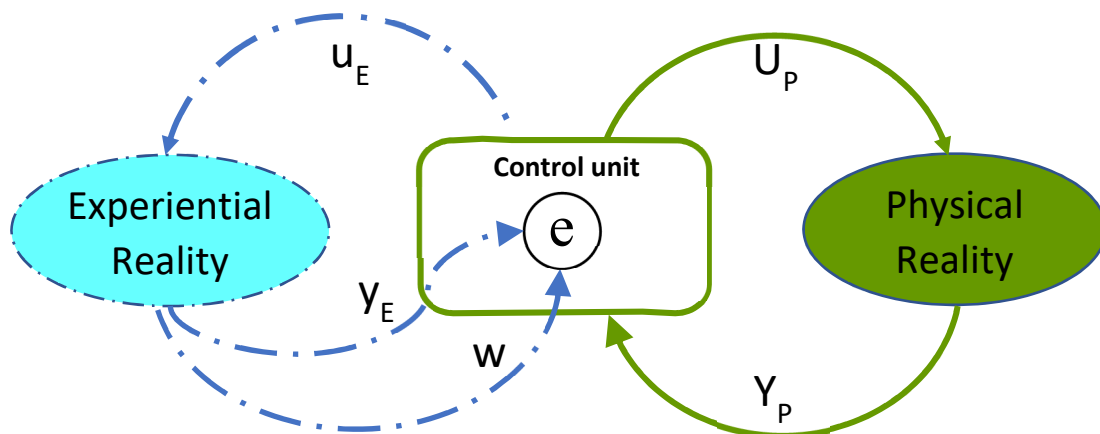


Cybernetic model of viability

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In the language of cybernetics, the concept of viability can be illustrated in a pictorial schematic, as below. In the right-hand side of the diagram, I differentiate between reality as a *physical* controlled system, the person as its controller and two interactions between these two units: the physical effect of a person on reality (manipulated variable U_P) and the physical effect of this reality on a person (controlled variable Y_P). The controlled variable Y_P only affects the person in the form of a manifold (Kant 1781/1787, B 102), von Glasersfeld 1997, p. 80-81), i.e. in an unstructured manner. In the diagram below, this is indicated by the fact that the arrow ends at the periphery of the person unit and does not penetrate into the inner circle, like the other variables.



Cybernetic Model of Viability

A coupled system of two processes controlled by one control unit. Abbreviations: Y = controlled variable; w = set point variable; e = control deviation; U = manipulated variable; index E = Experiential reality; index P = Physical reality.

On the left-hand side of the diagram, I differentiate between the experiential world as the entirety of the experiences acquired by a person (her knowledge base) and the person as the controller in the form of a separate unit; this separation is purely heuristic in nature for illustrative purposes. In this model, I also assign to the experiential world the role of a controlled system but a conceptual (conceptually constructed) rather than a physical controlled system. There are three interactions between these two units here: the conceptual effect of a person's control unit on his/her experiential world (manipulated variable U_E) and two conceptual effects of the experiential world on the person's control unit. The set point variable w corresponds to the goals, intentions and expectations. The controlled variable Y_E is somewhat more complicated: a person takes the controlled variable Y_P , transforms it into thought content (manipulated variable U_E), seeks to integrate this into his/her experiential world (assimilation, accommodation etc.) and ends up with the controlled variable Y_E .

The control deviation e is formed from a comparison between the set point variable w and the controlled variable Y_E ; this produces a binary variable e which provides information as to whether or not there are any obstacles in the way of pursuing the goals, i.e., whether or not the current state can be deemed viable. If the manipulated variable U_P has led to a solution or generates any concepts which are either compatible with existing conceptual structures (lack of contradictions) or in harmony with conceptual structures which others regard as viable, then in the control unit we will obtain $e = 0$, i.e., the current state will be considered as viable and will be reinforced.

Bibliography

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