Why design is responsible for human evolution

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0.1 Introduction

Design practices can be seen as a form of niche construction in a strict evolutionary sense. At least, we can think of them as it was in Pleistocene, when first hominids started to produce tools. Niche construction is an evolutionary process by which organisms change environmental states modifying the conditions and sources of natural selection in the environment (Levins & Lewontin, 1985). According to Sterelny (2003), one of the main features of human niche construction is the notion of epistemic engineering, which is a capability of transforming the ways to aqcuire knowledge about the environment. We as humans have been able to inductively learn from the environment and apply this knowledge to life, and with the help of the vertical trait heritability and replication of the successful practices more and more sophisticated design objects everged over evolutionary time. By "objects" I mean not only tools, but also social arrangements like emergence of cooperative hunting (Skyrms, 2003) and collective defense (Sterelny, 2003). All this is at least partially due to epistemic engineering and nice construction.

However, we do not owe anything to Darwin, meaning that we do not experience the pressure of natural selection as it was in Pleistocene. We developed culture and operate on four evolutionary dimensions: genetic, epiegenetic, behavioral and symbolic (Jablonka & Lamb, 2014). At the same time, we do not maximaze our fitness—an ability to leave more children. Instead, we transition to maximization of utility (Okasha & Binmore, 2012; Sterelny, 2012). This can be a root of the evolutionary mismatch we experience with the discrepancy between our cognitive and neuronal orgranization and cultural arrangements like the amount of information we are dealing with.

At the same time, contemporary design practices are trying to cope up with this mismatch and push niche construction further. The issue here is that natural selection is not a major force here anymore, and the design is not done by it, but by humans. Getting this amount of power and control over the environment we modify ourselves is responsible, but not even on an ontogenetic scale, but on phenotypic one. In other words, design is responsible not only for the overall experience of humans, but for the future of human species in its generality, as by designing we immmediately affect conditions of our experience and selective sources across all four dimensions. In this essay, I will latch on what kind of evolution we as designers have the most impact on and will sketch an idea of matching design back to evolution(s).

0.2 A brief note on niche construction and epistemic engineering

- 4-dimensional evolution []
- (Sterelny, 2003)
  - downstream niche construction
  - epistemic engineering → tomasello ratchet → tools

0.3 Design as epistemic engineering

- Tools use in Pleistocene as proto-design
- Decoupling of design from evoutionary pressure
- Would couplling it back solve the problems and if yes, how?

0.4 Conclusion

References

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