

Evolution and Sustainable Development

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Figure captions

- Figure 1 Recipemes and selectemes.
Figure 2 Changing recipemes to achieve a better fit with selectemes.
Figure 3 Changing selectemes to achieve a better fit with recipemes.
Figure 4 Changing recipemes and selectemes to achieve a better constellation.
Figure 5 The relationship between recipemes, selectemes and explanemes .
Figure 6 System boundaries as ultimate frame of reference for all memes.

Abstract

This article explores the implications of employing an evolutionary perspective to the the discourse on sustainability. For this purpose, Dawkins' concept of 'memes' – an attempt of drawing a systematic analogy from the evolution of species to the evolution of artifacts – is introduced along with recent further developments, namely by John Langrish who proposed to disaggregate the meme-concept into smaller and conceptually more manageable units: Recipemes, selectemes and explanemes. The article demonstrates the usefulness of this approach and points out the theoretical and practical implications for the sustainability discourse that become visible from such a 'memetic' angle. Among the most interesting themes is the memetic derivation of the concept of co-evolution between the social and the technical which has been discussed in the STS literature for a number of years. In a final section, the article presents a memetic interpretation of a 'strong' sustainability concept and uncovers its impracticality, thus highlighting the necessity for ethical and political action.

Introduction

If we boil down the plethora of analyzes and ideas within the bustling sustainability discourse we end up with two residues that can be dissected no further: technical fixes versus heroic choices. I described these two approaches to sustainable development elsewhere (e.g. Brand, forthcoming) and demonstrated the usefulness of this re-description to conceptually grasp the prevailing sustainability discourse. The spectrum from technical fixes to heroic choices covers almost the whole breadth of the mainstream debate about sustainable development. Some perceive these two main strands as mutually exclusive (e.g. Tate & Mulugetta 1998 or Lamberton 2005) while others argue that sustainability is about employing both: a pinch of better technologies here (i.e. more efficiency) and a dash of more moral and ecosophic lifestyles (i.e. sufficiency) there. This article explores what analytical and practical consequences emerge if we apply Richard Dawkins' (1967) concept of 'memes' to this discussion.

Pages 2-11

definitive and undisputed answers but this is as good and noble as our human situation will ever get. This is, by the way, exactly what Dawkins emphasized in the same chapter in which he introduced, or popularized, the concept of memes:

One unique feature of man, which may or may not have evolved memetically, is his capacity for conscious foresight ... A simple replicator, whether gene or meme, cannot be expected to forgo short-term selfish advantage even if it would really pay it, in the long term, to do so ... Even if we look on the dark side and assume that individual man is fundamentally selfish, our conscious foresight – our capacity to simulate the future in imagination – could save us from the worst selfish excesses of the blind replicators. We have at least the mental equipment to foster our long-term selfish interests rather than merely our short-term selfish interests. We are built as gene machines and cultured as meme machines, but we have the power to turn against our creators. We, alone on earth, can rebel against the tyranny of the selfish replicators (200-201).

Because our "long-term selfish interests" is not pre-given the argument is forced to go back once again – this time, however, with more optimism – to the aforementioned challenge to collectively define the good life in an open, undistorted and inclusive debate. In memetic terms: We should focus on the development of really good explanemes at all political levels.

Conclusion

Some of the ideas presented in this paper are mere reproductions of earlier ones, others are, to the best of my knowledge, new. Among the old ones is Dawkins' concept of memes and Langrish's distinction between recipemes, selectemes and explanemes. The latter also suggested, at least implicitly, that recipemes can be understood as *nested* within selectemes. What I consider a genuinely new contribution to the discourse on the evolution of artifacts is the "babushka model", the cascading nesting of recipemes, selectemes, explanemes and ultimately system boundaries. Probably a more speculative statement is the idea that distortions or boundary violations are more severe in terms of human suffering the closer they are to the outer shells. What I would defend more firmly, however, is my focus on *constellations* between adjacent shells which can be seen as a memetic derivation of what other authors have termed co-evolution.

What difference do these considerations make? They face the same challenge like all ideas: Selection. How many people are likely to adopt and reproduce these ideas; and how influential are they? Is the babushka model and all the rest able to be sustained? Since I do not want to advertise these ideas beyond a reasonable amount I tend to rely on their perceived usefulness. In this regard I think the prevailing selectemes for sustainability-related ideas are rather receptive for the babushka model. Humankind has agreed on some, albeit vague, goals in documents like Agenda 21 (UNCED, 1992a) and the search is on for the best approaches to achieve these goals. The thoughts offered in this paper could be one part of a systematic search heuristic for suitable approaches. The notions of efficiency and sufficiency as well as the working principles of co-evolution, for example, are now better visible and the advocates of co-evolution seem to have new, memetic, ammunition for their cause. It does not seem unreasonable to expect that the babushka model and the idea of co-evolution will see their usefulness erode one day. But as of now it seems equally reasonable to expect that they can mobilize some potentials yet untapped.

Pages 13-15