the legal protections (however inadequate) widely afforded to vertebrates. In this brief commentary, I want to appeal to our intuitions in trying to interpret the question of sentience in insects.

As a lifelong watcher of animals, and a student of their social, cognitive, and emotional abilities, I’ve noticed a pattern in our perception of the capacities of other animals. As our knowledge of them grows, we routinely discover that we have underestimated them. Insects are no exception, as illustrated by their achievements outlined in M&P’s target article. If we stop to watch insects closely — their coordinated movements and complex, flexible actions — it seems hard to imagine them as little blank slates, going about their lives in a mental vacuum, without even a smidgen of awareness. When I regard a fly cleaning her legs by rubbing them together, or her wings by swiping them with her hind legs, or I watch a wasp or beetle preening her antennae by running them through her mouth — I feel as if I’m watching a creature with intent. And if you’ve ever watched a praying mantis swivel her articulating neck to fix her two eyes on your own gaze, then you may have had the eerie feeling of being regarded by an insect.

I find unconvincing the diminishing argument based on robots being able to perform complex tasks without any mind or emotions. A robot is fundamentally and profoundly different from a cognizing animal in that it lacks a biological make-up — the soft wetness, the body systems, the genes. Unlike a fly or a moth, a robot has no biological connection to other, clearly sentient organisms.

Furthermore, our intuitions may bolster empirical knowledge. To my mind, the scientific finding that flies have an attention span (Greenspan & van Swinderen 2004) takes on more meaning in light of a fruit fly having the wherewithal and determination to pry open a tiny slit poked into a thin layer of cellophane separating the fly from a bowl of rotting peaches. (This is

the basis of an effective kitchen flytrap, and I've seen how well it works.) And perhaps even moreso when, several hours later, his belly now distended with peach juice, the satiated fly wriggles his way through the same portal to escape.

I wish to include the caveat that whatever capacity we may ascribe to one group of insects does not necessarily apply to another group. Class Insecta is an enormous taxon, comprising approximately 80% of all living species on Earth. With the sheer adaptive potential of creatures with short generation spans and who have been around for hundreds of millions of years, it seems quite possible, perhaps likely, that some types of insects have capacities that others do not. At this stage of our empirical knowledge, the eusocial insects seem to stand out as superlatives. Nevertheless, even the simplest insect is a complex creature with a range of body systems — sensory, circulatory, nervous, digestive, etc. — whose sophistication rivals our own. Thus, if we are to apply the Precautionary Principle (Birch 2017) to insects, then it would seem best to do so inclusively rather than selectively, at least until we know them better.

Appealing to intuition hardly deviates from our past record on the matter of invertebrate sentience. For wasn't it intuition, tainted by hubris, that led us in the first place to the impoverished viewpoint that invertebrates lack any experience?

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