

NUDGE BACK: TOWARDS A TAXONOMY OF SCIENTIFIC RATIONALITIES

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Broadly, and leaving aside for the moment varying degrees of coercion and transparency, “Nudge” can be understood as policy interventions that originate in behavioural economics and attempt to correct (what policymakers have identified as) deficiencies in human decision-making¹. The conversation around nudging tends to center on intent, extent and effect: towards what, by whom, and to what result are we nudged²? But nudges do not just privilege a certain type of rationality³, they also presume rationality as a normative object, an aspirational benchmark towards which one can and *should* strive — or be pushed⁴.

This is profoundly distinct from rationality as a scientific object. In the life sciences, the project is not how to design a more rational system, but to uncover the rationality expressed in what already exists: the adaptations cohering inhabitant and environment. As environments change — inevitably more quickly than individual lifeforms — the optimality of an organism’s behavior can become obscured, but the premise remains: No organism is irrational, even if recent changes in environment may make them appear so.

We discuss a taxonomy of scientific rationalities⁵, including those that account for a mismatch between organism and environment. Rather than aiming to fit lifeforms to the built environment, these “evolutionarily local, ecologically optimal” rationalities invert the nudge premise and ask: where does the environment fail to live up to the rationality of the inhabitant? Considering rationality from this perspective entails an interrogation of the backdrop against which organisms operate -- our infrastructures, institutions, and ideologies -- providing a framework in which rationality is the premise rather than the goal.

¹ Sunstein, C. & Thaler, R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*.

² OECD. (2017). *Behavioural insights and public policy: Lessons from around the world*. OECD Publishing, Paris.

³ Mas-Colell, A., Whinston, M. D., & Green, J. (1995). Microeconomics. Or, see also Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the econometric society*, 263-291.

⁴ Thaler, R. H. & Sunstein, C. R. (2003) Libertarian Paternalism. *The American Economic Review*. 93(2), 175-179.

⁵ Lewis, R. L., Howes, A., & Singh, S. (2014). Computational rationality: Linking mechanism and behavior through bounded utility maximization. *Topics in Cognitive Science*, 6(2), 279-311. Chicago