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***Mental* representations as simulated affordances:
not intrinsic, not *so much* functional, but
intentionally-driven**

Abstract. The goal of this paper is to discuss the status of mental representations (MR). The proposed view essentially agrees with Auletta's [this issue] arguments on the *power of intention* in defining representational contents, but further questions the articulation between intentionality and the functionality of representations, in light of an affordance-based approach to the origins of mental states.

"Nous sommes, nous, de notre côté, arrivé à la conclusion de l'irréductibilité du psychique au physique. Cependant, notre esprit demande, pour ainsi dire avec instance, qu'on ne le sépare pas par un abîme du monde matériel où il habite, qu'on rétablisse l'unité entre le physique et le psychique". Joseph Delbœuf (1876: 105).

As Auletta states in his target paper¹, many authors in philosophy are prone to establish the intrinsic nature of representations. It is noteworthy that mainstream cognitive psychology similarly views representations as the result of internalizing the external world and its physical principles (Shepard, 1994). Moreover, the debate with alternative proposals is highly contemporary (e.g. Todd & Gigerenzer, 2001). Consistently, Auletta has proposed an interesting view of representations and has done a nice job in demonstrating the need for considering the dynamics of the relationship between representing and represented entities. He has overcome a major problem hardly solvable by many other theories of representations: The contradictory opposition between a consistent, linear mental space, and a variable, non-linear biological space. Auletta suggests to ground representations at the interaction between the individual engagement and the nature of the external world, so that representations are not the result of a linear internalization of the

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¹ G. Auletta (2002). Is representation characterized by intrinsity and causality? *Intellectica*, 35, 83-113.

world but rather of a dynamic engagement of intention. Though I am very sympathetic to these ideas, I would suggest a partial refinement of relatively more puzzling parts of Auletta's proposal. This shall involve reconsidering the *status* of intentionality and the *functionality* of MR.

In Auletta's view, the *power* of intentionality is related to the definition of *what* is to be used in the external world for elaborating a MR. However, *how* intentionality is embodied in order to connect the external object to its representation is not clear. The point can be illustrated by the author's arguments: "I am not excluding that animals such as reptiles or fish or others can show an intentional behavior. I just leave the question open [...]. On the other hand I find very interesting that Millikan [...] does not hesitate to attribute intentionality to bees and also to bacteria. For her (and also for me) intentionality does not require rationality" (*ibid.*: 15). Is intentionality independent from rationality because this is just a semantic tool used by researchers to describe the *direction* of the individual engagement in the environment? Or is intentionality a psychological reality that may or may not (according to the setting) be independent from rationality? I propose to distinguish between two modes of information processing, which are associated with *different* levels of functionality in MR and *different* levels of intentionality.

The first mode would be independent from awareness, which is hold to characterize "high-ranging" animals. At this first level, intentionality would be *embodied* from basic needs: What is processed in the environment corresponds to what is *useful* for the satisfaction of these needs. For example, a given situation *affords* the animal to catch its prey. In this case, *information is functional* and there is no need to *mentally* elaborate sensory information, be in reptiles or in man. The environmental usefulness can be directly extracted by senses trough affordances and coupled to action. The reliance on perception-action cycles does not require *re-presentation* of information to higher-level structures. Then, if *functionality* of MR is questioned this is not because they are not functional, in nature, but rather because they are *not functional for some purposes* that are better handled by local processing. In this context, intentionality should be considered as a *semantic tool* (used by researchers) rather than as a pragmatic constraint being under cognitive control.

The second mode of information processing would be restricted to "high-ranging" animals that are hold to be characterized by a different level of awareness. It is proposed that MR are an *echo* of the engagement of the whole individual. They *reflect* something that is not the state of the "external world", but rather the state of the *own* engagement *in* the world. In this framework, MR can be seen as *synthetic* "end-products" of information processing. Emerging from

an ever-changing subject-environment coupling, they evolve with time as a function of local affordances. At this level, MR are functional. Synthetic information that is mentally elaborated deserves higher-level goals involving conceptual manipulation. In this context, concepts are thought of as a means of summarizing a variable reality and "simulating" a global affordance on the basis of what this reality affords at any local level of our processing of information. Consequently, what is called the "rational root of intentional behavior" might consist in no more than perceiving and operating synthetically the divergence between the needs and the state of the coupling between the individual and his or her environment.

A further interest in this conception arises from its biological plausibility: The two modes can be related to what Berthoz (1997, 27-30) in neurobiology designs as the conservative and the projective processes of the brain. The first is older in the evolutionary time and its function is to maintain certain local variables within boundaries, which are defined by intended actions. The second is more recent and allows the brain "to play" information, either in touch or not [e.g. in dreams] with sensory or motor information.

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