Kalevi **Kull,** kalevi.kull[at]ut.ee
University of Tartu, Estonia

Learning, phenomenal present, and semiosis

Learning can be defined as establishing of a sign relation. Computational and semiotic descriptions of learning diverge. The *computational concept of learning* can be defined as a complex of logical gates that change or modify a certain classification using certain criteria.

The semiotic concept of learning describes learning as a process that starts with an incompatibility (confusion, logical conflict, problem-situation) to be solved, followed by habituation (learning in a narrow sense). Criteria for learning are not required, as the conflict itself is its cause. Thus the semiotic concept is more general than the computational concept.

We describe a problem-situation faced by an interpreter as a situation of logical conflict, or more generally, of incompatibility. This is a situation in which there are options to choose from.

According to the computational approach, the selection of behavioural paths is described via sequential operations, such as IF x THEN y ELSE z. Here neither y and z nor x and non-x are true options, for they can be handled sequentially and thus cannot build a logical conflict.

Options require simultaneity. Only in case possibilities are temporally indistinguishable, can they be seen as options for a living system. This requires specious present (Varela 1999; Kull 2015).

Thus, semiotic learning or establishing of a new sign relation is possible only within a specious or phenomenal present. A habituated relation (also a code) can work without the phenomenal present, i.e., computationally. This is also where a semiotic relation can occur without life (e.g., in artefacts).

In addition to concluding that meaning-making assumes the phenomenal present, we suggest the hypothesis that meaning-making and present are co-extensive. In other words, semiosis itself creates the subjective present.

References

Kull, Kalevi 2015. Semiosis stems from logical incompatibility in organic nature: Why biophysics does not see meaning, while biosemiotics does. *Progress in Biophysics and Molecular Biology* 119(3): 616–621.

Varela, Francisco J. 1999. The specious present: A neurophenomenology of time consciousness. In: Petitot, Jean; Varela, Francisco J. ; Pachoud, Bernard; Roy, Jean-Michel (eds.), *Naturalizing Phenomenology: Issues in Contemporary Phenomenology and Cognitive Science*. Stanford: Stanford University Press, 266–314.