

# Review of: "Occupation from a perspective of complementarity - Part 2 - Proposals for situating a complementarity perspective in occupational science"

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This pair of well-written articles—I was invited to review the second one, but was sufficiently intrigued that I could not resist the first—touches a nerve that transcends the personal and the professional. The personal has to do with the field of “occupational science” (a field which I have to admit I did not know existed): my mother, over 70 years ago, was an occupational therapist in the Derry Asylum in N. Ireland, a place for “mental patients”, most of them institutionalized, before the profession called “occupational therapy” even existed in that part of the world. If there was ever a formula that fitted my mother’s approach, **doing, being, becoming and belonging** was it. Along with kindness and patience and friendliness and sheer vivacity and inventiveness and skill. I was privy to all of it. As a little boy, I was part a part of the belonging and knew many of her patients by name.

On the professional side of things, we come to the complementarity interpretation of science, here the science of occupation. In the authors’ work just two pairs: individual~social, active~receptive already create ‘occupational potential’ in that, as they suggest provocatively, the very character of their combination hints at the universality of what David Engstrom and I refer to as *The Complementary Nature* (MIT Press, 2006/2008). The underpinning of the latter is the coordination dynamics of the human brain (singly and socially) in which tendencies for the parts to exhibit individual autonomy coexist with a tendency for the parts to cooperate together. At the same time, no less. This is the metastable regime of a nonlinear dynamics called the extended HKB equation, after the theoretical physicist Hermann Haken et al. (for a retrospective, see Kelso, 2021). Individual~collective, integration~segregation, cooperation~competition, choice~chance, etc. are just some of the complementary aspects of the complementary pairs of coordination dynamics. The tilde or squiggle (~) symbol expresses the realization that the interplay of both is required for understanding. Importantly for the authors’ perspective, the science underpinning the complementary nature is at the scale of living things. Consistent with Karen Barad’s (2007) analysis, Bohr’s complementarity is elevated from epistemological status to an ontological principle that encompasses knower and known. And everything is relational (things~relations).

What I like about the authors’ thesis is that it shows how complementarity is not only essential to understanding what occupational science is about, but how it can be extended and put to work. In this, they join a move that is afoot in other disciplines, law (Calnan, 2018), education (Semetsky, 2010), economics (Schotanus, forthcoming), ecology (Ally, 2017), politics (Portugali, in press), nevermind philosophy and science. Engstrom and I (forthcoming) even think that humanity’s future lies in people developing a “squiggle sense”, the sixth sense of the complementary nature. It’s like it’s been

submerged in the either/or polarized, 'slash' world we've become accustomed to. David Turnbull and Ross Barnard have the squiggle sense for sure: they have exposed the complementary nature of occupation science.

Ally, M. C. (2017). *Ecology and Existence*. Lexington Books, Lanham, MD.

Barad, K. (2007). *Meeting the Universe halfway*. Duke University Press, Durham & London.

Calnan, A. (2018). Beyond jurisprudence. *Southern California Interdisciplinary Law Journal*, 27,1-78.

Kelso, J.A.S. (2012) Multistability and metastability: Understanding dynamic coordination in the brain. *Phil. Trans. Royal Society B*, 367, 906-918.

Kelso, J.A.S. (2021). The Haken-Kelso-Bunz (HKB) Model: From Matter to Movement to Mind. *Biological Cybernetics*, 115 (4), 305-322. <https://doi.org/10.1007/s00422-021-00890-w>

Kelso, J.A.S., & Engstrøm, D. A. (2006). *The Complementary Nature*, Cambridge, MA: The MIT Press. Paperback Edition, March 2008.

Kelso, J.A.S., & Engstrøm, D. A. (forthcoming). *The Squiggle Sense: Sixth Sense of the Metastable brain~mind*

Portugali, J. (Ed). *The Crisis of Democracy in the Age of Cities*. Elgar, Cheltenham, UK.

Schotanus, P. (forthcoming). *The Market Mind Hypothesis: Understanding Markets through Cognitive Economics*. DeGruyter

Semetsky, I. (2010). Ecoliteracy and Dewey's educational philosophy: implications for future leaders. *Foresight*, 12, 31-44.