

## Gaïa: what was it *about*?

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The Gaïa hypothesis proposed in the early 1970's by James Lovelock suggested that life may regulate its planetary environment. Evolutionary biologists early pointed out the lack of explanatory mechanism supporting the hypothesis. Philosophy of biology, along with evolutionary biology, have then depicted the Gaïa hypothesis as a misleading and dangerous metaphor comparing the Earth with an organism, not worthy of any sort of philosophical or scientific consideration.

I shall first point out that this narrative is at best incomplete: it at least fails to acknowledge that the reaction towards the Gaïa hypothesis in other scientific communities (namely, the Earth sciences), has been different from the ones in biological communities. I will then argue that the focus on the *explanans* (the lack of mechanism accounting for planetary homeostasis), pertinent as it was, left entirely untouched a discussion about a topic which should have been deemed prior, namely the *explanandum* of the hypothesis.

Indeed, ever since the beginning, the very *question* the Gaïa hypothesis aimed at raising was far from clear: what does "planetary homeostasis" was supposed to mean? What does it mean to say that "Earth" is an "organism"? The focus of the talk will therefore be on these two questions: the hypothesis and the individual Gaïa is meant to refer to. Regarding the first, I will argue that in the literature on Gaïa and in the modelling literature on Daisyworld, homeostasis, or stability, has been used to refer to very different sorts of phenomena. As for the second question, I will first point out that the individual referred by the term "Gaïa" is not "the Earth", but an entity which, if it exists (a point which will be discussed), would be a global ecosystem. I will then argue, *contra* current usages in the literature that the causal agents within this potential individual *cannot* be "organisms", or typical "living beings".