

Out of the Metazoic? Animals as a Transitional Form in Planetary Evolution

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In this paper I situate the topic of animals in the Anthropocene within a larger set of questions.

Firstly, I locate it against a longer timescale than might ordinarily be the case. Earth scientists debate whether the scale and significance of current changes in Earth processes should really be ranked only at the level of a change of epoch within the Cenozoic era, as the denotation 'Anthropocene' would imply, or whether we might be witnessing an event in Earth history that might constitute the advent of a new era, or even – like the Cambrian explosion which saw the emergence of nearly all existing animal phyla – that of a new, fifth aeon of the Earth. If that is indeed the case, then the question of the fate of the animal might need properly to be investigated against a much larger temporal canvas, within which the units that rise and fall might not just be those of ecosystems and species but kingdoms, biomes, or even the very 'compartments' of the Earth, of which life is one.

Secondly, my analysis will be one that situates the animal within the context of the process of planetary evolution. My approach to the evolution of planets is one that sees it as a progressive unfolding of singularities, a cascade of symmetry-breaking bifurcations in which planets become progressively more anatomical or geometrical through processes of migrating and folding, generating more complex topologies, new gradients and new capacities (DeLanda 2002). Seeing the animal as a planetary phenomenon is not in itself to make a point about spatial or temporal scale; rather, to paraphrase Dobzhansky, it is to suggest that adequately comprehending the nature of animal existence is only possible in the light of planetary evolution.

Thirdly, against that background of deep geological time and planetary evolution, and drawing on the philosophy of biology and biosemiotics, I explore the specific mode of being of the metazoan – of multicellular animal life, as opposed for example to bacteria, archaea and slime moulds. It is not just in the sense of morphology that it is not enough to describe the metazoa as 'complex'. As Myra Hird (2009) points out, well before the Cambrian explosion bacteria had already developed, for example, 'all major forms of metabolism, multicellularity, nanotechnology, metallurgy, sensory and locomotive apparatuses (such as the wheel), reproductive strategies and community organisation, alcohol, gas and mineral conversion'. Instead, as Jesper Hoffmeyer (2008, 2015) argues, the metazoa are mainly distinguished not by morphological or functional complexity but by the emergence of a specific cluster of biological and semiotic phenomena, such as individualisation, proprioception, death, fertilisation, and a deepening of what he calls 'semiotic freedom'. I show what happens to this analysis when situated in the context of planetary evolution.

Fourthly, I use this investigation of the animal to speculate about what might come after the fourth aeon of the Earth: the Phanerozoic, the aeon of visible life – or, as we might choose to call it, the Metazoic. Peter Haff (2013), for example, has suggested that the Earth's evolution is characterised by a sequence of 'geological paradigms' – nested dynamical systems that shape the emergence of the global environment, each of which

supervenes on and captures energy flux from earlier paradigms. Thus just as the biosphere supervened on the hydrosphere, lithosphere and atmosphere, Haff posits the existence of a 'technosphere', supervening on but relatively autonomous from the biosphere. In a comparable but distinct analysis, I explore the specific mediating role which metazoa – including humans – have played in the introduction of new kinds of entity and new kinds of relation – of artefacts, technology, culture, language, code – and what new capacities these have introduced to the Earth, and thereby speculate what it might mean to move 'out of the Metazoic' – into an aeon where multicellular organic life is no longer the signature entity.