his sociological observations of modernity) reflect the social condition of plurality and diversity within modernity. The so-called postmodern condition – the end of the *métarécits*, the equivalence of different types of discourse, the experience of contingency, etc. – makes second-order cybernetics possible, and *vice versa*. In our society, there is no ontological or social foundation for a transcendental or privileged holier-than-thou position. Knowledge always depends upon particular distinctions. But this condition does not preclude that the distinctions that are used to observe are observed, nor that the question is raised of why this and no other distinction is drawn. This way, it may be added, one can safeguard the option of thinking and acting in *different* ways. This way, one can also find out whether social factors privilege particular distinctions, and hide them from explicit examination. This way, one can explore the viability of particular alternatives within the modern, functionally differentiated society.

« 8 » The notion of contingency thus needs to be understood here in terms of the *historical* contingency of particular social forms (see also Vanderstraeten 2002). It refers to the path-dependency of particular choices, and to the possibility of highlighting the potential of particular "forgotten" or "excluded" sides of the existing, socially institutionalized distinctions. An objective standard or criterion to assess the scientific value of this approach fails. In line with a well-known pragmatist device, it may be argued that the usefulness of this approach is proved or disproved by its scientific outcomes. The proof of the pudding is indeed in the eating, as Matuszek (§34) rightly asserts.

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Ontogenesis, or: If You Want to Study Ontology, Do not Use Ontology

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> **Upshot** · Matuszek omits the decisive notions of autology and re-entry in order to construe and subsequently find Luhmann's ontology. What is more, the whole endeavour to discover ontology in Luhmann's work is questionable. It misses the point that a systems theory based on operative constructivism is obviously developed for researching ontogenetic processes.

« 1 » It is well known that Niklas Luhmann strongly rejected ontology as a foundation for sociological theorizing. The reasons for this refusal of ancient philosophy's search for essences are apparent. An ontological stance breeds questionable notions that turn out to be obstructive for sociological research: a treatment of objects and subjects as isolated entities; a seemingly natural connection between intention and action; things and entities with inherent attributes; individuals as taken-for-granted building blocks of social structure; or causality as the chief explanatory principle. The dismissal of classical ontology and its essentialist implications is neither new (e.g., Cassirer 1910), nor was Luhmann the last to highlight its inability to address problems of current sociological research (Abbott 1995; Bhabha 1994; Emirbayer 1997; Fuchs 2001; Somers 1994; White 1992). Luhmann's radical rejection of the so-called "old European thinking," however, regularly provokes scholars such as Arlena Jung (2009), Andreas Reckwitz (2004), and Gerhard Wagner (1997) to demonstrate that he is far from meeting his own requirements. Much effort is spent on uncovering the underlying ideas of identity, substance, and purity that ostensibly guide his research. Krzysztof Matuszek adds another contribution to this line of argument. He collects evidence about how Luhmann secretly relies on some existing reality when he chooses the epistemology of an observer-dependent re-

ality. In conclusion he states that Luhmann's "project of de-ontologization remains incomplete" (§51). In this vein he also claims that constructivism has to develop a sensitivity to the ontological implications of any epistemological choice. Neither his particular nor his general claim are tenable when operative constructivism in its sociological form is taken seriously.

« 2 » My comment refers less to Matuszek's interpretations of Luhmann's theory, which are mostly sound and profound (though they are certainly not "new," §41). Rather it concentrates on the omissions and how they first create the ontology that is then discovered. Matuszek's text particularly avoids reference to autology, re-entry, and paradox. Thereby the backdoor is opened for ontological interpretations. Moreover, these empirically anchored concepts are indispensable for a constructivist program, which is set out to understand *becoming* rather than being. The scientific challenge – especially for constructivism – is not ontology but *ontogenesis*. An ontologist might look for ontology notwithstanding. No problem. Language makes it easy to spot ontological gateways. But the point is to recognize that with operative constructivism, the whole problem construction has shifted. One peculiar consequence of this shift is precisely the breakup of the connection between epistemology and ontology. In other words: constructivist epistemology facilitates descriptive ontogenetic explanations of ontologies – that is, it gives an account of (and accounts for) the beings and non-beings that make up a reality for related observers at a specific time and place.

Luhmann's tenet

« 3 » It is important to record in this context that the deconstruction of ontology has never been Luhmann's main focus. Instead he rather looked for ways to deal with the contingency and complexity of social phenomena. Now, this research interest precluded any recourse to essential properties from the outset. The relevant empirical problem was to find ways to describe the fact that contingency is managed by temporally ontologizing distinctions, things, systems, ideas, or words in social life. In practice contingency is suspended by necessities. Indeterminate states and situations are tempo-

rally determined. Stochastic process is structured by a condensation of stable entities and their iterative confirmation. Catching this dynamic by looking for essential attributes of predefined human and non-human entities is futile. Thus *if you want to study ontologies you had better not start with ontology*. This is Luhmann's tenet, as it were. Correspondingly, sociological systems theory is a kind of continuously updated response to the associated research issues. Its bootstrap routine is to distinguish system and environment. Based on this routine it is able to reconstruct any essence, substance, or identity as contingent on some observing system and its environment. Any essence and stability then becomes a historical matter.

Autology

« 4 » The interesting, yet sometimes disturbing, thing about social systems theory is that everything it contends also applies to itself. Its concepts have no essence or stability beyond their relation to other concepts. They are as historical and, in principle, subject to deconstruction as any other social phenomenon. This aspect is subsumed under the term *autology*, which indicates the logic of theories that apply to themselves. For example, Luhmann had to treat his theory of society as a part of the society he theorized. This means that systems theoretical observations are operationally equivalent to any other observation. Thus there is no epistemological edge in doing systems theory. Matuszek insinuates that this is the case in order to make sense of his argument (§21). When he contends that Luhmann does not ask for "the observer of the system's observation" he disregards the autological architecture of social systems theory. Distinguishing first- ("naive") and second-order observation does not separate systems theory on the one hand and native observers on the other. It is not a distinction of two mutually excluding categories. Rather *any second-order observation is simultaneously a first-order observation*. Remember that this applies both to theory and practice. It is not even a matter of degree, that is, system theorists do not use more second-order observations than other acting entities. This form of reflexivity makes systems theory well aware of its own constructions as an observer, which of course includes the systems it observes. Taking this autological aspect

into account, Matuszek's arguments about the underlying reality/construction distinction in Luhmann's thinking (§§22f) begin to crumble. If any second-order observer is simultaneously a first-order observer than it makes no sense to impute a linear difference, as Matuszek does when he asserts that the theory starts with naive realism and ends with constructivism (§24). The theory's dynamics is not due to this proposed linear sequence. It is the *simultaneity* of first- and second-order observations and the thereby induced ambiguity that is responsible for the dynamics of theory and practice. In sum, reality and naivety are constructed as much as constructivism is naive and very real at the same time. Matuszek acknowledges the latter point (§§47f) but skips the connection to autology, second-order cybernetics, and temporality that embed and explain it. Obviously these concepts would have spoiled his attempted demonstration of a hidden ontology.

Re-entry

« 5 » Matuszek's main omission involves the *re-entry* of distinctions. This can be illustrated by looking at the paragraphs where he first expounds his claim. He starts with a concise and striking description of Luhmann's idea of cognition and the relevant formation of identities by the process of condensation and confirmation (§12). This is nothing less than the theoretical ground for ontogenetic explanations (Luhmann 1990b: 14–30). With respect to the epistemology/ontology discussion, one should take into account that these conceptual choices have their origin in George Spencer-Brown's calculus of indications (1994). Matuszek leaves this unmentioned – which is not a problem in itself of course. But it becomes a problem in his further proceedings.

« 6 » In order to place his claim, Matuszek continues in the next paragraph (§13) by citing a passage where Luhmann explains his constructivist notion of reality. To clarify his point, Luhmann contrasts constructed reality to the empirically prevalent notion of reality, that is, to what we mean when we refer to "reality" in everyday life ("Die konstruierte Realität ist denn auch nicht die Realität, die sie meint…," Luhmann 1990b: 50; this is the original quote to which Matuszek refers). This distinction is just a didactical

habit in order to stress (a) the refusal of any solipsistic interpretations and (b) the biophysical embeddedness of systems. However, opinions may differ with respect to the meaning of this passage. Alas, adopting Matuszek's epistemological interpretation does not solve the decisive issue. That is because in his final move in §13 he declares the *distinction* between observer-dependent/observer-independent reality as ontological in itself. He presents a distinction as ontology. At this point the pivotal concept of re-entering distinctions must not be ignored. But that is exactly what Matuszek does. He locks the dynamic of the distinction virtually down to make it appear ontological. In contrast, a re-entering distinction creates an imaginary value that subverts the distinctive properties of the constant distinction (Spencer-Brown 1994: 61f). To what effect? In a re-entry an observer is not able to determine which side is currently in use. This side is that side is this side is that… Thus constructed reality takes itself for real. The observation of a constructed reality that is taking itself for real, takes itself for real, too. There is no escape hatch and, what is more, there is no need for an escape hatch. I agree with Matuszek when he states that all this is just the reality of systems theory (§§42–46). Perhaps it is even just the reality of the observer Luhmann. However, this neither comes as a surprise nor is a problem for a theory attuned to autology and re-entering distinctions.

« 7 » It might sound odd, but much of this is well-known to Matuszek (§25). His summary of Luhmann's highly relevant further positions regarding this issue is also striking (see §§26–28). But his conclusions remain skewed as long as crucial notions are left out. Distinguishing, for example, a naive from a critical constructivism as a consequence of the insight that "the distinction between reality independent of observation and reality as a cognitive construction" is itself a construction demonstrates once again the onto-categorical effects of omitting re-entries. The *ad infinitum* of the theory's self-reference then adds almost naturally. It conceals the further aspect that Luhmann's last resort, as it were, is not infinity, but *paradox*. This is actually one thing the sonars of the theory can detect at some imagined bottom (§28).

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Paradox and time

« 8 » Paradoxes are unfolded (or made invisible) by deploying particular other distinctions. The detection of this practical process is part of the ontogenetic program that Luhmann has been pursuing with reference to Spencer-Brown's *form* (1994) and Heinz von Foerster's *eigenvalues* (2003: 261–271). The indeterminacy produced by being stuck in paradox is determined by generating *time* and thus initiating *process*. The value of a re-entering distinction is imaginary but "it is real with relation in time" (Spencer-Brown 1994: 61). Such a becoming of the world with all its objects and subjects is the decisive conundrum. Additionally, von Foerster shows that by taking the recursivity of such processes into account we are able to understand this peculiar construction process, which leads to eigenvalues we call "objects." Thus acknowledgement of self-reference does not necessarily lead to paradox. Ontology would now ask "what" these objects are. It thereby renders them scientifically inexplicable. Luhmann instead always asked, like many other sociologists, "how" phenomena, for example objects, institutions, media, risk, arts, politics, love, or organizations come about. Any disclosure of underlying ontological ideas in Luhmann's theory has to take this into account. Does the pretended ontology undermine attempts at solving the puzzle of becoming? If not, then it is simply a part of academic assertiveness that makes no difference for research.

Ontogenetics

« 9 » Admittedly, there is a thin understanding of ontology circulating, especially in Anglo-American academia. It refers to the basic assumptions and inviolable conditions a researcher pursues with respect to the subject of research. Within such an understanding everybody cherishes an ontology of course: an ontology of separate things vs. a relational ontology (Suchman 2007: 257f), a processual ontology (Abbott 1995), a materialistic/idealistic ontology, or maybe a constructivist and systems ontology respectively. Michael Halewood (2005) even brings in a "non-essentialist ontology." As discussed above, Luhmann's critique refers to a different understanding of ontology, which is almost antithetical. A non-essentialist ontology then appears as an outright contradiction. Yet if somebody wants to characterize Luhmann's ontology in this thin way, than it probably could be termed operational/processual ontology or a non-essential ontology of distinctive events. Sometimes it seems that Matuszek aims at such a thin understanding of ontology. This is suggested by his idea to call a *distinction* ontological. If this is the case, however, than the reproach that Luhmann does not meet his own anti-ontological requirements becomes obsolete.

« 10 » There is still a much more serious issue involved here: Can distinctions be ontological?[1] To be sure, such an assumption would contradict most of what we conceptually know about distinctions and their form. Spencer-Brown is one major reference here, yet Gregory Bateson is very instructive as well (1972: 454–471): distinctions and differences are situated but they have no substance and no place. It is impossible to localize them, even though they are materially inscribed. For this reason they are not suitable for ontology, with its causal, essentialist world view. Matuszek does not seem to be concerned about this. By the same token he claims that Luhmann's ontology is composed of three specific distinctions: system/environment, operation/observation, and reality/construction (§40). These distinctions are indeed necessary (except the last one). But not for cognition in general – only for the cognition of systems theoretical observers. Observing systems as constructions is no precondition for cognition. If we were to demand ourselves and others to reflect continuously the constructionist character of ideas, beliefs, identities, situations, and actions, it would become at best ridiculous. So Matuszek confounds two aspects when discussing "the limits of contingency," which are crucial for his argument (§§36–41). Propositions about the contingency of distinctions refer to the *world* (which is a particular concept of systems theory and should not be confused with essence or reality); yet they do not refer to the distinctions one chooses when it comes to building and organizing a theory of cognizing systems.

However, this neither counters self-application of the theory nor does it preclude making claims about the truth, empirical importance, or universal applicability of the relevant distinctions.

« 11 » To conclude, Matuszek's idea of ontology is decoupled from what Luhmann criticizes as ontology (which he is aware of – hence his cautious phrasing in §51). Therefore the apparently discovered ontology does not demonstrate the incompleteness of Luhmann's de-ontologization. Further, he omits central notions such as autology and re-entry that would have helped to recognize the quirks of systems theoretical de-ontologization. Moreover, his "new interpretation of Luhmann's theory" (§§40f) causes amazement: it consists of the discovery that the distinction of system/environment is necessary for doing systems theory. Luhmann has always instructed his readers and students that the first thing to do – if you want to do systems theory – is to distinguish system and environment. So Matuszek's "new interpretation" turns out to be the common general systems theoretical injunction *per se*.

« 12 » This critical comment notwithstanding, Matuszek makes some good and interesting points. Some of the indicated differences are indeed very small and may even appear pedantic, but the effects of these differences are consequential. Generally, all these problems come up when the switch to the research problem of ontogenesis is neglected. Subscribing to ontogenetics means having an epistemology without falling into the trap of ontology – or in the most simple form:

" Experience is the cause.
The world is the consequence.
Epistemology is the rule of transformation. "
(Foerster 1985: 519)

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1 | Note that this is not the same as the ontogenetically motivated question about the distinction that brings forth an ontology – e.g., being/non-being for the ancient Greek ontology.