

The Observer Story: Heinz von Foerster's Heritage

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Over the last decades Heinz von Foerster has brought the observer from behind the stages to the central stage of epistemological issues and discussions. This article discusses the multiple dimensions of observers and the consequences of a fully-developed observer story for the status of scientific knowledge and for the social system of science in general.

1.

Heinz von Foerster has taught us that, basically, the history of modern epistemology might be (re-)written as the story of the *observer*. This story primarily deals with the consequences of the insight that whatever is said is said by an observer to another observer. And this story deals with the observer conceived of as an active agent who does not observe from outside in a neutral way but who is always enmeshed in the process of observation. Observations operate on the basis of distinctions. These distinctions are the distinctions of the observer and not those of the environment or the reality. Observations always have a blind spot, because during the process of observation the observation conditions cannot be observed at the same time. And if you want to know how observing works, Heinz von Foerster states, then observe how an observer observes.

Historically seen, Kant, Nietzsche, Vaihinger, Simmel, Cassirer, Fleck, and many others have contributed their special chapters to the observer-story whose main narrators in the last two decades have become the so-called (radical or systems theoretical) constructivists. The main question in this discourse is: How do observing systems operate, and what follows from the shift of interest from the *what* to the *how* of knowledge production by observers?

2.

Whereas in the first period of constructivism (neuro-) biological topics dominated the discourse, concentrated on concepts such as neuronal networks, self-organization, self-reference, autopoiesis, operational closure, autonomy, and so forth, the interest in socio-cultural and media aspects of cognition and communication has step by step come to the fore in the last 20 years (see Schmidt, 1994, 2010). Of course, I cannot go

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into the details here; nevertheless I shall try to outline at least some essentials of the observer story with a special emphasis on problems of language and meaning.

3.

Generally speaking the most important consequence of taking the observer problem seriously consists in the fact that in that case nothing remains self-evident (or “neutral”), and second-order observation renders everything *contingent*—of course only in principle, since in practice, operating as first-order observers, we rely on successful experiences in our activities as well as on unquestioned evidences in our argumentations. W. Stegmüller (1954) has already convincingly argued that in scientific communication as well unquestioned evidences serve both as points of departure and as final legitimations.

Consequently, when we talk about something, we have to qualify our observational position in order to become explicit and understandable in scholarly communication. This exigency rules out, for example, formulations like “the text means” or “the text does.” Instead, either we as persons/observers, or the methods whose application generates *data* have to be named as the meaning-producing instances. Talking about contingency and blind spots does not at all imply arbitrariness.

It seems plausible to assume that actors, communication, and social systems, have their own system rationality. The selection and application of concepts, criteria, values, and so forth is oriented by, imbedded in, and bearing upon traditions, experiences and communications, whose offsprings, filiations, and implications can partially be observed by second-order observers who operate on the basis of their own blind spots, et cetera, et cetera.

4.

The presupposition for producing meaning can be described in terms of collective knowledge which has to be (re-)produced and applied to the processing of communicative instruments (for example natural language) in specific contexts. Since this (re-)production and application varies (more or less drastically) from observer to observer and from context to context in the course of their respective biographical and socio-cultural developments, we have to assume that the meanings constructed by semantically operative systems (= observers) by receiving and processing verbal texts, necessarily differ from one another. In a series of empirical experiments, D. Meutsch and I (1986) happened to demonstrate that these differences are marginal with regard to trivial informative texts in standardized pragmatic uses (contexts), but remarkable with regard to complex technical or literary texts in undefined reception contexts. The history of the academic interpretation of important literary works for example, backs this assumption and shows that it is due to the cultural homogeneity of the members of

a community of interpreters (with comparable blind spots of observation) that specific text-readings or meaning constructs are unanimously accepted for a certain period

As in the case of the interdependence between system and environment which mutually constitute one another, meanings, too, are not attributed to texts in an arbitrary way although each cognitive system has to perform this attribution him- or herself, since the degrees of freedom in this operation are socio-culturally determined by the materials, rules, conventions and orders of communication.

The question whether the text or the cognitive system is the arbiter in deciding conflicts has therefore to be reformulated. The signs of language semiotically *materialise* communicative experiences. They do not refer to non-verbal entities in “the reality” but to our common sense knowledge of possible reference, that is, signs refer to a *social praxis*. Perhaps one might say that the meaning of a word is the set of its acceptable uses in communication, that is, in culture(s).

In his brilliant doctoral thesis, H. Feilke (1994) has argued that the sociality of language manifests itself primarily in the forms which result from, and in turn orient, linguistic behavior in a society. Consequently, the discourse on language and communication is well advised to look for descriptions which sufficiently respect modes and degrees of self-organization instead of linear causation between text and cognition. In my view, the regulation of meaning production happens in the closed circle (who knows how many loops it has) of operations and orientations between the poles of cognition, media, communication and culture, including structural as well as genetic aspects. Like reality, which emerges as a kind of viable allo-reference for such circular operating, meaning, too, is not mine or yours, but our culture's in you and me. It results from the empirically conditioned operation of observers; but it is system-dependent and therefore continually changing (a favorite deconstructivist topic).

5.

Heinz von Foerster has told us that we have to keep in mind that *reality* or *environment* has to be defined in relation to observing systems and vice versa. Experience, in my sense, integrates sensory/perceptual, motoric, and conceptual elements, it interweaves operational as well as ontological knowledge. J. Piaget as well as Maturana or Varela have continually emphasized that human experience and knowledge gathering are modes of effective acting in cultural traditions. If—by equally respecting system and environment as mutually defining instances—we replace the concept reality by the concept oikos as the domain which is determined by the activities of observers, or if we follow the argument that what counts as an observable phenomenon is a function of observing processes in the orientational framework of the respective epistemic community observers live in, then the objectivity of experiences has to be determined in terms of making, communicating, and evaluating experiences. The mental representations of our environment must then be regarded as mapping or coordinating relations, not as images. We do not mirror things, but our handling of those things in actual contexts.

6.

If we thus conceptualize oikos in terms of a linguo-cultural Gestalt(ung) which can neither be reduced to “the external reality” nor to an intentional subject as its author or creator, then we have to admit that the scientific production of knowledge happens primarily on the level of communication in the framework and under the conditions of the social system science. Science may then consequently be characterized as the methodical construction of knowledge on the basis of an elaborate network of concepts (which defines one of the differences between every day and scientific production of knowledge).

From a communicative point of view, scientists and scholars do not handle stable realities but communicatively stabilized distinctions and descriptions in the experiential world of a specific society. Objects of perception in this world can be described with von Foerster as symbols for eigen-behavior which become stable if the recursive application of cognitive operations to cognitive operations does no longer produce changes of state.

With regard to the observation that, in principle, all distinctions we apply might be replaced by others, though *practically observing* (= distinguishing) systems have good reasons to apply hitherto effective distinctions, it seems plausible to abandon all kinds of dualistic approaches in epistemology and to concentrate on cognitive, communicative and practical processes all of which have a threefold character consisting of agents, the performance of processes, and the results and consequences of processes. Observation is a good example for the far reaching argument that what we treat as an object is the (highly conditioned) function of a process and cannot be separated from the very process without falling into ontological traps.

7.

Let me sum up some of the consensual features in the debate on observers in the last decades as inspired by Heinz von Foerster.

- Whatever is said is said by an observer to an observer.
- The observer does not observe in a neutral way from outside; instead he/she is enmeshed into the process of observation.
- The properties of the observer and the properties of the observed cannot be conceptualized independently from one another.
- Observation processes depend upon the body of the observer.
- The distinctions an observer applies are the distinctions of the observer and not those of the environment or the reality.
- The existence of the observer is constituted by/through the process of applying distinctions.
- Distinctions are not stable identities but unstable formations.
- Acting and gathering knowledge are inseparable from one another.

- Reality results from observing processes.
- Observations produce their ontology by externalizing their results of observation.
- The observer is responsible for his or her observation processes.

In sum: Heinz von Foerster by telling us the observer story has paved the way to a strictly process-oriented and non-dualistic epistemology—at least my own way (Schmidt, 2010) would not have been possible without his ideas.

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