

## **A response to Michael Tye - Do fish have feeling?**

Michael Tye is of the view that the problem as to whether fish have feelings or not, is best addressed epistemically than metaphysically. At a lecture at King's College London entitled 'Do fish have feelings?' (20th May 2014), he compiled and appraised the available empirical research and made his important conclusions. I would have preferred him to merely assert that science has demonstrated fear, anxiety and pain responses in many species of fish - both reactive behaviours and adapting responsive behaviours - and then to have moved swiftly on by exploring philosophical questions such as, 'do these fear, anxiety, and pain responses equate to feeling?' 'does it matter that fish feel pain?' or 'how painful is a fish's pain?' However, he did express the view at the start that, particularly in the USA, many remain unmoved to the primary question and need battering over the head with the evidence.

One of Michael Tye's interesting views which was expressed briefly at the close, was that in contrast to fish, insects do not feel. Clearly, he believes that there is some kind of transition from organisms that have no feeling to those that do. This reminded me of the problem I have identified in Daniel Dennett's 'Intentional Stance' in relation to his greyscale evolutionary "as if" Intentionality stance (c.f. 'Intentionality: Dennett's 1 vital error is Searle's 1 critical omission' - <http://mind-phronesis.co.uk/intentionality>). So I asked Michael Tye a question to the effect,

Is there a greyscale of degrees-of-feeling for things like pain, that correlates with degrees of organism complexity (or of neural complexity), or is he of the view that there was a sudden evolutionary jump - a step-change - that granted feeling to certain organisms and not to others?

His answer entailed referring to one particular species of jellyfish. Apparently, when a single pain 'cell' of this species of jellyfish is stimulated, it leads to the sympathetic stimulus of *all* its pain cells. There is no small pain and no degree of pain, but rather just an all-encompassing on or off pain.

How does the Hierarchical Construct Theory of consciousness assist in tackling this question?

### ***On the evolution of the precursors to 'feeling'***

Survival pressures dictate that even simple replicating organisms will tend to evolve mechanisms that mitigate harmful environmental effects. The term "harmful" can be equated to any environmental effects that restrict survival potentials. Thus with replicating organisms there is a 'potentiality gradient': inevitably, this gradient is realised through the evolution of increasingly sophisticated and varied mechanisms that are responsive to the qualitative relevance of environmental stimuli because to do so is of survival benefit. Even such things as unicellular creatures have physicochemical responses to 'bad' (and good) environmental conditions; for example, some will show aversion to noxious stimuli (an aversion that has evolved because of its tendency to

mitigate effects that are harmful). Consequently, over the evolutionary timeline, increasingly complex mechanisms evolve that refine qualitatively pertinent interactive sensitivities and that improve the effectiveness of reactive behaviours. The survival of any unicellular structure is dependent on the responsiveness of its bio-chemical mechanisms (and in turn, the temporal stability and function of some environments is dependent on the function - and potential functional role - of its single cell populace). The neurone is one such example of a complex bio-chemically responsive cell, although the neurone does possess the remarkable additional capability and clear potential benefit of being able to facilitate the very rapid (realtime) transfer of qualitative relevancy over distance. Alternatively, one might suggest that a neurone can transport applicable, usable *information* regarding the potential impact of the environment. Thus innately acquired qualitative responsiveness begins at the bio-chemical level and extends to mechanisms of significant neuro-mechanical complexity. Indeed, responsiveness can come about through any bio-chemical facility (or apparatus) that leads to *action or process that promotes survival*. Thereby, one can say of the physiological construct of such creatures, that it possesses a representation regarding the qualitative relevance of environmental conditions via its complex biochemistry or bio-mechanism. This representation amounts to an innately acquired 'knowledge' about the environment; by virtue of its tendency to cause innate activity in a manner that, in some way, accurately reflects the nature of environmental conditions.

***On the evolution of phenomenal feeling and mentality***

But would such limited reactive responses be indicative of the presence of the 'phenomenon of feeling'? Can such complex innately acquired physicochemical representations be interpreted as constituting mental phenomena? In answer to these questions, despite the incredible sophistication of these biochemical mechanisms, I would respond, no:

Whilst there is undoubtedly purpose and intent behind the mechanisms of unicellular creatures for instance, one is hard-pressed to describe these mechanisms as generating mental events with feelings attached, or to describe the responses they elicit as "behavioural". But alternatively, the ascription of mentality only to animals that possess a sizeable brain, is no less problematic: Michael Tye was quick to point out that looking at a fish brain and seeing no neocortex is, by equal measure, a blunt and unqualified method for concluding that fish must have no feeling. So what then constitutes mentality and when can we say of a neural cluster or neural network, that it creates phenomenal feeling rather than merely innately acquired reactive responses to stimuli?

Well, there is a clue in the question: "merely innately acquired *reactive* responses": Innately acquired mechanisms lead to unalterable reactive consequences. These kinds of 'consequences' - particularly those that are implemented with no neural involvement but rather by only biochemical means - indicate fixed representations about the qualitative relevance of environmental conditions *that have been acquired over*

*generations*. There is no process that can be called mental because their processes grant no *individuated* conditional and considered responses to realtime experience.

In contrast, as soon as an organism is capable of assessing and prioritising the qualitative relevancy of experience *as and when it happens* - that is, as soon as it adjusts reactive responses to cater for realtime variations in types of experience - it is able to mitigate innate reactionary consequences and respond with 'some degree of behavioural sensitivity' to *particular realtime scenarios*. This capability is reflected in an organism's tendency to act in a manner that is most appropriate for survival *in a given situation* i.e. the capability is reflected in an organism's tendency to do 'what it feels right to do' in response to *particular experiences at particular moments in time*. Hierarchical Construct Theory indicates that an organism that does this, is feeling something about its changing environment and responding as it feels it should - "it" being an individual rather than an innate automaton. Such organisms demonstrate *reflective* rather than merely *reactive* behaviours. They are observed to learn and to adjust responses to the nature of changing experiences. Thus they possess a reflective individuality and can frame their biochemical knowledge within the bounds of a *developing evolving understanding regarding the qualitative relevancy of experience*. The second by second evolution of understanding (by this definition) is a realtime response to the qualitative *evaluation* of experience and, importantly, is an *individuated* response rather than one that is dictated by innate evolutionary adaptation. This realtime reflectiveness is a *behaviourally* adaptive phenomenon that leads to the experience of an ever changing understanding, specifically, regarding the qualitative relevance of experiences - be they good or bad. In other words, this realtime changing interpretation of the qualitative relevance of experience is the phenomenon of 'feeling the moving landscape of qualitative experiential relevancy', and hence can be regarded as constituting a mentality. HCT tells us that some insects, many fish, and all mammals experience an individuated changing qualitative phenomenal landscape.

#### ***Afterthoughts about Michael Tye on concepts***

A central thesis of 'Seven Puzzles of Thought' (Sainsbury & Tye, 2012), is that concepts are constituents of thoughts. It is difficult to argue that processes that generate an evolving understanding of the qualitative relevance of experience (as above), do not constitute 'thinking'. After all, such processes require, at minimum, sophisticated neural mechanisms and a substantial neural network that can conflate sensory experience, then assess and evaluate its qualitative relevance, and finally prioritise responses. These 'calculating' neural mechanisms, I qualify as constituting processes of thought. However I contest, such processes need not generate *conceptual interpretations* of the qualitative relevance of experience.

Hierarchical Construct Theory indicates that non-human animals do not introspect about their phenomenal state, which is why they do not attempt to communicate their conclusions to this introspective analysis - for the mode of communication is key to understanding the nature of the mental content. They experience the phenomenal state - which entails thought - in the absence of conceptualising about it. Thus, they can

discriminate phenomenal characteristics and form associations between phenomenal characteristics and environmental events, and they express the experience phenomenon through gestures and utterances that communicate the qualitative realtime impact of experience, but such things do not entail conceptual constructs.

Concepts arise from a higher degree of relations - a higher degree of representation regarding the interpreted *value* of environmental influences. Concepts are a construct of principled relations. Thus to simply learn, is not to understand the principles behind learning: whilst non-human animals learn, they do not try to *improve* their learning. Learning is merely a by-product that arises from the assimilation of phenomenal feelings, and an association of these feelings with their environmental causes. Similarly, to experience the phenomenon of feeling the effects of environmental interaction, is not to understand the principles of phenomenal consciousness nor to conceive of one's self as the principled object to which the feeling is felt. Thus, with just phenomenal feeling, one need not conceive of the self as its recipient. Rather, one simply experiences the feeling and responds as one feels one should; as one thinks best. Humans are the only animal with an evolving understanding of the principles regarding the value of phenomenal experiences and thereby are the only animal to feel compelled to speak of this unique realisation regarding the nature of their reality. This realisation induces the creative exploration of the principle relation between the phenomenal qualitative aspect of experiencing reality and the nature of its cause. Such developing realisations are themselves part of a complex conceptualised, and therefore, self-aware and self-identifying construct.

### **References**

Sainsbury, R. M. & Tye, M. (2012) *Seven Puzzles of Thought: And How to Solve Them: An Originalist Theory of Concepts*. Oxford University Press.