Jeffrey Lockwood on Insect Suffering

Interview by Max Carpendale

WHAT GOT YOU INTERESTED IN THE POSSIBILITY OF INSECT SUFFERING?

My interest arose in three, convergent ways. First, I'd long harbored an interest in applied ethics, and the matter of animal suffering was intellectually intriguing given that I'd worked for a veterinarian, I'd performed experiments on rodents, and I'd conducted research on many different insects. Second, I was teaching entomology and Insect Anatomy & Physiology in particular. So the possibility of insect suffering was relevant in terms of both neurophysiology and laboratory exercises, given that we were working with live creatures. Third, a substantial portion of my research involved developing better ways of controlling rangeland grasshopper outbreaks—and this means spending lots of time watching insects die in various ways (e.g., neurotoxins, endocrine disruptors, and pathogens). One cannot witness so many instances of death and dying without beginning to wonder.

HOW LIKELY OVERALL DO YOU THINK IT IS THAT INSECTS HAVE SENSATIONS BEYOND NOCICEPTION?

It is virtually certain that they sense stimuli beyond those that are noxious or painful. The move toward various stimuli, respond to changes in the environment, seek particular tactile and thermal microhabitats, and (of course) see, hear, smell, taste, and feel all sorts of stimuli that are not noxious. Now, perhaps the question is really whether they have perceptions or experiences other than a mechanical sort of stimulus-response system akin to a reflex. While it doesn't appear that insects or perhaps many other animals have a sense of self (i.e., "I feel hungry"), there is reason to believe that there is some internalization of experience. If a sensation wasn't subjectively (dis)agreeable then it seems difficult and convoluted to explain how that sensation yields learning—as is the case with various insects.

IT SEEMS LIKE MOST PEOPLE WHO THINK THAT INSECT SUFFERING MAY TAKE PLACE STILL DO NOT TAKE IT AS LARGE MORAL ISSUE. WHAT DO YOU THINK OF THIS FACT AND HOW IMPORTANT DO YOU FIND THE ISSUE?

I think that your assessment is quite correct. I suspect that there are several possible explanations for the lack of concern, even among those who consider such suffering possible. First, one might presume that the amount or degree of suffering is not terribly significant. Insects are not cognitively complex creatures, so it is easy to imagine that their suffering is of a kind that is not as significant as our own. Next, the number of insects and hence the scale of suffering might be viewed as overwhelming such that whatever suffering one inflicts is a drop in the bucket given the countless number of insects. Finally, one might experience a kind of moral exhaustion in which the suffering of insects simply doesn't register given the more obvious suffering of mammals (including humans). As for how important I find the issue, it is surely less vital that such matters a human torture. But I also worry about a kind of habituation to suffering. That is, if we 'practice' being unconcerned about insects then it's that much easier to overlook the suffering of livestock, companion animals, and humans. Conversely, if we practice attending to 'even' the suffering of insects, perhaps we cultivate a kind of moral sensibility or the virtue of compassion. This caring for the suffering of the "least of our brothers" also engenders the virtue of humility, which surely in short supply these days.

DO YOU THINK THAT THERE ARE ANY HABITS OF THOUGHTS IN ENTOMOLOGY OF BIOLOGY MORE GENERALLY THAT WOULD PREVENT PEOPLE FROM TAKING INSECT SUFFERING AND THE SUFFERING OF OTHER ANIMALS SERIOUSLY?

Yes, the "habit of thought" is that insects are fair game for any sort of biological research. They are not included in animal welfare regulations or policies, so they are animals that can be treated however one wishes (in a legal or regulator sense). Of course, this habit of thought is reinforced socially. Go into the store and it's easy to find fly swatters (but not dog clubs, although one can find snap traps for rodents), insecticides (but not avicides or poisons for noxious cats), etc. As for other animals, biologists have a keener sense of suffering, although there is the notion that knowledge derived from animal experimentation invariably trumps the

suffering the subject. And there are surely such cases, but I'm dubious that all (or perhaps most) animal experiments yield results that justify the suffering.

IN YOUR BOOK *GRASSHOPPER DREAMING: REFLECTIONS ON KILLING AND LOVING* (NEWBURYPORT: RED WHEEL, 2002) YOU DESCRIBE VIVISECTION OF INSECTS BEING REGULAR PRACTICE WITHOUT ANESTHESIA, SUCH THAT THEY WERE STILL WRITHING WHEN IT WAS BEING PERFORMED. DO YOU THINK THAT THIS PRACTICE OR LACK OF ANESTHESIA FOR INSECTS IN LABORATORIES TEACH BAD VALUES TO ENTOMOLOGISTS?

I'm not sure whether this practice teaches "bad values" or makes entomologists more likely to do evil things. It promotes a kind of callous disregard, but most people (including entomologists) perceive insects as being so different or alien that the infliction of suffering on these creatures is probably not readily extrapolated to vertebrates. On the other hand, I think this practice definitely fails to cultivate a "good value" or a virtue. That is, if students are encourage to think about the condition of the animal and given our uncertainty of its experiences to act in a manner so as to minimize its suffering just in case the insect is in pain, then we've fostered a keen awareness of the non-human world, we've cultivated a sense of compassion, and we've encouraged the practice of humility. And this might be particularly true *because* the creature is an insect (these sensibilities are probably already present, to some degree, among students with regard to vertebrates).

IF INSECTS ARE CAPABLE OF SENSATION WHAT DO YOU THINK IT MIGHT BE LIKE TO BE AN INSECT? DO YOU THINK IT WOULD BE A GOOD OR A BAD LIFE? WHAT DO YOU THINK OF THE FACT THAT THE VAST MAJORITY OF INSECTS DIE IN THE FIRST FEW DAYS OF LIFE?

I have no doubt that insects possess sensations, now as to whether they have subjective experiences or internal awareness of their condition, that's a much more difficult matter. I'm reminded of Thomas Nagel's famous essay "What is it like to be a bat?" in which he concludes that we are ultimately limited to being a human imaging oneself as a bat but this is not informative about what it is like to

be a bat. What it's like to be an insect is even more difficult. I suppose that there is a sense in which being an insect means that it is very likely that your goals will be frustrated. As you note, most die in the first few days of life. That's just an ecological fact, but I'm not sure that it has great importance with regard to how we treat insects. It's a bit like saying, "Well, all people die at some point, so killing a person is no big deal."

HOW DO MOST INSECTS DIE? AND HOW DO YOU THINK SUCH A SHORT WINDOW BETWEEN LIFE AND DEATH FOR BABY INSECTS COULD AFFECT THEIR OVERALL QUALITY OF LIFE?

Good question! I suspect that most die of abiotic adversity (lacking food, water or other environmental conditions such as humidity or warmth). Many are killed by predators, parasites, and pathogens, but I suspect that this is less frequent than density-independent factors. I'm not sure that the length of life matters to an insect in terms of its quality of life. It has no notion of its own mortality or life expectancy. Perhaps most insects live in a kind of Hobbesian world where life is nasty, brutish and short. But again, this does not dismiss our obligations any more than Hobbesian conditions in refugee camps alleviate our moral duties.

WHAT KINDS OF ACTIONS DO YOU THINK THAT HUMANS COULD TAKE THAT WOULD HAVE THE MOST IMPACT ON REDUCING THE SUFFERING OF INSECTS?

That's a very interesting question. One might be tempted to say something like, use fewer insecticides or implement organic gardening. But it's not clear that either of these would much matter. The usual tactic is to replace insecticides with biological control agents, and it doesn't appear that dying of a pathogen, parasite or predator is a less difficult death than a toxin. Organic gardening ultimate relies on 'natural' controls which mean diseases, parasitism, and predation. Perhaps we could seriously undertake research into what means of control are reasonably likely to create the least suffering and then to take this information into account when we act. We must kill to live—the challenge is how to kill well. I think that we really lack the conceptual and empirical structures to know how to reduce large-scale suffering that comes from pest management. At a more personal or

intimate level, the answer is more evident—we can choose to remove insects (and spiders) from our houses rather than poisoning them; we can choose to anesthetize insects in biology laboratories; we can choose to step over the insect on the sidewalk, etc.

IN YOUR BOOK *GRASSHOPPER DREAMING*, YOU DESCRIBE ADVOCATING FOR HUMANE INSECTICIDES. WAS THEIR MUCH ACCEPTANCE OF THIS? AND DO YOU THINK THERE IS HOPE FOR WIDESPREAD ADOPTION?

No and no. I don't know of any serious discussion in entomology about the concept of humane killing—none. I could be wrong, but I've not seen anything in this regard. So there doesn't seem to be much hope in this regard. I think there could be some hope of a policy or resolution by the Entomological Society of America calling for all teaching and research laboratories to minimize the possible suffering of insects (when such practices do not substantially interfere with the task)—or something along those lines. At least it would be a very, very interesting discussion that could arise from a carefully worded resolution. Why wouldn't we take actions to minimize the possibility of suffering if such actions had no cost to ourselves?

DO YOU THINK THAT AN ANIMAL WELFARE APPROACH TO ISSUES LIKE THESE WOULD CONFLICT WITH OTHER POSITIONS IN ENVIRONMENTAL PHILOSOPHY?

Possibly—there are the (in)famous cases of conflicts between those who wish to eradicate rats or goats or other such non-indigenous animals from certain habitats (most often, islands) and the animal welfare concerns regarding poisoning or shooting vertebrates. So, what would happen if we discovered (which seems plausible) that there is good reason to believe that some biological control agent (e.g., a slow-acting pathogen) inflicted more suffering than a chemical agent (e.g., a fast-acting chemical)? The animal welfare argument might favor the chemical, while the environmental argument might favor the pathogen.

WHAT MOTIVATED THE CAREER SWITCH FROM PURE ENTOMOLOGY TO FOCUSING MORE ON CREATIVE WRITING AND PHILOSOPHY?

It was a convergence of factors. There was a professional ennui that I'd fallen into wherein writing more grants and technical papers didn't feel fulfilling. I was tired of turning that crank. Adding to this was that science had become much less fun and much more stressful. When one develops a 'successful' research program, that means that you spend most of your time managing other people and grubbing for money. Each year, it seemed that I was spending less time in the field and more time behind the desk (which isn't what drew me into science in the first place). And I had staff who'd come to depend on my ability to obtain grants and contracts which led to considerable stress (I really cared about those people and didn't want to let them down). In addition, I was not in a socially healthy department or college for the most part. There was little relationship between productivity and reward, particularly at the college level. There were lost of disingenuous social games and political nonsense. I'd also reached a point in my career where I'd made a very substantial contribution to my field, having developed a method to dramatically reduce the economic and environmental costs of rangeland grasshopper control while providing ranchers with the protection they needed. There were still plenty of challenges, but I had also come to realize that we had a backlog of science. The reasons why good ideas weren't being implemented had to do with social and humanistic obstacles. And I was reaching middle age and contemplating my mortality—or in less dramatic terms, the balance of my career—and asking, "What do I want to do with the rest of my life?" And I realize that science was a necessary but not sufficient aspect of who I wanted to be(come). Finally, I'd killed a whole lot of creatures—billions in the course of my research and perhaps trillions as a result of the methods that I developed. I think this weighed on me in ways that were then, and still are, difficult to explain. Perhaps the best way to put it is as a spiritual crisis. I was done killing, even though I think that being a compassionate executioner is a vital role in the modern world.