

## Author's Response

### Cognitive Autonomy and Communication

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**> Upshot** • I revisit the basic assumptions of constructivism on which the solutions presented in the target article rest, and argue that communication is difficult to understand until the cognitive autonomy of individuals resulting from operational closure is adopted as the point of departure.

« 1 » I am grateful to all my commentators, who exhibited patience and goodwill and commented on my target article, even though it seemed pointless to some degree. All seven commentaries produced too many questions to adequately respond to all of them. Still, I will try to address the most important issues here.

#### Back to basics

« 2 » Alexander Kravchenko calls into question the cognitive autonomy of the consciousness system (§5) and the fact that human thinking is not language-based (§§7f). In my view, the concept of the cognitive autonomy of the consciousness system originates in Humberto Maturana's work. It is based on the idea that the nervous system of the observer is operationally closed (i.e., it operates as a closed network), self-referential and cannot perform operations outside its own boundaries (Maturana 1980: 38–40). These concepts are the basic assumptions of approaches such as (radical) constructivism (RC) and Luhmann's operative theory of social and psychic systems, and to give them up is to repudiate these approaches.

« 3 » In criticising the assertion in the target article that human thinking is not language-based, Kravchenko writes that "Palmaru continues the tradition of Cartesianism (which he seems to reject) by divorcing thinking and language" (§7). He concurs that Luhmann does not consider thinking to be language-based, yet is surprised that I refer to Maturana's *Biology of Cognition* in support of my claim. The crux of our difference of opinion is fairly simple: the target article discusses two kinds of autopoietic systems whose operations differ. Kravchenko claims

that operations in both systems are language-based and justifies his claim with a reference to Maturana, Mpodozis & Letelier (1995: 24) who wrote: "The human brain thinks in language." But how can this be possible? Since the consciousness system and the social system are both operationally closed, self-referential and strictly structurally determined, their operations must be different. Accordingly the notion that human thinking is language-based or that language emerges from elements of the psychic system such as thoughts must be rejected by constructivism. Language is a function of the social system's operation, i.e., communication (but communication is not limited to linguistic communication, not to mention that language itself is not communication), and can only be structurally coupled to consciousness. In his *Biology of Language* (1978) and *Biology of Cognition* (1980) Maturana refers to language only in relation to the consensual domain. He clearly notes that the process of thinking is necessarily independent of language (Maturana 1978: 30). Thus, language is a collective artefact. However, by no means does this diminish the importance of language in constructivism.

« 4 » Véronique Havelange writes that I distinguish between the "bottom-up" perspective of constructivism emphasizing human action and the "top-down" perspective of social constructionism bringing social structures to the foreground. She argues that "rather than opposing these two dimensions, it is necessary to thematize their mutual relationship" (Abstract) and even calls introducing this opposition a "wasted effort" (Q1). The "top-down" and "bottom-up" perspectives, however, are not my invention. They have been distinguished by several authors long before me (Butz 2008; Fuchs 2008). Klaus Krippendorff (2008, 2009) has written about radically social constructivism that can overcome what he perceives to be "an unfortunate cognitivism in von Glasersfeld's, Heinz von Foerster's, and Humberto Maturana's work" (Krippendorff 2009: 138). This is exactly what I am trying to do in the target article as well.

« 5 » In her §8, Havelange writes that "human society cannot be adequately understood purely in terms of inter-individual interactions. This is to miss completely the crucial significance of macro-level social

structures." These assertions are typical for social constructionism which presumes that all we consider to be "real" is the outcome of social relationships. I have refrained from a thorough discussion of these issues because the primary aim of the target article was to provide an account of how successful communication among individuals is possible, despite their cognitive autonomy, and how a shared knowledge and culture emerge in communication from the individual constructions of people. My understanding is that the answer to these questions contributes to overcoming the gap between social constructionism and radical constructivism and the formation of a comprehensive view that we could call social constructivism.

#### On micro processes

« 6 » Mariaelena Bartesaghi claims that I am trying to present constructivism as a theory (§4). In my understanding constructivism is not a homogenous theory, but a bundle of quite divergent approaches with many various points of views and factions: see §1 of my target article in which I refer to it as "a new approach" that has been introduced into communication and media studies.

« 7 » Bartesaghi argues that constructivism in communication science almost does not exist and that it is even worse off than my acknowledgement of it as "the ugly duckling searching for recognition." She justifies her claim with the results of a search of a single literature database, which resulted in only six papers that discuss constructivism. Perhaps it is not enough to look into a single database? In *Constructivist Foundations* alone there are seven authors writing about communication science who have defined themselves as radical constructivists. These scholars have published 29 papers in this journal, which is almost five times as many as found by Bartesaghi.

« 8 » In §§1, 2, and 4 Bartesaghi criticizes the notion of "discipline" and rejects the idea of constraining oneself by identifying with any single discipline. This seems to revive an old problem in the social sciences, i.e., the distinction between the "universal intellectual" and the "specific intellectual." The former was appropriate in a certain historical situation but this historical context, within which the universal intellectual functioned, no longer exists. In this respect, I tend to

concur with the philosopher and historian Michel Foucault, according to whom we witness the functioning of “specific intellectuals” who can no longer claim to be writing, speaking or acting on behalf of all humans, but be at best the spokesperson for specific, clearly demarcated domains of social activity. Foucault wrote:

“The work of an intellectual is not to shape others’ political will; it is, through the analyses that he carries out in his own field, to question over and over again what is postulated as self-evident, to disturb people’s mental habits, the way they do and think things, to dissipate what is familiar and accepted, to re-examine rules and institutions.” (Foucault 1988: 265)

« 9 » Bartesaghi has a different opinion: “How ... might a theorist of constructivism be able to demonstrate the indexical and reflexive relationships between micro processes and the social order? (Q1)” It makes me wonder, what are “micro processes” in society? The answer depends on how we define society. Karl Marx gave up the assumption from the time of Adam Ferguson and Jean-Jacques Rousseau that society consists of individuals. He writes in the *Grundrisse* that “[s]ociety does not consist of individuals, but expresses the sum of interrelations, the relations within which these individuals stand” (Marx 1973: 265). Max Weber, George Herbert Mead and Talcott Parsons analysed society by means of the concept of action. For Parsons, social systems are action systems. The constructivist conceptualisation of society is based on the idea presented by von Foerster in his *Cybernetics of Cybernetics*. He wrote that two observers, connected through language, constitute the elementary nucleus for a society (Foerster 1979: 5). For Luhmann also, two observers, connected through communication, constitute the “elementary particle” of society. This atomic element is communication, and the social system is constantly reproducing itself by means of communication: it is autopoietic. Thus, communication cannot be attributed to a single actor; nor can it be interpreted solely as a manifestation of a single individual’s abilities. Communication can only be participatory. As a result, following on from this we can consider face-to-face communication as micro processes of society in the field of communication science.

« 10 » As for indexicals, many authors hold that they have two forms of meaning. The first is often called “character” (according to David Kaplan’s semantic theory of indexicals, Kaplan 1989). The second form is often called “content.” Using this terminology, we can say that every indexical has a single unvarying character, but may vary in content from context to context. Hence, character and content are two different kinds of meaning in expressions of a language. To my mind, such an approach negates the autonomy of individuals resulting from operational closure of consciousness and supposes that experience is determined by the structure of a language. This is merely old structuralist wine in a new bottle. Constructivism considers the message in whatever medium to be just a “structured communicational offer,” which the reader (who need not be a reader of written texts but also a television viewer, a visitor to an exhibition, etc.) provides with sense only after it has been received. The target article, based on this assumption, explains the genesis of meaning better than Kaplan’s semantic theory of indexicals.

« 11 » Bartesaghi’s second question about who decides on the definition of cognition and measures it is highly interesting in itself but leads us too far from the topic of my target article.

« 12 » Raf Vanderstraeten asks what the motives of radical constructivism are for locating (the possibility of) communication in the individual. §2 of the target article states that communication cannot be attributed to a single actor; nor can it be interpreted solely as a manifestation of a single individual’s abilities. Although communication stems from individuals, from the individual constructions of people, it is an operation of the social system.

« 13 » Vanderstraeten’s two-part Q2 wants us to reflect on the construction of social agency, and who the entities are that we allow to communicate. The first part of his question is whether it would not be better to incorporate the social and cultural context into a theory of communication. My answer is no, because for the constructivist the primary question is how a shared knowledge and culture emerge in communication from the individual constructions of people. This question interests social sciences in

general but, of course, also cultural studies. As for the second part of his question, “Who are the entities we allow to communicate?” I fail to recognize the link with the subject of the target article.

## Two scientific traditions at the heart of semiotics

« 14 » Hugo Cadenas’s commentary addresses my solution to the classic sociological problem of “intersubjectivity.” He argues that my proposal does not advance on this matter. Cadenas even claims that “[t]his issue becomes particularly problematic if a constructivist approach (radical or not) is adopted in order to analyse social communication” (§1). In justifying his position, Cadenas writes that my “solution for intersubjectivity, according to which culture would be indispensable [...], follows the same strategy that sociologist Talcott Parsons [...] proposed for the same problem” (§6). He is referring to the theorem of double contingency put forward by Parsons and other authors such as Habermas and Luhmann. Cadenas claims that these authors resolved the problem of double contingency or endeavoured to do so by means of culture. I agree; Parsons’s (1951: 37f, 1977: 168f) solution to the problem of double contingency takes the form of cultural determination. However, in this respect it is worth taking note that Parsons understood culture as an ordered symbolic system (Parsons 1977: 168), that is, a symbolically mediated pattern of values or standards of appropriateness that permits the construction of a set of action-guiding, normative, conventional rules through which significant cultural objects are generated and used. Yet this is not what I was writing about at all. I have never equated culture with values and norms or considered it a “normative pattern-structure of values” (Parsons 1951: 37).

« 15 » In the case of Habermas, it would be a misunderstanding to simply equate his lifeworld with culture (as Cadenas points out in footnote 2). Habermas’s concept of lifeworld is more comprehensive and encompasses two components: the material basis and the symbolic components of the lifeworld. For Habermas, the latter consists of three components: the three spheres “culture,” “society” and “personality” (Habermas 1987: 138). Hence, it is misleading to equate lifeworld with culture alone.

« 16 » As for Luhmann (his social systems theory is one of the main hypotheses of how social systems emerge), he did not consider culture to be the solution to the problem of double contingency (see Luhmann 1995a: chap. 3). In his main texts, the role of culture is marginal; in *The Art of Society*, Luhmann even called culture “one of the worst notions ever invented” (Luhmann 1995b: 398). Thus, I cannot agree with Cadenas’s criticism in his §§5–11.

« 17 » Bringing forth his second argument, Cadenas argues that culture and socialisation’s being the answer to the problem of intersubjectivity relates to Shannon & Weaver’s mathematical concept of communication (§12). This and what Cadenas writes in his §§14f appear to be unrelated to my article. In §16, Cadenas finally argues: “From a constructivist point of view, there are not only no messages – while observers in the world select information and utterances to build communication (Luhmann 2012, 2013) and a message can only be defined as a distinction of an observer [...]”

Of course, messages as well as information and understanding can only be defined as a distinction of an observer. However, according to Luhmann, communication must not be viewed as a two-part but as a three-part selection process: selection of information, utterance, and understanding (Luhmann 1995a: 140–142). In the original German version of *Social Systems*, Luhmann writes about *Mitteilung* (see Luhmann 1984: 196; 1995c: 115), which has been translated as “message.” Thus, utterance and message are not two different things, and it is not the case at all that if one is used the other must no longer be used.

« 18 » It should be noted that two scientific traditions lie at the heart of semiotics. One of these goes back to Charles Sanders Peirce and Charles Morris and begins with an understanding of the sign as the first element of any semiotic system. The second is based on the theses of the Prague school and especially on the speech-act theory originated by John Austin and developed further by John Searle. This second point of view considers a single communicative act – utterance – as an atomic element of any semiotic system. Both semiotics and communication science use both terms, sign and utterance. Luhmann takes utterance as his point of de-

parture, and his conceptualisation of communication is influenced by Searle. According to Searle (1965: 131), the central feature of a speech act is intention. The same idea is also expressed by Luhmann (1995a: 150f). And certainly whether analysis of communication is based on the sign or the speech act is not a choice between constructivism and something else. Utterance is but a mode of the analysis of the message.

« 19 » And thirdly, Cadenas equates the communication concept of Luhmann’s social system theory with that of radical constructivism and he takes Luhmann’s position in defining communication, but this does not coincide with the RC position. The difference is that according to Luhmann it is not the individual but only communication that communicates, and communications, not people, produce other communications (see Luhmann 2008: 261f). Thus, according to Luhmann, communication as the unity of the three selections cannot be attributed to any one individual, and the meaning of communication is neither contained in the mind of the sender nor that of the receiver (Luhmann 1995a: 139f, 143f) – in contrast to what Cadenas claims. Hence, we may point out that Cadenas’s assertions about intersubjectivity do not hold.

### Between non-dualism and constructivism

« 20 » Armin Scholl attributed to me a research problem that is not mentioned in the target article and does not result from what I say in the target article either: how can the individual’s cognitive autonomy be linked to social institutions and even to society without neglecting either side? He writes:

“This is a debate about the micro-macro link originated in the field of sociology, which has caused intense discussions: In the field of sociology see Alexander et al. (1987), in the field of communication science see Quandt & Scheufele (2011). (§2).

« 21 » To emphasize again: for constructivist-minded communication scholars communication cannot be attributed to a single actor, nor can it be interpreted solely as a manifestation of a single individual’s abilities. Communication can only be participatory. In the light of this, debates about the

micro-macro link in the field of communication science may mean an exchange of views on how face-to-face communication is linked to communication at societal, national, international or global levels. And since these levels are mostly facilitated by the media the relationship between individual and media communication may be an issue as well. But then again this is not what my target article is about.

« 22 » Scholl (§3) states that I consider constructivism to be a “weak” or “light” realism and asks whether we need such an ontological compromise. We certainly do, and not only to avoid solipsism. Under the second principle of RC, the function of cognition is adaptive, in the biological sense of the term, tending towards fit or viability (Glaserfeld 1995: 51). The words “adaptive, in the biological sense of the term” refer to the relationship between an autopoietic system and its environment in which adaptation is literally a matter of survival. Therefore, adaptation is not limited to the cognitive level, where adaptability refers to the maintenance of the coherence of knowledge. Consequently, constructivism cannot persist without realist presuppositions.

« 23 » “Would Josef Mitterer’s and Siegfried Schmid’s non-dualising approach [...] not be a better way?” Scholl asks (Q1). I, too, was enamoured with Mitterer’s books for a while but over time I have increasingly come to think that Mitterer’s non-dualising approach focuses on the temporality of linguistic description and is applicable in the semantic domain only. Most importantly, however, in my opinion Mitterer’s non-dualism is not compatible with the second principle of RC, which states that “the function of cognition is adaptive, in the biological sense of the term, tending towards fit or viability” (Glaserfeld 1995: 51). Fully accepting the premise of cognitive autonomy resulting from operational closure, RC considers reality as a construction. However, Krippendorff notes that “for humans to practice [sic] their living, their constructed world must persist in the presence of perturbations from an environment, or in Ernst’s terms, it must ‘fit’ that environment” (Krippendorff 2008: 91). As stated in §19 of my target article, our constructions are of something: knowledge, created by an autonomous, self-referential cognitive apparatus has, besides the self-ref-

erential aspect, the external referential side. Without the latter, we could not refer to the purely self-referential operation, which acts blindly, as “cognition.” This external referential aspect of knowledge points to the fact that consciousness systems construct reality; however, this “poiesis” must include some elements of a mind-independent reality as well since creativity works with material existing independently of the cognizer’s mind. This material includes both perturbations coming from the environment, which trigger the states of relative activity of the elements of a consciousness system, and the biologically and historically determined conditions for cognition. Thus, we may think that “for the constructivist, it is completely irrelevant how the real really is” (Glaserfeld 1998: 524). It is not irrelevant at all, however, whether the “self-founding activity” of cognitive systems helps them to cope with their internal and external environments or not. Mitterer’s non-dualizing philosophy explicitly places emphasis on the continuation and coherence of discourses (e.g., Mitterer 2001: 107). But here dualism is “avoided” simply by replacing viability and adaptivity in the biological sense of the word with the social acceptance or inner coherence of knowledge.

« 24 » Next Scholl states that my distinction between *personal sense*, constructed by psychic systems, and *meaning* that is constructed by social systems, is not only an artificial one but may also have an ontological background, i.e., exist in different domains of “reality” (§5). First, all of our presentations are artefacts. And second, if we wish to stick to the basic assumptions of RC, in particular the operational closure of systems, then we cannot doubt that systems operate as long as they do what they do (the operation of biological systems is living, the operation of psychic systems is sense-making, and so on). Thus, if we say that there is consciousness or there are social systems, it means there is something that operates. And if constructions are created in these operations – sense structures constructed by the consciousness system and meanings constructed by social systems – they definitely have an existential background, i.e., the operations of a system that define its autopoiesis.

« 25 » Scholl’s next two questions Q2 and Q3 emphasize “a strictly observation-related approach” and “observer-related perspec-

tives,” which are allegedly better for “describing what a psychic system and personal sense is or what a social system and meaning is.” Since these questions are so closely intertwined let me address them both at once. Although observer-dependency is the most important argument of RC, I could not limit myself to it in my target article. The reason is that RC focuses on the individual and her cognition, which means a strict reference to the observer. However, by concentrating on communication and moving to the supra-individual level, we can no longer talk only about a single observer and the distinctions she makes, but of the phenomena or events that transcend the closure of consciousness. Communication itself is synthesis of more than the content of just one consciousness. And shared knowledge and culture emerge in communication from individual constructions of people. The self-organising processes and the formation of meaning that occur at this supra-individual level are largely independent of a single observer. For these processes, the observer’s consciousness is already an environment. Concentrating on the observer and her cognition would mean neglecting the role of communication and culture in construction processes.

« 26 » In §8 Scholl writes that he cannot shake the impression that I discuss problems that have already been addressed (and even been solved) in constructivist literature, such as Schmidt (2011). Also, the relevance of communication for RC has already been successfully addressed by, e.g., Krippendorff (2008). Hence, his Q5: “What are the reasons that Palmaru chose to ignore the more recent turn to overcome the shortcomings of earlier stages in the discourse of (radical) constructivism?” I doubt that this is the case. My target article has two objectives (§3): to demonstrate (1) how successful communication among individuals is possible, despite their cognitive autonomy; and (2) how communicating actors are able to coordinate their behaviour through communication and participate in social events, although they construct their perceived realities autonomously. Which constructivist authors have answered these questions? The answer must be: no one. For me, much more important than the Schmidt (2011) paper Scholl refers to is Schmidt’s earlier paper, “Media Philosophy: A Reasonable Programme” (Schmidt

2008), which presents several important claims that are important for understanding communication. I also highly regard Klaus Krippendorff’s “Towards a Radically Social Constructivism” (Krippendorff 2008), which encouraged me at one point to write my book *Kujutluste ühiskond [The Society of Imagery]* (Palmaru 2009). However, despite their ingenuity, neither Schmidt nor Krippendorff provides answers to the questions posed in the target article. Evidently, Scholl criticises me for not applying Mitterer’s non-dualism to communication science and for not being at ease with what Krippendorff calls “an unfortunate cognitivism in von Glasersfeld’s, Heinz von Foerster’s, and Humberto Maturana’s work” (Krippendorff 2009: 135). If communication and media studies are fundamentally social sciences, why should communication scholars be interested in RC’s current prevalent and “well documented” position, which considers others and society as individual constructions alone? This is also the answer to Scholl’s Q6.

« 27 » Finally, I wish I could already provide an answer to his Q4 regarding the pragmatic consequences of my theoretical effort but I must admit that it is still too early to answer this question.

### Process logic

« 28 » Marta Lenartowicz states that the potential impact of my attempt may bring about a breakthrough across all fields of social science. That said, she considers that my central argument – communication and social processes cannot be understood unless models describing them are based on the individual and his or her consciousness – is too categorical and should be reformulated. “What about scholars, from Auguste Comte to Niklas Luhmann, who have derived their own sense of understanding of communication and social processes precisely from their conceptual differentiation from human consciousness?”, she asks in her Q1.

« 29 » Comte does not count in this respect; his positivism is quite clearly Cartesianism. I consider Luhmann’s position that communication is irreducibly social – it cannot be understood as the product of any particular psychic system (Luhmann 1995a: 98) – to be only partly correct. I agree that self-organisation occurs at both the level of a consciousness system and at the supra-indi-



vidual level, where the social system emerges in an operatively-closed motion of successive communicative elements. But communication as a reflexive social process of sign use cannot come about without individuals: that which one observer is trying to say to another by means of signs is their individual constructions. And signs, as already mentioned, do not refer to an object or themselves, but to the mental representation of the observer.

« 30 » It should be obvious that the process of world construction can take place only “in the head.” Hence, constructivism presumes that active individuals play the central role of the constructor. However, operations of the social system – communications (in the sense of reflexive sign use) – spontaneously generate meanings (as a social system’s constructs) and patterns of meanings, which are independent of individual observers’ communicational offers. This assumption may be formulated more or less categorically; however, it is important to understand the logic of the process.

« 31 » In her Q2 **Lenartowicz** wonders whether “the progress towards RC, a flip from a top-down to a bottom-up account of communication, is actually being made,” and whether there is a “departure from the theory of social systems.” Although the need for the convergence between top-down and bottom-up perspectives has been written about for a long time, my target article is the first to provide an answer to the question of how the social is constituted as a new dimension – a new system – that emerges in communication among various observers as a co-variation of their constructions of realities. Luhmann certainly failed to describe such a relationship between the psychic and social systems (see also §27 of the target article).

« 32 » I have two comments concerning **Lenartowicz**’s §4 about meaning, which in Luhmann’s theory interpenetrates psychic and social systems. First, Luhmann’s term “Sinn,” which has been translated as “meaning” in the English edition of Luhmann’s *Social Systems* (1995a), refers to selection in a self-referential social or psychic system. Therefore, it fundamentally differs from Frege’s “meaning” (“Bedeutung” in the German original). Frege’s understanding of *Sinn* und *Bedeutung* (which I would translate as “sense” and “reference,” respectively), would be a topic in itself. Here it suffices to say that

Frege made a distinction between three concepts: signs (or names – *Zeichen* or *Namen* in German), their *Sinne* and their *Bedeutungen*. A sign is understood to express its *Sinn* and denote its *Bedeutung* (Frege 2001: 9) *Bedeutung* of a sign is the object, or objects, that the sign denotes. And *Sinn* is a way of presenting or determining a *Bedeutung*. This may be understood to mean that two *Sinne* which both determine the same *Bedeutung* might be like two different routes leading to the same destination.

« 33 » Second, interpenetration in the form as set out by Luhmann in his *Social Systems* (Luhmann 1995a: 213–216) is inconsistent with the widespread consensus that nervous systems are operationally closed. The latter is the starting point of Maturana and Francisco Varela’s autopoiesis theory, Ernst von Glasersfeld’s radical constructivism, Foerster’s second-order cybernetics (through the concept of the observer) and Luhmann’s operative theory of social and psychic systems.

« 34 » “Meaning is the product of operations that use it, not a world quality,” Luhmann (1995a: 44) wrote. Yet in a situation where we have two autopoietic systems – consciousness and communication – whose operations differ, we cannot have a common product of their operations. Hence my proposal for a distinction between the products – sense and meaning – of the operations of the two different systems. The solutions set out in the target article, in turn, flow from this.

« 35 » I am delighted that **Lenartowicz** has mentioned the semiosphere in her commentary (§8). As a student I attended the lectures of Juri Lotman, the author of this theory, at Tartu University in the mid-1970s. Maybe he has influenced me in the direction of viewing the social as a sphere unto itself that is closely linked to culture.

« 36 » Finally, I wish I could provide an adequate answer to **Lenartowicz**’s Q3 about how the autopoietic mind can be “conceptually distilled from its interpenetrating social constructions,” but doing this would require a whole new paper.

### Conclusion

« 37 » The main goal of the target article was to clarify the constructivist position with regard to social interaction and society, in two ways. The first was by dem-

onstrating how successful communication among individuals is possible despite their cognitive autonomy. The second was by showing how communicating actors are able to coordinate their behaviour through communication and participate in social events, although they construct their perceived realities autonomously. Both topics are central in constructivism, and the basic assumptions of constructivism led to the solutions set out in the target article. While I have not found anything in the commentaries to compel me to alter what I have stated in the target article, this certainly does not mean that there is not room for improvement. In the spirit of constructivism, my view is only one conceivable way of explaining how successful communication is possible.

« 38 » Let me conclude by addressing an important aspect. The social sciences employ sophisticated theoretical concepts in their analysis. Inspired by Max Weber, Parsons centred his theory on the concept of action and regarded actions as the basic elements of social systems. Yet over the past thirty years, communication has increasingly risen to the fore as an alternative theoretical point of departure in the analysis of society. In this regard, Luhmann is simply the best-known example. In one of his previous papers, **Vanderstraeten** pointed out that structural changes in contemporary society favour the transition to theories based on analyses of information processing and communication. According to him,

“the classical theories in the social and behavioural sciences have mainly emerged in an industrial society. With their emphasis on power or action, these theories are germane to industrial society.” (Vanderstraeten 2012: 596)

« 39 » Contemporary theories, which view communication and information as central, may be seen as theories that are adequate to the emerging information or knowledge society (ibid: 596). It can be added that constructivism offers surprisingly rich conceptual tools for the analysis of communication and social processes.

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