Evolving the future by learning from the future (as it emerges)? Toward an epistemology of change

Markus F. Peschl and Thomas Fundneider

2014

[pesc14c]

Peschl, M.F. and T. Fundneider (2014):

Evolving the future by learning from the future (as it emerges)? Toward an epistemology of change

Behavioral and Brain Sciences 37(4), 433-434.

URL: doi:10.1017/S0140525X13003245 ()

local file name: ***pesc14c Peschl Evolving the future by learning from the future.pdf***

internal note:

bibliographical data

```
@article{pesc14c,
 AUTHOR       = {M.F. Peschl and T. Fundneider},
 TITLE        = {Evolving the future by learning from the future (as it emerges)? Toward an epistemology
of change},
 YEAR         = {2014},
 JOURNAL      = {Behavioral and Brain Sciences},
 VOLUME       = {37},
 NUMBER       = {4},
 PAGES        = {433-434},
 URL          = {doi:10.1017/S0140525X13003245},
 KEYWORDS     = {Design | Innovation | Epistemologie | Innovation | future | epistemology | Presencing |
emergent innovation | learning | double-loop learning | }
}
```

Evolving the future by learning form the future (as it emerges)?

Subtitle: Towards an epistemology of change

4-9 Author names & affiliations

Markus F. Peschl

Cognitive Science Research Platform and Department of Philosophy, University of Vienna

Universitätsstrasse 7

1010 Wien

Austria

+43 1 4277 46424

Franz-Markus.Peschl@univie.ac.at

http://www.univie.ac.at/knowledge/peschl/

Thomas Fundneider

theLivingCore & University of Vienna

Mariahilferstrasse 1d

1060 Wien

Austria

fundneider@thelivingcore.com

http://www.thelivingcore.com

10 Abstract (max 60 words)

At the core of Wilson et al.´s paper stands the question of intentional change. We propose to extend this notion by introducing concepts from the domains of innovation and knowledge creation. By going beyond their ACT approach we present a comprehensive framework for a theory of change culminating in the change strategy of “learning from the future as it emerges”.

11 Main text (max 1000 words; with paragraphs separated by full blank lines)

Even though Wilson, Hayes, Biglan, & Embry (WHB&E) talk about “evolving the future” and the capacity for positive open-ended change and how it can be brought about in various domains, there is no explicit mention of the perspective of *innovation* and *knowledge creation* as one of the main sources for (intentional) change and bringing forth new realities (except for a short reference to Johnson (2010)).

WHB&E pose the question why positive behavioral and cultural change is sometimes so hard to achieve and why something that seems to be an adaptation, occasionally turns out to be inadequate. Our resistance against change seems to have a dilemma that is intrinsic to almost all kinds of radical change or innovation as one of its deeper causes: on the one hand we strive for radical change, we are interested or even fascinated by it; on the other hand we are irritated when confronted with something radically new, because it does neither fit into our categories of perception nor into our mental models. The reason for the resistance against such changes seems to lie in this situation of loss of control, which is an unpleasant experience for most humans. So, the original question can be reformulated: How can one produce positive, in the sense of *sustainable*, change that is both *fundamentally new* and *organically fits* into existing structures, or is in continuity with the already existing categories of our cognition (compare Maturana & Varela´s (1980) or Luhmann´s concept of “anschlussfähig”)?

On the individual level, WHB&E tackle this problem by proposing a three-step approach having the goal to increase response variability (Section 3.1): (i) Behavior therapy (BT) (adapting and rewiring behavioral responses), (ii) cognitive behavior therapy (CBT) (reconceptualizing the problem space in the symbolic realm), and (iii) “acceptance and commitment therapy” (ACT). ACT aims at identifying one´s most important life goals in a mindful manner and values and firmly following them. The question what these goals could be and where they come from on a more general level remains open—finding an answer to these questions is, however, critical for successful sustainable change. What is already a hard question on an individual level, becomes even more complex and challenging in the realm of innovation and change on a group/organizational or cultural level. It seems that the processes of increasing variability and selecting according to criteria (where do they come from?) should be complemented by another strategy hinted at by WHB&E: mindfulness, attentiveness, or wisdom.

The proposition of this commentary is to extend the above approach to intentional change by introducing concepts from the domains of innovation and knowledge creation. They have their roots in cognitive science, epistemology, innovation studies and organization science (Fagerberg, Mowery, & Nelson, 2006; Fagerberg & Verspagen, 2009), and second order cybernetics (of semantics) (Krippendorff, 2006). We propose the following conceptual and epistemological framework differentiating various strategies of change (see also Figure 1):

a. *Downloading and reacting*: Existing and successful behavioral patterns from the past are downloaded and applied (⇒ no change occurs).
b. *Single-loop strategy* of change/learning (adapting and restructuring): this circular process is closely related to the evolutionary dynamics by adapting to the environment through generating variation and testing it by behavioral expression. Such a strategy leads to optimizing existing structures; oftentimes it is referred to as incremental innovation (Ettlie, Bridges, & O'Keefe, 1984) and can be compared to the BT-approach.
c. *Double-loop strategy* of change/learning (redesigning & reframing) (Argyris & Schön, 1996): humans are not only capable of simply adapting to the environment, but also to *reframe* their symbolic/symbotype system by *reflecting* on their assumptions or values and changing them (e.g., a change in premises in our cognitive framework, paradigmatic shift in the realm of science (Kuhn, 1970), radical innovation (Corso, Martini, & Pellegrini, 2009; Ettlie et al., 1984)). That creates a new space of knowledge opening up an unexplored scope of potential behaviors (compare to CBT-approach). Both the single- and double-loop strategies understand change as adaptation and as "learning from the past".
d. *"Learning from the future as it emerges"* (regenerating): Going one step further, our cognition and symbolic capabilities enable us to intellectually deeply penetrate the environment in order to achieve a profound understanding of the *potentials* that are not yet realized in a particular part of the (internal or external) environment—potentials that are hidden, that need to be discovered, developed, and cultivated in order to emerge in the future. This is a rather different strategy which we refer to as *Emergent Innovation* (Peschl & Fundneider, 2008, 2013; Peschl, Raffl, Fundneider, & Blachfellner, 2010). It is partially based on Scharmer´s (2007) Theory-U and does not primarily follow the classical strategy of trial-and-error, variation, selection, and adaptation in order to bring forth change and innovation, but uses deep knowledge about the core of the object of innovation (OOI) and its potentials in order to "learn

from the future as it emerges". In other words, these potentials offer a pointer towards the future possibilities that might emerge. This leads to changes that fit into the environment (because they have their basis in the core of the OOI) and are at the same time fundamentally new (because they tap yet unrealized potentials of the core of the OOI).

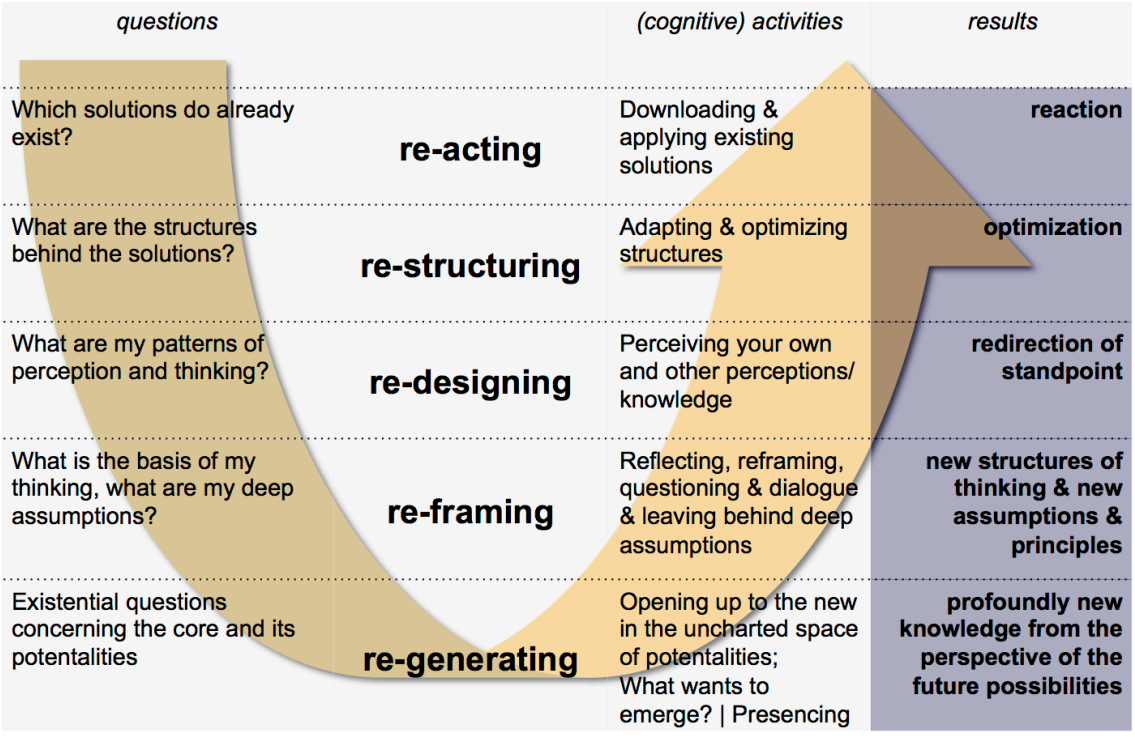

Figure 1: Strategies and levels for dealing with (open-ended) change (they do not exclude each other).

Although the above framework stresses an epistemological perspective, one can clearly see the similarities to WHB&E (Section 3.1f) on a conceptual level. Taking their ACT approach one step further, reveals that our fourth change-strategy of "Learning from the future as it emerges" follows a slightly different procedure, in which the concepts of *identifying* and *cultivating potentials* as well as *enabling* intentional change play a central role.

Besides having to employ a whole new set of cognitive and epistemological skills, as well as attitudes complementing the classical variation-and-selection processes (e.g., openness, patience, letting-go, coping with loss of control, deep understanding (of the core potentials),

etc.), such an approach has far-reaching implications on innovation and creating new knowledge.

12 References (APA Style)

Argyris, C., & Schön, D. A. (1996). *Organizational learning II. Theory, method, and practice*. Redwood City, CA: Addison-Wesley.

Corso, M., Martini, A., & Pellegrini, L. (2009). Innovation at the intersection between exploration, exploitation and discontinuity. *Int. J. Learning and Intellectual Capital*, *6*(4), 324–340.

Ettlie, J. E., Bridges, W. P., & O'Keefe, R. D. (1984). Organisational strategic and structural differences for radical vs. incremental innovation. *Management Science*, *30*.

Fagerberg, J., Mowery, D. C., & Nelson, R. R. (Eds.). (2006). *The Oxford handbook of innovation*. Oxford: Oxford University Press.

Fagerberg, J., & Verspagen, B. (2009). Innovation studies. The emerging structure of a new scientific field. *Research Policy*, *38*(2), 218–233.

Johnson, S. (2010). *Where good ideas come from. The natural history of innovation*. New York: Riverhead Books.

Krippendorff, K. (2006). *The semantic turn. A new foundation for design*. Boca Raton, FL: Taylor and Francis CRC Press.

Kuhn, T. S. (1970). *The structure of scientific revolutions* (second.). Chicago: The University of Chicago Press.

Maturana, H. R., & Varela, F. J. (Eds.). (1980). *Autopoiesis and cognition: the realization of the living*. Dordrecht, Boston: Reidel Pub.

Peschl, M. F., & Fundneider, T. (2008). Emergent Innovation and Sustainable Knowledge Co-creation. A Socio-Epistemological Approach to "Innovation from within". In M. D. Lytras, J. M. Carroll, E. Damiani, & others (Eds.), *The Open Knowledge Society: A Computer Science and Information Systems Manifesto* (Vol. CCIS (Communications in Computer and Information Science) 19, pp. 101–108). New York, Berlin, Heidelberg: Springer (CCIS 19).

Peschl, M. F., & Fundneider, T. (2013). Designing (and) enabling interfaces for collaborative knowledge creation and innovation. *Computers and Human Behavior*, *2013, in press*.

Peschl, M. F., Raffl, C., Fundneider, T., & Blachfellner, S. (2010). Creating sustainable futures by innovation from within. Radical change is in demand of radical innovation. In R.

Trappl (Ed.), *Cybernetics and Systems 2010* (pp. 354–359). Wien.

Scharmer, C. O. (2007). *Theory U. Leading from the future as it emerges. The social technology of presencing*. Cambridge, MA: Society for Organizational Learning.