

Location:  
The George Washington University  
Mt. Vernon Campus  
2100 Foxhall Road  
Washington, DC



## From Second-order Cybernetics to Second-order Science

**Karl H. Müller**  
**WISDOM, Vienna**

The main thesis of this talk lies in a radically changed view on the importance of conducting meta-level research or, closer to the ASC-agenda, second order cybernetics. During the 1950s and 1960s, philosophy of science was considered to be the one and only meta-science for all scientific disciplines and cybernetics was assumed to be a general pool for trans-disciplinary models in communication and control research. Towards the end of the 1960s Heinz von Foerster coined the term second order cybernetics and developed a dual agenda for it. On the one hand, second order cybernetics was introduced as an epistemological device, emphasizing the role and the importance of observers. On the other hand, second order cybernetics was also conceptualized as an innovative analytical engine with a heavy emphasis on self-referentiality and on its far-reaching repercussions across nature and society.

Thirty years later, both philosophy of science and second order cybernetics seem to have lost much of their former appeal and innovative meta-scientific analyses along with fresh investigations in the spirit of second order cybernetics have become rare events. However, three new arenas are gradually emerging which will lead to a radical reconfiguration of the relations between first and second order science (SOS). Moreover, all three areas offer substantial work space for cybernetics both in its first and in its second order versions. The talk will be mainly concentrated on these three new areas and especially on the high potential importance and relevance of cybernetics within these new SOS-domains.

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