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Defining denial and sentient seafood

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

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Abstract: Sneddon et al. address the scientists who reject the empirical evidence on fish sentience, calling them “sceptics” and their work “denial”. This is the first article to frame the question of fish sentience in these terms, and it provides an obvious opening for social science and humanities research in the science of fish sentience. It is also worth asking what practical changes in the lives of fish might arise from the mounting evidence of their sentience. I suggest that the relationship between sentience and our sense of moral obligation is not as clear as we often assume.

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1. Defining Denial

Sneddon et al. (2018) address the scientists who reject the empirical evidence on fish sentience. The authors frame this work as “fish sentience denial” in the title, and they use the term “sceptics” throughout their target article. Sneddon et al. (2018) note that: (1) “sceptics still deny anything beyond reflex responses in fishes and state that they are incapable of complex cognitive abilities”; (2) “processing is not restricted to hindbrain and spinal reflexes as sceptics have suggested”; and (3) “widespread calls for use of the precautionary principle (Birch 2017) have been called into question by sceptics”, for example, “we should abandon the precautionary principle because the costs to industry would be too high”.

The denial of empirical evidence has been well-documented on many scientific issues, including the negative health effects of tobacco, asbestos, and lead paint, the side effects of vaccinations, and the existence and causes of climate change. In the case of climate change, the extent of top-down forces, linked primarily to fossil fuel corporations, is only just being broadly understood (e.g., Dunlap and McCright, 2015).

Some lessons from these issues might be useful here, particularly with regard to the language. For one, scientists studying climate change have asked for greater nuance when using the terms “denier”, “contrarian”, and “skeptic” (O’Neill and Boykoff, 2010). In 2014, a group of scientists represented by the Committee for Skeptical Inquiry wrote an open letter asking the media to stop using the term “skepticism” when referring to climate change denial, as it grants the viewpoint false credibility (Gillis, 2015).

Discretion with these terms is warranted. Biologists recently published an article titled “The rise of invasive species denialism” (Russell and Blackburn, 2017), which offered a poor, circular definition of denial (“science denialism is the rejection of undisputed scientific facts”) and unsurprisingly elicited numerous responses along the lines that disagreement does not constitute denial. Scientists countered that it is “apparent from the invasion science literature that there is not, and has never been, scientific consensus about biological invasions, but that there has been continuous and healthy debate (both within and beyond academia) about how to understand, evaluate, and respond to the challenges they pose” (Crowley et al., 2017). Davis and Chew (2017) argued, “If we have denied anything, it is that introductions per se need be considered fundamentally harmful. Rather, we seek more emphasis on understanding effects and discerning functions, and less on date of arrival and place of origin”.

I do not mean to suggest that the denial of fish sentience is not occurring, but only that the term “denial” has certain implications, and when it is used, it should be defined and, ideally, used in ways that are consistent with expert understanding. To suggest that the opposition to fish sentience represents denial as “denial” has been understood in other contexts, such as climate change, it is necessary that we know something of the nature of the counter-arguments, the motivations behind them, the kinds of evidence presented, the possible and documented industry interests, and what is at stake.

In addition, some tactics do suggest that social values rather than empirical findings are probably at play, including the rejection of mounting evidence, strategical capitalization of scientific uncertainty, claim that economic costs are too great, and argument about what constitutes “precaution”. Finally, it is worth noting that with climate change, scholars could have become more involved in early efforts to uncover the elite, top-down networks of denial rather than leaving the bulk of the early work to journalists and NGOs (Jacquet, 2017).

What all of this suggests is that there is an opening for social science and humanities research in the science of fish sentience.

2. Sentient Seafood

It is also worth asking what will happen if or when the body of evidence rests with the Sneddon camp? Will evidence of sentience change the way fish are treated? Or will fish continue to be treated as commodities, caught, farmed, and eaten without much moral consideration? (Fish represent by far the largest number of individuals killed for food of any animal group and are currently given no protections as research subjects or pets.) Perhaps because we are also learning about the capabilities of other species alongside our understanding of fish, the same old Great Chain of Being will persist.

The work on animal sentience is interesting when it elevates an animal that might otherwise have continued to occupy a position of low moral status. The octopus serves as an interesting example of how science and philosophy have helped elevate the moral status of a group of animals. The [Cambridge Declaration on Consciousness](#) included octopuses as the only invertebrates. A few countries extend protections to octopuses as research subjects. Writers have argued against eating octopuses in the *New Yorker* (Killingsworth, 2014) and the *Guardian* (Hunt, 2016). PETA has protested serving octopus alive.

Yet there are active fisheries for octopuses all over the world, experimental attempts at farming them, as well as little to no protection for them as research subjects outside the EU. And if history is any example, it will not matter what happens to octopuses in terms of their population status: they will not be listed on the Convention for International Trade in Endangered Species (CITES) – the most powerful international legal regime we have for protecting wild animals.

This is the case for other animals too. Southern Atlantic bluefin tuna are sentient according to Sneddon et al. According to any scientific standard, they are critically endangered; but proposals to list them on CITES have failed, as have proposals to list the slow-growing, overexploited Patagonian toothfish (found off Antarctica and sold in high-end markets as Chilean sea bass).

The politics are such that the Convention fails to protect aquatic animal species commercially traded for food, endangered or not, conscious or not (Doukakis et al., 2009). Seafood trumps sentience.

A number of corals are indeed on CITES, even though these invertebrates are in the consciousness-challenged phylum Cnidaria. They have no centralized nervous system and are often described as “forests of the sea”. When it comes to the protection offered by CITES, corals are fortunate not to be food.

So while the presence of sentience might encourage some moral deliberation about an animal, just as an endangered status might, it in no way ensures it (Jamieson, 2008). At the same time, we value and protect many things with no known sentience, including corals, stone arches, grand canyons, cave drawings, and the moon. Last year, New Zealand and India granted their rivers legal personhood status.


The relationship between sentience and our sense of moral obligation is not as clear as we might assume. The hard empirical work of scientists like Sneddon et al. is necessary; but alone it is not sufficient to make a difference in the lives of fish.

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