

Dualism is Dead. Long Live Plurality (Instead of Duality)

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What does it mean to be human in a computational era? The Manifesto rightly suggests that though such a question cannot generate final answers, it must be addressed to come to terms with the Onlife experience.

1. The Manifesto states that we prefer dual pairs to oppositional dichotomies, explaining this in terms of the dual pairs of control and complexity, *taxis* and *kosmos*, and public and private. This is of particular interest because the concept of dual pairs has a very specific meaning in mathematics and is relevant for machine learning techniques, which are at the heart of the emerging computational infrastructure.
2. Whereas a dichotomy has been defined as ‘a set of two mutually exclusive and jointly exhaustive alternatives’,¹ a dual pair has been defined as ‘a pair of vector spaces with an associated bilinear form’.² Though it would be interesting to investigate what this means in relation to control, complexity, *taxis*, *kosmos*, public and private, I would prefer to investigate how we may proceed from thinking in terms of dichotomies and whether this requires thinking in terms of pairs at all.
3. The first problem with a dichotomy is that it requires mutually exclusive definitions, which presumes that it helps to partition reality into discrete and separate chunks. Though computational techniques may indeed require such digitization, the reduction of the analogue flux of life to digitizable bites has its own drawbacks. Hayles (1999) has described the flaws and the costs of early cybernetics in her *How we became posthuman*, focusing on the attempt to disembodify and dematerialize information, abstracting from the content and the semantics to gain a better view of its processing and syntactics.

¹ <http://c2.com/cgi/wiki?FalseDichotomy>.

² http://en.wikipedia.org/wiki/Dual_pair.

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4. Though we cannot deny that this attempt has yielded unprecedented results, we must also acknowledge that at some point the processed information must be reintegrated in what Stiegler (pace Husserl) has called our own primary retention (individual memory), to acquire meaning and to be part of our lifeworld (Stiegler 2013).
5. It is important, then, to note that the computational era is rooted in the most extreme type of dichotomous thinking: that of constructing discrete, machine readable bits. To be human, here, means to remember that life is continuous and plural and experienced rather than calculated.
6. The second problem with a dichotomy is that it assumes jointly exhaustive alternatives, which entails that the pairs forming the dichotomy cover all there is to be said about whatever they aim to describe. In his pivotal 'The duality of risk assessment', Ciborra (2004) has elucidated how the hidden presumption that e.g. a risk analysis exhaustively describes a developing reality endangers the resilience of whoever depends on that analysis to remain safe.
7. Smart Grids, policing, medical treatment or the food industry should never assume that the data derivatives that inform their risk analyses cover all that is relevant. To prevent the kind of havoc that plagues our financial system we must instead keep an open mind, assuming that the computational decision systems that feed such critical infrastructure are as biased and fallible as any smart system necessarily must be. To be human, here, means to admit such fallibility as core to the wondrous fragility of life.
8. An interesting example of a dichotomy that confuses instead of clarifies what it means to be human in the computational era, is the dualism that pervades the domain of the philosophy of mind. The cartesian idea of a separate *res extensa* and a separate *res cogitans* that together describe reality has given rise to a series of interrelated problems that still haunt much of our understanding of e.g. responsibility and accountability in a world of distributed causation. To overcome the confusion that results from this kind of dualism I believe that we should not merely turn to overlapping instead of mutually exclusive dual pairs, but take leave of the idea that reality should necessarily be described in pairs altogether.
9. Whether it makes sense to think in pairs or in other types of distinctions should depend on the context and the aim of our thinking, not on a propensity to keep things simple. I would, therefore, rearticulate the heading and speak of: *Beyond dualities. Long live plurality.*

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