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How (Radical) Constructivism Emerged from Cybernetics – and other Fields of Science: Some Historical Remarks

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There is some irony for the historian of Radical Constructivism. One of its worldwide best known representatives told us that he declines to be regarded as a constructivist since he—more or less—ever hated any -isms. (Heinz von Foerster in an interview 1997). Or there is a leading promoter of Radical Constructivism declaring his "farewell to constructivism" at least in the title of one of his recent books (Siegfried J. Schmidt—"Abschied vom Konstruktivismus", 2003)

Never mind: Radical Constructivism seems to have made its way from a revolutionary paradigm over a sheer fashion to normal science (to cite S.J. Schmidt again). Such processes always tend to provoke the interest of history of science. On several occasions Ernst von Glasersfeld, the creator of the term of Radical Constructivism engaged in writing longue durée-histories of constructivism, starting with pre-Socratic philosophers, passing medieval theorists, mentioning Giovanni Battista Vico as a key figure, acknowledging Neo-Kantians (like Vaihinger), and arriving with Jean Piaget as predecessors of actual Radical Constructivism. This seems to be all right. RC as a sort of radical epistemological innovation indeed stands in such a long tradition

But a historian's point of view still might be different. At a closer look it turns out that quite a lot of the leading figures and founding fathers of RC (there are apparently only a few mothers) have been engaged in another revolutionary paradigm in the 1950ies, 1960ies and 1970ies: they have been part of the cybernetics movement. This is true at least for Heinz von Foerster, Gordon Pask, Ernst von Glasersfeld, Ranulph Glanville, Humberto Maturana, Francisco Varela or Gregory Bateson.

I do not want to refer to Kuhn's notion of scientific revolutions since things often appear to be more complicated. Nevertheless there was an apparent internal and external crisis in cybernetics around 1970. In his—afterwards worldwide recognized—paper "On constructing a reality" of 1973 Heinz von Foerster wrote one of the key manifestos of Radical Constructivism. This paper gathers and integrates findings of classical cybernetics and system theory and makes use of observations of the observer (as done by Spencer Brown, Maturana, and von Foerster himself). One year later, 1974, a 'book' was published by Heinz von Foerster and some of his students and colleagues: The cybernetics of cybernetics, the first in a series of central documents of Second Order Cybernetics. I still feel justified to regard this piece as the major break-through on the road towards Radical Constructivism. And it is still irony that the publication of this book also marked the end of the Biological Computer Laboratory at the University of Illinois.

Radical Constructivism—as a label, trademark, and movement—then emerged apparently more or less by chance by activating or re-activating existing networks, as Ernst von Glasersfeld put it in an interview in 2005, networks going back mainly to cybernetics.

But things are still more complicated. When Warren Sturgis McCulloch finished the series of the Macy-Conferences on cybernetics in 1953, his introductory remarks ended up with one of the nicest constructivist metaphors: a bear participating in a scientists' conference. At least McCulloch's interpretation of cybernetics then seems to be a clearly constructivist one.