**A Silent Revolution in Reflexivity**

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In the last decades the overall science system has made a very strong movement towards higher levels of complexity across various dimensions of research processes. This sharp increase has been widely described and is by and large accepted by the scientific community. What remains largely unnoticed or silent until recently is that the science system also experiences a complementary revolution in reflexivity. This silent revolution in reflexivity is as profound as the complexity revolution and can be characterized by three major developments.

* First, the science system is undergoing a differentiation into three levels and types where first order science continues to perform as the science of exploring the world, zero-order science becomes a new trans-disciplinary field of research infrastructures which enables new investigations of first-order science and, finally, second-order science which reflects on the explorations of first-order science and acts as a quality control and as an innovation pump for the overall science system.
* Second, scientific investigations are more and more conducted in a new epistemic mode which was originally proposed by Heinz von Foerster and which can be characterized as the mode from within or as the endo-mode, compared to a traditional mode from without or exo-mode.
* Third, a large number of academic disciplines like the social and economic sciences, the cognitive sciences or the life sciences recognize the importance of reflexivity as a crucial element for theory and model formation.

The lecture will be focused primarily on the first two dimensions of this silent revolution in reflexivity.

**Bio-Sketch**

Karl H. Müller (1953) was head of the Departments of Political Science and Sociology at the Institute for Advanced Studies (IHS) in Vienna (1997 – 2001), Director of the Wiener Institute for Social Science Documentation and Methodology (WISDOM), Austria’s centre for research infrastructures in the social sciences (2001 – 2014) and President of the Heinz von Foerster Society (2000 – 2015). Currently he is Director of the Steinbeis Transfer Centre New Cybernetics and senior researcher at the Faculty of Social Sciences of the University of Ljubljana. His main research interests range from the perspectives and horizons of second-order science and from problems of complex modelling or complex data-visualization to the frontiers of radical constructivism and of contemporary RISC-societies.

His recent publications reflect these various interests, namely, (with Lučka Kajfež-Bogataj, Ivan Svetlik, Niko Toš (eds.)), *Modern RISC-Societies: Towards a New Paradigm of Societal Evolution* (Wien:edition echoraum, 2010), (together with Niko Toš), *Towards a New Kind of Social Science. Social Research in the Context of Science II and RISC-Societies* (Wien:edition echoraum, 2012), (with Alexander Riegler (eds.)), *Second-Order Science* (Special Issue of *Constructivist Foundations*, 1/10, 2014), (with Brina Malnar), *Surveys and Reflexivity. A Second-Order Study of the European Social Survey (ESS)* (Wien:edition echoraum, 2015), *New Cybernetics. The Revolution of Scientific Structures* (Wien:edition echoraum, 2016), and *Post-disciplinary Cybernetics. The Science of Reflecting on Reflections* (Wien:edition echoraum, to be published)