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The human nervous system is not the gold standard for pain

Commentary on [Sneddon et al.](#) on *Sentience Denial*

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Abstract: The basis of pain could be the causal nexus between one's phylogenetic/ontogenetic history and one's behavior. It might turn out that the neural implementation is immaterial to the instantiation of pain. Widely different neural structures may token the same pain-type, and nearly identical neural structures may token different types.

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Sneddon et al. (2018) present a convincing rebuttal of various papers skeptical of fish pain (Stevens 2016; Diggles 2017; Key 2017). Sneddon makes a very convincing case, but a broader statement can and should be defended. Looking for similarity with human-like neural structures is a methodological error caused by covert human chauvinism and anthropocentrism. Anatomical distance from human neural structures is not a relevant criterion for pain sentience unless mind-brain identity (and thus pain-human-brain identity) is assumed to be true. So far, this has never been empirically demonstrated. There is no evidence that human neural structures are the sufficient (let alone necessary) basis of pain. There is no reason to think that pain does not occur when pain-avoidance behavior occurs in other biological agents with different neural structure.

The skeptics' objections (and to some extent, Sneddon et al.'s rebuttals) are all based on the assumption that the gold standard for pain sentience is the human-mammalian neural system. On this basis, they compare taxa or lament the absence of mammalian neural features such as the endocortical-thalamic connections or the amygdala (Rose 2002; Woodruff 2017). Sneddon et al. also seem to share the belief that distance from the human neural system is a useful measure: "phylogenetic distance from humans", "fish are more diverse than mammals". Yet, we have no reason to believe that only mammal-like animals feel pain.

If mind-brain supervenience is not assumed as a dogma, other views will be worthy of consideration, such as enactivism, externalism (Froese & Fuchs 2012; Honderich 2014; O'Regan 2012; Rockwell 2005), or even more radical hypotheses. Elsewhere I have considered whether phenomenal experience is identical to external properties and objects (Manzotti 2017). The basis of pain could be the causal nexus between one's phylogenetic/ontogenetic history and one's behavior. It might turn out that the neural implementation is immaterial to the instantiation of pain. Widely different neural structures may token the same pain-type, and nearly identical neural structures may token different types. This is not a resurgence of


functional multiple realizability, because actual environmental causes are mandatory. A fish or any other animal that exhibits pain-avoidance because it has the right phylogenetic/ontogenetic history is likely to have all that is required for pain. Pain would supervene on the environment-body-behavior causal nexus rather than on the internal neural machinery. There is no evidence that an animal that shows pain-avoidance does not feel pain, no matter what neural structure is involved. The precautionary principle stands strong and should be enforced.

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LE PROBLÈME DES
AUTRES ESPRITS
THE OTHER
MINDS PROBLEM

SENSIBILITÉ et
COGNITION ANIMALE
ANIMAL SENTIENCE and
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[The Other Minds Problem:
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Overview. Since Descartes, philosophers know there is no way to know for sure what — or whether — others feel (not even if they tell you). Science, however, is not about certainty but about probability and evidence. The 7.5 billion individual members of the human species can tell us what they are feeling. But there are 9 million other species on the planet (20 quintillion individuals), from elephants to jellyfish, with which humans share biological and cognitive ancestry, but not one other species can speak: Which of them can feel — and what do they feel? Their human spokespersons — the comparative psychologists, ethologists, evolutionists, and cognitive neurobiologists who are the world's leading experts in "mind-reading" other species — will provide a sweeping panorama of what it feels like to be an elephant, ape, whale, cow, pig, dog, chicken, bat, fish, lizard, lobster, snail: This growing body of facts about nonhuman sentience has profound implications not only for our understanding of human cognition, but for our treatment of other sentient species

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