

System thinking in a hybrid and networked context

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The world is currently facing a process of hybridization of man and technology, organization and technology and society and technology. A process which requires a new way of thinking, a new form of ontology, based on hybrid systems. The philosophy of phenomenology provides us with a basis for such an ontology of hybrid systems in the tradition of Heidegger (1927), Merleau-Ponty (1945) or - more contemporary- Ihde (2002;2009). Hybrid systems are developing an increasing need to be interlinked, enabling them to exchange and share information. Interoperability, defined as the possibility of exchanging and sharing information between systems, I have outlined in earlier publications (2010) based on the social systems theory of Niklas Luhmann (1995). When different kinds of hybrid systems have the ability to exchange and share information, they are also capable to connect to each other and form coalitions or networks of hybrid systems. According to Von Bertalanffy (1969), who defined systems as elements being in interaction, these post modern hybrid systems can be seen as systems 2.0. Within systems 2.0 the 'post'human constructs his social reality based on the possibilities of the technologies, which in the future will no longer be visible or will form an integral part of his environment. This information revolution raises questions about the traditional form of organizations and institutions, and with it the existing command and control structures. Traditional and vertical structures will slowly but surely have to be changed into more horizontal structures that are oriented on the exchanging and sharing of information within temporarily coalitions or networks. The information revolution also raises questions about the agency shift between man and machine and the necessary trust between participants within these kinds of networks. It will surely not come as a surprise that I am envisaging that the scale will tip in favor of technology, with man losing out. More fundamental questions arise, if with this development to connect more entities and systems in coalitions or networks, these connections can be the beginning of an evolutionary step for society and the organizations within it. Humans will then no longer be the central point for the exchange and sharing of information; more and more they will only be one of the nodes within the network. Are or will we become part of an developing and unnoticed process of evolution 'from primitive beginnings' as Kuhn (1996) has stated? And will this development determine our further evolution as

posthumans, based on knowledge which is hidden in the program code of the systems which we are connecting in the here and now? If we want to get a grasp of the quality of organizations and institutions and the networks they are part of, we have to give priority to their processes, the way they move, their impulses and their directions and rely much less on measuring where the organization stands. The ultimate question which arises from all of this is: will there be somebody or something in the end having the power on the network and the connections and information within it? Can we influence who or what will this be or have we to bow to the virtual world in which we then live?

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