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## The reality and prevalence of animal sentience

Commentary on [Rowan et al](#) on *Sentience Politics*

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**Abstract:** Rowan et al use findings from neurobiology, clinical neurology, and general biology to argue for the extensive presence of sentience in animals, but they are wisely cautious concerning when in the phylogenetic scale that emergence occurred.

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The target article by Rowan and colleagues, on the history, science, and politics of animal sentience is remarkable in every respect. Their history of the problem and of its treatment delivers some important and often ignored facts. No, it is not true that the idea that animals can suffer is a modern scientific conclusion: in 1789 Jeremy Bentham formulated a precise question on this topic and the answer unequivocally suggested that they did. Nor should we insist on blaming Descartes and his idea of animals as automata for rejecting animal sentience, when we have more recent examples of insidious denials. A case in point can be found in the writings of the otherwise admirable William James, one of my intellectual heroes. At the dawn of the 20<sup>th</sup> century, he was sweeping aside the entire notion of consciousness as something medieval (James, 1904).

On the science of animal sentience, Rowan et al's views are impeccable. I found their conception of consciousness modern and physiologically sound. Homeostatic feelings provide sentient animals with precious information about their internal environment — via feelings such as thirst, hunger and pain — and the information they provide can be used to guide behaviour consciously and efficiently. This is the specific idea that we have been defending over the past few years (Damasio, 2018; Damasio, 2021; Damasio & Damasio, 2022 a and b), and that supports our contention that feelings of the homeostatic variety were selected in evolution because of the value that their specific conscious information delivered to the creatures so endowed.

I also note that Rowan et al realize that the information provided by homeostatic feelings pertains not only to negative and risky physiological conditions — signified by pain and suffering, for example — but also to “opportunity situations”, those that can lead organisms to explore their environment and draw benefits from the consequences of the exploration (see Widowski and Duncan, 2000 & Damasio & Damasio, 2022a,b). To close the circle, such benefits include yet another series of feelings such as pleasure and well-being.

The question of when sentience emerged in the phylogenetic scale is delicate. Rowan et al deal cautiously with the issue and I suspect that they do not endorse Arthur Reber's extreme view. I believe Reber, 2016 and Reber, Baluška & Miller (2022 this issue), are too generous when they write that ALL living organisms, from bacteria to humans, have "valenced experiences, i.e. feelings". I very much respect these colleagues, but as I have argued elsewhere (Damasio, 2022), I do not see how organisms without nervous systems can construct maps and representations of their own states -- something I believe is necessary as a foundation for feeling experiences (Damasio & Damasio, 2022a,b). I note that organisms such as bacteria can sense/detect stimuli and respond to them but they lack the physiological equipment necessary for generating representations which we regard as essential to feelings. This is not to say that a precursor regulatory process would not be capable of guiding behaviour based on particular cells and chemical molecules. The point is that such a process would not operate with the support of feelings, experience and consciousness.

A remarkable section of Rowan et al's target article deals specifically with the reality of consciousness in humans and in mammals and emphasizes a solid piece of evidence. As those of us who have practiced neurology in humans know, focal structural damage to the cerebral cortices does not cause coma, whereas damage to the upper and posterior brainstem nuclei does (Parvizi & Damasio, 2001; Parvizi & Damasio, 2003). This incontrovertible fact reveals that damage to the most advanced sectors of the human brain, namely, the neocortical component of the cerebral cortices, is compatible with the preservation of consciousness, while damage to the upper brainstem is not. These findings deal a direct blow to the idea that consciousness would depend preferentially on the most advanced structures and processes of nervous systems. That is definitely not the case.

A thoughtful document built around some of these specific facts was discussed at the [Francis Crick Memorial Conference on Consciousness in Human and Non-Human Animals](#), held in Cambridge, UK in 2012. The document was presented to the audience with the idea that those in agreement should subscribe to it. Unfortunately, and sadly, although the facts were solid and the intentions laudable, this document – now called [The Cambridge Declaration on Consciousness](#) – was only signed by a minority of those present.

*Editor's Note: Simultaneously with the [Crick Memorial Conference on Consciousness in Human and Non-Human Animals](#), taking place in Cambridge (July 7, 2012), the [Summer School on the Evolution and Function of Consciousness](#) (52 papers) was taking place at [UQAM](#) in Montreal (June 29 - July 11, 2012), at which Antonio Damasio was one of the speakers. A second Summer School, [The Other-Minds Problem: Animal Sentience and Cognition](#) (48 videos), took place at [UQAM](#) in Montreal (June 26 – July 6, 2018).*

## References

- Bentham, J. 1789 (1970). *An Introduction to the Principles of Morals and Legislation*. Eds J.H. Burns & H.L.A. Hart, p. xliii. Athlone Press, London.
- Cambridge Declaration (2012) [The Cambridge Declaration on Consciousness](#).
- Damasio, A. (2022). Perspectives on the Cognitive Unconscious, In: A. Reber & R. Allen (Eds.), *The Cognitive Unconscious: The First-Half Century*, Oxford University Press.

Damasio, A. (2018). *The Strange Order of Things: Life, Feeling and the Making of Cultures*. Pantheon, New York.

Damasio, A. (2021). *Feeling & Knowing: Making Minds Conscious*. Pantheon, New York.

Damasio, A. & Damasio, H. (2022). Homeostatic feelings and the biology of consciousness. *BRAIN*, 00, 1-5.

Damasio, A. & Damasio, H. (2022). Feelings are the source of consciousness. *Neural Computation (in press)*.

James, W. (1904). [Does 'Consciousness' Exist?](#) *The Journal of Philosophy, Psychology and Scientific Methods*, 1(18), 477-491

Parvizi, J. & Damasio, A.R. (2001). [Consciousness and the brainstem](#). *Cognition*, 79(1), 135-160.

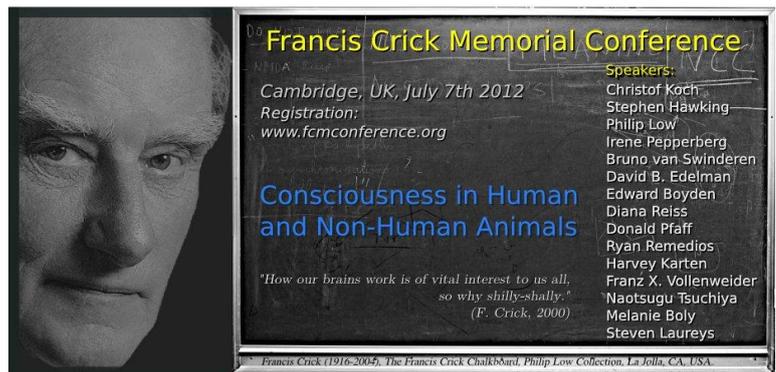
Parvizi, J. & Damasio, A.R. (2003). [Neuroanatomical correlates of brainstem coma](#). *Brain*, 126(7), 1524-1536.

Reber, A.S. (2016). [Caterpillars, consciousness and the origins of mind](#). *Animal Sentience*, 11(1)

Reber, A.S., Baluška, F. & Miller, W.B. (2022). [All living organisms are sentient](#). *Animal Sentience*, 31(3).

Rowan, AN; D'Silva, JM; Duncan, IJH.; & Palmer, N (2021) [Animal sentience: history, science, and politics](#). *Animal Sentience* 31(1)

Widowski, T.M. & Duncan, I.J.H. (2000). [Working for a dustbath: are hens increasing pleasure rather than reducing suffering?](#) *Appl. Anim. Behav. Sci.* 68, 39-53.



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