Introduction

1. In the literature concerning the theory of social systems, interest in epistemological and ontological questions has increased in recent years. The controversies regarding a realist vs. constructivist interpretation of Luhmann’s theory, as well as the concept of many realities that correspond to many ontologies, deserve attention. These two disputes are closely interconnected. William Rasch poses the question: “Does the decline of ontology as a metaphysical project mean that epistemological statements have no ontological implications anymore?” (Rasch 2013: 44). In this article I propose an interpretation according to which systems theory is based on an epistemology – radical operative constructivism.

2. The main issue the article addresses is the question of ontology in Luhmann’s theory. It is known that the author of Die Gesellschaft der Gesellschaft rejects ontology, perceiving it as the self-description of a pre-modern, hierarchical and centralized society. In response to Luhmann’s de-ontologization, I would like to show that accepting certain epistemological assumptions makes it impossible to avoid ontological concepts completely. Such a position has to face some theoretical problems within systems theory, among which the thesis about the contingency of all theories poses the biggest challenge, for ontology was traditionally perceived as the prima philosophia in search of first principles and a final justification of truth. However, I shall start with a reconstruction of Luhmann’s critique of ontology.

The end of ontology?

3. Luhmann defines ontology not by referring to what ontology is for ontologists (that is, the philosophical study of being in itself, first philosophy, etc.), but as the result of observation that makes use of the being/non-being distinction. “This distinction finds its inimitable plausibility in the assumption that only being is, and that non-being is not” (Luhmann 2013: 185). It is important to note that according to Luhmann, this distinction in ontology is a primary distinction, in relation to which all other distinctions are secondary. From an ontological perspective, thoughts reflect being and being confirms the world as a unity of being, because the thinking and talking observer is also a part of being. This unity occurs at the beginning – since non-being is not, there is only being – and in the end, as the unity of all that exists. Observation and what is observed make “a reality continuum” (ibid: 192).

4. “Basically there is nothing in ontologizing observing that one can object to” – states Luhmann (2009: 19, my translation), with his typical irony – “We do it every day when we look for something and cannot find it. Without holes we could neither play billiards nor recognize Swiss cheese. The problem of ontological metaphysics lies in the reduction of all distinctions, including the
observer and his truth claim, to the ontological distinction of being/non-being.

- **5** According to Luhmann, ontology is the self-description of a hierarchical and centralized pre-modern society, in which a stratified form of differentiation and center/ periphery divisions dominate. Ontological thinking presupposes the existence of a privileged observer endowed with authority, who describes and explains reality in the only correct and binding (for everyone) way.

* The differentiation form ensured a competition-free position for the right description of the world and society, namely, the apex of the hierarchy – the hereditary nobility – and the center of society – the city. (Luhmann 2013: 184)

The privileged observer instructs those who stray, corrects their mistakes and guarantees the final convergence of all observations.

- **6** Gradual changes in the social structure – the differentiation of autonomous functional systems of economy, politics, law, science and others, resulting in the emergence of the individual as a combination of different social roles – lead to the replacement of ontological questions by epistemological ones. The position, according to which the object of observation depends on the observer and every observation depends on the applied concepts, becomes radicalized. Thereby a de-ontologization of society’s self-description takes place, which consists of replacing the being/non-being distinction as the primary distinction with other distinctions such as subject/object, inside/outside, self-reference/hetero-reference and system/environment.

- **7** Ontology – recapitulates Luhmann (2013: 196) – was a semantics near to everyday thinking, but “more imposing, more solemn, more pensive.” Simple “fishermen in the Outer Hebrides” also thought in an ontological way, even if they had never heard of Thomism. A shift in social structure leading to a domination of functional differentiation resulted in a complete collapse of the ontological view of the world “even though there may well still be fishermen, even among philosophers, who have never heard of this” (ibid: 196).

### Ontological consequences of epistemology

- **8** This is, in short, how Luhmann conceptualizes ontology. Is the ontological perspective indeed a thing of the past and is it only simple-minded “craftsmen” of philosophy, unaware of social and semantic development, who still stick to ontological categories? I do not reject Luhmann’s conceptualization of ontology in general, but I would like to demonstrate – in response to de-ontologization – the hidden presence of ontological distinctions in systems theory. At the same time, it will become clear that ontology within systems theory cannot be the first philosophy offering a final explanation and justification of truth. Moreover, it is not an ontology of unity, presupposing an objective unity of being, and in this way it also deviates from traditional ontology.

- **9** The point of departure is that epistemological statements have ontological consequences. Regardless of whether we are talking about a realist, idealist or constructivist position, epistemology always gives an answer to the questions of under which conditions cognition is possible and what its limits are; in turn, what we can say about the existence of cognized things depends on the answers to these questions. In modern philosophy, ontological problems admitted become derivative of epistemological assumptions, but these problems do not disappear.

- **10** Luhmann’s systems theory is primarily a sociological theory that observes observers being autopoietic social systems. Thus, it is a sociology of economy, politics and mass media, as well as sociology of science, the cognitive sciences, scientific reflection etc.; but, furthermore, Luhmann’s theory is itself a theory of observation and cognition. It is a variant of radical constructivism, called operative constructivism, that holds that every result of cognition depends on the distinctions used. Distinction and indication of one of the sides of the distinction is observation by definition, and observers are operatively closed, autopoietic systems – social and psychic systems.

- **11** The theory distinguishes between first-order and second-order observation. Second-order observation is the observation of observation (also self-observation as an observer). It allows one to see something that the first-order observer cannot see, and even cannot see that he or she cannot see, namely, the currently used distinction. This kind of blindness is called – with reference to Heinz von Foerster (1984) – the blind spot. Every observation – including second-order observation – has its blind spot, which can be seen by observing the observation, and so on, and so on.

- **12** Observation is cognition, insofar as it results in the condensation and confirmation of certain identities of things, persons, systems, situations, etc. This way constructs are formed, which are the constructivist analogues of concepts. Constructs are structural effects of the system’s autopoiesis, and simultaneously they condition its further self-reproduction (Luhmann 1990a: 515). In a recursive sequence of systems operations, cognition justifies itself – cognition is what cognition recognizes as cognition (Luhmann 2009: 34).

- **13** In traditional ontology, thoughts reflected being and being confirmed thoughts. According to constructivism, cognition is an active construction of reality by distinctions, not a passive reception of what is directly given, and in this sense the cognized depends on the cognizer. Luhmann explains:

* In terms of cognition each reality must be constructed by distinctions and remains a construction. Constructed reality is therefore not the reality it means; and this is also recognizable but again only by means of this distinction. (Luhmann 2009: 47, my translation)

The distinction that Luhmann has in mind – though he does not express it explicitly – is the distinction between reality independent of observation and reality constructed in observation, in short, the reality/ construction distinction. At this point, the ontological consequences of epistemology become visible. I argue that this distinction is ontological because it concerns the existence of the cognized reality. Reality, which a naive realist considers in his/her first-order observation as existing independently of observation, in the light of constructivist second-order observation appears to be a cognitive construction (see Scholl 2012: 11).
theory can be perceived as a self-description of communication system. Luhmann’s reference in this case is society as the all-inclusive communication system. Luhmann’s society is also its own object of research and it observes itself as a self-description of society. Self-descriptions are the structural results of the systems’ self-observation as a unity distinguished from its environment. Strictly speaking, self-descriptions are operations of observation (and communication in the case of social systems) and systems theory as a self-description of society is observation making use of systems theory distinctions (Luhmann 2013: 175–183). The system of reference in this case is society as the all-inclusive communication system. Luhmann’s theory can be perceived as a self-description of late modernity.

We should keep in mind that, according to Luhmann, communication is irreducible to psychic phenomena (Luhmann 2008: 111). In a situation of double contingency, in which two psychic systems mutually perceive their behavior as contingent and at the same time make their conduct dependent on how the other behaves, a new order emerges – the social system (Luhmann 1995: 103–114). Communication is defined as a synthesis of three selections: utterance (Mitteilung), information and understanding. These selections are not psychic operations, but inseparable components of communication itself and there is no transmission of any content of thoughts.

Realism vs. constructivism – a question of the theory’s self-reference

Systems theory as a universal theory is also its own object of research and it observes itself as a self-description of society. Self-descriptions are the structural results of the systems’ self-observation as a unity distinguished from its environment. Strictly speaking, self-descriptions are operations of observation (and communication in the case of social systems) and systems theory as a self-description of society is observation making use of systems theory distinctions (Luhmann 2013: 175–183). The system of reference in this case is society as the all-inclusive communication system. Luhmann’s theory can be perceived as a self-description of late modernity.

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"Only communication can communicate" (Luhmann 2008: 109; see also Stichweh 2000). Communication occurs when the difference between information and the reason for its utterance is understood. That is what makes communication as a social operation different from the perception of others’ behavior, which is a psychic operation.

Communication without human beings as psycho-organic units is obviously impossible, but social systems are operationally closed, which means that they reproduce their own elements – communications refer to past communications and anticipate future ones. There is no input or output of communications. Thus, society does not consist of individuals, but it is an autopoietic system of communications. The autopoiesis of social (and psychic) systems is based on meaning (Sinn), a concept adapted by Luhmann from Husserl’s phenomenology. “The phenomenon of meaning appears as a surplus of references to other possibilities of experience and action” (Luhmann 1995: 60). Therefore, meaning enables the connectivity of communications.

Now, since the reality/construction distinction relates to every result of cognition, it also concerns systems theory as an observer. That is what makes operative constructivism radical (Luhmann 2006b: 249; cf. von Glasersfeld 1991: 16). Consequently, systems investigated by systems theory – functional systems, conflicts, interactions, etc. – are cognitive constructions. However, this position requires an explanation of those passages of Luhmann’s writings, where he seems to assume that systems exist independently of observation.

What does Luhmann mean when he states at the beginning of the first chapter of Soziale Systeme that “there are systems”? Is it an epistemological statement standing for realism in the dispute between realism and constructivism? Let us quote the relevant passage.

The following considerations assume that there are systems. Thus they do not begin with epistemological doubt. They also do not advocate a ‘purely analytical relevance’ for systems theory. The most narrow interpretation of systems theory as a mere method of analyzing reality is deliberately avoided. […] Thus the concept of system refers to something that is in reality a system and thereby incurs the responsibility of testing its statements against reality.” (Luhmann 1995: 12)

The conclusion from the passage is that it does not concern the problem of realism vs. constructivism, but the methodological status of the concept of system. Luhmann wants to distinguish his own empirical concept of system from the purely analytical concept of system, represented mainly by Talcott Parsons. Parsons conceived a social system as institutionalized patterns of interaction between actors performing social roles. “The word system is used in the sense that determinate relations of interdependence exist within the complex of empirical phenomena” (Parsons & Shils 1951: 5). The concept of system was for him an analytical tool, whereas according to Luhmann, systems are empirically observable units, which identify themselves as systems distinct from their environment (Luhmann 1995: 176–181).

The concept of system (as we use the term in our investigations) always stands for a real state of affairs. Thus by ‘system’ we never mean a purely analytical system, a mere conceptual construction, a bare model.” (Luhmann 1995: 442)

“There are systems…” is therefore not an epistemological position, but rather a statement concerning the methodology of the social sciences. With reference to the system of science, this means we are dealing with hetero-reference and not self-reference: science in this case is not busy with itself but with the investigated reality.

Thus, the considerations do not begin with epistemological doubts, critical realism or constructivism, but with naïve realism. How should one begin if not naïvely? – asks Luhmann. “A reflection on the beginning cannot be performed at the beginning, but only by the help of a theory that has already established sufficient complexity” (Luhmann 2006b: 244). Therefore, in Soziale Systeme he insists that the theory has to observe the system according to how the system observes itself (Luhmann 1995: 178) without asking about the observer of the system’s observation. But already at the beginning we find a hint that we are entering a road that leads us to the theory’s self-reference (ibid: 12–13). It is only in the self-


http://www.univie.ac.at/constructivism/journal/10/2/203.matuszek
observation of systems theory observation – self-observation that distinguishes between reality and construction – that Luhmann takes the epistemological position of radical operative constructivism, recognizing that systems – like all that is observable – are cognitive constructions.

According to the standpoint of naïve realism of first-order observation, observed systems exist independently of observation and the task of a sociological theory consists of observing observers, unveiling their blind spots, latent functions, etc. The theory as an observer making use of systems theory distinctions remains invisible to itself. It is only in the theory’s self-observation as an observer – second-order observation distinguishing between reality and construction – that systems turn out to be constructions of the theory; “constructed reality is therefore not the reality it means” and naïve realism gives way to constructivism. Not only are realities of other observers constructed, but also the reality of systems theory.

Therefore, it is evident that Luhmann is not a realist, nor does he take an intermediate position between realism and constructivism. The last word belongs to radical operative constructivism, and naïve realism with reference to social systems only has a preliminary methodological meaning. I argue that controversies concerning realist or constructivist systems theory interpretation (Christis 2001; Scholl 2012; Nassehi 2012) do not take into consideration the dynamics of the theory, which starts in an epistemologically uncritical way in order to become self-referential. However, this interpretation is possible only if we take into account that Luhmann’s introductory statement “there are systems” relates to the methodological distinction of analytical/empirical, and not to the epistemological controversy between realism and radical constructivism. These distinctions have often been confused (cf. Nassehi 1992: 43–48).

In the analyzed context, what is especially important is that the controversy itself is ontological because it refers to the reality/construction distinction. The statement that cognizable systems do not exist independently of observation is ontological, and such a statement is unavoidable since the theory’s starting point is naïve realism and its endpoint, constructivism.

Naïveté is a kind of blindness. Systems theory observation – as a current observation – remains invisible to itself. The blind spot can also not be avoided in subsequent self-references: the distinction between reality independent of observation and reality as a cognitive construction is a construction itself, therefore we could distinguish naïve constructivism from critical constructivism… and so on. The theory’s self-reference results in an effect similar to a mirror’s reflection in a mirror, or to the map of a territory where this map is laid out – it leads ad infinitum.

The problem of reality independent of observation

Is there any reality independent of observation beyond the constructed reality? Can we determine it at all? Luhmann’s answer is ambiguous. In some passages he claims categorically: “There is an outer world, which already results from the fact that cognition as a self-induced operation can be executed at all; but we do not have direct access to it” (Luhmann 2009: 32, my translation). Thus, the existence of a reality inaccessible directly to and independent of observation would be the condition of cognition in general: “Cognition can only cognize itself, though – so to say – from the corner of the eye: it can detect that this is exactly possible only when there is more than this” (ibid, my translation). But in a further passage we read:

So the question of the existence of a reality independent of observation would be unsolvable.

However, a careful consideration shows that one cannot say anything about a reality independent of observation without falling into contradiction. Since it is a reality that is independent of observation, and observation consists of distinguishing and indicating, every distinction and indication concerning this reality would lead to a contradiction. Therefore we cannot claim that there is one reality (and that the observer belongs to it), because such a unity would already be a construction. This is exactly what distinguishes the constructivist approach from traditional ontology, which guarantees the unity of the world as the unity of being, with the thinking and talking observer as its part.

We cannot say that there is one reality, but for similar reasons we cannot claim that reality is a difference. Luhmann’s theory has no foundation either in the form of a constitutive unity or a constitutive difference, if by this we mean a reality independent of observation. The theory “starts with distinctions and ends with distinctions” (Luhmann 2009: 48, my translation).

The expression “reality inaccessible directly” should also be avoided, because it suggests that there is indirect access to reality independent of observation and that distinctions are the tools of its cognition (cf. Christis 2001: 331). However, verifying this is impossible, for it would require an external observation – second-order observation of an observing system and its environment – thus, it would describe a reality already constructed. Reality is not the expected foundation: the sonars of the theory detect no bottom.

Finally, we should hold back from statements about the existence of reality independent of observation – we do not know whether it exists or not – and should remain in a position of skepticism and epistemological agnosticism. The reality/construction distinction outlines the limits of cognition. Therefore, the existence of a reality independent of observation cannot be the condition of cognition in general.

Contingent ontology?

It appears that Luhmann’s epistemology – that is, radical operative constructivism – also cannot renounce ontological observation. I define ontology within systems theory as the result of observation distinguishing reality independent of observation from reality constructed by distinctions. But what kind of ontology are we
talking about? Is it ontology traditionally understood as the first philosophy in search of first principles and a final justification of truth that does not require any further justification (John, Rückert-John & Esposito 2013: 8)?

"31" Within the framework of systems theory we will not find any foundation in the form of a first principle or a final justification of knowledge. In a recursive sequence of observations, cognition justifies itself. Moreover, one of the claims of the theory is that such a foundation is not possible, since there are no distinctions — like a priori forms and concepts in transcendental idealism — that could be considered the necessary conditions of the possibility of cognition and would justify the truth of judgments. Every primary distinction such as being/non-being, a priori/a posteriori, rational/irrational or system/environment is contingent, together with all the cognition built upon it. This means that one can start this way, but it is not necessary and one could also start in another way. Therefore, according to Luhmann, a final justification of truth is not possible and if it had been commonly accepted as such in the past, this resulted from a hierarchical and authoritarian social structure.

"32" Keeping this in mind, Luhmann rejects Immanuel Kant's transcendental idealism with its concept of subject, a priori forms and concepts of understanding (categories). For similar reasons he rejects traditional ontology, considering it a result of observation characteristic of pre-modern, hierarchical societies, in which there was a privileged observer at the top of the hierarchy, who explained the world in the only correct and universally binding way. As we know, Luhmann defines ontology not with reference to what ontology is for ontologists, that is, the philosophical study of being in itself, first philosophy, etc., but as a result of observation that distinguishes between being and non-being. Traditional ontology observed by Luhmann's systems theory constructs reality using the appropriate distinctions. Thus, it is paradoxically speaking a de-ontologized ontology and its reality is a contingent cognitive construction.

"33" Modern, functionally differentiated society also is not free of observers seeking the foundations of knowledge. This is the essence of the dispute between Luhmann and Habermas, who looks for a foundation of knowledge and binding norms in an intersubjective rationality achieved in discourse free from unconscious motives of thinking and evaluation. Jürgen Habermas (1990: 294–326) replaces subject-centered reason with communicative reason. But under conditions of functional differentiation of autonomous systems of politics, law, science and religion, no observer is able to universally impose his vision of the world, man and society.

"34" In contrast to the theory of communicative action, systems theory accepts its own groundlessness and "can stand it":

"35" Are there really no distinctions in systems theory that could be considered the necessary and universal conditions of the possibility of cognition? Is the ontological reality/construction distinction also contingent? In order to answer this question, we have to take a closer look at the problem of contingency.

The limits of contingency

"36" What does the contingency of first distinctions assumed in systems theory result from? Luhmann (2006a: 98–103) attempts to justify it with reference to the concept of first-order and second-order observation. By observing the observer we reveal what is currently invisible to him, that is, the distinction he uses. But does revealing what is hidden have to lead to the conclusion that it could be different? Does revealed latency (cf. Luhmann 1999b: 257–258) necessarily (?) become contingent? The author of Beobachtungen der Moderne signals that contingency seems to be a constant feature of modernity, but can a cultural diagnosis replace theoretical justification?

"37" I argue that the contingency of primary theoretical decisions cannot be justified only with reference to the concept of first-order and second-order observation; rather, it requires a certain epistemology. This would be the radical operative constructivism that rejects both epistemological realism, with its assumption of the adequacy of distinctions used with reference to reality independent of cognition, and Kantian transcendental idealism, with its a priori forms and concepts. Only on the grounds of such an epistemology can the contingency of theories and their constructed realities be justified. The point is that this constructivism determines the limits of contingency at the same time.

"38" Radical operative constructivism is a meta-theory or meta-perspective in the sense that it also applies to systems theory, but simultaneously it is an element of systems theory as a constellation of several sub-theories such as the theory of communication, theory of differentiation and theory of evolution. In other words, it is systems theory as a theory of cognition (cf. Luhmann 1990a: 546, 2009: 7).

"39" According to operative constructivism, observations are always the operations of a certain system, and cognition occurs in recursive operative sequences, through which the system simultaneously cognizes and differentiates itself out of its environment (Luhmann 2009: 9). In other words, the autopoiesis of an observing system — a psychic or social system — is the condition of the possibility of cognition in general. This condition also concerns observers such as the theory of communicative action, transcendental idealism or traditional ontology: "How is cognition possible?" asks Luhmann (ibid: 36, my translation) with reference to Kant, and responds: "as an operation of a system differ-
entiated out of its environment.” Thus, first distinctions of theories could be different, but – being observations – they would always be operations of a system.

Furthermore, constructivism gives an answer to the question of the limits of cognition – we cannot say anything about reality independent of observation. In the light of operative constructivism, traditional ontology also constructs reality using the appropriate distinctions. Therefore, the system/environment, operation/observation, and reality/construction distinctions are necessary! Radical operative constructivism provides a justification of the contingency of first distinctions and the theories built upon them, but at the same time, the conditions that make cognition possible and its limits formulated on the grounds of constructivism determine the limits of contingency. Cognition is possible as an operation of a system that distinguishes itself from its environment. Thus, it is the system/environment distinction and not the existence of reality independent of observation that is the necessary and universal condition of cognition.

This is a significantly new interpretation of Luhmann’s theory, given that the idea of the contingency of all distinctions is an otherwise dominant position in the literature concerning systems theory (see Nassehi 1992: 67–70; Moeller 2012: 32–50; John, Rückert-John & Esposito 2013). From this point of view, ontology defined as the result of observation distinguishing reality independent of observation from reality constructed by distinctions admitted does not provide us with a “final justification of truth that does not require any further justification,” so it is not an ontology in its traditional understanding, but it can be perceived as a philosophy, because it refers to universal and necessary conditions of the possibility and limits of cognition. Thus, it is not an ontology of one of the specific sciences – an ontological description of society as a distinguished subject of sociology – similarly to the fact that Luhmann’s theory is something more than sociology, i.e., epistemology.

One or many realities?

In the literature concerning systems theory, the concept of many ontologies corresponding to many realities has been a topic of discussion in recent years. This idea holds that the plurality of realities corresponds to the plurality of psychic and social (functional) systems as first-order observers (see Moeller 2012: 78–87; John, Rückert-John & Esposito 2013: 7–12). All of them have their blind spots and for that reason ontologize their self-constructed realities. However, the concept of many realities overlooks the fact that the constructed realities are not objectively given, since the observer of the observations is systems theory. The reality of economy, politics, science or religion as an operatively closed autopoietic social system is the reality of social systems theory.

Systems theory as an observer constructs a reality of self-reproducing psychic and social systems, which also observe and construct realities by means of distinctions typical for each of them, but the observer of their constructed realities – a second-order observer – is systems theory. Only because of this can one hold that they are empirical observers, meaning observable to each other, and that social and psychic systems are structurally coupled, from which it results that we are dealing with one reality. The idea of many realities reveals the blind spots of observed observers, but overlooks the blind spot of the theory itself.

Thus, there is one reality of systems theory, which every social and psychic system observes in its own way. However, it should be added that this does not guarantee a final convergence of all observations as traditional ontology assumed, nor does it imply the possibility of communication between systems and consensus in the spirit of Habermas. Social systems do not communicate with one another (except for organizations); therefore, the reality of Luhmann’s theory – especially the reality of functionally differentiated society – is a polyphony without dialog and without consensus (but also without conflicts between different functional orders!).

The problem of many realities can relate not only to social and psychic systems as first-order observers, but also to theories and society’s self-descriptions. In the light of systems theory, the theory of communicative action, the philosophy of subject and traditional ontology are empirically observable observers. The question is whether the concept of many realities could be reformulated if we start with the assumption that primary theoretical decisions are contingent. This would mean that every first distinction, such as system/environment, transcendental/empirical or system/Lebenswelt, begins the construction of a different reality. The reality of systems theory – which begins with the system/environment distinction – is one, but if we started differently, e.g. with being/non-being, would we not find ourselves in an entirely different reality without systems and their environments, operations and observations?

The answer is similar, as in the case of the realities of functional systems – systems theory is the observer of realities constructed by other theories. Traditional ontology, Kant and Habermas observed by means of system-theoretical concepts – as well as Luhmann according to Luhmann – inhabit a reality full of systems and their environments, operations and observations because in each of these cases, cognition occurs in a recursive sequence of operations of a system. In this sense, Luhmann’s theory is a meta-theory. Therefore, we should ultimately leave it at the thesis that we are dealing with one reality of systems theory, delimited by the conditions of the possibility of cognition that withstand contingency.
The reality of construction

"47" The reality constructed in observation is not "the reality it means" (Luhmann 2009: 47), so what does its realness consist of? As we know, observation is cognition, insofar as it is the condensation and confirmation of certain identities of things, persons, systems, situations, periods of time, etc. It also concerns systems theory as a self-description of society. Observations distinguishing between systems and their environments condense and confirm the identities of social systems. Identities belong to the structures of a system, which are schemata of selections conditioning its autopoiesis. With every subsequent operation of distinction and indication, the range of possible references is narrowed, and in this way reality is formed. Reality is characterized – according to the traditional meaning of this word – by resistance, but it is the resistance of operations against operations, thoughts against thoughts, communications against communications, resulting from a system's own conditions (Luhmann 2012: 68–73), and not the resistance of reality independent of observation, which would limit the contingency of constructed reality.

"48" Luhmann rejects the concept of social evolution, according to which the selection of structures is determined by the requirement of systems' survival through adaptation to the environment, leads to a better cognition of reality, allows for proper predictions, etc. (Luhmann 2012: 68–73). In the reality constructed by systems theory, every system – since it operates and reproduces itself – is adapted to the environment from the very beginning. In the case of social systems, this means that people are alive, they have enough air to breathe and the appropriate temperature, the computer has not crashed and the pen is not used up. In a functionally differentiated society, structures are selected by means of symbolically generalized communication media such as power, money and scientific truth (ibid: 284–292). The reality's resistance is a result of recursively created complexity (Luhmann 2013: 334). Along with growing complexity and specialization, communication becomes more and more selective. The conditions for the functioning of politics, economy, mass media and science are more and more complex. Despite their initial contingency, the realities constructed by functional systems are characterized by an unbearable inertia; therefore Luhmann recapitulates: "Everything could be different – and there is hardly anything I can change" (Luhmann quoted by Esposito 2013: 142, my translation).

Conclusion

"49" Luhmann's conception is a universal theory and a meta-theory (cf. Moeller 2006: 199–200) that transcends the field of sociology as one of the specific sciences. In the foregoing analysis, I propose an interpretation according to which system theory is built upon an epistemology. The basic distinctions in Luhmann's theory, such as system/environment and operation/observation, are already epistemological – they are the distinctions of operative constructivism. A constructivist self-reference of the theory reveals that naïve realism with reference to social systems has only a preliminary, methodological significance. Luhmann's introductory statement, "there are systems," relates to the methodological distinction of analytical/empirical and not to the epistemological controversy on realism vs. constructivism.

"50" Radical operative constructivism answers the question of under which conditions cognition is possible and what its limits are. This answer has ontological consequences because it concerns the existence of cognized reality. Taking a position in the dispute between realism and constructivism inevitably involves an ontological "vocabulary" (Rorty 1989: 3–22), that is, usage of the reality/construction distinction. Thus, I do not define ontology with reference to a reality independent of observation, which would be an ontological reality (Rasch 2013), because we cannot know whether it exists or not. I also do not identify ontology with different ontologizing first-order observations (John, Rückert-John & Esposito 2013). I propose to define ontology within systems theory according to Luhmann's perspective as the result of an observation making use of a certain distinction.

"51" Ontology within systems theory is not first philosophy in its traditional understanding, but it is a philosophical ontology because it refers to conditions and limits of cognition that are universal and necessary. They limit the contingency of the theory and constitute one reality that is a construction of systems theory. Radical operative constructivism provides a justification of the contingency of primary distinctions and the theories built upon them, but at the same time it determines the limits of contingency. The ontological reality/construction distinction is necessary. Luhmann rejects ontology, but he does not re-
nounce epistemology, and in consequence, the project of de-ontologization remains incomplete.

Furthermore, the paper throws light on some problems of radical constructivism in general, such as the ontological implications of epistemology, the universality of conditions and limits of cognition (cf. Mitterer 2008: 160), the constructivist self-reference of theories, the existence of reality independent of observation and the realness of constructed reality.

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**Open Peer Commentaries**

**on Krzysztof C. Matuszek’s “Ontology, Reality and Construction in Niklas Luhmann’s Theory”**

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**The Reality of Ontologies in Luhmann’s Work**

Hugo Cadenas
University of Chile
hcadenas/at/u.uchile.cl

> **Upshot** 1 discuss the conception of “reality” that Matuszek attributed to Luhmann’s work and the influence of “ontology” on his thought. It is argued that Luhmann’s system theory is based on the distinction system/environment and not on an ontological principle.

2 On this point, we can only but agree with the author: Luhmann was unable to ignore the philosophical tradition of western ontology when formulating his concepts. Given this, one might wonder if a change in the concepts would be enough to liberate Luhmann’s social systems theory from this ontological trap. In my view, an ontological interpretation of Luhmann’s work is almost unavoidable because the “two-sided-form” (Spencer-Brown 1979) behind Luhmann’s epistemology distinguishes between an “inside” and an “outside.” The distinction inside/outside is understood by Luhmann as system/environment (Luhmann 1995: 176ff).

3 The ideas of the mathematician Spencer-Brown served as inspiration for the late work of Luhmann. In his view, every observation must begin with a distinction. In such distinction, one must indicate something and leave other things in the background. This is a “form,” and all knowledge is based in forms with two sides, i.e., the indicated and the background. For Luhmann, the form of a theory of social systems is system/environment. A theory of social systems indicates systems in environments and every social system operates in the same way. It is doubtful that such distinctions involve an “ontology” in Luhmann’s thought, as Matuszek points out. The inner side of an observation of an observer system is the system itself, and the outer side is just the space where the distinction take place. For example, the inner side of every observation for a legal system are the legal issues and the environment of its observation are the potential new legal issues. The environment of the system is produced by the system, i.e., the “outside” is produced by every observation.

4 This is not a strategy of ontological description since the inside/outside distinction refers only to the operation of a system and not to a description of reality. “System” and “environment” refer to a difference of complexity defined by the operations of a system. The environment can be distinguished “inside” of the system just as other systems can be distinguished “outside” of the observer system. In this sense, system and environment are constituted as operations in a lapse of time, and not as “realities” independent from the observer. Every
observation takes place in time lapses, one cannot observe all at the same time. Time itself is a product of observation of systems that must reduce complexity in a selective way, i.e., choosing alternatives and leaving other possibilities in the background. In every observation a world emerges, i.e., a world of potential other observations and of other observers. Without systems, there is no reason to see a “reality”; only systems ing other possibilities in the background.

In every observation a world emerges, i.e., a world of potential other observations and of other observers. Without systems, there is no reason to see a “reality”; only systems need to operate in realities.

Finally, it is possible that this confusion about Luhmann’s epistemology is caused by the medium of language—an unavoidable medium for any theoretical formulation. The form “signifier/signified” (Luhmann 2012: 124ff) of this medium produces an ontological effect; the signifier would be “outside” and would be represented “inside” the system by means of the signified. An “apple” would be outside of the observer as a signifier and the word “apple” would be the representation—the signified—inside the system that observes and communicate about fruits or computers. Nevertheless, the form signifier/signified appears only when a system operates with this communication medium. The correspondence between the two sides of the form signifier/signified is due only to a system that operates with this medium, and not to an environment that enters with all its complexity into a system. The signifier it is no more real than the signified since both are the result of communicative operations. In this sense, ontology itself can be understood as a result of language (Eco 1999: 22ff), i.e., as a moment in the operations of a system that treats its own complexity by distinguishing an inside and an outside.

Thomas Mavrofides
University of the Aegean, Greece

> Upshot: Matuszek’s article is about the way Luhmann reshaped but failed to eliminate ontology. I try to contribute with some thoughts about how Luhmann’s theory is in fact based on certain ontological assumptions.

It was some years ago when, during a talk I gave at a conference on posthumanism,1 I was presented with the question of whether I agree with Luhmann’s ontology. This caught me by surprise since at that time I was not prepared to answer such an “illegitimate” question: How can one use the “semantics of old Europe” (Luhmann 2013: 183) when analyzing the Luhmanian world? Thus, I limited my answer to a simple mumble, “What ontology?” and my questioner concluded with a smile, “I see, you agree.” But I was not satisfied with my answer; neither was I enlightened by her response. And that brings us to Krzysztof Matuszek’s interesting target article, which, for obvious reasons, I read very carefully. So, let us see, albeit in short, whether there are more ways to support the view that Luhmann was in fact employing ontological assumptions, although very different ones than those he called “old European.”

When Luhmann, as Matuszek points out ($19), states that “there are systems,” he also makes an implicit assumption: there are observers. For how else can a statement about “what is” come about? This assumption is empirical, but at the same time methodological and ontological; the classification one may choose depends on the question “Who is the observer?” (and we know that classification is the framework of ontology). That question takes us back to the theoretical concepts underlying Luhmann’s theory, as articulated by many scholars before him; I choose to refer only to the ideas of the most influential among them, namely George Spencer-Brown (2008), Heinz von Foerster (2003) and Humberto Maturana & Francisco Varela (1980).

The concept of the observer is the key to understanding Luhmann’s complex theory. Social and psychic systems are treated as observers of the first or second order, and theories are dealt with as descriptions of systems, or even societies, operating as observers upon their own existence. The observer conceives of himself as a distinct entity, as a whole. Therefore, ontology is unavoidable. On the other hand, Luhmann is in conformity with his theory when maintaining that this is not the case of the “semantics of old Europe.” Hence, we have a redefinition of the term “ontology”: it does not refer to an intersubjective world description but to a multitude of descriptions that co-exist through double contingency (Luhmann 1995: 103–136).

This insight cannot be attributed to Luhmann though. W. V. O. Quine already noted: “Disagreement in ontology involves basic disagreement in conceptual schemes” (Quine 1980: 16). And vice versa: deviating conceptual schemes result in different ontologies and, therefore, in different cosmologies. Furthermore, in a functionally differentiated society, there cannot be a “privileged point of observation” resulting in a possibility to bind society as a whole in a singular world description and, therefore, a singular perspective; that is: an intersubjective ontology. However, that does not imply that the concept of ontology can be abandoned altogether. While the observer is still the “king,” there are many “kings” in contemporary world society. But how does the observer operate; that is, what is it that makes the observer an observer? The obvious answer (and also Luhmann’s answer) is that the observer can only operate by distinctions.

The distinction is an operation that is the fundamental concept in Luhmann’s work. Following the well-known injunction of Spencer-Brown “Draw a distinction” (Spencer-Brown 2008: 3), Maturana & Varela (1980: 73) add: “A universe comes into being when a space is severed into two.” Therefore, the universe emerges through a distinction. Already this reveals an ontologi-
cal assumption, for to whom is the injunction addressed? We should also note that Spencer-Brown calls that injunction “construction.” Now, if Luhmann genuinely were to avoid ontology altogether, he should avoid the concept of distinction. But for Luhmann, distinction is not a methodological approach nor is it an operation among others. It is the prerequisite for every operation. But, is there a distinction in the Luhmannian world(s) that is taken for granted? I reckon there is, namely the distinction I/You.  

“6” Spencer-Brown notes that “We take as given the idea of distinction and the idea of indication…” (Spencer-Brown 2008: 1). That is, it is the concept of ontology that is taken as given. In other words, the ability of the observer to conceive of himself as something distinct from his environment is taken as granted. How can that be? We can look for answers in John McCrone (2003), Jean Piaget (1972), Maturana (2005) and many more researchers. Here, I will only quote McCrone:

“7” That is, observers create observers. Now, the distinction I/You may be considered transcendental, but only in a world where there are observers that can communicate the descriptions they construct. This assumption leaves, for instance, feral children2 in an ever “unmarked space,” a world about which nothing can be communicated and that is therefore, in accordance with Luhmann’s theoretical apparatus, nonexistent.  

“8” I will close this comment, with a short reference to the concept of reality, since Matuszek also deals with it.  

“9” Are we adapted to reality, or do we construct reality altogether? That is, can we assume a reality independent of any observer, or is the observer bound to conceive certain aspects of a world that exists in its own right, or – finally – is any world view a pure construction? Luhmann does not seem to genuinely care about the problem. For Luhmann radical constructivism is not a philosophical position per se but rather a methodological manoeuvre. This is not to say that, in some way, Luhmann assumes the existence of a reality independent of the observer. On the contrary, the radicalism of his approach lies in the refusal to even discuss an intersubjective – let alone transcendental – view of the world. The world is a construction, and that includes the observers who circularly reconstruct themselves in a circularly reconstructed world. The observers invent themselves-in-the-world. Those concepts are so basic that they cannot be refuted without ruining Luhmann’s theoretical apparatus. In my view, herein lies Luhmann’s concept of “selections”: reality is the tested of systems’ selections, nothing more or less. This of course says nothing about reality per se, but it says everything about self-referential systems that continuously come up with their own expectations. Reality is bound to remain unknown, for it is never a matter for the observer; only himself is the problem. Thus reality is irrelevant for the observer of the observers (i.e., Luhmann and his followers). It is, so to speak, only an abstract tool, an expanding horizon (Husserl 1960: 44) of opportunities for further selections, but, in any case, a distant, dim horizon.  

“10” Matuszek’s article is inspiring. Not because it is supposed to give a final answer to Luhmann’s ontology. That cannot be done, and the author is certainly not to blame: it is definitely an inherent characteristic of Luhmann’s theory. Luhmann created a powerful tool for the observation of social systems and their interrelations but in the form of a flux. His theory leaves space for many approaches and interpretations, being a theory about a flux, that is, about the functionally differentiated society – a flux for a flux. Of course, the term “radical operative constructivism” is (in my opinion) a very accurate and convincing condensation of Luhmann’s fundamental approach. Still, if one wants to do justice to Luhmann, his views are bound to remain open to contingent descriptions. So, the concrete value of the target article is that it contributes to a discussion that hopefully will evolve along with the evolution of theories on constructivism and postmodernism.
bernetics within which Luhmann operated and to the relevance of the temporal dimension within operational constructivism (see also Vanderstraeten 2005, 2012).

«2» The concept of autopoiesis, which Luhmann prominently introduced in Soziale Systeme (1995), was connected with a constructivist epistemology. As is well-known, the concept was borrowed from the biologists Humberto Maturana and Francisco Varela, who titled their main work Autopoiesis and Cognition (1980). In the introduction to this important book, Maturana explains that he arrived at his constructivist insights by deciding to treat “the activity of the nervous system as determined by the nervous system itself, and not by the external world” (1980: xv). “Autopoiesis” means that the organization of a living system causes certain products to be produced (for example, nucleic acids), and that these products in turn also produce the organization characteristic of that living system. This implies that a living system responds (and can only respond) to its environment in ways determined by its own autopoiesis. It constructs its environment through the domain of interactions made possible by its autopoietic organization. A living system operates within the boundaries of an organization that closes in on itself and leaves the world on the outside.1

«3» In short, the central premise of Autopoiesis and Cognition is that systems are informationally closed. Thus no information crosses the boundary separating the system from its environment. We do not see a world “out there” that exists apart from us. Rather, we see only what our systemic organization allows us to see. The world merely irritates; it triggers changes determined by the system’s own organization. The world cannot instruct an observing system; the world rather is constructed by the observing system. Only a closed system is able to know (the world).

«4» Building upon George Spencer Brown’s Laws of Form (1971), Maturana and Varela also discussed how systems or observers observe. “The fundamental cognitive operation that an observer performs is the operation of distinction” (Maturana & Varela 1980: xxii). Accordingly, the construction of the world depends upon the processing of distinctions (or, in Spencer Brown’s terminology, on the processing of forms). When something is observed, it is indicated as being distinct from something else. The indication of one side of the distinction provides the system with information of the kind “this-and-not-that,” “this-and-not-something-else.” Stated somewhat differently: it is the observer’s distinction that defines the meaning of what is observed. This implies that one needs to observe the observing system and the distinctions that it uses in order to analyze this system’s universe. One needs to observe the observer and not the objective world. As Spencer Brown remarks: “Our understanding of such a universe comes not from discovering its present appearance, but in remembering what we originally did to bring it about” (Spencer Brown 1971: 104, my emphasis).

«5» Against this background, we may rephrase some of the questions raised by Matuszek in the first part of his paper (summarized in §14). What do we mean when we say that reality is a construction and that this construction does not correspond with the external world? What does this “not” mean? Why are observing systems not instructed by the world? In the tradition of second-order cybernetics, it is the distinction between the marked state (what is indicated) and the unmarked state (what is not indicated) that is imagined by the observing system. An observing system explores which distinctions can be inscribed on the world. The contribution of the observing system consists of the act of distinguishing. Observations cannot copy, depict or represent an external reality inside an observing system because it is not possible to observe a reality that exists independently of the observation (that is, independent of the distinction drawn by the observing system). The world “as it really is” is located in the unobservable “unmarked space” (Spencer Brown).

«6» Against this background, we may also highlight the temporal dimension of Luhmann’s operational constructivism, which is overlooked by Matuszek (esp. §§26–29). Operational constructivism redefines the concept of “resistance,” which is traditionally used within metaphysics or ontology to underpin the objective or referential capacity of knowledge. In Aristotle’s classic approach towards metaphysics, ta phusika are characterized by the resistance they oppose to us and they thus become objects of our cognition. It is, accordingly, by virtue of this resistance that we know them to be outside of ourselves and not illusions fostered upon us by our unreliable sensory apparatus. Without this resistance, we would never be able to ascertain whether the phenomenal or the sensible is really “out there” and thus whether we have any knowledge of such an “out there.” Without this resistance, we would be free to imagine whatever we want. In part, Luhmann (1993a) argued, this classic approach can be maintained. But a constructivist theory cannot situate this resistance in the external world. It has to focus on the resistance of constructions to constructions, on the opposition of observations to observations. In Luhmann’s opinion, the question is whether or not particular operations trigger further operations. Knowledge is self-dependent and self-reflecting. Resistance is a problem of internal consistency. As a consequence, we need not replace epistemological issues of correspondence with ontological issues, as Matuszek (see also §§30–35) suggests, but with issues of evolution and time. For Luhmann, as for Spencer Brown and a number of other contemporary social theorists, “ge-nealogical” analyses are needed.2

«7» Admittedly, there are a number of ambiguities in the way in which Luhmann has spoken about constructivism – and Matuszek points to a number of them in his target article. This also holds for the issues with which Matuszek deals in the last part of his article (§42 etc.). With regard to this part of Matuszek’s argument, it may be stressed that Luhmann argued that his writings (or

1 | For Maturana, the ongoing reproduction of a living organism’s organization in interaction with its environment qualitizes “cognition” (even if the organism is a worm).

2 | In a somewhat similar way, Gregory Bateson has insisted that only those constructions or cognitions that are compatible with reality are conducive to long-term survival (e.g., Bateson 1972). In the vocabulary preferred by Ernst von Glasersfeld, it can also be said that all we can “know” or cognize is that some our constructs do not get by the resistances and thus are not “viable” (e.g., Glasersfeld 1995, 2005). But, in my view, von Glasersfeld’s notion of “viability” has remained somewhat unspecified and vague.
his sociological observations of modernity) reflect the social condition of plurality and diversity within modernity. The so-called postmodern condition – the end of the **mé-tarécits**, 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.

Raf Vanderstraeten is Director of the Center for Social Theory at Ghent University (Belgium) and Fellow at the Helsinki Collegium for Advanced Studies (Finland). His work has appeared in a variety of journals, including European Journal of Social Theory, Journal for the Theory of Social Behaviour, Memory Studies, Minerva, Soziologische Zeitschrift and Zeitschrift für Soziologie.

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

**Athanasiou Karafillidis**

RWTH Aachen, Germany

akarafillidis/at/soziologie.rwth-aachen.de

> **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 a systems theory based 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; Bhahha 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 reality. 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).
Paradox and time

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 particular 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

Admittedly, there is a thin understanding of ontogeny 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 Halsewood (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.

There is still a much more serious issue involved here: Can distinctions be ontological? 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.

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 ontology 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.

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)

Athanasios Karafilidis is a post-doctoral researcher at the Institute of Sociology, Chair of Technology and Organization, at RWTH Aachen University. His research focuses on developing a theory of social forms, which draws on systems theory, cybernetics, network research, and cognitive science. Fields of application include organizations, boundaries, management, and robotics.

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Society as Constructed Ontology?

Florian Grote
Native Instruments GmbH, Germany
florian.grote/at/native-instruments.de

>Upshot - The question of whether contingency can be limited concerns the foundations of sociological systems theory as a theory of cognition. This commentary argues that while such limits may seem plausible and apparent at first, they would consequentially give rise to an ontological notion of society within society. Rather, the commentary proposes to understand the limits identified in the target article as social functions structuring expectations in situations of double contingency.

"1" Krzysztof Matuszek's target article proposes a re-reading and re-synthesis of epistemological elements in sociological systems theory as what the author calls "radical operative constructivism" ($§38$). Analyzing Luhmann's sociological systems theory for realist vs. constructivist approaches, Matuszek locates quasi-ontologies in the distinctions reality/construction, operation/observation, and system/environment ($§40$). Matuszek does not take these distinctions as statements of a realist approach in the theory, so not as fully ontological, but rather as concerning "the methodological status of the concept of system" ($§20$). Nevertheless, he describes these distinctions as "necessary" ($§40$) for any operation to take place at all, which for him has the operational effect of them being inherent limits of contingency ($§§36–41$). I argue that this can be true for observed operations of systems, but that it does necessarily constitute the existence of limits in situations of contingency.

"2" Matuszek sees the root of the limits he describes in the opening statement of Luhmann's *Social Systems*: "The following considerations assume that there are systems" (Luhmann 1995: 12). Consequently, if there "are" systems, then contingency, if understood as the horizon of possible continuations of a current situation, is limited by successive operations having the possibility to reference these systems and their environments. However, the existence of systems as it is described throughout the article seems to rely on their temporal stability, or even just their temporal extensiveness, for if the proposed limits are to be effective, this existence has to be primordial knowledge to all observers engaged in situations of double contingency. And vice versa, the existence of limits to contingency thus becomes an a priori for communication. This, however, seems implausible for situations of double contingency. It would force every observation to start with the distinctions mentioned in the article, reality/construction, operation/observation, and system/environment. This would mean that society is a given in any observation made by individuals taking part in a situation of double contingency. Society would be an entity that cannot be escaped in observation, and therefore has to have existence without observation. If this were the case, individuals in such situations could rely on any possible outcome of the situation to at least take society into account. This may be established in retrospect for any operation that does reference society, i.e., for any operation of communication. But that is a tautology. In contingency however, uncertainties and ambiguities remain and suggest that such references cannot be relied on. Take, for example, the situation of the parent addressing a newborn child. The point at which the operations in this situation can successfully reference society, the moment when the child starts to reference its own social identity, is unclear, and often subject to discussion, or even medical consideration, for example in the case of diagnosed autism (cf. Hobson 1995).

"3" Luhmann seems to be very careful not to limit the notion of double contingency, especially by using "alter" and "ego" as names for the participants in such a situation:

"The concepts of alter and ego should leave open whether they concern psychic or social systems, and they should leave open whether or not these systems adopt a determinate processing of meaning." (Luhmann 1995: 106)

Society as a whole could not have temporal stability beyond such systems of interaction, were it not for the apparent ability of individuals taking part in them to handle the difference between their personal and social identities (Luhmann 1995: 405). However, as a "socio-psychological" (ibid) formation this capability remains unobservable from within society. How, then, can observers within society deal with this problem?

"4" The project of constructivism is facing challenges in the form of ontologies showing up in any statement made by observers. If cognition is entirely observer-dependent, then how can there be a construction transcending the individual observation? Similarly, how can an observer make and indicate a distinction without referencing previous constructions, thereby assuming the stability of the forms used in the selected medium of communication? After all, observations can only be observed in communication, so the forms of expression used when making the statement of an observation in turn need to be recognizable for other observers, if something like second-order observation is to be possible at all. The statement "there are observers" is no less ontological than the statement that "there are systems," especially since in sociological systems theory, both statements are directly connected. Does this mean that statements such as "there is society" or "there is language" are ontological statements as well?

"5" Luhmann stresses that social autopoiesis exists only in the individual instances of operations of the social system (Luhmann 2012: 33), i.e., when an observer makes a statement of indication. Taken literally, this is the most radical constructivist approach, as it rules out the ontological existence of entities such as society, functional systems, networks, language, or indeed observers with an identity. If we follow the literal approach for a moment, then all of these entities can only exist within the singular act of actualizing communication, within the act of indicating. An observer can indicate itself, but it has no way of guaranteeing the temporal stability of this self-reference across several subsequent observations. In principle, every single observation is totally free to observe whatever it does, not being bound by any considerations of society, functional systems, language, or consistency with a self-image of an observer. At this
level, every observation is identical with an individual (in the literal sense of being indivisible in further analysis) observer, and every individual observer is identical with exactly one observation. This freedom makes it seem unlikely that other observers will make indications referencing previous observations. Nevertheless, there seemingly are social systems. Luhmann calls this the “paradox of the probability of the improbable” (Luhmann 2012: 251).

6. The statement about there being systems can be read as an ontological statement, but then, so can be any statement that relies on the ontological nature of language. According to Gregory Bateson (1987: 372), communication was invented as a means to convey the relational-ontological world of one observer to other observers, so it does not come as a surprise that communication cannot escape ontologies. In the end, the statements mentioned here as ontological are statements in communication, made by individual observers, who have no choice other than to rely on the notion of semantic stability they see in language. But Luhmann’s sociological approach can be read as an attempt to de-ontologize society, and thereby language. As the successive actualization of communicative events is seen as highly improbable, much of the research program is focused on the investigation of how it does come about, not in the sense of ontological being, but in the sense of being observable to the effect that an individual observer can claim having observed it, with the hope of other observers corroborating this statement.

7. In sociological systems theory, society and language become de-ontologized on the grounds of investigations into expectations (Luhmann 2012: 8, 206, 253). For example, the empirical analyses Luhmann undertakes throughout his Theory of Society (notably in Chapter 2; Luhmann 2012: 113–250) do not count on the reliability of statements, but rather investigate how expectations about sequences of statements are established. The notion of such sequences is also observer-dependent: a connection such as action-reaction has to be understood as constructed by an observer, and an observer who has studied other observers will be very careful not to expect an ontological truth in a statement made either by herself or by others. This has an effect on the possibility of limiting contingency, as postulated in §§36–41: an observer who does not expect all other participants in a situation of mutual contingency to be bound by stable limits of this contingency also does not have to abide by them herself. Rather, she is free to re-interpret them to fit the ontological consistency of her own statements. Limits of contingency, if and when they are recognized, are themselves an ontological construction made by an observer, but in this they are no more or less ontological than any other statement in society. It might be helpful to reconstruct Matuszek’s statements made in §§36–41 as a structure of expectations: observers who claim to observe other observers may be analyzed with regard to how they expect contingency to be limited. This change in perspective allows us to view the proposed limits as a social function, which could be close to or even equivalent to the concept of “social immune systems” as described by Luhmann (1995: 403). This view then makes it possible to see the various precautions observers take to reduce the probability of being surprised, i.e., of their expectations not being met, by other statements they observe. Limits become important for the effectiveness of processes in communication, but they require hard work to be kept stable as communicative functions, and can never be relied on to the degree of ruling out unpleasant (or pleasant) surprises.

Florian Grote is a cultural sociologist working in the research and development lab of Native Instruments, a large music technology manufacturer in Berlin. He is a consortium researcher in the GiantSteps EU project on musical expert agents. His research focus is on theories of observation and modeling techniques for cultural inquiry.

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Searching and Finding Ontology
Armin Scholl
University of Münster, Germany
scholl/at.uni-muenster.de

> Upshot: Matuszek’s article criticizes Luhmann’s systems theory in particular and constructivism in general with respect to philosophical inconsistency caused by some ontological implications of constructivist epistemology. Providing a coherent interpretation of ontology and epistemology is worth the effort in order to solve philosophical problems. However, the question arises of whether philosophical reasoning actually is of any relevance for empirical research. I argue that both Luhmann’s operative constructivism and constructivism in general already comply with Matuszek’s suggestions.

1. Constructivists have often been concerned with uncovering the ontological assumptions of epistemological realism to criticize its philosophical foundations. In Volker & Scholl (2014), we recently re-interpreted empirical studies about the media coverage of climate change by detecting and deconstructing hidden minimal ontological assumptions in the argumentation of communication scientists who derive normative criticism from the epistemological realism to which they are committed. The aim of our meta-analysis or second-order research was to criticize the practical (normative) consequences rather than to enter a theoretical (philosophical) debate. Krzysztof Matuszek’s target article pursues two different goals. On the one hand the author is interested in a theoretical debate about ontology and how to avoid ontological reasoning in constructivism and systems theory. On the other hand the author searches for more or less hidden ontological remainders in constructivist reasoning in order to solve the problem of philosophical inconsistencies in the constructivist discourse.

2. In my commentary I argue that while Matuszek’s argumentation contributes to clarifying constructivist epistemology, his criticism does not have a strong impact on
constuctivism nor on Luhmann’s systems theory. To this end, I check how constructivist inconsistencies may have come about and whether they whether they significantly affect or even diminish the rigor of constructivist argumentation. Furthermore, I show that ontological assumptions are not relevant for constructivism. Finally, I refer to some specific arguments provided by Matuszek with regard to how he uses the concepts of ontology, reality, contingency and systems theory.

Matuszek’s criticism of systems theory and constructivism is mainly based on the deconstruction of specific arguments. Unfortunately, he interprets the verbal expression of the argumentation literally but fails to see the intention beneath the surface of language. The constructivist intention, however, is definitely anti-ontological: both constructivists and systems theorists claim to de-ontologize meta-theoretical standpoints underlying philosophical realism, which assumes the existence of things and facts that in principle can be recognized or observed correctly (Gadamer 2008: 154). The constructivist counter-position to ontology may carry its anti-ontological position to the extreme such that one could derive from it a negative ontology that simply reverses (positive) ontology into the assertion of non-existence, i.e., the denial of existence. Such a constructivist position would assume that it is impossible to (directly) recognize reality, which is also a kind of (negative) ontology because denying any ontological claim implies refraining from any hypothesis or statement about reality. So both arguments – the non-existence of reality and the impossibility of recognizing reality – are still ontological, albeit indirectly and unintentionally so – because they argue for a negative version of ontology rather than for transcending ontological thinking altogether – a position radical constructivism and non-dualizing philosophy seek to reach. Matuszek arrives at the conclusion:

“Thus, we see that without ontological concepts it is impossible to formulate the thesis that cognizable reality does not exist independently of observation, and such a thesis is unavoidable since every first-order observation assumes the opposite.” (§14)

Critics may now readily detect a self-contradiction in the argumentation of constructivism. So it is necessary to reflect on this obvious mistake in argumentation and ask for different explanations than those that consider ontology as unavoidable. Such alternatives could either claim that the discovered inconsistency is simply the consequence of linguistic inaccuracy or that constructivist thinking and arguing necessarily lead to self-contradictions. The latter would be a severe problem whereas the former explanation could be corrected by a more sensitive use of language. In order to resolve the problem of self-contradiction, I want to elaborate on the constructivist idea of de-ontologizing its epistemology. If systems theory and constructivism do not want to promote either a negative ontology or an epistemologically fundamental skepticism they will have to develop and follow an agnostic standpoint. That is also what Matuszek (§29) suggests. However, he seems to put skepticism on a level with agnosticism. There is an obvious analogy to religious agnosticism: it takes a third position beyond faith (positive ontology) and atheism (negative ontology). With respect to religious practice, agnosticism and atheism are very close as both agnostics and atheists do not practice religion, and this is independent of the fact that they legitimize their position in different theoretical ways. Also, epistemological agnosticism and negative ontology share the same practical consequence: reality is not accepted as a measure to justify or assess different reality constructions. No observer is privileged in the sense of being closer to reality if reality is either neglected (negative ontology) or does not play a theoretical role (agnosticism).

If the practical consequences of both positions (ontological agnosticism and negative ontology) are similar, does the criticism of argumentative inconsistency then justify the criticism and rejection of constructivism altogether? Moreover, does the criticism of this particular inconsistency indirectly justify realism as the apparent opponent of constructivism? I claim that both questions, arising from the inconsistency of certain constructivist theorists (including Niklas Luhmann), have to be negated. Neither is a theoretical approach completely falsified if it includes minor inconsistencies nor is the detection of the inconsistencies in a theoretical approach (here: constructivism) proof of the opposing approach (here: realism).

The first conclusion is too far-reaching as no theoretical (philosophical) approach can be completely consistent in argumentation. The main question is whether certain inconsistencies can be taken into account or can even be accepted because they are not harmful for the whole system of the theoretical approach. Moreover, inconsistent arguments are subject to interpretation because they are expressed in ordinary everyday language, which is not necessarily logical in a formal sense. Matuszek underestimates the problem of understanding when he relies only on the denotative meaning of language and fails to include context such as the presumed intention beneath verbal expressions. In the case of (logical) consistency, understanding is easy to manage and accomplish. The more inconsistencies an utterance has, the more problematic it is to understand it. However, every language user can compensate for this by ignoring or downsizing certain inconsistencies in order to increase the possibility of understanding.

Moreover, in constructivism, understanding is not considered the recipient’s true representation of the communicator’s message but the recipient’s stabilization of her mental construction of understanding. Thus, constructivism itself cannot be determined as a single possible understanding of what constructivism is. This is not an

1 | One could be tempted to think that even the main proponents of constructivism are such “negative ontologists,” e.g., when Ernst von Glasersfeld refers to viability, Heinz von Foerster to the principle of undifferentiated encoding and Humberto Maturana to “objectivity in parenthesizes.” However, a clarification must be left for another occasion.

2 | These are not the questions Matuszek addresses, but they arise in the context of the problem of inconsistency. Therefore, they should be considered because they indirectly affect my argumentation towards Matuszek’s ambition to remedy constructivist fallacies and reformulate constructivism.

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argument in favor of an arbitrary concept of constructivism. Rather, it reminds us to be careful when reducing a constructivist text to its denotative meaning. Any reader should be aware that there is an auto-constitutive relationship between the semantics of a text and the pragmatics of the reader as interpreter. My interpretation of constructivism includes its intention (supposed to be the core idea of constructivism) to ignore ontological problems by reasoning anti-ontologically. If constructivists fall back into the trap of ontological reasoning by using a negative ontology rather than a non-ontological or anti-ontological reasoning, a meticulous observer such as Matuszek will detect logical inconsistencies.

« 8 » With the help of these general remarks I now address some of the key concepts Matuszek criticizes as inconsistent, which are ontology, reality, contingency and systems theory (sensu Luhmann). In accordance with Luhmann, Matuszek conceives of ontology “not with reference to what ontology is for ontologists … but as a result of observation that distinguishes between being and non-being” ($§2) In every constructivist understanding (or re-interpretation) of ontology, ontology should be the result of observation, i.e., the result of reality construction. However, is it then possible to use ontology as a characteristic that distinguishes between realism and constructivism? The re-interpreted concept of ontology does at least not qualify as a way to detect hidden ontological assumptions in constructivism. For empirical research this means that while in the philosophy of realism the concept of reality serves as an independent parameter, in constructivism reality is considered a dependent parameter or result of observation. Matuszek consequently arrives at the conclusion that Luhmann de-ontologizes ontology and that “reality is a contingent cognitive construction” ($§2). Does this not imply that there is no ontological problem, which is the peg to Matuszek’s article and argumentation?

« 9 » When Matuszek criticizes the distinction between construction and reality for its ontological consequences, he does not seem to consider that Luhmann’s concept of reality is already de-ontologized and should not be understood as realists understand it. Matuszek continues to argue “that this distinction is ontological because it concerns the existence of the cognized reality” ($§13). Again, I do not follow this conclusion as Luhmann’s understanding of the empirical matter of his systems theoretical approach (in contrast to Talcott Parsons’s merely analytical concept of systems theory) does not imply any independently existing reality (in the ontological sense). Matuszek refers to Luhmann’s claim to provide an empirical theory in a way that (social) “systems are empirically observable units” ($§20). Empirical research does not necessarily include ontological assumptions, (Scholl 2008: 176f). The assumption of an outer world to be investigated does not necessarily mean that we have to prefer an objectivist approach to empirical research. From constructivism we can learn that the distinction between subject (researcher) and object (of research) simply serves to characterize different ways of practicing empirical research: some parts of social scientific research paradigms (particularly qualitative methodology) clearly make the observer (researcher) visible, whereas other parts (particularly quantitative methodology) use an objectivist approach in which the observer remains invisible. Both research strategies can be interpreted in the light of constructivism (Scholl 2008: 178), i.e., without reference to ontology.

« 10 » Again, Matuszek seems to follow this course of argumentation, when he states: “… it is evident that Luhmann is not a realist, nor does he take an intermediate position between realism and constructivism” ($§23). Luhmann takes the position of a naive realist just to have a starting point that “only has a preliminary methodological meaning” (ibid). However, Matuszek criticizes the controversy between realist and constructivist interpretations of systems theory as ontological itself and reproaches interpreters for ignoring the dynamics of Luhmann’s systems theory. I definitely reject this reproach as it does not matter whether Luhmann simply takes the realist position only for didactical (methodological) reasons of an underlying (actual) constructivist argumentation or he develops his argumentation from realism to constructivism dynamically. In the end, Luhmann’s systems theory is only conceivable upon the basis of a constructivist epistemology, as the distinction between system and environment necessarily implies both the plurality and contingency of observing systems. Neither of these basic assumptions is compatible with any ontological understanding of objects or reality.

« 11 » In the next step, Matuszek criticizes Luhmann’s concept of contingency being ontological “because it refers to universal and necessary conditions of the possibility and limits of cognition” ($§41). Indeed it appears that contingency is the last philosophical anchor of a theory that has no (ontological) foundations because its sons detect no bottom ($§28). Matuszek seems to segregate the concept of contingency from the concept of observation. With respect to constructivism, contingency is not considered a philosophical axiom but an empirical and (therefore) observer-related phenomenon. First-order observation does not work on the basis of contingency. Rather, contingency comes into play in the case of second-order observation only. In a self-referential way it is “contingent” itself. In comparison to classical logic, contingency is not simply the opposite of non-contingency (determination) but has a reflexive structure insofar as the contingency of contingency includes the contingent decision of whether to prefer contingency or determination. In conclusion, the choice of whether to prefer contingency or determinism is not decisive but oscillates between contingency and determinism depending on the level of observation, which can be first-order or second-order. It is this logical structure that is a distinctive characteristic of radical constructivism as well as of Luhmann’s systems theory and that challenges classical concepts of logic because it implies a positive reference to such paradoxes.

« 12 » Although Matuszek strictly applies Luhmann’s systems theoretical logic and argumentation, he sometimes seems not to take this kind of self-reference seriously enough. This leads me to Matuszek’s final criticism:

** The idea of many realities reveals the blind spots of observed observers, but overlooks the blind spot of the theory itself. Thus, there is one reality of systems theory, which every social and psychic system observes in its own way.” ($§43f)
It’s About the Truth in Science  Heike Egner

“Believe It or not!” – It Is About the Truth in Science (or the Unwillingness to Tolerate Ambiguities)

Heike Egner
Alpen-Adria-Universität Klagenfurt, Austria • heike.eigner@at/aaau.at

> Upshot: On an epistemological level, Matuszek argues convincingly that Luhmann’s epistemological ambiguities could be embedded in a coherent constructivist approach. However, what do we gain by being assured of this and why is it so difficult to tolerate ambiguities in an otherwise highly elaborated theory?

© 13 » I detect an obvious contradiction within this argument: I cannot see and accept that there is only one reality of systems theory. Apart from the fact that Luhmann’s theory of social systems is not the only variant of systems theory, every theoretical text needs interpretation. Otherwise we would not need any articles to clarify positions and arguments. From a constructivist perspective, every interpretation by a reader constructs a world of its own. Of course my own perspective, every interpretation by a reader constitutes a world of its own. Of course my own

© 14 » In conclusion, my argumentation aims to abstract from specific arguments by starting with what I consider the core idea of constructivism is observer-related (i.e., depends on my interpretation as reader/author). It is my empirical experience that other authors/readers argue in different ways even though they consider themselves constructivists as I do. From this it follows that there is more than one reality of systems theory. The “realness” of these constructed realities translates to communicative realities. Within the system of (social) science, the author of the article and of this commentary both have sincere intentions and neither of us claims to construct “virtual realities.” Rather, our arguments are related to the system of science, including its rules and habits for how to communicate and what to communicate about.

© 15 » As Krzysztof Matuszek has already stated in his target article, there is an astonishingly increasing interest in epistemological and ontological debates concerning the theory of social systems (§1). Besides Nikolaus Luhmann’s considerations on ontology (mainly to distance himself from traditional perspectives), it is especially one sentence in the first part of Luhmann’s Soziale Systeme that provokes the controversy on the question of whether Luhmann argues from a realist or constructivist point of view ($19$): “The following considerations assume that there are systems. Thus they do not begin with epistemological doubt” (Luhmann 1995: 12). By labeling this statement as a mere methodological distinction for analytical and empirical reasons ($20$, $30$) rather than a hint to any epistemological or ontological proposition, Matuszek argues convincingly to embed such statements in an epistemological framework of social systems theory that allows the reader to be certain that Luhmann argues conclusively, i.e., from a coherent perspective that is consistently constructivist.

© 2 » However, what do we gain by being certain or assured that Luhmann’s theory of social systems is anchored, finally and undoubtedly, in constructivism (or, on the contrary, in realism)? Why is there such an urge for certainty, for first principals and a final justification of the truth that does not require further justification ($30$)? For sure, any theoretical notion creates order and when this order is reified and understood in an ontological way, one gains certainty in an otherwise inscrutable world. But is it beneficial to aspire to certainty within sciences in this way? John, Rückert-John & Esposito (2013: 8ff) point to the phenomenon of an obvious re-vitalization of ontology of scientific findings, especially when they are transferred into non-scientific debates and, thus, are subject to being translated for the general public by mass media. They argue that in cases where scientific topics (such as gender differences, motives of ecological and social action, freedom of will or social, environmental and climate change) easily connect to everyday experiences, scientific findings tend to be discussed no longer on the basis of theories but rather on the basis of a final cause, i.e., the truth. This in turn seems to foster ontological arguments within science itself. For instance, in his comment on how to deal with the rise of creationism on the occasion of the “Year of Darwin” in 2009, the biologist Josef Reichholf even came up with the statement:

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the earth and the history of the cosmos; just natural history and nothing else.” (Reichholf 2009: 165, my translation)

1 In his response to this statement, the architect Wolfgang Sonne insisted on an understanding of science as only theory-based; otherwise science would only be another type of fundamentalism:

“The key feature in this issue is that the sciences can only win this argument by insisting straight to the point that Darwin has indeed developed a theory. It is the only way to turn the difference between statement and object, which enables us to verify or falsify a statement [...] Those who turn scientific theories into a question of faith—and this is done by declaring them as facts—have already lost the battle with religion.” (Sonne 2009: 272, my translation)

2 Another example would be the current high profile academic and public debates on climate change that have turned into a religious war about the right kind of faith when discussed in public and in the media (for a reflection on this see Aufenvenne, Egner & von Elverfeldt 2014: 121).

3 In his target article, Matuszek also tries to create certainty and assuredness, even though he operates on the other side of science (if we take “reality” and “theory” as the opposing positions). He is certainly not arguing with facts or “the reality”; he rather argues on a highly elaborated level within the theoretical framework of the theory of social systems. Nevertheless, his article also shows an urge to be certain and assured.

And it is this that strikes me. For sure, it is of great importance that theories are consistent and coherent, if we want to work with them. I would argue that Luhmann’s theoretical framework does this already. In this, I agree with Hans-Georg Moeller’s appreciation that opens his interpretation of Luhmann’s work:

“It is striking that Niklas Luhmann’s (1927–1998) social system theory often provides the most advanced, adequate, and applicable models for understanding how things work in contemporary society” (Moeller’s 2012: vii, my emphasis).

6 In a way, Matuszek acknowledges the explanatory potential of the theory of social systems (“justification by effectiveness”, §34) as well, but this does not seem to be sufficient for him as long as there are any epistemological ambiguities, such as the introductory sentence in Luhmann’s first chapter in Soziale Systeme implies. He completes this thought (§34) with the amazed statement: “Luhmann seems to say: I start this way. Here are the effects. Make it better, if you can!” To me, this is science in best practice – disclose your premises, develop your “narrative” for creating order in the intangible world and describe the effects (as far as they are known). In his wise notion of non-dualism, which can be understood as an epistemology beyond the dualism of ideas (culture) and object (nature), Josef Mitterer would call this a “description from now on,” neither true nor false, just a description that has overruled previous descriptions and which will be the subject of further descriptions and transformations. Taking this seriously, any knowledge as well as any “thing” is subject to change in its description. “Knowing for sure” and “being certain” is then a very limited option. No matter how difficult it might be, in science it will be helpful to stay “alienated” from the subjects we deal with and not get too accustomed to them.

7 However, modernity obviously brought us a shift from an ontological to an observer-dependent world, ontology obviously creates a functional blindness that cannot be circumvented, and in which ontology is used to de-ontologize the observations. This creates circularities in the lines of arguments as well as paradoxical outcomes, which can only be seen with further (second-order) observation. And this again contributes to a complexity that cannot be ascertained in ontological terms and needs to be de-ontologized, etc.

8 In his article, Matuszek wants to clarify some doubts on the side of constructivism. With this, I would argue, he perpetuates the long established controversy between realism and constructivism instead of mediating between them. Ultimately, neither constructivists nor realists can “prove” the truth of their epistemology. After all it comes down to a question of faith – with all the difficulties of faith within (or versus?) science mentioned above. Despite the described shift in social structure (§7) that has led to a domination of functional differentiation and that supposedly has resulted in a complete collapse of the ontological view of the world, there are still many “fishermen” (§7, Luhmann 2013: 196) out there, who take for granted what they can observe. These fishermen not only belong to the Outer Hebrides (ibid), but also populate many different scientific disciplines. Unfortunately, they do not care about debates in the constructivist community and it is an open question as to how we can all come into discussion and try to find a shared (non-dualistic?) epistemology. This is a necessary step to tackle finally the huge open questions of the 21st century. For this, we need to be able – and willing – to tolerate ambiguities.

**Heike Egner** is a full professor of geography and regional studies at the Department of Geography and Regional Studies at the Alpen-Adria-Universität Klagenfurt (Austria). Her research interests include philosophy of science in geo sciences, observation theory, systems theories and complexity theory, sustainable development, social aspects of global environmental and social change.

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Author's Response

The Epistemological Argument

Krzysztof C. Matuszek

> Upshot • The commentaries concentrate mostly on ontological issues but overlook the main epistemological argument in my target article. This argument refers to the conditions that make cognition possible, and to the limits of cognition. These are important for two reasons: they have ontological consequences and they limit the theory’s contingency.

1. The commentaries concentrate on questions of ontology and reality in my interpretation of Niklas Luhmann’s systems theory. My response to the critique is arranged around several core concepts, such as the system/environment distinction, the epistemological concept of correspondence, the construction of reality, the ontology of events, differences between negative ontology and epistemological agnosticism, and the question of de-ontologization. I want to thank the authors of the OPCs for all the remarks and objections that aim to clarify these complex issues.

2. Hugo Cadenas argues in his commentary that the distinction between reality independent of observation and reality constructed in observation can be reduced to the system/environment distinction. He identifies these two realities as an “external” and an “internal” (or “cognized”) one ($§1$) and states that “the distinction inside/outside is understood by Luhmann as system/environment” ($§2$). However, the reality/construction distinction applies to both the system and its environment. In a first-order observation, the environment of a system (different things, persons, situations, other systems) and the system itself seem to exist independently of observation. Yet, in a constructivist second-order observation (the observer can be either the system itself or an outside observer), the external reality appears to be a cognitive construction as well as the system’s identity constructed in self-observation (cf. also the question of an observer’s identity in Thomas Mavrofides $§3$, 6). Thus, the distinction between reality and construction does not correspond to the environment/system distinction. There is no doubt that “Luhmann’s systems theory is based on the distinction system/environment and not on an ontological principle” (Cadenas: Upshot); however, there are still ontological concepts in his theory, as I argue in the target article ($§§13f$), though it is not a traditional ontology based on first principles ($§§8, 41$).

3. According to Raf Vanderstraeten, the ontological statements in my interpretation of Luhmann’s theory can be replaced by epistemological issues. He reformulates the statement that cognizable reality does not exist independently of observation by asking: “What do we mean when we say that reality is a construction and that this construction does not correspond with the external world?” ($§5$). This is an important point and I agree that the ontological question of the existence of cognized reality strictly relates to the epistemological problem of correspondence, but I argue that the former cannot be reduced to the latter. How can a reality correspond or not correspond with “the external world”? Epistemologically, this makes sense only if we take into account that this reality is actually a cognitive construction without an independent existence. Without ontological concepts we could not reject the naïve realism of first-order observation, with its assumption that things, persons, situations, and systems exist independently of observation.

4. Aside from this, Vanderstraeten ($§6$) criticizes my approach for neglecting the temporal dimension of the reality construction (see also Karafillidis’ concept of ontogenesis: $§2$). According to Luhmann, the cognizable reality is constructed in observations that condense and confirm different identities (things, persons, etc.). Its reality consists of resistance; however, it is not the resistance of an independent reality, but the resistance of operations against operations, communications against communications. I concede that this topic is not widely discussed in my article, although there is a separate section ($§§47f$) dedicated to these issues. In this context, I primarily wanted to emphasize that social systems are also cognitive constructions and that, for example, the systems theoretical reflection on science as an autopoietic social system condenses and confirms its identity.

5. The commentary of Athanasios Karafillidis is also a critique of my conception of ontology within systems theory. However, it starts with a misunderstanding, for the author identifies this conception with “ideas of identity, substance, and purity” and collecting evidence “about how Luhmann secretly relies on some existing reality” ($§1$). In a further passage Karafillidis suggests that my statement: “the reality/construction distinction is ontological” aims at an ontology of events and processes, and concludes: “He presents a distinction as ontology” ($§6$). This is also incorrect since the ontology within systems theory is neither essentialist nor “operational” ($§9$). An operation of observation is an event, but only for an observer that takes time into account. No current observation can observe itself; therefore “this unique existential moment is also only a moment for an observer” (Luhmann 2009: 41, my translation). The reality/construction distinction is ontological analogously to being/non-being, and ontology within systems theory is the result of observation that distinguishes between these two kinds of reality. The relevant passage by Luhmann: “Constructed reality is therefore not the reality it means” (2009: 47, my translation) concerns the reality of the naive realism of first-order observations (cf. $§6$).

6. The idea of an ontology of events also appears in the commentary of Florian Grute, who states that “social autopoiesis exists only in the individual instances of operations of the social system” and “within the singular act of actualizing communication” ($§5$). That is correct, but again only for an observer that actually constructs the unity of an operation (see Luhmann 1990a: 60–62). An observer can indicate itself, but a current observation cannot indicate itself. Therefore it is important to distinguish between observers (social and psychic systems) and operations of observation (communications, thoughts).

7. Armin Scholl in his commentary rightly points to the differences between negative ontology and epistemological agnosticism with reference to the existence of reality, and postulates a consequently agnostic standpoint in order to avoid ontology ($§§3f$). In this context, it is important to indicate what kind of reality we mean. In the article, I argue that systems theory remains
in the position of epistemological agnosticism regarding questions of a reality independent of observation – we cannot know whether it exists or not (§§26–29) – and that negative ontology relates to the cognizable reality (§§13f). The statement that cognizable reality does not exist independently of observation is justified by the general constructivist assumption that cognition actively constructs reality and is not a passive reception of what is directly given.

« 8 » Mavrofides also raises the question of reality’s existence. I agree with him that the radicalism of Luhmann’s approach lies in the refusal even to discuss this issue (§9). This is Luhmann’s strategy to leave ontology behind. The proposed interpretation, which reveals the presence of ontological concepts in systems theory, shows that such a refusal is untenable.

« 9 » Furthermore, Scholl suggests that there is no ontological problem in systems theory (§8), since ontology according to Luhmann is already de-ontologized and its reality is a contingent cognitive construction. I argue that this is correct with reference to traditional (“old-European”) ontology (§32), one can also characterize it as positive ontology but that this de-ontologization does not concern observation that distinguishes between reality and construction, because the result of this observation is precisely the statement that cognizable reality is a cognitive construction and does not exist independently of observation. That is what I propose to call “ontology within systems theory” (§30).

« 10 » Most of the commentaries concentrate on certainly significant ontological issues, but they overlook the main epistemological argument presented in the target article. This argument is the concept of the conditions that make cognition possible and the limits of cognition, which all together are important for two reasons: they have ontological consequences because they determine what we can say about the existence of cognized things (§§9–14), and they limit the theory’s contingency (§§36–41).

« 11 » Luhmann’s theory in its final form is not merely a contingent sociological description of late, reflexive modernity, but is ultimately an ahistorical epistemology and meta-theory that applies to all possible theories (cf. Vanderstraeten §§7f). Therefore, as I show in the article (§§31–33), from Luhmann’s point of view traditional ontology is de-ontologized, Immanuel Kant’s transcendental idealism is based on another contingent distinction (a priori/a posteriori), and Jürgen Habermas’ theory criticizing social systems for their instrumental rationality that colonizes the Lebenswelt appears itself to be a self-description of society – the all-inclusive communication system. Thus, the theory’s contingency is limited by the universality of systems and their environments, operations of observation, and cognitive constructions. In systems theory, the conditions of the possibility of cognition are not transcendental, as in Kant’s transcendental idealism, but they are self-referential. In the theory’s self-observation, the statement that cognition is possible as an operation of a system differentiated out of its environment (Luhmann 2009: 36) is itself a communication system, that is, an operation of a social system.

« 12 » Finally, I would like to refer to some general important questions about different aims of reasoning and attitudes towards scientific theories. They are raised in the commentary of Heike Egner, who recognizes in my article “an urge to be certain and assured” (§5). I admit that I have aimed at coherence and removing ambiguities in systems theory, and if this is a type of fundamentalism (see §3) then it is probably the least harmful. However, I see in Luhmann’s theory a different temptation “to turn scientific theories into a question of faith” (Wolfgang Sonne quoted by Egner in §3). This is the temptation to treat Luhmann’s work not only as a sociological and philosophical theory, but as a worldview (Weltanschauung) that even takes the place of religion and justifies an ironical ethics rooted in (seemingly) unlimited contingency (see Moeller 2012: 105–119). For me, Niklas Luhmann’s systems theory is a great intellectual achievement that guarantees its author a place among the classics of philosophy, but it is still only a theory and not a matter of faith.

**Combined References**


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