Aufsatz

Choice, responsibility, risk

Terror and second-order cybernetics

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Abstract

It is not a simple task to determine an ethical imperative within the framework of second-order cybernetics. The same holds true for violence inasmuch as the theme and/or aspect is present only in its absence, as void space in the works of Heinz von Foerster and Niklas Luhmann. My research has been motivated by this absence, since it is evident in emphatic points of the texts and in the course of the authors' careers as well. In the following I will analyse paragraphs taken from autobiographical essays, interviews and studies to find the origin and function of the above-mentioned lack.
Keywords: systems theory, second-order cybernetics, violence, ethics, risk

I.

> The ethical imperative: Act always so as to increase the number of choices.
> (Heinz von Foerster)

The title of this paper refers to Heinz von Foerster's essay (*Ethics and Second-Order Cybernetics*), in which he depicts the close correlation of these two notions, a correlation that may sound rather surprising at first. Those who are familiar with Foerster's elegant style rightly suppose that instead of univocal definitions the argumentation unfolds through a series of questions and seemingly contradictory propositions. This is of course not only a problem of style, paradox is one of the main tools of cybernetic

thinking, and it may be very hard to define cybernetics devoid of paradox. To determine an ethical imperative within the framework of systems theory is surely not a simpler task. The same holds true for violence inasmuch as the theme and/or aspect is present only in its absence, as void space in the works we treat here. My research has been motivated (or irritated) precisely by this absence, since it is so evident in those emphatic points of the argumentation – and in the course of the authors' careers as well – that shocks the reader. The lack of the staging trauma – as traumatic experience of a scholar – is obviously not a scholarly starting point, so in the following pages I will analyse paragraphs taken from autobiographical essays, interviews and studies to find the origin and function of the above-mentioned lack.

Although Foerster's essay does not tell us how the method or paradigm termed second-order can be defined exactly, the interview following the essay comes up with a surprisingly clear and plain explanation. While early cybernetics is interested in describing the purpose, goal, end, function and operation of observed living systems, the method Foerster and others propose and follow forms the cybernetics of the observing systems. The former presuppose an independent observer, the latter a participant actor who cannot be detached from the observed processes. The first-order cybernetician, according to this logic, shares the original sin attributed to the traditional scientific methodology of presupposing an observed world that is independent of the shortcomings or subjective prejudices of the scrutinizing scholar. For Foerster this is an ill-fated illusion. The binary opposition of the objectivists and second-order observation recurs in different forms throughout the oeuvre and entails an explicit moral coding brought about by the notion of responsibility.

> Objectivity is the phantasm that it was possible to observe without an observer. The reference to objectivity is the denial of responsibility (von Foerster & Pörksen 2003: 111).[1]

The question arises as to how it is possible then to take responsibility. Foerster's answer is rather straightforward and – at least formally – simple. There is only one way: we have to accept that „there is no independent reality, only our understanding of the world which we construct individually and may not match with that of any other individual" (Ramage & Shipp 2009: 181). To lean on any external certainty is weakness, and serves the interest of a political power, an institution or social hierarchy whose aim is to defer individual responsibility. „This is" – I quote Foerster – „the Pontius-Pilatus phenomenon: one has nothing to do with what happened, one washes one's hands in guiltlessness" (von Foerster & Pörksen

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[1] From interview with Bernhard Pörksen, translated from German.

2003: 113). Foerster builds a whole theory of ethics on these arguments, although he refrains from calling it a theory. Ethics is not a theory since, as Foerster quotes Wittgenstein's Tractatus in his own translation: „It is clear that ethics cannot be articulated" (von Foerster 2003: 290). If ethics becomes explicit, language degenerates into moralization. Ethical positions are essentially individual and bound to action, to the situation in which they arose. Foerster, with a tricky paradox, links ethical behaviour to an active participation in social interaction: „a person who considers oneself to be a participant actor in the drama of mutual interaction of the give and take in the circularity of human relations" knows how to think and act through his interdependence. The independent observer – based on moral codes – seeks to tell others how to think and act (von Foerster 2003: 289). This almost anarchistic relativism (Segal 2001: 131) finds its climax in an often quoted imperative: „Act always so as to increase the number of choices" (von Foerster 2003: 227). The ideal is absolute respect for the acting individual, and any institution or power source that may keep the individual under control is a moral (here: unethical) constraint of autonomy, autonomy equated to the variety of possible choices. Choosing from this variety – as choice can neither be shared nor falsified – provides the individual with absolute freedom and absolute responsibility.

So the individual must take part in social interaction without accepting any authority above his or herself, any exterior world construction or social regulation. This interaction takes place in the form of an idealized dialogue, in which there is no place for rules, dominance or violence. „Cooperation, not competition, is the sine qua non of social existence" (Segal 2001: 2). Dialogue is so important in the scientific world and practice of Foerster that he is regarded as the „Socrates of cybernetics" (von Foerster & Pörksen 2003). Foerster uses the metaphor of dance and resonance to describe this cooperative and performative use of language.

In the following we seek to disclose some examples to show the price this theory has to pay for being unable to account for any experience of unbalance or violence. In a „Socratic" dialogue Foerster replies to a slightly provocative question with a laugh and the following remark: „This is one more reason why I love women!" Foerster obviously remains blind to the – sexist – speech-act when despising the female interviewer. The same holds true of the imaginary through which the heaven of human verbal inter-action is staged:

> When you tell your story, you tell it as it was: the magnificent ship, the ocean, the big sky, and the flirt you had that made the whole trip a delight. But for whom do you tell it? That's the wrong question. The right question is: with whom are you going to dance your story, so that your partner will float with you over the decks of your ship, will smell the salt of the ocean, will let the soul expand over the sky? And there will be a flash of jealousy when you come to the point of your flirt (von Foerster 2003: 296-297).

Whether the trip, the so-called flirt and the story told was truly a delight for the partner who stayed silent in the story will never be known. Maybe it was. And maybe Yveline Rey really enjoyed the frolicsome remarks of the 74 year old professor. But the doubt remains: is it possible at all to realize and stage personal violence (and the trauma it engenders) within the framework of this constructivist model of dialogue and ethics?

And what about violence on social and cultural level? Is there a way to represent or treat it in this context? The question has been asked by eminent readers of Foerster's texts, although in a very different manner, situation and modality. In his book, the monographer, Lynn Segal, an enthusiastic admirer of Foerster's doctrine – which forms a sharp contrast with Foerster's own doctrine that one shouldn't believe in any doctrines – goes so far as to identify one of the main stakes of this constructivism as „an abiding concern for the present state of the world and its humanity."

„In the final analysis, constructivism's moral concern is to reduce monsters of reason – fascism, genocide, nuclear war, and totalitarianism – by revealing the nature of the dreamer" (Segal 2001: 2). The word dreamer refers to the title of the monograph: *The Dream of Reality*. But neither Segal's book nor Foerster's argument give a clue as to how revealing the world as an individual construct could result in eliminating monsters. And if we continue the paraphrase: is it not disturbing enough that those monsters, as the beasts on Goya's aquatints, are only nightmares?

Maybe Bernhard Pörksen saw this blank spot clearly when, in a dialogue entitled *Responsibility for the world*, he asked Foerster about the actual suffering present in the world. The answer is telling:

> Of course a lot of terrible things happen, but there are all those great and small disregarded heroic deeds to which we pay no attention (von Foerster & Pörksen 2003: 117).

This gesture of turning attention away from „terrible things" radically questions the potential of „reducing the monsters", the past and present terror in the world. (Or it gives the statement an ironic reading about the potential of constructivism to play down terror and trauma to the level of dreams.) This potential is measurable through another answer of Foerster's to the question as to whether aggressive propaganda material aimed at triggering violence – like that of the new-fascists – should be banned or not.

> I don't think censorship works. It just makes everything worse. My proposition would be to illustrate the absurdity of neo-fascist ideas through other ideas, for which the opportunity to be disseminated must also be granted (von Foerster & Pörksen 2003: 25).

Any limitation of possible world constructions confines the number of choices – and in this way individual responsibility. From this perspective

not only censorship of violent ideologies but any social or memory institution established to prevent the return of terror would be unnecessary or even unethical. This may seem even more strange in the light of the fact that not just Foerster, but a number of his colleagues, later called cyberneticians at the Biological Computation Laboratory, happened to escape to the US from the terror of World War II and its aftermath, so directly affected by (the fear of) terror.

Although it is impossible to define a united ethical stance in cybernetics, Foerster's individual anti-moral certainly does not stand alone. Just as a short interlude I would like to refer to works that have become blockbusters in the Humanities and prove to be the most popular branch of cybernetics. Biological models, and neurobiology in particular provided one of the main inspirations in the process in which cybernetics has taken shape through the Macy conferences and beyond. The Bio-Logic, as Foerster's essay from the early 1960s clearly shows, provides indispensable models in any field of systems theory. But the use of biological models to understand organisations on the individual and social level may have strange connotations. Reflection on this traumatic memory of biological determinism is not prevalent in this research field. The following quote comes from a less quoted publication from the 1980s.

> I know, of course, that most social scientists are shocked when reminded that social phenomena are not independent of the biological base that we are trying to ignore for all too traumatic historical reasons. But this aversion should not prevent us from scrutinizing biological findings for their relevance to the social sciences (Hejl 1984: 62).

Maturana and Varela in their path-breaking works from the 1970s and 80s use biological models to understand and reflect self-organizing or autopoietic processes without referring to the traumatic prehistory of biologism. They provide an ethical self-legitimating rhetoric that resembles Foerster's morality – at least inasmuch as it goes back to the inescapable individual construction of truth and to relative, private value systems.

> If we know that our world is necessarily the world we bring forth with others, every time we are in conflict with another human being with whom we want to remain in coexistence, we cannot affirm what for us is certain (an absolute truth) because that would negate the other person. If we want to coexist with the other person, we must see that his certainty – however undesirable it may seem to us – is as legitimate and valid as our own (Maturana & Varela 1987: 245).

II.

> Was nicht workommt, wird vergessen.
> (Niklas Luhmann)
> Who is going to prevent the next holocaust?
> (Ulrich Beck)

In the second part of my paper I will focus on a sociologist whose books are surely more popular, and who is, at least in Europe and in particular in Germany, much more influential and also more controversial than Foerster. Although they share a great number of common models and notions, from non-trivial machines to operative closure, from Spencer Brown's mathematical calculus to neurobiology, it is hard to find any identical proposition by Foerster and: Niklas Luhmann.

One obvious example of the divergent correlation is the opposition of first- and second-order observation. For Foerster the former is a naïve, dangerous, outmoded paradigm of scientific and everyday thinking that should be replaced by the latter in approaching the world. For Luhmann first- and second-order observation are interconnected ways of seeing. The first-order observer is looking at the world, the second-order observer is looking at the different modes of first-order observation, focusing on different aspects and views. For instance, the historian who seeks to describe how the Holocaust took place, identifying the victims and the perpetrators, is performing a first-order observation. A conference aimed at examining and comparing different Holocaust representations functions as second-order observation.

The second example of the contradictory correlation of Foerster and Luhmann is the imperative of augmenting the number of possible choices. Whereas Foerster anthropomorphizes Ross Ashby's Law of Requisite Variety „which states that the variety of actions available to a control system must be at least as large as the variety of actions in the system to be controlled", the „anti-humanist" Luhmann eliminates any possible moral interpretation of the proposition. Obviously closer to the original logic of Ashby's systems theoretical argument, Luhmann regards free capacity of choices in the system as a prerequisite for its survival. And the process that is responsible for providing free capacity is forgetting.

> The main function of memory is forgetting – that is: disburdening the system of determinations of its past states. Only in this way is it possible to provide free capacity for new operations (Luhmann 1996: 277).

(Interestingly enough, this Luhmann sentence quotes Foerster's early book on the quantum mechanical model of memory, which Foerster himself does not integrate later into his own argument on ethics.) The quote is taken

from a late Luhmann paper entitled: *Das Risiko der Versicherung gegen Gefahren*. To my knowledge this is the only text where Luhmann uses the term „trauma".

But is it not risky for a living system to forget its previous states, which may include traumas, conflicts, destruction, past states that should be avoided in the future? Ulrich Beck, well-known German theoretic of risk and the father of the notion „world risk society" treats traumatic memory in exactly this function.

> The Holocaust in particular has opened our eyes to the depths of barbarism possible in a technologized civilization and has impressed on us the need for cosmopolitan standards, which have since become the global moral horizon of 'reparations' (Beck 2006: 39).

Beck connects directly the traumatic past to present anthropological experiences of fear that characterise the risk society:

> People today no longer correspond with spirits residing in things, but find themselves exposed to 'radiation', ingest 'toxic levels', and are being pursued into their very dreams by the anxieties of a 'nuclear holocaust' (Beck 1992: 72).

Beck sharply criticizes Luhmann for the „unpolitical" stance of his systems theory, and the above citation of Luhmann's argument on risk makes clear that it is impossible indeed to use his argument in a political discourse (or at least to use it in a pragmatic way). At the same time the shortcutting of Holocaust memory and propagation of a political vision of the cosmopolitan state would surely be beyond the scope of science from a Luhmannian perspective (Beck 2006: 313). From this angle Beck's method is a first-order observation since he is not interested in how the Holocaust as a global point of reference is formed and he forgets to cope with forgetting that forms the framework for remembrance. (There are other blind spots in Beck's argument concerning the divergent influence of and reactions to the globalization of Holocaust memory, but these are not questions to be touched upon here.)

Is there any chance of preserving and utilizing a past experience for the future in the process of the system's autopoiesis according to the luhmannian theory? The problem is that the difference of past and future is rewritten through each decision made by the system in the present. The present as a result of the past and the future as a range of possible outcomes of the present decision is dynamically reconstructed in each situation when one considers a chance influencing the future. The stability and meaning of the past in this regard is not and cannot be granted by stable institutions, semantics or objects, only by recurring activities in which the subject takes part as an active, decisive component.

Luhmann does not care much for the identification and preservation of traumatic experiences to decrease the risk of their return. Although he

himself speaks about his own war trauma and frustration in interviews, war, terror and violence remain marginal in his huge oeuvre, and the handful of occurrences are devoid of surveying their possible destructive aftermath. There is only one domain in which his systems theory makes at least possible the staging of such experiences with a chance of influencing the observer and through him the future of society. This domain is art, or more precisely, works of art.

There is no need to evoke the whole argument, which appears in his book *Art as a Social System* in which Luhmann unfolds the social function of the artwork in modern society. In the following I will try to indicate the points of the complex theoretical construction that demonstrate the work of art's ability to play the above mentioned unique role.

In Luhmann's theorem everything that is not in use, that is not activated by recurring processes, is doomed to be forgotten, since the living system is enclosed in the present, and the differentiation between past and future, and the difference between remembering and forgetting built on it, is permanently recast. Only a work of art is capable of reflecting the arbitrary nature (the contingency) of the link between past and future by staging different decisions and their possible consequences. The observer takes an active and reproducible part in the interplay with the work of art by making his own decisions applying the rules of the game – the rules of which are constructed by the work itself. This process takes place at the level of second-order observation through which the blind spots of first-order observation come into view.

> Literary works can stage second-order observations for the reader […] They invite the reader to observe his own observations and to discover previously unacknowledged idiosyncrasies, prejudices, and limitations. What makes an artwork beautiful – not only pleasing upon first sight but interesting – is precisely the suggestion that second-order observation is at stake (Luhmann 2000: 87-88).

The reception of art as a process is unique, as meanwhile decisions of tragic outcome can permanently be rewritten into the present. Through the observation of a work of art, possible pasts are enacted as they directly influence the fictive future. And through the second-order observation of fatal decisions, art may have the potential to influence the future – the future of the individual and society.

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