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Media as the mechanism behind structural coupling and the evolution of the mind

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Abstract

Luhmann (2002, 275), in his introduction to the systems theory, explicitly writes, that *language* is the mechanism behind the structural coupling between psychic – and social systems. This paper, in its first part, provides an interpretative and selective presentation of Luhmann's argumentation for how the structural coupling is possible through the medium of language. The paper put forward an angle on the subject, which makes it probable that language let the two levels of systems formation emerge, because it enables their respective self-reference, so they can maintain themselves as operationally closed systems, which at the same time are cognitively open to each other through meaning. Consequently it is the medium of language that is the *nurse*, or as Luhmann (1999, 225) puts it, the *muse* of society, and following an overview angle on Luhmann's argumentation, language is also the nurse of the becoming of the psychic self.

After this becoming other media of communication, as mechanisms behind the structural coupling, through the history of evolution has made a continuous increase of complexity, on both sides of the distinction between the psychic and the social, possible. This would be too much to elaborate for this paper, why it in its second part focuses on the psychic system. It tries to elaborate how, not only language, but also later media, through the history of evolution, generate the contemporary self. In doing that the paper describes five media revolutions (speech, writing, printing, electronic media and digital media) and claims that each and one added medium extends the structural coupling, providing higher psychic reflexivity through the extended social complexity and vice versa. In this part the article also put forward an analysis of the different levels of self-reflexivity the selves in each respective historical medium-society has had, and suggests a name for each of them, with reference to the media-environmental scoop for and demand for self-reflexivity.

Introduction to part one

This part of the paper addresses one of the major theoretical problems, namely the problem of how otherwise differentiated forms of being continuously adapt to each other and thereby mutually enable each other. The part focuses on the relationship between psychic and social systems, on how they adapt to each other, on their continuous interdependence.

The problem has historically been observed as a question about how different forms of being seem to allow each other through exchanges, by sharing and / or providing resources or information to each other. The problem has deep epistemological and ontological implications. Ontologically a theory which seeks to enlighten the problem must decide whether it is fundamentally monistic, dualistic or sees the world as consisting of several forms of being. Epistemologically it is crucial how forms of being, according to the theory, can experience, or observe in its efforts to adapt to and survive in the world. Especially the concepts of *transmission* and *transformation* can be helpful in solving theories position in regard to the problem.

As a clear example on a transmission position, Thomas Hobbes was ontologically seen materialist and monist while epistemologically speaking a rationalist. He believed that by analogy with that language consisted in sound-symbols, cognitive processes consisted in thought packets that was set into motion by sound-symbols (Hobbes 2008, 73 - 74). Regardless of transmission is a mechanistic concept - and probably best, or most often understood from Shannon and Weaver's so called communication model - it is used extensively to understand communication as a transfer of information between people. Communication is seen as a channel for the transmission of symbols that are encoded at one end and decoded at the other end, more or less successful depending on the degree of noise it has been exposed to along its way (Fiske 2002). It is intriguing, to understand communication as transmission of ideas between two people. One can see an insult, being sent off by one person and strike another with power, just like one billiard ball strikes another and causes it to roll. Such an inductive causality was precisely what Hume warned against in *An Enquiry Concerning Human Understanding* from 1748. One suggestion for why the transmission is still a dominant model for understanding the problem is the lacking differentiation between different forms of being.

The second concept, *transformation*, gives a more nuanced understanding of exchanges of resources between different forms of being. This concept does not mean a transfer between a sender and receiver without what is transferred loses identity, but exactly that something is changed in the process. In Kant's (2002) theory epistemology becomes a kind of media theory, in which the recognition modes (time and space) and the categories form the media humans recognize the world through. Epistemologically seen, we get the distinction between *the thing in itself*, which we can only acknowledge mediated as a *thing for us*, through our own cognitive equipment (Kant 2002). If we also take an evolutionary perspective inspired of Hegel and Darwin, it becomes clear that our senses have just developed, and thus adapted to the world we evolved in.

This figure can be taken as a basis for a more structuralist approach, in which the individual through linguistic transformations is predisposed to internalize societal myths, narratives, fields and discourses as with Lévi-Strauss (1984), Bourdieu (1996) and Foucault (1991) - and be interpellated (Althusser 1971), because we are socialized to it (Hall 1987). What is being uttered here means not necessarily the same for different individuals with different social backgrounds (e.g. Bourdieu 1997). But what then, we can ask, is the coupling formula that can explain the *transformation*? For Foucault (1991) and Bourdieu (1996) the answer is power (resp. discourse and habitus), e.g. through various disciplinary technologies like in the panopticismen (Foucault 1991). In this perspective it is the social structures that give meaning to our thoughts. For me this is like just the same as, but in an opposite way, than within the transmission theories. Now it is the psychic systems that are reduced to carriers and transmitters of the social through different habitus'. Now it is individuals who are programmed by discourses as if they were just parts of society, why the distinction between the two forms of being erode. Giddens' (1984) theory of structuration might as counterpoint have been able to restore the distinction, if it did not give so much space and leeway for the individual that social complexity is inexplicable. So although both theories definitely are dualistic in recognizing the fundamental difference between the psychic and social, the architecture of theories imply that, the one form of being is more or less linear causally subject to the other (Mortensen 2000).

Luhmann and the systems theory

Epistemologically Luhmann, like also Foucault and Bourdieu, can be described as an epistemic constructivist, for him it is not discourses or fields, but systems that acknowledge (Bertilsson 1998). To attribute systems epistemic primacy gives the difference, compared to the fields and discourses, that systems not only exist in the form of social systems, but also in form of psychic and biological systems. Although Luhmann is known to deontologize, he can be described as an operative constructivist, since systems on three different levels of system formation are operationally closed and autopoietic. Luhmann deontologizes by epistemologically to observe the question of what an *element* is, by looking at an element in a system as a *process* or as an *operation*. "the unity of an element (...) is not ontically pre-given. Instead, the element is constituted as a unity only by the system that enlists it as an element to use it in relations" (Luhmann 1995, 22). That systems are operationally closed means that communication fosters communication through communication, without being mixed with consciousness or life. A communication is following as process an undividable least element, although it can be seen as consisting of three selections (of communication, information and utterance, which we later return to). Psychic and social systems have a certain world-openness as they are both meaning systems, but they are still operationally closed, one produces consciousness, the other communication (Luhmann 1995, 37). However, since both forms of systems are closed, Luhmann needs a conceptualization of their meaning relationship, and the mechanism they can cooperate through.

Interpenetration and structural coupling

Luhmann's systems theory works with two concepts that address the problem, namely interpenetration and structural coupling.¹ The concept of *interpenetration* weighs that a system makes its complexity available to another system, without the concept, however, implies that the receiving system is aware of how the other system functions on other basis than its own resources (Luhmann 1995, 213). Consciousness e.g. uses the brain with its neurons, synapses, etc. when it produces consciousness, without knowing how the brain works. For Luhmann (1995, 241) socialization is always self-socialization and it occurs not because one system transfers its meaning pattern to another. The concept of interpenetration denotes a particular kind of contribution to systems building, which appears from systems in the surrounding world (1995, 213), without making autopoiesis to allopoiesis (1995, 219).

Structural coupling provides a more distanced perspective on how different systems build and reproduce interdependence. The concept is formulated from an external observer's point of view, while watching two systems at the same time asking how they are interconnected, and how it is possible at all, for a system to operate in an environment when it is autopoietic (Luhmann 2002, 269).

The answer is that the development of a system's structure is dependent on structural couplings and that systems can only build structures that are compatible with their surroundings (ibid.). For Luhmann (2002, 270), it is crucial that social systems are linked to consciousness and nothing else. Communications cannot perceive: "It works its way in darkness and silence" (Luhmann 2002, 271).² It takes consciousness to transform external world via perception to consciousness, "and only then a consciousness can decide to use motile energy to write or speak" (ibid.).³ Communication is thus, according to Luhmann, solely influenced by consciousness and not through sound or writing. Everything communicated must move through the filter of consciousness in the environment of the social system. Everything else (physical, chemical and biological) are excluded, and has no influence on communication. This is compensated in form of communication's totally dependence of consciousness, which again is itself dependent on its brain, which in turn itself must have a body that keeps it alive. Despite this sequence of structural couplings the theory provides a paradox in the simultaneous total dependence and total independence, "communication only works through consciousness, using consciousness, but never operationally as consciousness" (Luhmann 2002, 274).⁴

The emergence of the structural coupling

The structural coupling has emerged in a smooth transition from single articulated sounds and gestures to doublet articulated language. Before the emergence, the

¹ Also the concept of *operational coupling* could be mentioned, but it seems only to be a special case of structural coupling. According to Luhmann (2002, 268) he only distinguishes between the concepts of structural coupling and interpenetration for theory-historically reasons, i.e. they come from each their theory, the former from Maturana and the latter from Parsons.

² My translation.

³ My translation.

⁴ My translation

social system was biologically determined, why also the psychic system was in a *tight coupling* to the biological system. Knowledge was mediated through gens and action was depended on instincts. As long as parents cannot disclose their experiences to their offspring, this is left to its ancestral instincts. The situation remains the same, although a certain amount of experience is transferred to the next generation. As long as the sum of experiences that are lost by death, is larger or as large as the amount handed over to the next generation, there are none capture of experience. Each generation will then live a life based on biologically inherited characteristics. But if the transfer of experience from generation to generation is large enough, young people will learn from the elder's mistakes and successes (Weisskopf 1964, 213). Such savings will, in all modesty occur with bodily gestures and single articulated sounds, and we must imagine a co-evolution between the biological, the psychic and the social level of systems formation. Now a critical mass of biological prerequisites for voice generation and neural complexity increases higher consciousness processes, selected in a social world with a larger division of roles (Morin 1974). The critical mass has at some point in development resulted in the emergence of the double-articulated language. This gives a jump from inherited properties of nucleic acids to oral mediation (Weisskopf 1964, 213). Subsequently, the social controls more and more of the societal cooperation, providing larger and larger freedom to the psychic systems.

Language as medium

A medium seen in Luhmann's (e.g. 1999, 2000) optic is a distinction between form and medium. The medium is seen as a *loose coupling* of elements, while the form is seen as a *tight coupling* of a medium's loosely coupled elements.

That a *single articulated* language system cannot be seen as medium in a strict sense, and therefore not as a mechanism for separating out the social system and enabling the structural coupling, is that each sound carries a fixed meaning. The sound is wired to a particular situation, action or for instance person, and not to Saussure's (1966) language system, consisting of internally consisting distinctions in meaning. In single-articulated language we can observe two distinctions, namely between noise (a sound that has no meaning), language-sound (a sound that has a meaning) and meaning (the concrete thing a sound stands for). That this kind of language is tightly coupled, means that sound is a medium for words, but that the words do not form a loosely coupled substrate, since they are wired for specific meanings.

In modern language, which is *double articulated*, the individual sounds (phonemes) are semantically empty and does therefore not carry any meaning. Phonemes can be combined to thousands of morphemes (words with meaning), which again can be combined to infinitely many sentences with different meanings (Tække 2006b). Here you can observe three distinctions, namely between noise (a sound that is not part of the language), phonemes (the smallest meaning separating part of the language), morphemes (the smallest meaningful part of the language) and sentences (grammatical structures). What is noise and what is language is identified on the second meaning level, the level of sentences. With the modern language we get a substrate that meets the definition of a medium, because its

elements in themselves are *loosely coupled*, but which nevertheless, can be *tightly coupled* into forms. Words print themselves into the medium, which cannot resist the *in-formation*, but is left just formless behind, ready to take on new impressions (Luhmann 2000, 105).

The doublet articulated languages, counting all modern spoken languages, open for the self-reflexivity of social systems, because with it, it is possible to communicate about communication (Luhmann 1995, 153). It is difficult to imagine that an independent autopoiesis of communication would have come into being only through non-verbal body movements (Luhmann 2002, 278; 1999, 205). Language is the muse of society (Luhmann 1999, 225). Almost the same goes for psychic systems, first when communication emerges on the basis of language, they can become self-reflexive systems using language to reflect over thinking. Communication and consciousness systems evolve in a co-evolution, since the language makes it possible for them to differentiated themselves out (Luhmann 2002, 278). "Language is the structural coupling, that is its task, its function" (Luhmann 2002, 279).⁵

Communication and language

Luhmann defines communication as the synthesis of three selections, namely information, utterance and understanding (Luhmann 1990, 3). What is decisive is that the third selection can base itself on the distinction between the first two (Luhmann 1995, 140). Every time there is an understanding we have an element in the process of communication, which makes communication a chain of processes that links back in time to previous processes (elements). Someone needs to link up with what was said before, if the contribution can be said to be part of the social. And this would not be possible without language: "Communication had emerged as an autopoietic operation producing linguistic elements via the network of linguistic elements" (Luhmann 1992, 33). This presupposed the form of events in time, and created society as a system, that could temporalize its complexity, by having the internal capacity, to adapt to transitory conditions, through transitory states in the system. The system can combine short states with structures, which organize the transition from one state to the next state. Language is the medium for phrases as forms. The perceptual acoustic medium thus provides space for the temporality required, in the coupling and decoupling of phrase-events in the medium of language (ibid.).

Consciousness and language

The social system make its complexity available to the psychic systems, as long as it can be communicated: "The evolutionarily achievement developed to perform this transfer is language" (Luhmann 1995, 272). But mental processes are not linguistic processes and thinking is not inner speech. Consciousness is never identical with linguistic form, for instance, we use no linguistic rules when we think and often we must search for more clarifying words, etc. (Luhmann 1995, 320). Luhmann (ibid.) suggests the term *capacity to form episodes* for what consciousness's autopoiesis

⁵ My translation.

acquires through the use of linguistically formed thoughts. The ability means that the consciousness can differentiate and discontinue operations. It can jump from one context of linguistic thought to the next, without completing its own self-reproduction, without preventing the possibility of further thoughts becoming conscious. The psychic system can provide the difference between before and after, in the succession of thoughts, with an immense and constantly changing capacity for exclusive operations: "All this makes the unity of the continuation of autopoietic reproductive nexus compatible with the constant installation and elaboration of changing structures, which fill up and perform the autopoietic process, which produce breaks and transitions without exposing it to the risk of coming to an end" (Luhmann 1995, 273).

Meaning

Where both psychic and social systems are closed on their own processes (resp. consciousness and communication) they are world-open in terms of meaning (Luhmann 1995, 37). Psychic systems can, through the form of meaning provide the basis for social systems, and link up structurally to their communication. At the same time, communication would not be possible without social systems, through meaning could link to consciousness and its perception, memory and contributions. Luhmann (1990, 26) defines meaning as a distinction between actuality and potentiality. The actual has meaning because of what is potential, because of what could also have been selected but was not. Selection of information, for instance, in communication is an announcement of what is not selected, but which could have been selected. Meaning appears as a surplus of references to additional opportunities for experience and action and hereby forces the next step of selection (Luhmann 1995, 60). The inevitability of selection enters into the consciousness of meaning and, for social systems, into communication about what is meaningful. The structure permits, by limiting the connectivity, the autopoiesis of meaning systems. Processes must have a meaningful structure that make probable a systems next state, its next process, which makes it expected: "An operation resumes something from the past and anticipates something in the future. We consider in a particular situation, what has happened, what fits in this context, we have a selective memory and correspondingly a selective idea of what we really want to achieve, or what should be evoked" (Luhmann 2002, 329).⁶ This is where language comes into play, since it is through the same use of signs alter and ego can be reinforced in the apprehension that they mean the same thing (Luhmann 1995, 160). The psychic and social systems are ultimately rooted in meaning: "Both kinds of systems emerge by the path of co-evolution. (...) Meaning is the true »substance« of this emergent evolutionary level" (Luhmann 1995, 98). And that they can adapt to each other is rooted in the medium of language, which can hardly be overestimated (ibid., 160).

Communication's dependency on consciousness

Once consciousness has emerged in the psychic system, it is possible for it to proceed even without communication. In contrast, communication cannot continue

⁶ My translation

without contribution from psychic systems (Luhmann 2002b, 171). Communication must therefore organize, so that it can continue its autopoiesis under such volatile conditions. The system must preserve the ability to reorganize itself,⁷ while it also remains structurally determined internally. “Only when a system, in its autopoietic reproduction, adapts itself to the field in which it operates can it determine itself through its own structures” (Luhmann 2002b, 172). And only so long as the system is in contact with its environment through its own structures, it can continue its own operations. If the communication continues, it is adapted no matter how self-reflexive it is closed. It is not the goal of communication to adapt to systems of consciousness, rather it is communication that fascinates and occupies the mind. It is thus possible to link communication to communication and hereby activating the necessary and indispensable consciousness states, although they are highly unstable and diffuse, and cannot (except individual consciousness) be put together in succession. Communication reduces the possibilities for linking, but still leaves a huge spectrum open for possible linking through meaning. The autopoiesis of social systems is nothing more than this constant process of reduction and creation of opportunities for linking (ibid.). Society can only be stopped by its nonsocial conditions. Evolution of communication is only possible because of the constant connection with consciousness states.

This connection is only possible because of the spoken language and then made more efficient by writing and printing technology (Luhmann 2002b, 173). Language and script fascinate and preoccupy the mind, and thereby ensuring its participation, even though it could resist, and always keeps ready diversions (ibid.). In this way the two systems, which are separated are structurally coupled through media. Language and writing, as well as later developed media, thus guaranteeing that communication retains the ability to reorganize itself through its constant accommodation to the mind (ibid.).

Psychic system's dependency on communication

The psychic systems dependency on communication is not the same as the reverse relation. Consciousness can work without communication, but only if it has experienced communication and has socialized itself. Furthermore, it is a *conditio sine qua non*, that consciousness has acquired language, which in turn is dependent on communication. Without language as a medium there would be no self-reflection, as there would be no structural coupling with the social and thus no self-understanding.

Following Luhmann (2002b, 81) the more radically the mind is understood as a subject, the more difficult it is to understand another subject as an *alter ego* - it takes communication to do this analogy. If communication emerges, it may split itself into an observing element (communication) and an observed element (the utterance, the expressive action of a speaker or writer) (1992, 27). Consciousness can participate in communication, only if it can distinguish between utterance and information: An utterance selected from a spectrum of possible actions, and information as a selection within a spectrum of facts about the world:

⁷ Luhmann (2002b, 172) refers to Maturana's concept: “conservation of adaptation”.

communication combines them into one event. One must be able to master this distinction in order to participate in communication and draw the analogy of the other as another self. If the mastering is missing or is less accurate than today, we might also include plants, animals and gods, and perhaps even exclude more distant humans (Luhmann 2002b, 181).

It is also only through participation in communication the psychic system will be personalized. *Person*, according to Luhmann (1995) is a distinction between action and experience. When we do something, playing a certain role in a certain context, we are attributed a certain experience of the situation and a special intentionality. I am, for instance, driving fast in our car and am attributed, perhaps, that I do not care for the other road users. If one will experience acceptance as a person with a definite and attractive identity and gain trust, one must be able to undergo self-determination in relation to a given social system's border of meaning. In a dynamic world one must lose in spontaneity and gain in reflexivity and thus cares of one's self-presentation in order to gain trust. It is one's self-presentation that makes one worthy of trust, and what requires trust is the complexity extension granted by other person's freedom of actions.⁸ Trust is provided to a human, who is perceived as a personality, in that he is assumed to constitute an ordered, not arbitrary, centre of a system of actions. Personality is what another produces and makes visible as personality. "He who stands by what he has allowed to be known about himself, whether consciously or unconsciously, is worthy of trust" (Luhmann 1979, 39). Self-presentation is therefore the medium for the decision about trusting another person. So if the psychic systems want to be something, they must link to social systems and their borders of meaning: "Psychic systems thereby become persons, namely, collages of expectations, functioning as points of reference for further selections within the [social] system" (Luhmann 1995, 127).

Consciousness as a medium for communication

For an observer a consciousness in all its states and processes is determined by its own structures. Just as visual and auditory perception uses light and air because these cannot be seen or heard as media, so communication uses consciousness as a medium, because it does not thematize the concrete consciousness. "Metaphorically speaking, the mind in question remains invisible to communication" (Luhmann 2002b, 175). If consciousness becomes visible, it becomes disruptive, like a strong wind whooshing spoils the words in communication. Consciousness works as a medium of communication when it is assumed that it can take in everything that is said. It is a loosely coupled substrate of elements without self-determination, a substrate that can be impressed with whatever is said or read. In the convergence between tightly and loosely coupled elements the tightly coupled elements sets themselves through as footprints in sand. Almost whatever you hear or read, it provides impressions (if it is absorbed in the memory is another matter). It is enough for communication that consciousness almost helplessly must participate

⁸ Excuse: The fall of man and the expulsion from the Garden of Eden was therefore caused by language, and the following reflectivity and was actually the separating out of the three levels of systems formation from each other and the creation of man.

(ibid.). But, asks Luhmann (ibid.), how can consciousness be a structurally determined system and a medium at the same time? And answers: that the answer lies in the acquisition of language.

A medium is only a medium from the perspective of a form. Thus consciousness is not more medium in-itself than are air and light, consciousness itself opens for the use of language. Similarly consciousness can use language as a medium to express impressions in, in a way that does not use up the medium (ibid.). Media is longer lasting than forms, but does not keep forms, and can always take on new forms. Language as form provides the evolutionary advantage, that it itself can be used as a medium. It does not keep its forms, but is always ready to receive new impressions. "Sentences that are thought and spoken are only parts of a process that disappear at the moment of their generation" writes Luhmann (2002b, 176), and reminds us of which paralyzing noisy chaos it would be, if all the words continued to sound after they were told.

Introduction of part two

The structural coupling based on language has since the emergence of language been extended through the acquisition of new communication media. Luhmann suggests a logical, evolution-dependent connection between writing and printing, on the one hand, and symbolically generalised communication media on the other, because they presuppose: "writing before they can begin their process of being separated out and also printing before they can be fully developed" (Luhmann, 1999, 322).⁹ Further, Luhmann (1999, 358, 1990, 91) sees writing, printing and symbolically generalised communication media as generating the functional differentiation of society. The last part of the paper cannot, because of the limited space, give a fully depiction of how Luhmann sees the evolution of society in relation to the evolution of media.¹⁰ Instead the paper now selects to depict how a Luhmann-analysis, of the psychic system's evolution of self-reflexivity in relation to the social evolution (and media-evolution), might be.

Kierkegaard (1941, 9) writes: "The self is a relation which relates itself to its own self, or it is that in the relation [which accounts for it] that the relation relates itself to its own self; the self is not the relation but [consists in the fact] that the relation relates itself to its own self." If the self however stood in an isolated and mere self-relation, it would be a poor relation. In Luhmann's (1995) theory of self-referential systems this problem is solved by distinguishing between self-reference and hetero-reference.¹¹ If we observe the self as a self-description in psychic systems that are characterized by being operationally closed, autopoietic and structural coupled to their surroundings, then any operation is a conscious operation that by being conscious (and nothing else), will produce and reproduce both the system and its border to the surrounding world. The conscious functions therefore are internal and can only refer to themselves; i.e. what you remember, think, like, feel, etc. The structural coupling consists, according to Luhmann (2002)

⁹ My translation.

¹⁰ For an overview see Tække & Paulsen 2010 and Tække 2006.

¹¹ Between consciousness and phenomenon (Luhmann 2002c, 50).

in the language, which opens the psychic and social systems towards each other. Language opens for hetero-reference: you think about external phenomena, which in the consciousness are represented by words, concepts and semantics formed in the structural coupling with the social. Also what we know about ourselves, and can judge ourselves in relation to, are understandings we have formed in social contact. As a result, we can only relate us to ourselves by relating to the social, to the structures and understandings that have been condensed in the social, to the demands and expectations we as individuals must socialize us in relation to, in order to live up to, what it socially seen, means to be a person. Being a member of an organization or being a parent is socially seen, in speech and action to meet the expectations that are condensed in the social.

Now it is time for the paper, in a Luhmann inspired way, to try to follow the evolution of the psychic self-reflexivity, through its structural coupling to a society, which are more and more complex due to its more and more extended media-matrix.

Language - the mythic self

After the emergence of the structural coupling through language, and the cooperation of society slowly became self-regulating, it demanded not only biological resources as a voice generation and neural complexity, but also a loosely coupled psychic system. However this liberated situation of the psychic system could not, at this early stage, be recognized, because the social formation demanded totally inclusion in the form of total system conform behavior (Havelock 1963, Ong 1982). Nevertheless, even here Freud's observation of man's vital ability to delay gratification of needs, or for example, for direct sublimation of this, has been important. One has had to articulate (give words to) oneself as a hunter, a subject or as the son of the chief, and act in situations playing such roles. One must imagine that the conscious self-reflexivity in this medium-society has been a self-socialization towards complying with the myths, why I call this self for *the mythic self* (Tække 2007). The myths as we know from studies of Levi-Strauss (1984), acted as the accumulation of knowledge about survival as a containment of the river of contingency in times before the productive forces were sufficiently developed to regulate risks (Habermas 1997, 79). Nature was anthropomorphized and was conceptualized on the basis of culture, while culture and its norms through a mirror effect was counted as an equally solid and non-sculpture-able size as the nature. The self has seen itself as animated by the gods, as a piece in cosmos that was governed from the outside. One has had to follow the myths, the accumulated knowledge, in order not to arouse the gods' wrath and be excluded from society (Tække 2007). To this comes that orally mediated societies were the most static and conservative of all (Giddens 1994; Havelock 1963).

Writing - the distributed self

Writing gives a symbolization of the difference between sound and meaning in another perception medium, namely in the optical medium. In the optical medium the distinction between form and medium lies in the difference between meaning and letter combinations (Luhmann 1999, 256). Luhmann (1992, 29) distinguishes

between writing as a support for memory and writing within the communication area. In the first long phase and indeed to some extent still, writing works by, assisting communication with memory, but is not a bearer of communications. Writing was not information, but evidence of divination, contracts, or for what someone had said. Communication remained oral and only assisted by writing (ibid.).

Sounds appear simultaneously as internal and external events, and we hear them, without distinguishing between external and internal states. They give no occasion to reflect on the border between the observing system and the observed system, the sounds give both sides of the same minimal period. Contrary to this, the optical medium gives an exclusive external world (ibid.). What was changed with the introduction of writing was the form of observation. The same phenomenon could now be seen and referred to in a different way. This difference pushed social evolution over a threshold of higher complexity: "It inaugurated »literate cultures« and, finally, via a phonetic writing that duplicated language itself, led to new levels of reflexivity, including the possibilities of observing observers as observers. On both psychic and social levels, observation could become inward directed and organized to improve itself " (Luhmann 1992, 34). This development where the introduction of *alphabetic* writing led to higher complexity is exemplified by the following philosophy, ontological metaphysics, binary logic, the notion of ideas and last, but not least, to second order observations. In addition alphabetic writing put larger demand on speech so that the art of rhetoric arose (Luhmann 1992, 36).

With the phonetic alphabet communication was loosely coupled from presence, which opened for society to extent in time and space, because proposals of meaning now could be conditioned and condensed in a medium that could both be transmitted in time and transported in space. Via writing we can contribute to communication loosely coupled from interaction, which means that interaction now can be separated from society. This loosely coupling expanded the scope for administration, so it became possible to organize large empires like the Roman Empire, making unprecedented nuanced division of labor, plus a specialization and accumulating knowledge (Innis 1986, 1991).

For the psychic system writing means that the individual now can include itself in the social, as it sits alone and writes, providing new success criteria for social inclusion. With writing and especially literacy training the self got significantly expanded its opportunities to relate itself to itself. Here it plays a significant role that the vocabulary now got expanded substantially, which significantly nuanced the possibilities of differentiation (Ong 1982). This possibility for variation is increased through the use of writing, because communication is relieved from the immediate pressure of interaction: "one formulates communication for unforeseeable social situations, which do not require one's presence" (Luhmann 1995, 87). This also opens for a stronger differentiation between the fact dimension and the social dimension, and especially for a stronger fact orientation, e.g. for philosophy (ibid.).

The larger accumulated knowledge and the complex stratified community has demanded a much more complex self-relatedness of this medium-society's individuals. I call this self for *the distributed self*, as it is now participating in social

contexts, which in relation to the effect of writing is loosely coupled in time and space. There is no doubt that this has influenced heavily on the self's self-reflections, self-observations and self-relatedness, Plato was as known, nervous about our memory, now that everything could just be written down. McLuhan (2002, 22) suggest that the visuality of writing gave us a linear and rational thinking that divided us between our cool rationality and our hot sensitivity in a form of schizophrenia. Whether it was quite so bad is doubtful, but surely it is that self, seen as human being, is defined by language (Ong 1983), with the phonetic alphabet, could recognize itself with an autonomous personality and not just as parts of a fixed cosmos (Havelock 1963: 197). But as Luhmann (1992, 36) points out, writing did not affect all citizens before the acquisition of the print-medium.

Printing - the unique self

With the print-medium changes the social surrounding world of the self again, as society after the acquisition of printing began to develop a new kind of fundamental structural differentiation. Where the oral medium society can be described as differentiated in segments, and societies, which were also mediated through writing, can be described as stratified, then the medium-society, which also rests on the print-medium, can be described as functionally differentiated (Luhmann 1999; Tække 2006; Tække & Paulsen 2010). Before this form of society, birth (descent) gave one a particular place in the societal hierarchy, now every individual had to actively include themselves in a number of different function systems through the systems' different communication codes. Man was now definitely out-differentiated from society to its environment, since one neither can sleep in policy nor stay in the economy (Jönhill 1997, 203). If a person violates the law, he is not expelled permanently as in earlier social formation's witch-burnings and outlawry, but is included as excluded (Foucault 1991). Provenance (descent) no longer decides how one shall and can observe oneself, but in exchange society now offers a number of communication codes from the various function systems (Luhmann 2002d). Furthermore hierarchies are found again in society's organizations, where a member must comply with certain rules for membership, in exchange for money and/or identity as a member. In the early period there were plenty of books about how princes, hunters, merchants, etc. was as persons, which provided reflexive knowledge of one's own discrepancy with these stereotypical archetypes. The author and philosopher Montaigne contrasts these ideal types by describing his main character's idiosyncratic trivial pursuits and thoughts, and in this way, helped the private self to come out in the open for the first time (Eisenstein 1983, 58). Man saw his own singularity, with the traits not shared with others - traits without social or exemplary features - which are of no literary interest (ibid., 57). Against this background I describe this medium-society's self, as *the unique self* (Tække 2007). The argument is that first we must have a standard (which came with the print-medium) then we can initiate reflections and observe individuality. One of the emerging function systems was society's mass media system, in which the specific program area for entertainment has worked initiating for the self's self-reflexivity (Luhmann 2000b). Particularly in novels persons can observe all sorts of social situations through second hand experiences and identify with their characters,

without any consensus obligation or duty to hold onto a position (ibid.). Thus, one can now sit alone and read about adults, children, women, men, mayors, soldiers, etc. in every possible situations and use this knowledge to observe oneself and other persons self-presentations. If you, for instance, are mayor, you know the others have read about this position, and they know that you have, and that you know they have, etc. giving rise to a higher level of self-reflexivity in relation to the social expectations. Since ancestry (birth) no longer gave one a congenital social position, to find one, was not just a privilege, but a society-driven coercion for individuals, with all sorts of identity problems as a result, because what is the right social identity for me as a unique individual? This is also obvious from the angle of Descartes methodical doubt, which is seen by Luhmann (1999, 411) as a symptom, or reaction to the surplus of meaning that came with the many printed books, which each gave different answers to the same questions. Also the Thirty Years' War about the proper Christianity can be understood in this light - but the point here - is that also the individual from now on, had to go with this doubt about who he is and by self-produced contributions make social inclusion.

Electronic media - the consistent self

With the electronic media society's medium-matrix again was extended and again the psychic systems got new opportunities for reflexivity, for observing themselves and others. When one is not predetermined by ancestry, as in the stratified society, it is tempting to test virtual identities on one self. For example, in relation to the genre of highly personal experiential accounts (e.g. talk shows), where people are asked about the most intimate details and are participating as volunteers and are therefore expected to respond. The interviewer goes unembarrassed forward and the viewer can just enjoy feeling no embarrassment, but why? "It seems that interest in such programs lies in being presented with a credible reality, but which does not have to be subject to consensus. (...) One can make a choice oneself and is not even obliged to stand by what one thinks of oneself if things get serious" (Luhmann 2000b, 60).

Television broadcasts often dig into the hypocrisy of the discrepancy between backstage and onstage behavior¹² resulting in the fact that people develop a more consistent middle region behavior (Meyrowitz 1985, 175). Therefore, I call this self for *the consistent self* (Tække 2007). Middle region is a new scene between onstage and backstage that emerged on the basis of the electronic media (Meyrowitz 1985, 47). When, for instance, woman from TV has a new backstage-knowledge about men, then men must be reflected about this, when they interact with woman. Everybody is observed through television (or television spies on everybody), which influences or play back on all the roles we have as a father, husband, professional, tourist, customer, etc.. One's backstage is hereby significantly reduced, because we have lesser time to rehearsal, i.e. practice our self-presentations, and develop new and better social strategies. Also one's onstage is reduced, the customer or student knows something about how such one in your position is expected to act, and it would be embarrassing and inconsistent not simultaneously to meta-communicate

¹² See Goffman (1990) about the terminology of onstage and backstage.

and negotiate the role or position one plays, even if it is a part of a profession. It seems for example, inconsistent and embarrassing if a teacher plays as if he knows everything. Between the reduced onstage and backstage a middle region appears as a result of the electronic media, which now covers most of reflected people's social involvement. One must constantly be aware of side-glances at one's self-presentation, so that it can be consistent with the media created expectations, so that meta-communications can be initiated in relation to every possible side-glance.

The electronic media opens up for a scrutiny of others that were previously impossible. This scrutiny, as Meyrowitz (1985, 136; 311) puts it, opens for an insight into other people's *ordinariness*. Changes in appropriate behavior can be traced back to structural changes in social situations. When women and men, for example, are watching the same TV programs about men who are alone together, the man knows that the woman knows about the social mode, which is depicted, and she knows that he knows, and he knows that she knows that he knows she knows. This shared knowledge about the husband, the adult, physician and politician's *ordinariness* are built into horizons of meaning and changes relations and behavior. The changes play back on, and reinforce the overall effect of electronic media, by leading the changed behavior back into the system as updated content (Meyrowitz 1985, 175).¹³

One can identify a person's blind spots on TV, and see that they are non-transparent for their own self-reflections (Luhmann 2000b, 62ff). But persons become more reflexive about their own self-presentations, when they in TV can observe how others expose themselves in some way, because parts of their backstage performances shines through in contradiction with the ideal self they try to produce. Perhaps one can say that man becomes re-naturalized on a new level of social complexity. Not saved from the tyranny of the print medium, understood as sensory imbalance (McLuhan 1967), but freed from the Victorian society's norms, form the burden of culture as described by Freud, which demanded a formal onstage performances, with no traces of sexuality, desire or uncertainty. All are exhibited in the television medium, and only those that integrate the parts of their backstage behavior in their onstage performances, which others can nevertheless observe, seems consistent and congruent as persons. The consistent person is self-reflexive, in a way were he uses the many information that even very bad TV-programs show about social life (even Habermas (1997) recognizes that). This person understands that she must integrate her own idiosyncrasies into her own self-presentation to show congruence. Although there are important differences in the reflexive level before and after television, one never avoids what Goffman (1990, 20) calls an "infinite cycle of concealment, discovery, false revelation, and rediscovery", one will always give expressions off and never be able to control one's own behavior 100%.

Digital media – the reflexively distanced self

Changes in group identity, socialization, and hierarchy is portrayed on television, but played on the Internet, resulting in an *effect loop* where the television as one of

¹³ See footnote 14.

its main genres now have reality television.¹⁴ Reality television shows people who play role-playing with each other, where the roles, however, now are given by the individual's own personal identities, which they have to maintain and modify through difficult social challenges with the goal of being consistent. Who wins are decided by viewers, who regularly vote on who they think is doing best. Program's content evolves to match the new information environment, where people on the Internet inevitably are confronted with digitally mediated interaction systems, e.g. via the mailing list on their work. The mere remediation of interaction in digitally mediated writing gives a different communication situation than face-to-face situations. The interaction becomes loosely coupled from the observation of the other's bodily expressions, even though emoticons are used as functional equivalents for body language (they are loosely coupled to the body's expressions, and must stand as consciously selected utterances). With this loosely coupling the same thing happens for interaction, as did for communication with the introduction of writing, it turns more fact-oriented, in the sense that it is no longer anchored in the mutual observation of facial expressions, why the interactional co-regulation now only is conditioned on the written explicated utterances. The fact-orientation here might be one's personality and utterances, and *one finds oneself as a self that can only make social inclusion in the medium of writing*. Everything must be externalized via writing, and one must reflect about oneself in explicit terms in relation to the contributions one utter and have uttered. One must write oneself into existence and continuously reproduce one's social identity through written contributions. Social systems' requirements for the psychic systems increase again. Writers have been confronted with this situation for centuries, but as professionals and with much better time, and with a completely different balance between backstage and onstage. Writing has descended upon us all with its loosely coupling of contributions from contributors, so the individual's history of self-presentation becomes equal to the contributions that can be stored and retrieved (cf. *dataveillance*, Clarke 1994). Before this the basic social needs (recognition, the social personalization achieved through inclusion) was satisfied orally, in an information environment that was not yet permeated by this loosely coupling of the social identity from the mere incorporation in the body, and the co-presence with others being there represented with their bodies. It may seem paradoxically that even though it was the electronic media, which revitalized the oral (Ong 1982, even talks about *secondary orality*), and thereby broke the print-society's closed information environment, that it still is a remediation of *writing* that opens it completely. That the information environment is fully opened to scrutiny of one another's more or less successful self-presentations, also has the effect that the cinema's beautiful nonverbal depictions of silent understanding of social inclusion, must now be supplemented with non-actors in different forms of reality shows and

¹⁴ Meyrowitz (1985) put forward the theory that our norms are in state of equilibrium with the information environment created by the media. When a new medium emerges there is a new information situation why our norms become inadequate. A new state of equilibrium establishes through waves of effect loops where the new situations are portrayed as content within the media influencing how people act, which then again become the new content - until a new harmony with adequate norms are achieved.

docudramas. In order to work properly authentic and initiate self-reflexivity, programs must now have real people (not actors) who are in real situations (not directed), with real consequences (social acceptance or public identity suicide). This and nothing less requires reflexive distanced humans to feel themselves, to identify or not, to decide how they relate and mean about themselves and others in difficult and changing social situations.

Focus has been displaced from origin position, educational background, and economic status to the handling of borders of meaning in social systems. This pushed the self in the reflexive distance to not only the social, but also to itself, why I call this self *the reflexively distanced self* (Tække 2007). You can try out virtual identities on the Internet (Turkle 1995), but is generally more interested in reception than in deception (Donath 1999). The social relationships one has online allow individuals to express and live out sides of themselves that are otherwise difficult to realize.¹⁵ These relationships become of equal importance to our personal identity as our offline relationships. Because digital media is not just communication media, but also storage and retrieval media, there is something irrevocably by one's own self-presentation in digital media (Tække 2010b).

Conclusion

The first part of the paper showed how Luhmann's theory succeeds in explaining how otherwise differentiated forms of being (psychic and social systems) continuously adapt to each other and thereby mutually enables each other. Luhmann succeeds in doing this without the simple causality conception found in theories, which describes the relation as transmission or transformation. Luhmann describes the interdependent relationship between the two levels of systems formation as a *structural coupling*, which is enabled through the medium of language. It is made probable that *language* let the two levels of systems formation emerge, because it enables their respective self-reference, so they can produce and reproduce themselves as operationally *closed* systems, which at the same time are cognitively *open* for using each other's complexity through meaning.

The second part of the paper concentrates on the self-reflexivity of the psychic system in relation to its structural coupling to five historical medium-societies (speech, +writing, +printing, +electronic media and +digital media). In this part it becomes clear that each and one added medium extends the structural coupling, providing and demanding higher psychic reflexivity through the extended social complexity.

Now I will use the last few lines to look forward. For Luhmann (1999, 411), it is still an open question whether society will change fundamentally with the introduction of the computer, like it happened with the introduction of writing and printing. Because Luhmann does not see technology as determining the social, but as a milieu that provides society with its possibilities and limitations, we must wait

¹⁵ Here I refer to the huge differentiation in the fact-dimension, which along with the Internet's reduction of geographical space, opens for online communities on very narrow well-defined topics.

and see what is going to be condensed as culture, because: “forms of meaning only condense in communication itself” (Luhmann, 1999, 411).¹⁶

One of the new digital media, which now draws a lot of attention, is the *social media* like Facebook and Twitter. Especially Facebook provide a medium suited for network-communication, which might mean a risk for modern society (Tække 2010c). Luhmann (2002d) uses the concept of *network* to describe a form of communication belonging to stratified society. The risk of the network society is a possible short circuit, which involves the networks cutting across the closure of the functional systems in the factual dimension (for example, the mixing of politics and science), and the closure of organizations in the social dimension (so also non-members can participate in decision making) (Tække 2010c). At the same time we see the revolutions in North Africa where the social media have had the effect that the regimes could not just stop the democratic movements by cutting the head of them (killing the leaders). This was because in the years before the beginning of the revolutions, before the Internet was closed down, the social media provided forums with thousands of individuals who self-organized.

For the psychic system the structural coupling through social media seems to mean an even more difficult information environment to do self-presentations in, which cost even higher self-reflexivity than earlier. Just to mention three challenges for the self in relation to Facebook:

1. In Facebook there is no social feedback from a *community*, but only the viral feedback from a *network*, i.e. from single persons. Facebook communication is only based on co-existing synchronous parallel networks of friends with only some overlap of common friends. The sense of community one gets on Facebook does not refer back to an actual community, but only to scattered communication about countless issues lacking coherence and carried out by various individuals who do not obey common norms (Tække 2010).

2. In Facebook communication we see a strong back stage bias, because different groups can observe one’s status updates. Therefore one has to present one’s self in accordance with one’s history of self-presentation for very different groups at the same time, pushing the self in an extremely reflective distance to the social and to oneself, who must be seen in third person, as a thing one must manage to keep social trust and acknowledgement (Tække 2010).

3. Last the self-presentation on Facebook has a dialogical dimension, which is also challenging, because one are depended on which feedback one gets, which others will observe and reflect upon in comparison with one’s utterances (Tække 2010). And what if one does not get any feedback at all?

¹⁶ My translation.

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