Constructivism as a Key Towards Further Understanding of Communication, Culture and Society

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> Context • The interest of communication scholars in (radical) constructivism is fuelled by the need to radically rethink the theoretical assumptions that have governed most media and communication research for the past three or four decades. **> Problem** • On at least two points, constructivism poses difficulties that need to be overcome by scholars of communication. These are the attitudes of many radical constructivists towards "reality" and the constructivist position with regard to "society." The article seeks to clarify the constructivist position with regard to social interaction and society by determining how successful communication among individuals is possible, despite their cognitive autonomy. **> Method** • In order to contribute to a discussion about the current situation in communication and media studies, the article takes up the author's argument that communication cannot be understood unless models describing it are centred on the individual. Based on this conceptualisation, considerations about the ontological assumptions of constructivism and the constructivist position with regard to social interaction are revisited. **> Results** • It is argued that (a) cognition is not pure self-reference; (b) society cannot be considered simply as an individual construct; self-organisation also occurs at the supra-individual level, where shared knowledge and socio-cultural meanings emerge in the operatively closed motion of the successive communicative elements. **> Implications** • Clarifying the constructivist position with regard to society can contribute to innovative theory building and research in communication science, and in the social sciences more broadly. **> Key words** • **Communication, sense, meaning, self-organisation, adaptation.**

Introduction

« 1 » When looking back at the last 50 or so years of communication research, one can note two major turning points. These are related to the fact that shared assumptions and premises on which the research was based had been called into question. Also, the experience of many researchers no longer matched the theoretical expectations resulting from those assumptions. In the second half of the 1970s, the first more serious attempt to break free from the basic assumptions originating in the positivist tradition was made. This brought with it the abandonment of several core concepts in traditional communication and media studies (such as "truth," "reality" and "objectivity") and conceptions (e.g., a basic belief in technological determinism), the study of effects and traditional social science methodology, and a mass movement towards critical and cultural approaches to communication. Only ten years later, however, in the late 1980s and in the first half of the 1990s, did the world once more see the emergence of a new approach – the introduction of radical constructivism (RC) into communication and media studies.

« 2 » In particular, this article attempts to explain why scholars of communication like me, for example, are looking to RC for solutions to their research problems. At the same time, I try to determine what new qualities constructivism can offer to scholars of communication. It should be obvious that the new originates mainly in the social sphere, since, contrary to our daily usage of language, communication cannot be attributed to a single actor; nor can it be interpreted solely as a manifestation of a single individual's abilities. Whilst it is possible to behave in a certain way (e.g., eating soup with a fork) or perform an action (e.g., split logs or mow the lawn) alone, communication can only be participatory. Therefore, communication and media studies are fundamentally social sciences. That said, radical constructivism is orientated at the individual[1] and his or her cognition; others and society are considered a creation of individuals, of subjective constructions. Or, as Ernst von Glasersfeld (2008: 59) said: "how can constructivists speak of social interaction or communication with others, when, as they claim, their experiential world is their own construction?"[2]

« 3 » Nonetheless, many communication scholars take an interest in constructivism. They have arrived at RC because they are having obvious difficulties with traditional communication and media studies based on positivism and Cartesianism,

1| In using the word "individual," I am referring to a "cognising subject," a human observer in this text.

2| To avoid any misunderstandings, I hasten to clarify that my intention is not to address all varieties of social constructionism but radical constructivism as proposed mainly by von Glasersfeld.

and likewise with critical and cultural approaches to communication. Their interest in constructivism is fuelled by the need to radically rethink the theoretical assumptions that have governed most media and communication research for the past three or four decades. However, at least on two points, constructivism truly does pose difficulties that they must overcome. These are the attitudes of many radical constructivists towards reality and the constructivist position with regard to "society." Over the years, I have observed that these points pose the main barriers to the diffusion of constructivism in the field of communication and media studies, although other conditions for the successful adoption of constructivist ideas have been quite favourable. Subsequently, I will elaborate on these topics and try to show that these difficulties can be overcome. The main goal of this target article is to clarify the constructivist position with regard to social interaction and society in two ways. The first is by demonstrating how successful communication among individuals is possible, despite their cognitive autonomy. The second is 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.

« 4 » Needless to say, these issues cannot be discussed in a vacuum, as linkages from them lead to the central, not to say final, problem that interested Jean Piaget (Gruber & Vonèche 1977: xi) and von Glasersfeld alike (1995: 50f). I refer here to a key concept in constructivism: adaptation. The issue is not solely exactly how words are made in cognition and communication. It is also how we achieve knowledge in the spirit of adapting to existing conditions in order to "fit in" better with an almost constantly changing environment. This is one of the main features that distinguish (radical) constructivism from (social) constructionism. Finally, I will propose four general conclusions that might be helpful in addressing the current inadequacies in communication and media studies.

Why (radical) constructivism?

« 5 » So, what is it that is prompting scholars of communication, and many social scientists in a broader sense, to look to constructivism for solutions to their research problems? In Palmaru (2014a), I wrote about the crisis in communication and media studies. In my open peer commentary on Julia Völker's and Armin Scholl's article "Do the Media Fail to Represent Reality?" (Völker & Scholl 2014), I primarily discussed the positivist concept of objectivity and the traditional conception of communication, which dates back to the mid-19th century and expresses the beliefs and practices of its time. I stressed that communication cannot be sufficiently comprehended within the framework of this mechanistic understanding. However, that is not the whole story.

« 6 » As already mentioned, there was disillusionment with traditional communication and media studies and with social science methodology in the second half of the 1970s. This spawned a strong movement among communication scholars away from the traditional transmission view of communication towards critical and cultural approaches to communication. Actually, this meant the replacement of notions originating in positivism with a new approach, which is known in sociology and psychology as social constructionism.

« 7 » Communication, however, cannot be adequately understood within the framework of this approach. As its premise, social constructionism, as a framework, emphasises the social origins of the mind, it focuses on societal-level transactions as the ultimate level of analysis and it regards human subjectivity as fleeting products of powerful social forces, especially discourse. This approach may be termed a "top-down" perspective of (social) constructionism that assumes everything we take to be real to be an outcome of social relationships. Where the person and his or her consciousness is considered, if at all, it is only conceptualised as the outcome of discursive structures. Hence the interest in language, which is considered a means of mutual communication by individuals and of constructing a shared reality. However, human thinking is not language-based. Operations occurring in individual consciousness and in the social system, i.e., between individuals, are different. According to Luhmann (1995a: 272), psychic systems operate on the basis of thoughts, sensations and imagination, while social systems operate through communication. Only communication uses signs and language.

« 8 » As is the case within the positivist tradition, social constructionism also underestimates the role of the individual and takes the view that human realities are mainly socially constructed. This is putting the cart before the horse, since the sole locus where construction may take place – individual consciousness – has not been afforded the required attention. Knowledge, however, cannot be separated from its medium: human consciousness. In failing to acknowledge a cognitively autonomous and active knower, social constructionism, despite overcoming many impasses in the traditional approach to communication, also offers an inadequate account of communication.

« 9 » I venture even to suggest that the current situation in communication and media studies resembles the crisis in classical physics in the early years of the last century. The situation in communication and media studies may be even more complicated than the situation in physics before the emergence of contemporary physics and its two core theories: quantum mechanics and the theory of relativity. According to von Glasersfeld (1981: 91), concepts, theories and cognitive structures in general are viable and survive insofar as they serve the purposes for which they are employed, and more or less reliably get us what we want. Von Glasersfeld noted (ibid: 91f.) that Newton's physics has served our purposes quite well until now in the realm of everyday experience and is perfectly viable. Most of us simply do not enter the realms of experience where the methods and predictions based on Newton's concepts break down. This, unfortunately, is not the case with communication and media studies. The traditional notion of communication and social constructionism also creates views and beliefs at the level of daily experience that are not viable in the environment in which individuals happen to

be living. The central problem here is that communication between individuals does not function as a conveyor belt transporting information from one communicator to another. Humberto Maturana was the first to point out that language serves the purpose of coupling (in a purely structural way) the separated dimensions of cognition and communication (Maturana 1980: 30–32). On the same assumption, Schmidt pointed out that texts or utterances are highly structured communicational offers that engender socially expected cognitive and communicative processes. They orient these semantically without being able to enforce in a causal way the specific results that a speaker or writer has intended or expected (Schmidt 2008: 92). These assumptions, however, require replies to the questions posed in the introduction.

« 10 » At the same time, I do not consider this a Kuhnian crisis, one that has emerged from the fact that scientists have encountered anomalies that cannot be explained by the universally accepted paradigm. According to Kuhn (1970: 10), a paradigm consists of an interlinked set of beliefs about the appropriate subjects for investigation, the appropriate methods for investigating them, the criteria for a good theory, the concepts to be used (and their meanings) and the primary theories explaining them. In my opinion, different approaches to communication and media studies are based on various basic assumptions that express

a diverse epistemological positions about the nature of knowledge and how to gain knowledge, and
b different attitudes towards the individual.

These, in turn, result in different attitudes towards communication. These implicit assumptions, "theories-in-use," are shared by some groups of researchers and are therefore mutually reinforced. They are the ones that actually guide the behaviour of scientists and tell the group members how to perceive, think and feel about the phenomena under observation. The methods of research are also derived from these basic notions. Different approaches are selected primarily in accordance with these same assumptions. One approach or another is abandoned because an integrated set of such assumptions ceases to be taken for granted as the only correct way for the group members to see the world.

« 11 » This apprehension enables one to better understand why radical constructivism is receiving attention from communication scientists. In particular, the problem is that both the positivist tradition and the critical and cultural approaches to communication have neglected the simple fact that human beings are anything but passive. From this derives the central argument presented here: *communication and social processes cannot be understood unless models describing them are based on the individual and his or her consciousness*. Please note, however, that I use the words "are based on the individual and his or her consciousness" advisedly: in order for communication to work, actors operating in society need to have undergone socialisation. Without it, there would be no sociality or social activities. What is needed is an individual-centred view that describes and explains the active role of individual consciousness in communication and that also makes it possible to explain how social interaction and society develop from individual constructions by people. This can only occur through communication that connects two or more observers. In other words, instead of a "top-down" approach, known to us as critical and cultural approaches to communication, a different, "bottom-up," explanatory approach is needed. This approach would take as its premise the individual and the simple notion that the process of world construction takes place "in the head" (see Gergen 1999: 237). Such a "bottom-up" perspective, which considers the individual as the one constructing reality, is offered today by RC, the introduction of which in communication and media studies began in the late 1980s and in the first half of the 1990s.

« 12 » And yet constructivism, in the eyes of many scholars of communication, has more often than not undeservedly remained the "ugly duckling who is still struggling for recognition," to borrow a phrase from cognitive scientist Tom Froese (2010: 81). I see two reasons for this: the attitude of many radical constructivists towards "reality" and the constructivist position with regard to "society." Let us take a closer look at them.

Constructivism and reality

« 13 » At times, there is a tendency to interpret radical constructivism as a denial of "reality," as subject philosophy that simply considers reality to be a cognitive construction. This, in turn, fuels allegations of solipsism. These allegations are supported by assertions by constructivists that the outer world is no problem for radical constructivists, that the constructivist intention is definitely anti-ontological, etc.

« 14 » To date, constructivists have mainly repelled ontology with two arguments. First, the idea of precedence or being first from the works of Thomas Aquinas is denied. Thomas Aquinas considered metaphysics as the first philosophy that, on the one hand, is occupied with what comes first in the ontological order – the first causes of being – and, on the other hand, concludes that all other sciences rely on it for their first principles. It is specifically in opposition to this logic that Niklas Luhmann, for instance, rejected ontology in his *Die Gesellschaft der Gesellschaft* as the self-description of a premodern, hierarchical and centralised society (Luhmann 1997: 919). Although Luhmann's conception of ontology diverges from traditional ontology, his conclusion is relevant for us in the sense that ontology cannot be the first philosophy that offers a final explication and justification of truth for constructivism.

« 15 » The other argument invoked by radical constructivists to justify their lack of interest in ontology or even to sever it comes from Piaget, who, in studying the cognitive development of children, reached this often-cited conclusion that "[…] intelligence organizes the world by organizing itself" (Piaget 1954: 355). From the indisputable view that any individual knower can only acquire his or her knowledge by constructing it in a self-organised cognitive process that takes place in his or her own mind, the inference is made that ontological assumptions are not relevant for constructivism. Sometimes, this logic is taken too far, and a negative version of ontology is constructed, as such denying existence or being.

« 16 » It should be obvious that scholars of communication have no use for this kind of constructivism. In order to be able to speak of communication with others, we have to concede the existence of those oth-

ers and, more generally, the existence of the world of things and actors outside the observer, even if we do not reach them through our practices.

« 17 » Fortunately, the construction where negative ontology is derived from epistemology is most likely a rotten apple where the ontological position is offered up with the epistemological position, and that which is asserted about cognition can be understood by a reasonable person who also considers it to be true. The latter, however, does not mean that what is said of ontology is similarly true. Knowledge and reality are two separate entities, and accordingly the ontological and epistemological positions are two separate things. If we say that it is impossible to directly cognise reality, this does not mean that reality does not exist.

« 18 » Since I am subject to no aporia between an old Authority and a Personal Decision, a quotation is in order from von Glasersfeld, who wrote that: "As a constructivist, I have never said (nor would I ever say) that there is no ontic world, but I keep saying that we cannot know it" (Glasersfeld 1991: 17). He repeatedly emphasised that we cannot construct any reality we like and that "the absurdity of solipsism stems from the denial of any relation between knowledge and an experiencer-independent world" (Glasersfeld 1990: 14). In substantiating this position, von Glasersfeld mentioned (ibid: 14f) that all action, be it physical or conceptual, is subject to constraints. But the fact that we are able to make particular distinctions and coordinations and establish their permanence in our experiential world does not tell us anything other than the fact that it is one of the things my experiential reality allows me to do. At the same time von Glasersfeld reminds us that:

> "[…] the viability of an action shows no more than that the 'real' world leaves us room to act in that way. Conversely, when my actions fail and I am compelled to make a physical or conceptual accommodation, this does not warrant the assumption that my failure reveals something that 'exists' beyond my experience. Whatever obstacle I might conjecture, can be described only in terms of my own actions." (Glasersfeld 1990: 14f)

« 19 » I mostly re-read these lines when I happen to be reading something that may be interpreted as a denial of "reality" or the loss of a world. This quotation is not a sceptic's shrug but an important clarification by a person with sophisticated and profound thinking, which suggests that cognition is not pure self-reference. The same conclusion follows from Heinz von Foerster's principle of undifferentiated encoding (Foerster 2003: 214f).

« 20 » Von Glasersfeld does not say that it is possible to cognise reality directly or properly in the traditional ontological sense. In his view, knowledge is not a replica or picture of reality; therefore, we can never say that our knowledge is "true" in the sense that it reflects an ontologically real world. Knowledge simply does not have such a function as presupposed by the positivistic concept of objectivity and, along with it, by the traditional understanding of communication. What von Glasersfeld does point to is that knowledge is of something – that knowledge, created by an autonomous, self-referential cognitive apparatus has, besides the self-referential aspect, the external referential side. Without the latter, we could not term the purely self-referential operation, which acts blindly, "cognition." This external referential aspect of knowledge points to the fact that consciousness systems construct reality; however, this poiesis includes some elements of reality, since creativity works with existing material. 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. Accordingly, the constructivist approach cannot do without realist presuppositions. The ontological position of constructivism is "weak" or "light" realism, which also needs the assumption that there is something beyond our observations. Without this, the notion of reference (to what? to whom?) becomes problematic. Another question is this: why do we create our knowledge? The result of the process of construction cannot be anything whatsoever; what counts is that our perceptions help us to survive.

« 21 » It should be kept in mind that organisms or psychic systems are active, or, as biologist Paul Weiss (1969: 362) pointed out, "Organisms are not puppets operated by environmental strings." Their respective cognitive apparatus is not a passive organ simply waiting to receive impressions from outside; it is not a blind machine that just responds to the external world but is instead the function of active living systems. Both consciousness and social systems develop in co-evolution with their environment, and their autopoiesis depends on the capability of the systems to develop their structures to correspond to environmental conditions.

« 22 » Adapting and coping in one's environment does not mean the creation of total and comprehensive knowledge about reality provided to one as an immediate environment. Indeed, it is not even possible, since the environment is always more complex than we are (Luhmann 1995a: 25, 182). Survival presupposes the resolution of problems facing us, the creation of such knowledge as that which enables one to cope with these problems. In this respect, coping and adaptation are possible since cognition and action are interrelated. Or as Piaget (1997: 20) wrote: "To know an object is to act on it." This, however, means that we not only cognise (hear, see, smell, etc.) something but that we also immediately interpret that which we cognise and adopt a relevant action schemata. This is not about some kind of unique adaptation to a single reality; there can be an infinite number of experiences and reactions. For cognition and for interpreting that which is cognised, there are various ways, and the implementation of an action schema does not require the detailed construction of a picture of that which is cognised. And also, response schemata may be different. What matters is survival, coping – the fact that we respond to our experience in a certain manner and constantly enhance our cognitive and action schemata, together with the linkage between them. Von Glasersfeld (1984: 20f) put it as follows: "Survival simply means constructing any alternative means whatever which manage to get by the constraints that are continually imposed on us." Therefore, all cognitive and action schemata are not equal. From the point of view of survival, some of our perceptions of the outer world are better than others, although they do not necessarily tell us anything true about the supposed ultimate reality.

« 23 » Here, we have reached an important general conclusion. Von Glasersfeld's suggestion that the "fitting" of knowledge to one's experiences, or its cognitive viability, is related to the observer-independent reality

means a reliance on Piaget's tradition – important for constructivism – which sees human development as an adaptation to the environment. In addition to the individual-centred approach, this is another important characteristic that distinguishes radical constructivism from social constructionism. This fundamental difference dates as far back as the time of Piaget and Lev Vygotsky. The core of Piaget's constructivism is the idea that human development is an ongoing process of adaptation to the environment (Piaget 1952, 1997; Piaget & Inhelder 1969), whereas Vygotsky's cultural-historical theory stresses the centrality of transformative collaborative practices by people (e.g., Vygotsky 1997, 1999). According to Vygotsky, people do not adapt to their world/environment but collectively transform it, and, through this transformation, also change themselves. This understanding obviously derives from Marxism (see Vygotsky 1929a, 1929b) and is repeated by contemporary social constructionism, in its conception of social practices, for instance.

« 24 » With the individual as his premise, Piaget takes the view that children develop, learn and acquire knowledge – all in the spirit of adapting to existing conditions in order to "fit in" better with themselves and the environment as a whole. In doing so, their minds and knowledge develop alongside action, which is also orientated at adaptation. Accordingly, the second principle of radical constructivism postulates that the function of knowledge is adaptive in the biological sense of the term (Glasersfeld 1995: 51). The words "adaptive, in the biological sense of the term" allude to the relationship between an autopoietic system and its environment in which adaptation is literally a matter of survival. Therefore it does not just occur at the cognitive level where adaptability refers to the maintenance of the coherence of knowledge. In relation to the latter, Piaget (1968: 101) wrote about cognitive equilibrium, in which our conceptions easily assimilate experience. These two levels are interrelated: adaptation in the cognitive domain is an important part of adaptation in the biological domain.

« 25 » This profound difference between constructivism and constructionism along the lines of adaptation versus transformation provides constructivism with an important advantage. It enables one to appreciate that when it comes to cognition the question is not whether things are as we perceive them. A much more important question is whether or not our notions, the pictures of reality in our heads, help us to resolve the problems that emerge and to survive and cope in the continuously changing environment. All of this makes a lot of sense to communication scholars.

Constructivism and society

« 26 » Another major drawback of constructivism in the eyes of scholars of communication is that constructivism orientated at the individual considers others and society as a creation of individuals, as individual constructions. As a consequence, any investigation of the social tends to be restricted solely to the study of individual cognition – the cognitive operations of entities with a central nervous system. This approach may satisfy a psychologist but not a communication scholar, since communication is a social phenomenon, with the term "communication" referring to mutuality.

« 27 » A new perspective for understanding the connection between communication, culture and society is proposed by Schmidt's socio-cultural constructivism. Endeavouring not to be limited by the naturalist arguments of constructivism, Schmidt introduced a fundamentally new strategy of argumentation. His point of departure is the idea that human observers do not carry out their operations in an "unmarked space" but instead operate in a space that is deeply "marked culturally and socio-structurally" (Schmidt 1994: 47). This meant that constructivism was not justified by simply describing operations that occur in one's consciousness via scientific research results from biology, neurobiology and cognitive psychology, but there appeared a new argument: discursive self-grounding (Sandbothe 2007: 3). This step significantly expanded the constructivist model by introducing a social and cultural aspect to it.

« 28 » Schmidt, in attempting to show how communication and interaction among individuals are possible, despite cognitive autonomy, put forward a new strategy of argumentation, in which cognitive autonomy and social orientation are interconnected and mediate each other through observation and communication. In doing so, he focused not on the apparent absolutes, but rather on how we, as active observers, bring into existence what we subsequently observe as the "reality." Thanks to Schmidt we understand how the reception of messages is possible because of the collective cultural knowledge of social groups or societies. The expectations of participants in communication arise from this knowledge and it serves as a socially accepted instrument of problem-solving. Schmidt introduced into constructivist discourses the assumption that there is no society without culture and no culture without society (Schmidt 2001, 2007).

« 29 » And yet Schmidt's approach to shared knowledge, despite the fact that it constitutes an important step forward in the direction of understanding the social, falls short, since it only presupposes self-organisation at the level of a consciousness system. This, however, does not enable one to understand the social as an autonomous system via operational closure, as a dynamic process system operating with its own elements. Accordingly, an answer needs to be found 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.

« 30 » Basically, this means solving the problem of intersubjectivity, as defined by Edmund Husserl at the beginning of the 20th century (see Palmaru 2014b). In fact, Husserl himself did not succeed in solving this problem. Since Husserl many philosophers, psychologists, sociologists and anthropologists have engaged with the problem of intersubjectivity. Among them is Luhmann, who, instead of viewing intersubjectivity as an opportunity, constructed an autonomous supra-individual level, a social system for which the human actors' psychic systems are merely an environment. But he failed to create a relationship between these two systems. Let it be said pre-emptively that a "shared" or "mutual" understanding can only be based on common meanings and that the latter is formed in an operatively-closed motion of successive communicative elements. In seeking this kind of explanation, I rely on Schmidt's socio-cultural constructivism and Luhmann's operative theory of social and psychic systems.

Towards a possible solution

« 31 » The general point of departure for solving the problem of intersubjectivity lies undoubtedly in the innovations of Luhmann (1995a). These are, primarily, the radical temporalisation of the concept of the element and the recognition of the fact that elements constituting a system can have no duration; a distinction between psychic and social systems; and the application of the concept of autopoiesis to the social field. The last, however, prompts the question of what is a constitutive element of social systems. According to Maturana and Francisco Varela (1998: 42–46), the elements of an autopoietic system constantly reproduce themselves, along with the entire system. It is clear that the smallest unit of a social system cannot then be considered to be the person, as claimed by Jean-Jacques Rousseau. This is because it is impossible to imagine interactions among human beings where these, as operationally-closed entities, create and maintain both social structures and themselves, as elements of the structures, by means of recursive production.

« 32 » Fortunately, Talcott Parsons, and subsequently Luhmann, had already given up the long-standing tradition of philosophy and social sciences which considered the human being as the elementary particle of the social community. For Parsons (1937: 43–45), social systems are composed of actions, and the fundamental unit of a social system is the unit act. Luhmann went even further than Parsons. Referring to the fact that the elements that comprise a system can have no duration, he radically temporalised the concept of the element and regarded the subsequent temporal elements or operations as the elementary, indecomposable units of systems (Luhmann 1995a: 49). Based on these considerations, Luhmann saw not only living but also psychic and social systems as autopoietic. According to Luhmann, by means of reproduction, these systems recursively create their own elements and, with them, themselves as a whole. One cannot just assume that social systems are "living" systems; however, these systems presuppose at least the existence of life.

« 33 » Nevertheless, as stated above, Luhmann failed to solve the problem of intersubjectivity, and his concept of meaning cannot explain the autopoiesis of communication. In many ways, this is the cause of criticism of his theory of social systems. According to Luhmann, the capacity for connecting the temporal elements of psychic and social systems is assured by meaning, a universal medium surrounding all operations of psychic and social systems (see Luhmann 1995a: 59f, 97–99; 1997: 44). For a system to be autopoietic, it must be somehow reached from one elemental event to the next. According to Luhmann (1995a: 36), systems do not consist of static objects but of dynamic operations, and an operation must be connected to another for a system to emerge and persist. Luhmann states that this connection is effected with the help of meaning and that a mind reference for all operations is an imperative necessity for psychic and social systems alike (ibid: 97). When a psychic system thinks or a social system communicates, it is meaning that forms a bridge between various thoughts and communications. Meaning is a universal medium that surrounds all operations of psychic and social systems.

« 34 » Unfortunately, the explanation suggested by Luhmann, where meaning has no carrier and is always formed independently of the individual's mind (for details see Luhmann 1995a: 98), is unsatisfactory from the point of view of semiotics or constructivism. One of the basic assumptions of semiotics is that a sign (a word is a sign, too) does not refer to an object or to itself but to the mental representation of the observer. For constructivists, meaning is provided by the interpreting mind. Hence, it is impossible to fully imagine meaning without its carrier.

« 35 » It should be added that the concept of interpenetration, which Luhmann adopted from Parsons and revised in order to conceptualise the relations between psychic and social systems (Luhmann 1995a: 213–216), does not alter the situation here. This is because the mechanism of systems integration, where the complexity of one system is used for building another system, contradicts the fundamental principles of radical constructivism as formulated by von Glasersfeld (1995: 51) and the conditions for autopoiesis (see Maturana 1980: 78; Luhmann 1995a: 11; 1997: 79). According to Luhmann (1995a: 219), the interpenetration of consciousness systems and social systems is made possible by the fact that both types of systems are meaning-constructing systems. Meaning in Luhmann's language refers to a general form of thinking and communication that must always be presupposed (Luhmann 1997: 44). Luhmann brings this universal into compliance with the general pattern of the theory of autopoiesis so that the meaning becomes realised or actualised through operations of the psychic or social system, i.e., as meaningful thought or meaningful communication. "Meaning is the product of operations that use it, not a world quality," wrote Luhmann (ibid: 44). However, this means that we not only have two different operationally-closed, self-referential systems but, accordingly, two different meanings because the distinctions these systems draw must be different. Both systems function only as an environment to the other and their mutual inter(re)ference can only be indirect – consciousness can irritate the system of communication, and vice versa. As a reaction to these irritations, each system constructs the other and their operations assume the existence of the other, but each remains separate and distinct. However, in such a case, we deal with a typical structure-determined and structure-determining engagement of a given unity with another unity in its environment and this process is called structural coupling. Therefore, "interpenetration" and "structural coupling" must be regarded as synonymous. Otherwise, we should give up the idea of the autonomy of individual consciousness or of the social system, resulting from their operational closure. It is probably not accidental that in his later writings Luhmann mostly uses the concept of "structural coupling," which became the byword for interpenetration. Sometimes, Luhmann even questions the necessity of their separation (e.g., Luhmann 2008: 268). It is also characteristic that while Luhmann dedicated an entire chapter to interpenetration in his *Social Systems* of 1984 (Luhmann 1995a: 210–254), in *The Society of Society* published a year before Luhmann's death, structural coupling is discussed in detail but interpenetration is only briefly mentioned on two occasions (Luhmann 1997: 108, 378). In this, we once more can see that constructivism's concept of the social requires an overstepping of the borders of the consciousness system and an explanation of how a shared knowledge and culture emerge from the individual constructions of people.

Making sense of society

Sense, communication and meaning

« 36 » In solving the problem of intersubjectivity, it is not enough to differentiate between consciousness and social systems and their operations, as Luhmann did; we also need to distinguish between the constructions created in these operations. In this, we not only have two different self-referential systems and two different types of operations but, accordingly, also two different types of constructions, because the distinctions that these systems draw must be different. In simplified terms, it can be said that psychic system constructs are personal sense structures, whereas social system constructs are meanings. These two guide a person's actions and his or her ability to cope in his or her environment (for more details, see Palmaru 2012: 65).

« 37 » Personal sense structures emerge in the sequence of a consciousness system's own self-referential operations. Consciousness forms a subjective sketch of the "external" world in the course of processing experiences. In doing so, it reduces the complexity of the external world to a level it finds understandable, which allows it to perceive reality and to act. This kind of reduction is functional – consciousness reduces the observed phenomenon to only those characteristics required for solving the problem that the individual faces. Or in other words: the individual only studies phenomena for their specific purpose, and these characteristics are most sufficient for the sake of survival. In this way, internal order is created instead of the complexity of the world. The individual experiences the structure formed in their consciousness as "reality." Every individual has their own personal reality, and many people believe that this reality is provided by the world existing independently of them. And based on the premise that the actions of our body are largely controlled by our brain, it may be stated that personal sense structures guide our observations, decisions and actions.

« 38 » Since consciousness is a system characterised by operational closure and structural determination, nobody can observe these personal sense structures from the outside nor transmit them from one mind to another. To overcome the operational closure of their cognitive apparatus and to interact with other individuals, all living beings use communication. Under a constructivist conceptualisation, communication is specifically a fundamental mechanism of the socialisation of actors that connects operationally-closed cognitive and social systems (for details, see Schmidt 2001: 16; Schmidt & Zurstiege 2007: 40–41). The special role of communication in the social has been referred to by Maturana's theory of autopoiesis, under which communication is a surmounter and corrector of the autopoietic closeness of consciousness systems (Maturana 1980: 30–35).

« 39 » More specifically, communication can be defined as a reflexive social process of sign use that serves the verbal and nonverbal organisation of interactions or common activities. In this process, one participant (to whom, for the sake of simplicity and comprehensibility, I shall refer as the speaker) tries, by means of signs, to share their experience, the constructions in their consciousness, with others, and the other participants in the process (to whom I shall refer as the listeners) give sense to the signs selected by the person compiling the message. This process is based on a choice: which events, episodes and signs are chosen and which are cast aside, how to address the other, what media are used, etc. The recipient of a message, too, makes choices: he or she selects the most promising communicative offer and provides it with sense. Hence, communication is characterised by selectivity: communication always implies making a choice from a variety of options. In this respect, each selection decision is contingent, meaning "also being possible otherwise" (Luhmann 1995a: 25).

« 40 » Signs used in communication work because they have two sides: that which is pronounced – the physical thing detected by sensations (the signifier) – and that which is meant (the signified). The latter is a concept created in the mind of an individual. According to Ferdinand de Saussure, the founder of semiology, signs are arbitrary. At first glance, this seems self-evident. For instance, we know that the word "d-o-g" and the creature to which it refers have no link; the connection between them is arbitrary. We also know that in other languages the same animal is referred to by other words altogether: *Hund* in German, *canis* in Latin, *собака* (*sobaka*) in Russian, or *koer* in Estonian. Yet, Saussure is saying more: the signified, too, is arbitrary, as is how we articulate our experience (Saussure 2000: 114). We divide the world into arbitrary categories using signs – the objects of our sensory world do not exist outside of us in a ready state or in the same form that they have in our imagination or in language.

« 41 » As mentioned above, what a communicator says or writes is just a "communicational offer" (*sensu* Schmidt). Since consciousness systems are operationally closed and autonomous, the listener cannot be cast as a passive recipient of messages; he or she is acknowledged to be an interpreter and is also an initiator of personal messages. Each individual receives messages encoded into signs at the level of their mind and interprets them according to their own baggage of pre-existing knowledge, beliefs and emotions, expectations, particular situation, etc. It is highly unlikely that the listener's understanding of the message is simply a mirror image of the version of the reality of the speaker. According to Luhmann (1995a: 139f, 1997: 82), the sender and the recipient endow the same message with different senses. Luhmann (2000: 97) wrote that "understanding is practically always a misunderstanding without an understanding of the mis." Communicative interaction, in other words, should not be taken for granted.

« 42 » This prompts the question: how are communicating actors able to successfully coordinate their behaviour through communication? Luhmann (1997: 229) solved the issue simply: communication does not have a "telos of understanding" in the sense of unity, agreement, approval, togetherness or consensus; according to him, successful communication is continued communication (ibid: 337).

« 43 » This solution is acceptable but requires elaboration. First, it should be taken into account that communication is based on socialisation: the circumstance that speakers and listeners have acquired shared knowledge. A major part of socialisation is devoted to language acquisition. Furthermore, an individual's baggage of pre-existing knowledge and beliefs, as discussed above, are affected by previous communication and

socialisation. Second, communication is not a single linear event but a constant process of the back-and-forth oscillation of messages and their mutual constraining of one another in ways that lead to transformations in them. In this process, personal sense, with which the speaker has provided their message, is replaced by social meaning.

« 44 » Since psychic systems are operationally closed and autonomous, their responses to messages are not one-dimensional or linear. Structures arising in a consciousness system are expressed in communication, to which, in turn, other people respond, and so on. In that chaotic movement of messages and their mutual impacts and responses, meanings and patterns of meanings arise at the level of a social system. Clearly, the phrase "shared meaning" does not indicate that there are identical personal senses. A shared meaning is an emergent property of the communication and interaction. The status of meaning as shared by the observers is itself something that must be continually achieved in the interaction of observers. Thereby, "shared" does not mean iconic correspondence, homomorphism or a match of individual constructions, but just their mutual fitting. While meaning emerges in the conversation, the observer must construct their own interpretation of that meaning in an ongoing way. In so doing, the observer automatically creates complex reflexive structures (A knows that B knows that A knows, and vice versa). Those shared beliefs arise from the presumption that others know the same thing and will act in the same manner. From that presumption arise people's expectations, as well as their expectations of others' expectations. It is clear that the different interpretations of meanings must overlap to a certain extent; otherwise, people could not act together to constantly recreate society. Meaning is a phenomenon that evolves in communication; its purpose is social, it is interpersonal and its role is intermediary. At the same time, meanings are interpreted individually.

« 45 » It is important to note that communication is a process of self-organisation that can be described as the spontaneous creation of a coherent pattern out of local interactions. Here, in a process of reflexivity and symbolic exchanges, chaotically moving communications constitute a spontaneously ordered structure, a pattern of motion formed in interaction – meanings (as a social system's constructs) and patterns of meanings. This is typical self-organisation, a process that increases the internal organisation of the system without its being guided by anyone from outside. Of course, a social system does not "make up" meanings; it only organises the messages of individuals, selecting and interpreting the material substitutes used in communication and connecting them based on their meaning. Although meanings stem from individuals, they are not constructions of one individual but rather the products of a social world. Perhaps this may be better understood by a comparison to price, about which economist Robert Heilbroner (1991: 70) has written that "The right price, after all, depends primarily on what other people, not just you yourself, think that price should be."

« 46 » Here, it is vital to point to the link of the process under consideration to adaptation – to adapt to the ever-changing environment, the system needs a variety of interpretations broad enough to react to perturbations. This variety is provided by the different messages of the individuals participating in the process. The most adequate communicative elements are selected by the participants in the process according to their fitness. In this way – the shared mental constructs of individuals – meanings are generated without an external agent's imposing them. It is as if the motion of successive communicative elements arranges itself into a more ordered pattern. Meanings and aggregations of meanings do not only organise shared knowledge to which individuals orientate themselves; they also guide their observations, choices, decisions, communication and actions. This enables individuals to operate together and constantly re-create society.

Culture as a pattern of meanings

« 47 » The pattern of structurally-related meanings that takes shape in communication can be defined as culture. The latter is constituted by the shared mental constructs of individuals that are created, maintained and changed in communication by meanings given to messages by others. Certainly, this determination may remain incomplete unless we take into consideration that the creation of meaning(s) is based on socialisation: only after having been socialised are the individuals able to participate in communication. Simultaneously, shared knowledge (and, as a result, expectations) formed by socialisation is constantly constraining and channelling the process of providing meaning and, additionally, the developmental trajectories of culture, by placing boundaries upon what kind of communication is capable of being connected. In this pattern, meanings are related to one another. For example, the word "tree" could refer to actual trees – fir, pine, apple tree, etc. – that are separate notions; at the same time, the word "tree" is associated with other notions in culture, such as forest, park, firewood, etc. Each sign or utterance receives its meaning depending on its position in the general pattern of meanings, and a change in one meaning brings about a change in the other elements of the pattern of meanings related to it and, consequently, in the whole structure. Inter-related meanings, in turn, make up bigger structures: thematically organised discourses, narratives, myths, categorisations, etc. that reduce complexity, co-orient actions and interactions, and ensure the attribution of meaning to single events.

« 48 » It could be assumed that culture as a pattern of meanings is primarily formed spontaneously in dense places within a network of interpersonal relations as a result of messages shuttling back and forth. Configurations of meanings arise in various places in the network and spread as concentric waves in every direction, covering an ever-bigger area. Thereby, they force all communications left in their way to oscillate with them just as waves rock boats in a harbour. These concentric waves collide with others so that – on the basis of one or several of them – a more-or-less general pattern of order emerges. As several circles of waves may persist for some time, several different patterns of meaning exist side by side. At the same time, meanings constantly change in communication.

« 49 » Culture determines both the meaning of signs or utterances and whether they belong or do not belong to the existing pattern of meanings. For this reason, a communication event as an elementary operation in a social system either connects to other elementary operations in the com-

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munication system or does not. Therefore, not only meaning but culture as a pattern of structurally-related meanings equips momentary elements that constitute social systems with the capacity for connection and makes the social system operationally closed, self-referential and autopoietic. As such, culture is the key link in the constant reproduction of a social system, without which the social would simply cease to exist.

« 50 » It should be added that a social system in which shared meanings evolve is not necessarily a society as a whole. Cultural phenomena are often specific; they are related to a specific situation, group and time. Culture constantly differentiates in the course of evolution and feeds both development and the ability to cope in the environment. There are no choices and there is no evolution without variations.

Conclusion

« 51 » The morphogenesis of shared knowledge and social orders is, of course, much more complicated than I have described here. I hope, however, to have successfully outlined some fundamental characteristics of this process in order to provide some clarification on the constructivist position with regard to social interaction and communication. From this rather rudimentary treatment of some aspects of the constructivist view of the relation of the personal mind to the social mind, we can derive at least four general conclusions that might be helpful in addressing the current inadequacies in communication and media studies. First, communication and social processes cannot be understood unless models describing them are based on the individual and their consciousness. Communication science needs an individual-centred view that proceeds from the active role of individual consciousness in communication.

« 52 » Second, society cannot be considered an individual construct; self-organisation also occurs at the supra-individual level, where the social system emerges in an operatively-closed motion of successive communicative elements. In this process, individuals are connected directly or indirectly to one another through communication and, in a chaotic movement of messages and their mutual impacts and reactions, socially accepted meanings and patterns of meanings arise at the level of a social system. Meanings are not constructions of an individual but rather products of a social system, an emergent property of communication and interaction.

« 53 » Third, according to Luhmann, social systems do not consist of static objects but of dynamic operations and, for a social system to emerge, its elements – communications – must be connected to one another. The key to the capacity for connection in terms of operations of social systems lies in a culture that determines the meaning of messages and regulates their acceptance or rejection by participants in communication, as well as the degree to which particular communication acts belong to an existing pattern of meanings. Observers operating in society more or less rely on a common culture; therefore, understanding one another and common activities become possible in spite of the cognitive autonomy of action carriers. Culture is the key link in the constant reproduction of the social system (be it society as a whole, an organisation or the interaction of people), in the absence of which the social would simply cease to exist.

« 54 » And fourth, constructivism draws on Piaget's tradition – which is relevant to constructivism – that sees human development as an adaptation to the ever-changing environment. Adaptability is not defined by the environment but by the organism itself. In constructivist understanding, our life and survival rely neither on veracious pictures of outside reality nor first principles, but on experience preserved as individual and collective cognitive structures. Both are structurally coupled. And the co-evolution of this special kind of system-environment-relations is the basis of the emergence of a constructed reality in time.

« 55 » The theoretical account that addresses how people make meaning out of messages also provides an answer to the question about the possibility of extending the concept of autopoiesis to social systems. A social system can be conceptualised autopoietically if we proceed from the most important feature of a living being on which its relationship to the environment is based: consciousness and communication. This solution is in line with the fundamental principles of radical constructivism (Glasersfeld 1995a: 51) and with the well-known statement of Maturana that, "Living systems are cognitive systems and living as a process is a process of cognition" (Maturana 1980: 13). It should be added that the approach proposed here makes it possible to distinguish a "bottom-up" perspective of constructivism and a "top-down" one of social constructionism. I hope that these solutions lead to fruitful debates and also contribute to innovative theory-building and research in communication science.

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Open Peer Commentaries

on Raivo Palmaru's "Constructivism as a Key Towards Further Understanding of Communication, Culture and Society"

Constructivism and the Epistemological Trap of Language

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> Upshot • Arguments are given against cognitive autonomy and individual consciousness as the premises in understanding social processes. The notion of the epistemological trap of language is introduced, and its constraint on how we construct the world is highlighted.

Autonomous consciousness?

« 1 » I definitely agree with Raivo Palmaru that the theoretical assumptions of media and communication research need radical rethinking and that (radical) constructivism may be the much-needed epistemological key to a number of problems in social sciences. An attempt to clarify how constructivism might shed a brighter light on social interaction and help us understand society better is quite commendable, and there are a few points made by Palmaru on which I certainly agree. However, I feel somewhat uncomfortable about Palmaru's central claim in §11 that "*communication and social processes cannot be understood unless models describing them are based on the individual and his or her consciousness*" (emphasis in the original).

« 2 » Palmaru's intended contribution to communication research is twofold. First, he wants to show "how successful communication among individuals is possible, despite their cognitive autonomy" (§3). His second intention is to demonstrate "how communicating actors are able to coordinate their behaviour through communication and participate in social events, although they construct their perceived realities autonomously" (ibid). Although there are a number of points that could be discussed, including Palmaru's approach to meaning, knowledge, culture, and society, I will focus on his claims that (a) individuals are cognitively autonomous; (b) the construction of perceived reality is an autonomous process that takes place in a cognizer's consciousness; and (c) human thinking is not based in language.

An epistemological trap

« 3 » My opening premise is that our understanding of communication, culture, and society is incomplete, fragmentary, and often naïve, not so much because of an inadequate methodology chosen within a particular theoretical framework but, rather, because of the *epistemological trap of language* (Kravchenko 2016a). As a domain of cognitive interactions language is where we as observers happen in the praxis of living (Maturana 1988); it is the "house of Being" in which we dwell (Heidegger 1978: 217). We are used to seeing the world through the prism of language, forgetting that it is very often a description of the archaic world view made by a pre-historic observer; and "the ultimate reference for any description is the observer himself" (Maturana 1980: 8). Thus, if the observer, such as an infant, makes a distinction between what David Premack (1990) refers to as self-propelled objects and objects that are not self-propelled, self-propelled objects are described as animate on an analogy with the speaking observer as the ultimate point of reference. Hence, in our world view rivers run, winds blow, clouds soar, etc., not because such is the "objective reality" but because such are the distinctions made by the observer in language. Humberto Maturana's (1978) notion of distinction is very important for epistemological reasons:

> "The fundamental operation that an observer can perform is an operation of distinction, the specification of an entity by operationally cleaving it from a background. Furthermore, that which results from an operation of distinction and can thus be distinguished, is a thing with the properties that the operation of distinction specifies, and which exists in the space that these properties establish. Reality, therefore, is the domain of things, and, in this sense, that which can be distinguished is real. Thus stated, there is no question about what reality is: It is a domain specified by the operations of the observer." (Maturana 1978: 55)

« 4 » "That which can be distinguished is real"; thus, mind, thought, consciousness, meaning, knowledge, culture and so forth become real things with the properties specified by the operation of distinction. And we as common speakers are usually not aware of that (especially of the operational cleaving-of-an-entity-from-a-background part), just as we may not necessarily be aware that the walls of the house in which we live are made of stone, bricks, concrete, or whatever, and rest on a foundation; often, we simply do not care as long as the house serves its function – residence for humans. In our daily operations (the praxis of living)

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we, as individual living beings (cognitive systems), do not give much thought to what mind, thought, or consciousness is as long as we know that they are part of our reality as the domain of things. For example, I know that I have a mind, think thoughts, (try to) express certain meanings, and belong to a certain culture, which all make me what I am – myself. And because I think my own thoughts and decide what to do or where to go without any visible interference of external forces – in other words, because I am a self-propelled and self-guided entity – it is only natural to come up with the concept of cognitive autonomy which is the hallmark of cognitive internalism.

Reciprocal causality

« 5 » Palmaru criticizes social constructionism for underestimating the role of the individual and failing to acknowledge a cognitively autonomous and active knower because, to him, individual consciousness is "the sole locus where construction [of reality] may take place" (§8). Advocating for cognitive autonomy, Palmaru reiterates Stevan Harnad & Itiel Dror's (2006) argument that cognition is an autonomous activity (internal process) that takes place entirely within the brains of cognizers. This claim has been refuted, among others, by Kravchenko (2007), who argued that, far from being an autonomous activity within the brains of cognizers, cognition is a function of living systems as unities of interactions which exist in an environment in structural coupling; therefore, it is distributed (cf. Hutchins 1995). More specifically, I argued that the cognizer's "autonomy" is a relative notion that bears on the observer's cognitive domain which, by definition, does not coincide with the cognitive domain of the observed. When we speak of the autonomy of an organism as an autopoietic system preconditioned by autopoietic closure, we refer to the metabolic or physiological domain. But in the relational or behavioral domain in which an individual organism interacts and relates with the environment that contains it as a totality, external factors play a significant role in determining the cognizer's mental states as a result of the coupling between the environment and the organism; this coupled system is one in which brain, body, and world move in and out of *reciprocal causal relations* (Kravchenko 2007: 591ff; also cf. Kravchenko 2011).

« 6 » Just like Niklas Luhmann (1997), whose notion of consciousness he uses and which has been criticized in the literature (cf. Vermeer 2006), Palmaru seems to have fallen into the epistemological trap of language mentioned above: since consciousness is a thing it *must* have a locus (the head) and a substrate (the brain). Much of research in mainstream cognitive neuroscience has been devoted to the study of the brain in search of what might be identified as consciousness because it is believed that consciousness is a thing that exists in reality, forgetting that "things" result from an operation of distinction in the relational domain of languaging. Although Palmaru makes a disclaimer in §11 that the words "based on the individual and his or her consciousness" are used advisedly and socialization of actors operating in society is needed for communication to work, he insists on a "bottom-up" approach to communication (instead of the "top-down" cultural approach) based on the notion that the process of world construction takes place "in the head" and that social interaction and society develop from individual constructions by people whose individual consciousness plays an active role in communication. In other words, individual consciousnesses construct individual worlds, undergo socialization and thus become capable of communication as a social phenomenon, with the term "communication" referring to mutuality (§26). Paradoxically, however, in §43 we learn that a major part of socialization is devoted to language acquisition, while an individual's baggage of preexisting knowledge and beliefs is affected by previous communication and socialization. For the logic that underlies the general line of Palmaru's argument throughout the article this claim seems counterintuitive as it creates a vicious circle, yet this is precisely what I am not going to dispute. Just because individuals exist not in a vacuum but in structural coupling with the environment, and for human society the most important aspect of this environment is languaging as a cognitive domain of coordinations of coordinations of behavior (communication), neither a "top-down" nor "bottom-up" approach may be acceptable. As I have argued elsewhere (Kravchenko 2014), the whole systemic behavior of human society depends on the cognitive properties of the components themselves, but these cognitive properties *emerge in the domain of languaging* (the relations between components) as the systemic behavior of human society. Such an understanding of what language is and what it does to humans marks the new field of research into the *ecology of language* (cf. Kravchenko 2016b, 2016c), which builds on Maturana's biology of cognition; language is viewed as "*adaptive functional activity based on an organism's experience of the environment (the world) to which the organism stands in a relation of mutual causality*" (Kravchenko 2003: 162, emphasis in the original).

Language and cognition

« 7 » By stepping into the epistemological trap of language, Palmaru continues the tradition of Cartesianism (which he seems to reject) by divorcing thinking and language in §7: "human thinking is not language-based. […] Only communication uses signs and language." Since Palmaru leans heavily on Luhmann's theory, this is not surprising, and I am not going to ask about the difference between communication and language (note that while all languaging is communication, not all communication is languaging). What *is* surprising is his reference to Maturana's "Biology of Cognition" in support of this claim. However, this is what Maturana actually says:

> "I consider that in a state-determined nervous system, the neurophysiological process that consists in its interacting with some of its own internal states as if these were independent entities corresponds to what we *call* thinking. […] The process of thinking *as characterized above* is necessarily independent of language." (Maturana 1980: 29; my emphasis)

« 8 » Maturana is cautious in his formulations: the phrases "corresponds to what we call thinking" and "as characterized above" may indicate his awareness of the tricks language may play on researchers just because reality is "a domain of things distinguished by an observer." Many years later, in a joint article, this wise caution allowed for the following radical claim:

> "We think that the so called mental processes are behavioral relational phenomena, that self consciousness is a manner of living with others in the relational domain constituted by 'languaging,' and as such arises with the participation of the nervous system, as it participates in the generation of the behavioral relational dynamics organism-medium. Moreover, we think that self consciousness and mental processes are relational processes that modulate the structural dynamics of the organism and the nervous system precisely through their manner of recurrence as relational processes." (Maturana, Mpodozis & Letelier 1995: 15).

> "So the expression 'thinking' is a manner that the observer has of indirectly referring to the internal operation of the nervous system as it participates in the generation of behavior. We can say with respect to this, that every animal has a brain that thinks according to the manner of living that it lives. *The human brain thinks in language.*" (ibid: 24; my emphasis)

« 9 » Accepting this claim has far-reaching consequences for how we understand communication, culture, and society as parts of the world we construct in languaging as our praxis of living – that is, if we can avoid the epistemological trap set for us by language.

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Individual Action and Social Structures: Towards an Articulation

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> Upshot • Palmaru invites us to distinguish a "bottom-up" perspective of constructivism that emphasizes human action and a "top-down" one of social constructionism that brings social structures to the foreground. It is argued here that rather than opposing these two dimensions, it is necessary to thematize their mutual relationship.

« 1 » Coming from the field of communication studies Raivo Palmaru points out that communication research underwent a major renewal in the second half of the 1970s. This involved a break from "the basic assumptions originating in the positivist tradition [… with] the abandonment of several core concepts in traditional communication and media studies (such as 'truth,' 'reality,' 'objectivity')" (§1) and the "transmission view of communication" (§6) as a "conveyor belt transporting information from one communicator to another" (§9). Constructivists of all bents can only applaud, and there will be little room here for dissent or discussion.

« 2 » Things get more interesting, and debatable, when we come to what follows. In order to tell the story his way, Palmaru sets up a sharp opposition (largely of his own making) between "social constructionism" and "radical constructivism (RC)." According to him, social constructionism is a "top-down" perspective which focuses on societal-level transactions as the ultimate level of analysis (§7); he contrasts this with a "bottom-up" approach that he attributes (wrongly, in my view) to radical constructivism (§2, §11).

« 3 » Palmaru deepens "this profound difference between constructivism and constructionism" (§25) by the way he refers to Piaget and Vygotsky. In §23 he notes that Vygotsky's theory "derives from Marxism" (which does not seem to be a compliment). By contrast, "with the individual as his premise, Piaget takes the view that children develop, learn and acquire knowledge" (§24).

« 4 » Having set up this opposition as mutually exclusive, Palmaru makes it abundantly clear that his preference goes to the individual-centred approach. He considers that social constructionism "offers an inadequate account of communication (§8); and states that "communication and social processes cannot be understood unless models describing them are based on the individual" (§11).

« 5 » Palmaru's unilateral endorsement of individualism is open to serious criticism at three levels.

« 6 » Firstly, I will pick up on some highly dubious assertions in his text. In §2, he says: "it is possible to behave in a certain way (for example, eating soup with a fork) or perform an action (for example, split logs or mow the lawn) alone." Quite apart from the difficulty of consuming soup with a fork (rather than a spoon!), what is neglected here is that the fork/spoon, the axe and the lawn-mower are technological artifacts that are not produced by the individual in question, but by a social institution (factories). In §8, we read: "the sole locus where construction may take place [is] individual consciousness." To this I object: a building, for example, is constructed but not (merely) in "individual consciousness"; likewise for a human language or culture. In §25, Palmaru states: "A much more important question is whether or not our notions, the pictures of reality in our heads, help us to resolve the problems that emerge." This implies that we have "pictures of reality in our heads," which is a highly dubious proposition. There are no "pictures of reality in our heads": this is the "representationalist" view of objectivism that Palmaru himself criticizes elsewhere. The "lived world" that is enacted by a living organism – starting with the lowly tick of Jakob von Uexküll (1909) – is not situated "in the head"; it is brought forth by the relation between the organism and its environment. In the case of human beings, society is a key feature of their environment. In §37, the author evokes "the premise that the actions of our body are largely controlled by our brain […]." This is mentalism of the strongest kind; this excessive emphasis on the brain is one of the things that constructivism helps us to dispense with.

« 7 » Secondly, "methodological individualism" (closely allied to the computational theory of mind in cognitive science) has been roundly discredited. I will not labour the point here, contenting myself with referring to Anthony Giddens (1976, 1984, 1990) and Havelange (1991, 1994, 1995, 1998, 2001a, 2001b, 2010).

« 8 » Thirdly, 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*. At the birth of modern sociology, Emile Durkheim paid great attention to the phenomenon of the division of labour. In any society where there is a substantial degree of division of labour, there are necessarily mechanisms for achieving a *social synthesis*: mechanisms which determine what work is to be done, who should do what, and how the fruits of this labour can be equitably distributed. Anthropologically, there have been a wide variety of such structures. Aboriginal society was based on a clan structure and kinship relations. The great civilizations of Antiquity (Babylon, Egypt, the Incas, etc.) were strongly hierarchical, with frequent recourse to slave labour. Feudal Europe was again "traditional," with a landed aristocracy and peasants in serfdom. "Modern" Western society, restarting with the Renaissance after the feudal interlude, gave central importance to a monetary economy. Capitalism arose in the 19th century. Other social structures also played, and play to this day, a key role. Non-exhaustively, we may mention: religious institutions; language; technological systems (a human society can be largely characterized on the basis of its dominant technological system: as Marx pointed out, the water-mill characterizes feudal society, the steam engine that of 19th-century industrial society; we may add, contemporary society is fashioned by digital technologies). The key point is that none of these macro-structures can be adequately construed as resulting from inter-individual interactions; on the contrary, it is these structures which both make possible and constrain the sorts of inter-individual interactions that occur. The work of Giddens (1976, 1984, 1990) is especially worthy of note here. The central idea is that social structures are both constituted by human action, and at the same time they are the medium within which cognitive action takes place. Indeed, social structures condition the very possibility of most forms of human action, while they themselves have no origin other than the action they have made possible. In other words, society has a *relational* nature, because social structures and cognitive action mutually determine each other in a form of circular causality.

« 9 » To give Palmaru his due, at certain points in his target article he does recognize that a unilateral insistence on the sole individual level is not appropriate and that the social dimension cannot be entirely excluded. Thus, he notes:

> "The new originates mainly in the social sphere, since […] communication cannot be attributed to a single actor […]" (§2)

> "In order for communication to work, actors operating in society need to have undergone socialization. Without it, there would be no sociality or social activities." (§11)

> "Constructivism orientated at the individual considers others and society as a creation of individuals […] As a consequence, any investigation of the social tends to be restricted solely to the study of individual cognition […] This approach may satisfy a psychologist but not a communication scholar, since communication is a social phenomenon." (§26)

This leads Palmaru to cite, with approval, the socio-cultural constructivism of Siegfried Schmidt, and much of what he says afterwards about culture is perfectly acceptable. These are of course steps in the direction I am arguing for here, but they introduce an inconsistency in Palmaru's position that he does not have the grace to recognize. **Would it not have been so much simpler, involving less wasted effort, to altogether avoid introducing a mutually exclusive opposition between the individual and the social in the first place? (Q1)**

« 10 » At the end of the article, Palmaru comes back to his point, and invites us "to distinguish a 'bottom-up' perspective of constructivism and a 'top-down' one of social constructionism" (§55). One cannot but be dubious about this opposition. Radical constructivism, while thematizing the individual action, does not exclude full consideration of the social dimension. If the distinction is made, it can only be to emphasize that these two aspects are in no way mutually exclusive; they are complementary, and require articulation.

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On Communication

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> Upshot • In my response to Palmaru, I press for a reflexive, accountable and, most of all, practical construction of radical constructivism as participatory communication.

« 1 » In a 1995 interview at Stanford University, Heinz von Foerster answered a question about his expertise as follows:

> "I don't know where my expertise is; my expertise is no disciplines. I would recommend to drop disciplinarity wherever one can […] In academia you appoint somebody and then in order to give him a name he must be a historian, a physicist, a chemist, a biologist, a biophysicist; he has to have a name. [But] here is a human being […]" (Franchi, Güzeldere & Minch 1995)

« 2 » I read von Foerster's provoking rejection of a disciplinary "name" as a caution to constructivism, too, lest it become, itself a discipline, a closed system of "naming," and an ideological positioning that leads to tired exchanges amid the pages of academic journals. As a human being who, like

Palmaru, believes that in the participatory nature of communication (§2) I press the author as well as all of us who are part of the conversation of *Constructivist Foundations* to be open to a reframing of constructivism. In this commentary, I ask how it might be for constructivism itself to be *participatory:* an accountable, socially aware and self-reflexive conversation about its role as a framework for understanding communication. I suggest, in fact, that if constructivism were to be genuinely participatory communication, the "problems" of "society" (§26) and intersubjectivity (§28, and also §§25–27) would not be problems at all but *topics* for engaging interdisciplinary study.

« 3 » In the spirit of ongoing conversation, I take issue with Palmaru's "constructivist" statement that "many communication scholars take an interest in constructivism" (§3). Instead, I propose that we reframe it into a question*: Are* communication scholars moving toward constructivism? In the database, ComAbstracts – the most comprehensive database of literature in communication – searching for "constructivism" and "radical constructivism" results in but four articles, published over a period of 32 years (1979–2011). Searching the members' accessible website of *The International Communication Association* (ICA) webpage for papers delivered at the 2015 annual meeting in San Juan[1] returns two papers that discuss constructivism. This number by itself is insignificant. More meaningful is that both papers drew attention to constructivism's shortfalls. In one of the presentations, "At the symbol's edge: Networks, actants, and socialized material" by Mitchell Reyes, the constructivist enterprise is charged with introducing a "symbolic" (semiotic) notion of communication that is no longer useful. And in the second, "Constructivism gone bad: Communicating negative performance feedback" by Joe Downing, the author actually declares constructivism "badly failed" and proposes two alternatives: J. L. Austin's speech act theory and rapport management theory (associated with Helen Spencer-Oatey, who expanded the work of sociologist Erving Goffman's notion of "face" to intercultural pragmatics). Though my perfunctory search is just that, it suggests that constructivism is worse off than is implied by Palmaru's acknowledgment of it as "the ugly duckling searching for recognition" (§11).

« 4 » The question then becomes how to explore ways for constructivism to *not* go badly or not to be set aside as a disciplinary story in old news. This, I suggest, involves setting aside further reformulations of constructivism as theory. I use "theory" here to echo von Foerster's caution about disciplinary closure and Ludwig Wittgenstein's (1956) critique of "the way of theory" as foreclosure of questioning in favor of dogma. Palmaru's keen recognition of constructivism as an "ugly duckling" suggests a similar concern to that posed by my question, and though he theorizes constructivism as a socially constitutive dynamic (§§45–48), his theoretical account can only go so far in seeing beyond communication as transmission, or mere "reception of messages" (Palmaru, §28) between minds. As Palmaru writes, the social is a matrix in which

> "[i]nter-related meanings, in turn, make up bigger structures: thematically organised discourses, narratives, myths, categorisations, etc. that reduce complexity, co-orient actions and interactions […]" (§47)

How might this account help us understand the actual social discourses that institutionally orient and organize our actions, or read a transcript of conversation, analyze the evaluation of a narrative (e.g., Labov 2001), or the situated dynamic of an interview (e.g., Bartesaghi & Bowen-Perlmutter 2009)? **How, to put it another way, might a theorist of constructivism be able to demonstrate the indexical and reflexive relationships between micro processes and the social order? (Q1)**

« 5 » In their revolutionary work that begins by rejecting Talcott Parsons's sociological vision (I hope Palmaru will forgive me for this provocation) Harold Garfinkel (e.g., 1967) and his colleague Harvey Sacks (e.g., 1992) worked inductively with recordings of everyday conversation, examining, for example, the interaction between questions and responses, the practical epistemics involved in how members of a jury deliberate a case to show the accomplishment of "intersubjectivity." By studying interaction from "the bottom up" (§11), they argued that "cognition" and "mind" are not contained inside individuals but visible in social interaction; these are terms that perform communication (allow for certain claims by experts, for instance) as a matrix of social accounting. *Cognition*, *mind*, and *the individual* are powerful accounts, *post-facto* constructions of motives (Mills 1940), disciplinary terms that we assign to accomplishments of social interaction.

« 6 » The very project of discursive psychology (DP) is that of interrogating accounts of cognition. DP is an interdisciplinary enterprise that studies interaction closely, and examines the consequentiality of inner-world terms when they are mobilized in our everyday discourse. By showing how "the cognizing subject" is part of a socially and culturally-situated way of doing things in communication, discursive psychology examines notions of the inner world as epistemic claims. Questions such as: **Who, in our society decides upon the definition of cognition? Who has the expertise to measure it, and how (e.g., Antaki 2006; McHoul & Rapley 2003)? (Q2)** By taking "the cognizing subject" as a discursive object, the project of discursive psychology bypasses the problems identified by Palmaru and instead shows how they are resources for authorizing disciplinary accounts in ongoing interaction. As a case in point, in *Producing a Cognition*, Charles Antaki analyzes an institutional exchange between an expert interviewer, whose task it is to measure and assess cognitive (dis)ability as "stable, internally-represented, information-processed conceptions of the world" (Antaki 2006: abstract) and a respondent, who, as the object of assessment, is presumed learning disabled. In a masterful micro-analysis of the questioning, Antaki shows us how the (disciplinary, ideological) requirements of cognitive assessment trap both parties into reconstituting what counts as a cognitively sound answer, a process that involves a rejection of any answer that does not match the interviewer's expectations of cognitive ability.

1| Note that ICA has over thirty divisions, as communication itself is a field with interests as diverse as philosophy of communication, sports communication, language and social interaction, media industry studies and mass communication, to name a few.

« 7 » As Alexander Riegler reminds us, von Foerster's ethical imperative is to "act always so as to increase the number of choices" (see Riegler 2005). One option is for constructivism to theorize the same "problems" among disciplinary converts. Another is to transform it into an empirical project, and explore what it can do when situated in social and cultural applications. It is my hope that *Constructivist Foundations* will be a site for a new conversation, new options, and a new way to *do, rather than theorize,* constructivism.

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Who Communicates?

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> Upshot • Palmaru claims that communication and social processes cannot be understood unless models describing them are based on the individual and his or her consciousness. Based on a brief discussion of recent sociocultural evolutions, I ask for the social conditions allowing radical constructivism to locate communication in the individual and his or her consciousness.

« 1 » Raivo Palmaru's main claim is that "communication and social processes cannot be understood unless models describing them are based on the individual and his or her consciousness" (§11). I would like to raise some questions with regard to this claim. I do *not* think that "the individual and his or her consciousness" needs to be the point of departure for analyses of communication, culture and society. We might rather think of "the individual" as the result of communication processes. Who we currently *regard as* individuals, as (potential) communication partners, is the result of socio-cultural evolutions. Hereafter, I try to illustrate my concerns with some brief examples and reflections.

« 2 » A first example concerns education and the way in which "the child" has become included in education. Following the work of Philippe Ariès (1965), one now often speaks of the modern "discovery of the child," of the demarcation of childhood as distinct from adulthood. In the eighteenth century, the child was gradually viewed as a particular sort of human being in a particular sort of world. It followed that an appropriate and stimulating educational milieu was necessary; the "new" child could not be treated in the same way and with the same means as an adult. Of interest for us is this period's fascination with the so-called wolf-children or *enfants sauvages*, such as Victor of Aveyron, who apparently lived his entire childhood alone in the woods before being found near Aveyron (France) in 1797. Another "celebrity" was Kaspar Hauser, a mysterious foundling, who turned up in the streets of Nuremburg (Germany) in 1828; he was said to have spent 10 to 12 years of his childhood in a small cell with only a straw bed for company. What the fascination with the wolf-children and the discovery of the child illustrate is the emergence of a concern about the optimal conditions of educational contact. Children are now constructed as communication partners in their own right. They have gradually become regarded as individuals with particular rights, who might (and might not) be dealt with in particular ways (Vanderstraeten 2004). This description of the individual is not a neutral fact, but one which is part of a broader set of socio-cultural changes. It legitimates particular forms of intervention, particular ways of defining what/how the individual ought to be.

« 3 » A second historical example concerns another social domain, viz. religion, and the way in which communication is defined in this domain. Perhaps we can think of religious communication as a two-way process. The (Christian) prayer clearly is intended as communication with God; we can also think of revelation as intentional communication. Angels exist in religious traditions as diverse as Christian Gnosticism, Sufism, and Kabballah. But the "other-worldly" communication partner remains largely absent. Religions had to invent ways to control access to God – and His messages or revelations. Religion relies on a model of communication that is quite different from models that dominate in secular social domains, but it might be one that historically preceded our modern conceptions of communication. Under what social circumstances can such a religious model gain acceptance on a relatively broad scale? When do we think of it rather as a creature from the "childhood" of the human race? What are the control mechanisms that allow for particular communication ideals in particular settings? Again, how communication is imagined is not a neutral or objective fact. It builds upon several socio-cultural preconditions, and might bring about a broad range of consequences. Perhaps it might be added that being excluded from religion, i.e., *excommunication*, has long meant exclusion or banishment from society at large (see Luhmann 1985; Vanderstraeten 2015).

« 4 » My third reflection is of a more general nature. The two foregoing paragraphs refer to single social domains and the ways in which they construct individuality. In addition, more general changes at the societal and technological level should be taken into account. In the nineteenth century, for example, "steam communication" could also mean the railroad (Peters 1999: 7). Later in the nineteenth century, new technologies made the transport and processing of information much easier. In important regards, the transport of information became decoupled from the transport of goods.

> "Before the introduction of the telegraph, information travelled as did any other traded community. It moved along with the cargo, and though not usually bulky, its speed was limited to that of the fastest mode of travel of the day." (Lew & Cater 2006: 147)

« 5 » In other words, technologies have allowed for new modes of communication and information-processing – although it

is, of course, especially since the second half of the twentieth century that it has become possible to convey information very speedily. For a theory of communication, it is important to reflect upon this structural transition – as it is a way to reflect upon the conditions of a theory of communication. Instead of taking communication and individuality as one's point of departure, one should ask why a theory of communication that is based on individuality and individual cognition is possible (see also Vanderstraeten 2012). To put it somewhat differently: **What are the motives of radical constructivism for locating (the possibility of) communication in the individual? (Q1)**

« 6 » I could provide more examples and reflections, but I hope that I have by now been able to raise some questions about the claims made by Palmaru. A convincing theory of communication needs to be socio-culturally sensitive. Individuals are not entities that simply exist; they are social identities. Communication is not some kind of relation between individuals, but itself the result of a broad range of conditions. It does not suffice to incorporate the social and cultural context into a theory of communication by relying on ideas such as socialization or acculturation, as Palmaru suggests at some places in his target article (e.g., §43). **Would it not rather be necessary to reflect on the construction of social agency (see Louckx & Vanderstraeten 2014)? (Q2)** – Who are the entities we allow to communicate? Who/what is not allowed to communicate? What kind of communication is considered to be the result of a "sick" mind? How does society control what constitutes "legitimate" communication? If we do not raise such questions, we will never be able to address forms of inequality or exclusion in modern society. And we will never be able to reflect on the socio-cultural position of our own theory of communication.

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Return to Sender? Or Why Messages Never Reach Their Destination

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> Upshot · I discuss the solution proposed in the target article to the classic sociological problem of "intersubjectivity," which is based on the conceptual triad of culture, socialisation and communication. From a constructivist perspective, I argue that Palmaru's proposal does not advance on this matter.

Overcoming intersubjectivity

« 1 » Raivo Palmaru's target article addresses an important issue for classic and contemporary sociological theory, i.e., *intersubjectivity*. This issue becomes particularly problematic if a constructivist approach (radical or not) is adopted in order to analyse social communication. So it is not surprising that, after pointing out that the study of communication is fundamentally social science (§2), the question of intersubjectivity, and how it might possibly be overcome, immediately arises. In this respect, the innovation presented by the author is a concept of culture compatible with constructivist theories.

« 2 » For this topic, both the systems theory of Niklas Luhmann (2012, 2013) and Siegfried Schmidt's sociocultural constructivism – partially inspired by Luhmann – are of importance. However, while Schmidt's approach is decisive for Palmaru's proposal, the latter accepts only some Luhmanian concepts, i.e., the differentiation of social and psychic systems.

« 3 » Let me jump ahead of some conclusions of this commentary. The solution proposed by Palmaru to the problem of intersubjectivity refers to constructivist conceptual tools, but these are underutilized. This decision has a *petitio principii* as a consequence: human communication is intersubjective because it requires culture and the latter is intersubjective. That is, one has to accept in advance the postulate to be explained.

« 4 » It is not necessary to dwell on this impasse since the most important problem stemming from this thesis is not *logical* but *practical*. So it will be necessary to follow the path of social praxis to analyse the main arguments of the article. The focus will be oriented to its main concepts: *culture*, *socialisation* and *communication*.

Socialisation for culture

« 5 » Culture, so Palmaru says, has the function of providing meaning to human communication. Thanks to culture human communication can deal with shared meaning (§30) but it is necessary that actors have been previously socialised (§11).

« 6 » This kind of solution for intersubjectivity, according to which culture would be indispensable because without it "the social would simply cease to exist" (§49, §53), follows the same strategy that sociologist Talcott Parsons (1951) proposed for the same problem. Parsons postulated that in interaction processes two actors, *alter* and *ego*, are mutually unpredictable. He called this *aporia* "double contingency." In interactions actors have to move within the field of reciprocal expectations to obtain rewards and avoid punishments as they have no access to the motives or intentions of their counterparts. Alter and ego are cognitively-closed systems and therefore double contingency is an entirely constructivist problem. Parsons proposed that alter and ego should communicate to solve their courses of action. To make communication possible symbols and shared meanings (culture) are needed.

« 7 » This scheme, which Parsons never developed in the framework of a communication theory, was later adopted, reformulated, and enriched by philosopher Jürgen Habermas (1984, 1987) in the context of his so-called "theory of communicative action." What Parsons referred to as "culture," Habermas called "lifeworld," following Edmund Husserl's phenomenology.[2] Parsons and Habermas both provide the same solution: actors can communicate and understand communication because they share mean-

2| To be fair to Habermas, culture is only one of the three dimensions of lifeworld but it can equally well be understood as the main dimension.

ing (culture or lifeworld). Thus, both overcome the constructivist problem without referring to constructivist theories.

« 8 » It is hard to find advantages in these old solutions. On the one hand, the solution of Parsons and Habermas reduces the scope of social sciences to interactions, and groups that constitute culture (§50). On the other hand, Palmaru's solution can be replaced by a better constructivist explanation that focuses on operationally-closed systems.

« 9 » From the constructivist perspective based on operationally-closed systems, shared meaning can be understood as the mere attribution of an observer who attributes it to other observers. This "culture" or "lifeworld" can be seen as a *social praxis that works* as long as the observer remains as a blind spot. Like a child who interacts with a ball many times and is thereby attributing physical existence to the ball while at the same time her own nervous network remains unobservable (Foerster 1981), one can assume shared meaning with other observers in order to hide one's own position.

« 10 » Palmaru may find this approach unsatisfactory since "shared meaning" becomes a matter of *praxis* and not an *ontological* problem (a problem of "inter"-subjectivity). When Humberto Maturana (1980) and also Luhmann (1975) attribute to language a function of structural coupling between cognition and communication they assume that this operation maintains the boundaries between psychic and social systems (otherwise structural coupling would be unnecessary). Psychic and social systems do not share language or meaning. Rather, they operate with their own versions of language and meaning. Hence, the question is not *whether* the differentiation between cognition and communication hinders the operation of a society (such that culture is needed to overcome the hindrance) but *how* society operates even if this differentiation, sooner or later, can become an obstacle.

« 11 » Socialisation seems to solve these problems. Socialisation is so imperative for culture because without it "there would be no sociality or social activities" (§11). This reminds us again of Parsons (1951) and his understanding of socialisation as a normative learning process so that a person can live in a world ordered by internalised and institutionalised patterns of behaviour (culture). Thanks to socialisation, culture and communication become possible since actors are socialised to learn language and its shared meaning (§43). This concept seems to follow a classic sociological formula: socialisation is a learning process to attain knowledge and to live in society. Nothing about this is controversial as long as constructivist questions are avoided, of course.

Messages for communication

« 12 » That culture and socialisation appear as answers to the problem of intersubjectivity – not only in the target article but also in sociological literature in general – seems to be related to the traditional "mathematical" concept of communication based on a *sender* and a *receiver* (Shannon & Weaver 1964). Even in the terminology of the target article the term "message" is mentioned about twenty times to refer to communication always in the sense of something sent or received.

« 13 » Thus, culture would have the function to decode messages thanks to knowledge, experience and shared meaning obtained by socialisation processes. This appears, at first glance, plausible and unproblematically commonsensical, but it hides deep problems. One of them is the question: what is a message?

« 14 » I assume that Palmaru is not trying to argue that messages can cross operationally-closed systems but instead that messages would be like a sort of structural coupling between communication and cognition (language?) asymmetrically arranged for a sender and for a receiver, i.e., for a sender responsible for the intentions of a message and for a receiver responsible for interpretations of a message. Even if we accept all the above it remains unclear how culture could produce shared meaning for messages *without messages*. What do I mean by that? If we have to be socialised to be able to communicate properly and that is achieved by culture (shared meaning), we need to properly understand the socialising messages (otherwise there would be no "messages" for either sender or receiver). However, we know that only shared meaning constitutes messages and shared meaning comes only through messages… The exit of this paradox is well known: we must distinguish between levels (meta-messages, meta-languages, etc.) but this only partially hides the blind spot, i.e., the observer attributing shared meaning.

« 15 » This communication concept based on messages, culture and socialisation derails any attempt at disguising this proposal as a constructivist one. In fact, with little subtlety this avoids any problems related to the operational closure of psychic and social systems as well as all the classic difficulties of constructivism (radical or not) – despite references to authors like Maturana or Luhmann.

« 16 » 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 – but there is also nothing like intersubjectivity, as each "subject" *constructs* in its own domain of experience a world with shared meaning (even against a "culture"). At least, from a constructivist point of view, messages are always returned to sender.

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The Micro-Macro-Problem in Constructivism

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> Upshot • Palmaru addresses several problems with respect to radical constructivism, in particular the relationship between the micro-level and macro-level of social phenomena, i.e., communication, culture, and society. Related to this, I dispute three of Palmaru's key claims: (1) the relationship between micro-social and macro-social phenomena is a specific problem of radical constructivism; (2) radical constructivism does not solve the problem of the micro-macro-link; (3) the author's solution to the respective problem is necessary and sufficient.

« 1 » Raivo Palmaru's target article includes a variety of problems ascribed to (radical) constructivism. I want to address the one I consider most debatable: the micro-macro-relationship. In the beginning of his article Palmaru criticizes the top-down approach provided by social constructionism. According to Palmaru social constructionism neglects the person's consciousness (§7) while radical constructivism (RC) appreciates the individual's cognitive autonomy but neglects "how successful communication among individuals is possible, despite their cognitive autonomy" (§3). Palmaru claims that this is to be considered a major obstacle for media and communication scholars to approve of RC (§26). However, I have my doubts: media and communication scholars already address a number of psychological issues pertaining to media effects on individuals' cognition, attitudes, and behavior. Rather, the main obstacle of applying RC is the scholars' socialization within the paradigm of critical rationalism, which is based on realist epistemology (Scholl 2010: 53).

« 2 » In any case, my major concern is not the accuracy of Palmaru's descriptions of media and communication studies but that he addresses a problem that I do not consider typical at all for RC or any other branch of constructivism: How can the individual's cognitive autonomy be linked to social institutions and even to society without neglecting either side? 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 studies see Quandt & Scheufele (2011).

« 3 » I agree with Palmaru's assessment that in the first place RC starts with the individual's consciousness (i.e., the individual's cognitive autonomy) and the individual's action; this is especially Ernst von Glasersfeld's position (Glasersfeld 2008). In the course of his argumentation Palmaru (§17 to §20) criticizes RC's lack of any ontological foundation and favors a "'weak' or 'light' realism" (§20) as RC's foundation in order to introduce the social (macro) perspective into RC. But do we need such an ontological compromise? **Does Glasersfeld's concept of viability or Maturana's concept of structural coupling not already meet the epistemological goal of connecting the individual's cognition with perturbing environmental stimuli? Moreover, would Josef Mitterer's and Siegfried Schmidt's non-dualizing approach (both well documented in this journal) not be a better way? (Q1)**

« 4 » Palmaru continues with presenting some solutions to the problem of the neglected social dimension, which afterwards he criticizes as being insufficient. He claims that Schmidt's solution of connecting cognitive autonomy and social orientation "falls short, since it only presupposes self-organisation at the level of a consciousness system" (§29). In his book, *Histories and Discourses. On Rewriting Constructivism*, Schmidt (2007) addresses exactly the same problem Palmaru wants to solve, and provides a careful argumentation including the role of media and culture. Unfortunately, Palmaru discusses neither this book nor what distinguishes his own approach from Schmidt's. Furthermore, would one not expect a communication scholar to consider the role of mass media as part of culture? This may be seen as yet another reason why Schmidt's approach better matches the needs of communication and media scholars than Palmaru's cursory concept of "culture [as] the key link in the constant reproduction of a social system […]" (§49, see also §53).

« 5 » Another issue to be discussed is Niklas Luhmann and his theory of social system. It does not come as a surprise that Palmaru considers Luhmann's strategy of linking psychic and social systems via interpenetration (or, in Maturana's terminology, structural coupling) a failure (§§30–35). Palmaru distinguishes between two types of sense: a *personal sense* that is constructed by psychic systems, and *meaning* that is constructed by social systems (§36). However, introducing this distinction does not solve any of the problems he detects in RC because the relationship between both types remains unknown. Furthermore, as "personal sense structures guide our observations, decisions and actions" (§37), they are not only elements of our (private, personal, autonomous) consciousness but also part of our social behavior and therefore part of social systems. It seems that this distinction is not only an artificial one but may also have an ontological background, i.e., exist in different domains of "reality." **Would a strictly observation-related approach not be better, i.e., an approach that considers two levels of systems strictly separated by their (different) operations rather than by ascribing two different types of senses to them? (Q2)** It then becomes a question of perspective whether I observe the individual from the position of consciousness (as part of the psychic system) or the position of communication and action (as part of the social system).

« 6 » Furthermore, Palmaru prefers a "bottom-up" perspective starting from individual consciousness. The next step includes the individual's consciousness playing an "active role […] in communication" (§51). This should be in line with Luhmann's concept of interpenetration. Due to this active role of the individual "self-organization [...] occurs at the supra-individual level, where the social system emerges in an operatively-closed motion of successive communicative elements" (§52). Surprisingly – from Palmaru's preferred bottom-up perspective – it is not the individuals' cognition, will, goals or actions as a driving force keeping the social systems' operations going but, rather, cultural meaning (§53). Palmaru's distinction between cultural meaning and individual sense (structures) (§36), is similar and refers to Luhmann's distinction between social and psychic systems. Accordingly the transition

http://constructivist.info/12/1/030.palmaru

between meaning and sense should also be a system's switch: there is no smooth transition from psychic systems (consciousness) to social systems (communication) because culture is placed within social systems rather than considered a bridge between psychic and social systems. Obviously culture itself is a product of communication as well and restricts communication to the issues discussed, the opinions expressed, the values guiding behavior, etc. By contrast, Palmaru states that "personal sense structures guide our observations, decisions and actions" (§37). Again it seems that there is no transition between psychic and social systems but a kind of Gestalt switch. Therefore, it is useless to model the transition between psychic and social systems. Instead, each of them operates autopoietically and they perturb each other. **Rather than describing what a psychic system and personal sense is or what a social system and meaning is, would it not be better to conceive of them as observer-related perspectives? (Q3)** From the perspective of a social system, meaning and culture are process results of communication. Individual sense structures then derive from cultural meaning. From the perspective of a psychic system personal sense results from consciousness. Cultural meanings then derive from coordinated personal senses or sense structures.

« 7 » Palmaru's argumentation is rudimentary; the examples he uses to demonstrate his approach include the use of language, but mostly of single words only (§47). More importantly though, there is no effort to elaborate how his approach can be applied to empirical research. While this is a minor issue only – theoretical groundwork has its own value and need not be empirically applied immediately or directly – **I wonder what the pragmatic consequences of Palmaru's theoretical effort are? (Q4)**

« 8 » Finally, I cannot shake the impression that the author discusses problems that have already been addressed (and even been solved) in the constructivist literature, such as Schmidt (2011). Also, the relevance of communication for RC has already been successfully addressed by, e.g., Klaus Krippendorff (2008). **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? (Q5)** Also, Palmaru's eclectic strategy of referring to various constructivist authors and selecting their seemingly weak points creates opportunities for intervening and offering his own solutions to the problems he sees. **Perhaps it would have been a better strategy to discuss solutions provided by these scholars rather than their alleged problems? (Q6)**

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Linking Social Communication to Individual Cognition: Communication Science Between Social Constructionism and Radical Constructivism

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> Upshot • The potential impact of Palmaru's attempt may bring about a breakthrough across all fields of social science. However, in order for the attempted integrated theory to arrive at a full conceptual operationalisation of the interplay between the two kinds of autopoietic systems, i.e., human consciousness and social systems, a much clearer differentiation is needed of the respective embodiments, cognitive architectures and evolutionary fitness landscapes of these systems.

The challenge of theory integration

« 1 » In his sketch of the short history of the 50-year evolution of communication science, Raivo Palmaru depicts radical constructivism (RC) as a fundamental future component of the field. He posits that this component is still largely underappreciated by the majority of communication scholars because of the deep positivist roots of the discipline, yet it is central to its proper focus of interest and must be convincingly integrated into its theoretical underpinnings. While Palmaru's interests remain confined to communication science, I believe that a similar diagnosis – featuring the missing epistemological component, its deserved centrality and its current collision with the positivist roots of the discipline – has been (and is still) echoing across all the fields of social science. Thus far, however, the postulated centring on human cognitive operations does not typically seem to lead to theory integration and rebuilding. Instead of reforming their underlying frameworks so that all their respective phenomena of interest become embedded in – or interrelated with – an understanding of the subject's cognition, most, if not all, of the social disciplines tend to split into halves, breeding younger, lighter and subjectivity-centred versions of themselves. This reproduction tends to be marked by a split in naming. The positivistically-rooted older disciplines appear to keep the name of "science" (e.g., management science, political science and organization science), while the rebellious youngsters differentiate themselves as "studies" (e.g., management studies, political studies and organization studies).

« 2 » I would be careful, however, about formulating the central argument in the way that Palmaru has phrased it: "communication and social processes cannot be understood unless models describing them are based on the individual and his or her consciousness" (§11). The phrase "cannot be understood" here seems to be an obvious overstatement: **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? (Q1)** What we can say at most, I believe, is that the proposed founding of the discipline on individual cognition opens a path to a certain kind of understanding that is unavailable from the other theoretical position. Ironically, this formulation renders

both the feasibility and constraints of understanding (a human cognitive operation) clearly contingent on a specific configuration of (scientific) communication. But such a contingency seems to be an example of the very entanglement for which the proposed theory of communication should be able to account, once it has successfully integrated radical constructivism and social constructionism (SC).

Consciousness and communication: From further disentanglement to greater symmetry

« 3 » I read Palmaru's conceptual attempt as aimed at theory integration, not at splitting the discipline. If this reading is correct, I applaud such a goal greatly. Palmaru departs from a Luhmannian theory of social systems, taken as the piece of theory that is closest to RC and yet still firmly attached to the mainland of communication science, which seems to be a perfect place to start from if one aims to establish a solid linkage between the two conceptual frameworks. What I find a bit less convincing in the target article, however, is whether the progress towards RC, a flip from a top-down to a bottom-up account of communication, is actually being made. Or, to put it differently, **is the departure from the theory of social systems actually happening? Might it be that the compatibility was so evident and the integration so seamless that the task has been accomplished already? (Q2)**

« 4 » The proposed differentiation between "sense structures," as a construction of consciousness, and "meaning," as a corresponding construction of communication (§36), does not seem particularly weighty per se. I concur with Palmaru's conception that in order for the two models of autopoietic systems – that of communication and that of individual cognition – to become fully conceptually interlinked, they must first become fully conceptually differentiated. However, the differentiation of the construct of "meaning" (in Luhmann's account of which, consciousness and communication interpenetrate) has in my view already been sufficiently clarified by Luhmann himself. Admittedly, this does not happen consistently throughout all Luhmann's works, and the fragment cited by Palmaru (§34) does not ponder this particular difference (though nor does it deny consciousness's participation in meaning formation). The clarification of difference is best formulated, in my view, in the following passage, one of the most poetic parts of Luhmann's writings:

> "[…] the psychological selectivity of communicative events in the experience of the participants is something entirely different from social selectivity, and by paying but little attention to what we ourselves say, we already become aware of how imprecisely we must select in order to say what one can say, how greatly the emitted word is already no longer what was thought and meant, and how greatly one's own consciousness dances about upon the words like a will-o'-the-wisp, uses and mocks them, at once means and does not mean them, has them surface and dive, does not have them ready at the right moment, genuinely wants to say them but, for no good reason, does not. If we were to make an effort to really observe our own consciousness in its operations from thought to thought, we would certainly discover a peculiar fascination with language, but also the noncommunicative, purely internal use of linguistic symbols and a peculiar, background depth of the actuality of consciousness, a depth on which words swim like ships chained in a row but without being consciousness itself, somehow illuminated, but not light itself." (Luhmann 2002: 166)

« 5 » I see no harm in giving distinct names (instead of the unitary term "meaning") to the constructions arising from the "background depth of the actuality of consciousness" and the constructions surfacing on top of these like "ships," as metaphorically pictured above. Moreover, with some reservations over a possible confusion or overlap with the concept of "sense-making," I find the "sense structures" versus "meaning" distinction potentially useful. Still, I am not sure whether such a conceptual differentiation suffices to extend Luhmann's theory of social systems towards the bottom-up perspective of RC. This is particularly the case if it is simply followed by the conclusion that Luhmannian "background depth" expresses, as Palmaru puts it, "structures arising in a conscious system" (§44) by means of communicational offers, which, once accepted, form instances of shared meaning, which further aggregate and self-organize into more stable patterns that in turn start to guide the expression of the following communicational offers. What follows from the communicational offers onwards, in the above summary, seems like a paraphrase of Luhmann's theory, which poses the question of what exactly has changed between Luhmann's and Palmaru's accounts. The shift does not occur in attributing cognitive activity to consciousness – Luhmann himself attributes selection-making activity to consciousness all along (although it is not something he elaborates on). It seems that the most important shift, then, is between Luhmannian selection-making and Palmaru's "expressing," which may seem like a mere change of poetics if it is not conceptually fortified. On top of this, the interplay between the structures arising in consciousness and the guidance performed by the self-organizing societal patterns remains as yet largely undetermined.

« 6 » In a further development towards the goal of theory integration the two autopoietic systems (consciousness and communication) should probably become much more deeply grounded in their respective embodiments. Moreover, since the difference of their internal sourcing seems to be the key, they should also be consistently modelled, in their conceptually disentangled forms, as autonomous cognitive agents operating in the context of their respective fitness landscapes. Only on the basis of such a modelling can we put them back together in a mutual interplay (not a trivial task in terms of constructivism!) that may reveal more about their interdependencies, possible inter-configurations and the relative strengths that the two kinds of sourcing are capable of exerting upon each other. Without such a conceptual modelling, I am afraid that we are not likely to move far beyond mere poetics. Changing the verbs from active to passive may bring about the image of individuals expressing themselves and acting freely in society (bounded merely by the constraints exerted by the initial socialisation) rather than being pulled by its strings, but such a change alone does not seem to automatically grant any significant degree of integration of the entire theoretical construction to the conceptual tradition of RC.

« 7 » I believe that, if the aim is a comprehensive integration of the Luhmannian account with the tradition of RC, both

kinds of autopoietic agency distinguished by Luhmann, that of human consciousness and that of social communication, should be initially conceptualised symmetrically and approached as *sui generis* individuals, which are cognitively active subjects. The idea of approaching social systems as embodied, cognitive individuals may seem surprising or controversial, but the theoretical assumptions justifying such an approach have already been expounded by Lenartowicz, David Weinbaum and Petter Braathen (2016a, 2016b) and, on a more abstract level, by Weinbaum and Viktoras Veitas (2016). Yet paradoxically, the task may prove even more controversial with respect to human consciousness, producing the above-mentioned "sense structures." If the mutual influence of the individual expression and social constructions is to be demarcated, the autopoietic mind must be conceptually distilled from its interpenetrating social constructions. **But how do we go about performing such distillation? (Q3)**

« 8 » I see a solution for the above in a conceptual split, distinguishing two aspects of human sociality, attributed respectively to the two autopoietic systems: the mind and the social system. It has been taken almost as a dogma that, since humans are a social species, an individual human is unthinkable outside the context of the social. My argument here is likely to swim against the constructivist current, not to mention the social scientific current, but I wish to propose that such a conceptual distillation is indeed possible – and, in fact, much needed for theoretical, pragmatic and ethical reasons. I will not argue against the "human is a social species" concept, but I wish to differentiate between a social species in the organic, animalistic sense and the interconnectivity of social personas in social science's sense. While the former expresses its sense structures, co-opting language and other available symbolic tools towards its own autopoietic self-perpetuation and survival, the latter (personas) self-organize out of the usages of these tools – and aggregate up into larger self-organizing social constructs. Human beings operated in the former mode of their sociality and expressiveness – alinguistic, asymbolic and organic – for about two million years of their pre-historic evolution. This long-accumulated genetic baggage was not suddenly abandoned with the development of language. Instead, this development has been gradually incorporated into their instinct-driven and organic psycho-socio-physical embodiments, which happened to be there earlier and were thus in a position to exert evolutionary pressures on whatever came next. On the other hand, the sociality and expressiveness of a social persona is a vehicle through which the self-organizing coherency of the other, social, autopoiesis is being maintained. If we agree to approach social systems as cognitive agents per se, we must assume that there will be instances, or aspects, of human expression that are rather pulled by the "creatures of the semiosphere," as I call the autopoietic constructs of the social (Lenartowicz 2016), for the sake of their own self-perpetuation, than pushed by the sense structures of the human self. To know which is which, and how much of each is actually happening in a communication, we need to see both agencies simultaneously, as two differently embodied cognitive individuals. The RC approach to human consciousness must, then, be balanced by the RC view of the social as an individuated, survival-seeking locus of cognition. The difference between the two kinds of organic and symbolic expressions of sociality, which are here suggested as perpetuating the two distinct autopoietic systems, has been beautifully captured in the recent exchange between Hugo Cadenas and Marcelo Arnold-Cathalifaud (2015a, 2015b) and Humberto Maturana (2015). To my mind, this debate – or, rather, misunderstanding – has finally settled the long-standing controversy about whether social systems are autopoietic (Maturana objecting to the proposition and many social scientists insisting upon it), demonstrating that both sides were right. They were simply addressing two different angles of the social. Maturana's objections originated from his understanding of social relatedness as a biological phenomenon (the organic social), whereas the position summarized by Cadenas and Arnold-Cathalifaud was addressing the social as it is conceived by social sciences (the symbolic social). The difference here is not in the different disciplinary lenses being applied to the same phenomenon. Rather, it is between two kinds of phenomena, stemming from the cognitive operation of two kinds of autopoietic embodiments. For one, the social is an extension, or an expression, of the organic, physical embodiment of a social species. It does not form an operational closure itself. For the other, the social has happened to self-organize and evolve in a manner that has led it to spawn autonomous, autopoietic and individuating cognitive agents – the "social systems" about which Luhmann wrote.

Conclusion

« 9 » Palmaru has set out the ambitious goal of integrating the RC account of a cognitive, autonomous and embodied human individual into the core of the theoretical underpinnings of communication science. In my commentary, I have attempted to support his effort and to point out that, in order to be really groundbreaking, the integratory effort needs to include the radical disentanglement and symmetrical modelling of the two distinct loci of autonomous agency: the consciousness-laden pre-symbolic human and the communication-laden symbolic social system. A clear understanding of their respective embodiments (including their cognitive architectures, evolutionary environments and fitness landscapes) is needed for an integrated RC–SC theory to arrive at the full conceptual operationalisation of the interplay between human consciousness and the operations of social systems.

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Author's Response

Cognitive Autonomy and Communication

Raivo Palmaru

> 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

http://constructivist.info/12/1/030.palmaru

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 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 departure, 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 (Glasersfeld 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 Schmidt'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" (Glasersfeld 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" (Glasersfeld 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 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 perspectives," 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 covariation 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 demonstrating 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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