

# Communication overload in interaction systems

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*Abstract: The article aims at exploring the relevance of Luhmann's sociological systems theory to understand disability as communication about impairments. The questions to be considered in the following are: What happens to interaction systems when confronted with individuals with psychical or physical impairments (deviating bodies, perception difficulties, difficulties to process information)? What are the essential characteristics of interaction where disabled people participate? Trying to answer these questions, a broader question is raised: In which ways does communication in interaction systems become strained or overloaded? I argue that from the viewpoint of systems theory, disability as a social phenomenon, as part of social systems - historically evolved and intelligible only in a systems/environment relationship - must be linked to communication. Individuals' impairments strain interaction with respect to time, objectively and socially because interaction systems are a combination of perception and communication.*

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## **Intruduction**

I will argue in this article that from Luhmann's description of communication it is possible to derive a new non-reductive understanding regarding what disability as a social phenomenon is all about. This understanding is the opposite of what is expected from the social, the medical and the environment relative models. This is done in two steps. First some prescriptive implications are derived from Luhmann's description of communication in interaction systems. Then it is discussed how these

prescriptions can be concretised in relation to disability in an interaction setting.

Among the novelties in Luhmann's theory is that the distinction individual/society is replaced by the distinction system/environment and the concept of communication is given a new meaning in his theory of society as a communication system, a system that is produced and reproduced through communication. These premises guide my analysis in the following.

Luhmann starts from the position that "the world is constituted by the differentiation of meaning systems, by

the difference between system and environment” (Luhmann, 1995:208). The traditional difference between whole (society) and part (individual) is in systems theory replaced by the distinction between system and environment, a distinction that can be repeated endlessly by systems as they differentiate (the systems copy this distinction within themselves when they differentiate their own sub-systems). The system/environment relationship is a variable that changes according to the observation point. The main merit of the distinction is that it makes possible avoiding reductionism since phenomena are observed and described always in a relation to this distinction.<sup>2</sup> Systems are not self-sufficient, they always presuppose the environment, other-reference, towards which they are oriented. Systems delimit themselves within this unity (system/environment) but are still both autonomous and dependent from their environment (Baker, 1999). Autonomy in social systems means that communications stimulate further communications and they determine what communications can follow. Communications refer back to earlier communications and forward to communications to come. Only if a communication becomes part of this network of references, e.g., if it itself refers to and is referred to by other communications, does it constitute a communication. Social systems have selection mechanisms that determine whether a communication becomes part of the system or if it is relegated as

something belonging in the environment. This ability of the system to determine what belongs to it and what is relegated in the environment guarantees its own autonomy. Thus, a social system is communication and reproduces itself through communication. The communication is an autonomous and closed process – since it refers to and is referred to by other communications – always taking place within social systems (Seidl, 2003). Social systems exist as long as they are able to communicate. Their reproduction continues as long as they continue to communicate. Communication can be interrupted because information has not been perceived or understood or because communication has been rejected (Luhmann, 1990).

Society is communication. Society is formed exclusively through the ongoing communication. This means that communication is social and the social is communication. There is not somebody communicating prior to the system and systems are nothing but communication, which communicates. Social systems are formed through the differentiation and co-ordination of communications. Communicating is living in society. Something must be communicated otherwise it does not exist socially or it is not approachable. Communicating means participating in this network of co-ordinated information, utterances and actions. People’s minds and bodies are therefore indispensable for social systems, but not a constituent part of

them. People's senses and thoughts are as we are going to see in the following the sensors that are indispensable to link the communication in the interaction system with the environment. For Luhmann (1997), individuals are always on the excluded side of the systems. Society constructs its environment around this leading distinction, the distinction between individuals and social systems. The distinction is drawn by society itself through the differentiation of communications.

Every system makes up a fine equilibrium of influx and compact wholeness; it differentiates itself from its environment, i.e. from "everything else" (Luhmann, 1995:181). The coherence of the system depends upon its ability (over time) to differentiate itself from, but also to engage with and interpret its environment in terms of its code and programs. Contact with the environment is upheld by systems' openness to information from the environment. This does not, however, mean that systems communicate with the environment. Social systems communicate about the environment. That is to say, they construe the information from the environment in their own way. Interaction systems are linked with the environment via human beings' ability to perceive and think. Though human beings as biological and psychic systems are not part of the social system they are indispensable for it (Holmström, 1996). But in communication systems as closed systems, nothing external may determine

or specify what happens within them. The external perturbations that at any time impinge upon communication can only trigger in the system changes determined in the last resort by the systems themselves. As a result all that happens in a communication system arises in the system and is determined by the system. The system is in a state of permanent change as a result of the changes triggered in the system through its coupling with the environment (Rasch, 2002).

I will argue in this article that from this non-reductive approach follows that disability sociologically has to be conceptualised as communication. That is, disability as a social phenomenon emerges within social systems. Social systems do not consist of disabled/non-disabled people but rather of communications which refer to people with/without physical and psychical impairment. Social systems communicate about something that is observed and described as disability. Systems attribute a property named disability to certain phenomena in the process of constructing them as themes of communication. Disability cannot be reduced to certain characteristics of individuals in the environment; individual characteristics are observed from particular systems through distinctions and enter the social system as communications. Nor can disability be reduced to cognition's own construction, because other-reference would be merely a variant of self-reference. Disability can be observed and

communicated in a social system only, whilst not being determined by occurrence in the environment, is certainly irritated by it.

Any physical or psychical impairment – reducing the success of communication because of perceptual or cognitive impairments - is a problem of another kind than the one about individuals' attitudes or adaptations of the environment. Any communication overload is a major obstacle whatever in diplomatic negotiations or in work places.

#### **Communication versus action**

In the following I am going to delineate the communication concept in Luhmann's theory and its relation to action, a concept that is of crucial importance in the understanding of disability proposed here as communication overload. The concept is central for the argument in the present article since what is at stake here is what happens to interaction systems when individuals with impairments are included. This in turn can give us some hints about the exclusion of disabled people from communication systems. I am obliged to an extensive discussion on the concept of action and its relation to communication because the definition of disability proposed here – communication overload – is juxtaposed to the definition formulated by mainstream disability theory, namely as activity limitation. That is not to say, that every communication

overload can be attributed to disability but only those where the communication becomes overloaded or interrupted because perception as a form of acquiring information is impaired. Information enters social systems through perception or communication. Interaction systems are a combination of perception and communication (Luhmann, 1995). Perception “makes possible information that does not depend on being selected and communicated as such.” (Luhmann, 1995:412)

Communication is comprised of three elements: information (a selection from the repertoire of possibilities), utterance (a selection from a repertoire of intentional acts), and understanding (the observation of the distinction between utterance and information) (Knodt, 1995). Each of these three elements - information, utterance (including all physical movements as well as speech and writing) and understanding - is contingent since it is a selection from a repertoire of possibilities. A contingent selection means that it always could be different. It is the system itself e.g. the communication process between the persons included in the interaction system that makes these selections. Information is what the utterance is all about; a selection of what is to be communicated (Luhmann, 1995, 2000a). It is the utterance that is interpreted as action because it is through the utterance that communication is actualised as action from one moment to the next. “Therefore, it is not false, only one-sided, for a

communication system to interpret itself as an action system. Only by action does communication become fixed at a point in time.” (Luhmann, 1995:165) In this way, the relationship between action and communication is reversed. In mainstream sociological theory, communication is viewed as a type of action. In systems theory, action is constituted by means of communication. The communication concept is more fundamental than that of action.

Communication between persons is a complex interaction system where meanings are created/preserved and/or changed through feedback interaction between persons. Communication, unlike the common definitions, is not viewed simply as a linear process where information is transmitted from an active sender to a passive receiver through a certain medium. It is viewed rather as a circular process that is created together of the persons participating in the interaction system. Communications represent social operations and therefore cannot be identified with intentions and actions of individuals. Interaction systems are not systems of actions expressing the thoughts and behaviour of individual actors, but systems of communication in which the communication itself determines if and what further communications occur (Luhmann, 1995).

Communication in its most simple form comprises two individuals that create an interaction system. When A sends a message, an utterance, that intends to

transmit information the receiver, B understands A:s message by first differentiating and subsequently relating information from the utterance. In understanding the conditions for communication are created. Unless understanding is reached, no communication has taken place. Analytically viewed communication starts from utterance, somebody wants to utter something. (Since something is uttered by somebody the utterance can be attributed to somebody as action.) But operatively – that is, from the perspective of the communication system – communication starts always with information. Something happening in the environment is perceived by a person or a system, and thereby enters the system as information (see scheme 1). Information thus, is an event that is selected from a system. For these selections certain selection mechanisms are required that reduce the possibilities of selecting something else or making random selections. Information is not something that exists in the world that waits to be selected; information is a cognitive activity based on man made distinctions. Information must be transmitted somehow (by sign language, tones, images, etc.) in order to be possible to become a part in communication, but it is first with understanding in the receiver that the potentialities of communication come into existence (Luhmann, 2000b, Jönhill, 1997).

Luhmann adopted the definition of information from Bateson as a difference



that makes a difference, e.g., “7” is not “9” or “3”, and therefore information is a selection of one out of an already existing repertoire of possibilities. Utterance is the form that the information is created with (a selection of how is the information to be transmitted) – it includes even the intention of the creator and sender of the utterance. Uttering thus is the use of media to let others observe your information. Utterance that contains the information must be distinguished from information. The receiver may therefore react on both in different ways; s/he may for instance regard the utterance as authentic, but the information as false (Luhmann, 2003).

Understanding signifies the particular way a communication relates to other communications. It is determined therefore from the subsequent communication if it is going to be a communication and how communication is going to develop. Communication is always open for many connections. Communication is thus a flow of potential and current connections that none of those involved in the interaction system can control. Communication develops its own life. This is important for the understanding of the social as an order in its own right and of sociology as a theory of communication (Andersen, 2003). The closure of recursive communicative relationships, however, does not liberate the social system from the environment. As said above, the sensors of the interaction system are human beings both as physical and

psychical systems. These sensors are the links between system and environment. This is why social systems as autopoietic, self-referentially closed systems depend on human beings (Holmström, 1996). Understanding is a selection of how the information is going to be understood – it includes also the possibility of misunderstanding – in the receiver. Understanding is up to the addressee and cannot be determined; it is also a selection in a repertoire of possibilities. Events can be understood or misunderstood in different ways (Luhmann, 2003).

This conceptualisation of communication has three important consequences. The first consequence is that the subsequent communication determines if there is to be communication at all. Communication does not occur until there is a response. The second consequence is that communication is contingent i.e., it is open to many possibly different connections. Each communication provides a horizon of possibilities for connection. Understanding implies selection among possible connections of the previous communication to the subsequent. There is always an abundance of possibilities in one communication. Understanding is the choice of connection among possible connections. This implies that the connecting communication decides if there is to be communication and how. Communication is therefore a recursive flow of possible and actual connections. The third consequence is that since

communication consists of such a recursive flow, no partaker in the communication can control either the process or the outcome of communication. In extension, that implies that no partaker can control or determine exclusion processes from the interaction system.

The synthesis of utterance, information and understanding (including misunderstanding) cannot exist independently of the system; they are in fact co-created within the process of communication. Even information is something that is produced within the system and not something existing out there that the system imports. The things existing 'out there' (other reference) just trigger processes within the system. The selection of information is made by persons in the system that selects it by means of their own perceptiveness and cognitive abilities. It is furthermore the distinction of information and utterance that indicates which side of the distinction is supposed to serve as the base for further communication either by asking for further information about information or by questioning the "how" and the "why" of the communication, focusing on its utterance. Information refers to the environment of the system (other-reference), while utterance is attributed to an agent as action and is decisive for the continuation of communication (self-reference). In this way, in a process of self-reference and other-reference, in a process where system and environment form a unity, information and utterance

are forced to co-operate. The emergent level of communication presupposes this unity. Without the distinction of information and utterance as different kinds of selection that the persons involved have to make, the understanding would not be an aspect of communication, but a simple perception (Luhmann, 1990). Events would appear as they are for every actor and the possibilities for multiple understandings would therefore disappear.

This conceptualisation implies that communication involves at least two partners and as a consequence of that Luhmann's sociological systems theory moves away from the tradition of methodological individualism, i.e. beyond the individual subject as theoretical foundation. By viewing psychical systems as social systems environment we are able to get rid of any methodological individualism. Individual actions do not constitute the elementary operations of systems; they are ascribed to an actor in order to reduce complexity. (Cf. below about the fourth selection.) Actors act because they are treated as actors (Beyes, 2003). Action, actor, agency are observational constructs. An individual becomes an actor due to an observer's decision to observe another individual as a source of causality. Action, thus, means that persons become ultimate causes of observed effects (Reich, 2003). Sociological systems theory does not ignore cognition and intention, but interprets social systems as products of communication, and not

cognitive psychical systems. Communication requires interaction between at least two individuals, and this in turn results in a shifting of focus away from analysis of the individual to analysis of the social relationships between individuals expressed by their communication. In other words, properties of the interaction system don't have to be traced back to properties of individuals. Rather, the social constitute a reality *sui generis* (Seidl, 2003). If communication is the synthesis of utterance, information and understanding then communication is not reducible to individual actions. To communicate means more than to inform. It is not just a matter of sending a message through some medium, for some reasons, from one person to another. Interaction systems require two-way transfers and transactions, where each party reacts back to the other as they understand what they perceive. This in turn implies ability to distinguish information and message i.e. ability to reflexivity, a mutually comprehensible medium in which information can be transferred, and a framework of shared meanings. It seems therefore rather impossible to apply the individualist methodology to such a relationship.

It is frequent within sociology to identify communications with individuals' intentions but this is as we can see a gross simplification since communication presuppose at least two individuals and communication much more complicated than answering the 'why' in individual

actions/utterances. It is furthermore the understanding/misunderstanding and not the action/utterance of the individual intention that determines the outcome of communication. We have no direct access to understanding other than through its effects on the subsequent communication (Hendry & Seidl, 2003).<sup>3</sup> That is to say, Luhmann locates the component 'understanding' in the psychical system. (See scheme 2) By doing so he points out the structural coupling between consciousness and communication. Communication, thus, depends on its environment, primarily psychical systems that can understand and perceive (Luhmann, 1997). This is exactly the meaning of structural coupling between the social systems on the one hand and psychical and bodily systems on the other (Holmström, 1996).

Though understanding is localised in the psychical system, communication happens neither in the consciousness of the sender nor of the receiver but between them (Thyssen, 2003). Social phenomena cannot be reduced or explained with reference to individuals, their experiences and their intentions or to their bodily defects. It is this mutual relation implied in the communication concept that makes it as the most elementary social category for Luhmann. Communication has not come into existence until the receiver has understood/misunderstood something - even if it was not the intended information - and s/he expresses through an act this understanding/misunderstanding. Communication does



not occur until there is a response. Communication remains undefined and unspecified until the receiver has interpreted it. Every communication creates meaning, irrespective if it is intended or not. Communication is not, as mentioned above, a transmission of a thought from a person's brain to another. This is impossible since, to repeat it once again, the psychical system is an autopoietic system and as such closed towards the environment. Utterance is a selection that has been chosen to provoke a reaction in the receiver. But it cannot determine the receiver's reaction since the receiver's reaction is based on a selection and therefore determined by its own cognitive system. Their unity creates the potential conditions for the reproduction of communication. But the reproduction itself takes place through a fourth selection, namely, when the receiver accepts or rejects the meaning in the communication. This fourth selection is not to be confused with understanding. The fourth selection is linked to action. The fourth selection is decisive for the continuation of communication. It is through this selection that communication *in potentialis* becomes communication *in actualis*. If the receiver reacts in some way to the certain communication by questioned it, rejecting it, or accepting it, the response moves the communication on. It is in this way that Luhmann links communication and action. Action is a part of the broader concept of communication. Indeed, action *per se* is afforded a subsidiary role in communication. Luhmann reduces the

sociological concept of action to a derivative of communication. It is through communication that action becomes social action, only when action becomes a part of communication. Because social action implies the communication of the meaning of the action or the intent of the actor, but it also implies the communication of the definition of the situation, of the expectation of being understood and accepted, etc. But above all communication is not a kind of action because it always contains a far richer meaning than uttering or sending messages alone. Communication does not come into being unless understanding comes into being and understanding is not part of the activity of the communicator and cannot be attributed to him (Luhmann, 1990).

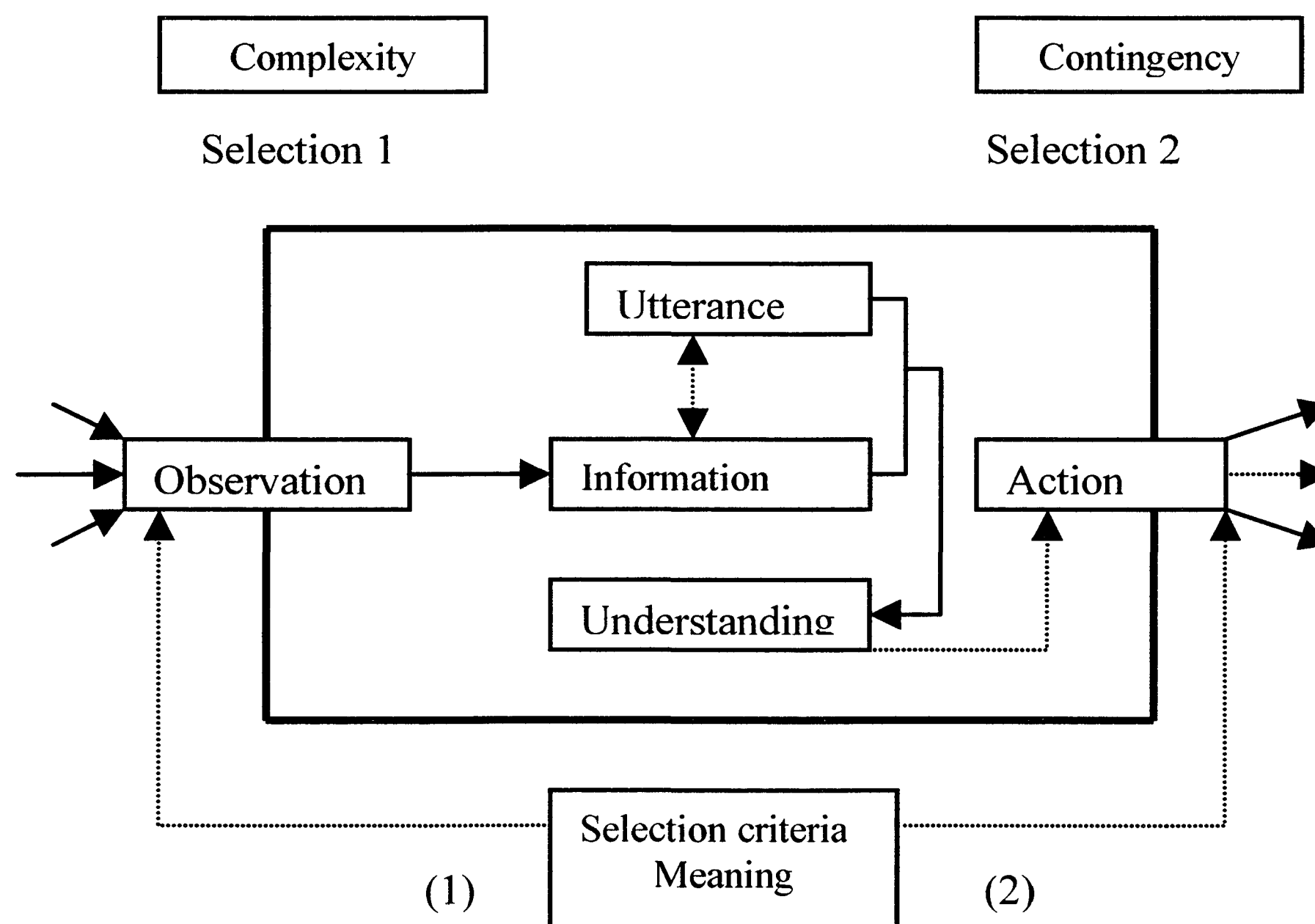
Action theory, according to Luhmann, overemphasises a single moment in communication, namely utterance. And since utterance is ascribed to individuals it also overemphasises the individual. But the individual, Luhmann asserts, is an artefact in the communication and a construction of an observer. A person is a person by virtue of another observer; an individual becomes a person only when another person observes him. Persons do not simply exist or think by themselves but are shaped by the communication. A person, as stated above, emerges within the unity of the observer, the observed individual and a theme for the communication. Action is dissolved because an action cannot be

unambiguously demarcated in the countless points of intersection between causes and effects. Rather, action becomes a question of ascription (Thyssen, 2003).

Now, the statement that communications are not lifelike elements, not mental states and not actions, but presuppose structural linking to man as an organism (the ability to act) and to consciousness (the ability to think, perceive, reflect, feel), have several consequences. The social, biological and psychical system condition each other, each system depends on the other. Communication depends on cognition (i.e. on the reproduction of thoughts through thoughts) and the thoughts,

feelings, intentions and actions depend on the central nervous system. Although communications are not situated on the same level of reality as thoughts and thoughts are not situated on the same level of reality as neural events. Neural events can be observed through encephalographs but not mental states, not thoughts. Utterances/actions can be observed in communication but not thoughts.

The scheme below shows the constituent elements of the communication system and how observation (selection 1) and action (selection 2) connect the system with the environment.



**Scheme 1. Scheme over communication as an inner-systemic selection process which cannot take place across a social system's meaning boundary**

### Communications and impairments

In the following I will specify the features in interaction that lead to communication overload. I claim that an interaction system provide in the very features of its organisation the conditions sufficient for understanding disability. When identifying these features as the conditions for communication we can ascertain that the conditions of disability are intrinsic to the structural conditions of interaction.

Understanding includes consciousness and constitutes precondition for communication. Perceptual impediments exert influence on the ability to recognise or create utterances (visual impairment, audible impairment, etc.). Impediments to move exert influence on the ability or swiftness to receive and respond and in certain situations (mobility impairment). Difficulties in understanding a spoken or written message exert influence on the ability to recognise and respond to the information and to separate between message and information. Each system depends on the other. Communication (the social system) depends on the psychical system, on cognition, i.e. on the reproduction of thoughts through thoughts and the psychical system (thoughts, feelings, intentions) depends on the central nervous system. Although communications are not situated on the same level of reality as

thoughts and thoughts are not situated on the same level of reality as neural events. Utterances/actions can be observed in communication but not thoughts. Some impairments create mainly impediments regarding utterance, other create impediments regarding information and some other for understanding, and some on several of the elements in communication. Interaction systems where people with physical or psychical impairments are included cannot rely on the acquisition of information through perception when the person has a perceptual or cognitive impairment. Communication as the other source of acquiring information must compensate the loss of perception.

This understanding of disability as a system/environment relationship helps us to move beyond a merely positivistic understanding of disability as if it could be accessed irrespective of a certain viewpoint, irrespective of system specific distinctions, and a radical idealistic position that abolishes impairment in sake of disability, as if systems are formed independently from environment. Both the positivistic (medical model) and the idealistic (social model) understanding assume that the difference between impairment and disability can be fixed and standardised. But since there is no clear cut – as all existing models assume – but an ambiguous and doubtful slide between impairment and disability an ambiguous and doubtful slide that is

precisely the very nature of epistemological constructivism. For systems theory the core issue is not what disability is, but how it is observed that renders it to an observational construct. In fact, what disability is, is completely irrelevant to the question of how observers reconstruct it. (For an extensive discussion on this issue see Michailakis, 2003)

The word 'disability' is to be found in many situations, programs, systems; however the word does not refer to an obvious aspect of the world. That is not to say, that the context defines the meaning of the word disability in each case, but neither that the word disability refers to some independent entity or dimension of nature that could be properly disclosed or described. Asking the question 'what is disability', as is the case in mainstream disability research, leads us to consider disability as an independent entity in the outer world. From a systems theory perspective this view is fully inadequate because all that human beings talk about are communications that arise in our involvement in social systems as closed domains of recursive communications (Maturana, 2002). An individual with impairment is observed as a disabled person only when s/he is involved in interaction with another person. "A disabled person" is therefore not a living or thinking being but an ascription of an observed individual's body and mind and their

influence on his/her ability to participate in communication (see Thyssen, 2003).

There is an insurmountable difference from the research tradition that sees disability as activity limitation; in that case research concentrate on detecting the impediments in individual actions. Disability research as a consequence is oriented to detect impediments to participation of disabled people – discriminatory rules, inaccessible building environment etc. – that are explained with reference to individuals' intentions, the meaning in their individual acts, or due to the disabled person's own activity limitations and forces one to accept a definition of society as a system of individual actions. These action oriented premises guide also the understanding of disability as a social phenomenon. That is, disability as a kind of activity limitation due to physical or psychical impairment or due to inaccessible environment, discriminatory rules, attitudes etc. Existing models (cf. ICF) derive from 'activities limitations' to define disability. Activities limitation leads to an individualised approach. Disability as 'overloaded communication' is a social approach through and through. Disability, sociologically speaking, is something that emerges in communication and therefore not reducible to individual characteristics.

## Communication overload in interaction systems

The scheme below is a preliminary attempt to relate the different aspects of the communication concept to different kinds of impairments.

Communication	Intellectual Impairment	Visual impairment	Hearing impairment	Mobility impairment
<b>Utterance</b>	It slows down communication processes and forces systems to abstain from abstractions for the sake of simplifications (e.g. easy reading, short sentences)	Impediments to perceive visual utterances; communication become overloaded because it forces references to visual utterances, or to avoidance of visual references, problems with acquiring information through visual perception, loss of vision must be compensated by communication	Impediments to perceive audible utterances; communication become overload or interrupted because it becomes necessary with counter questions, higher volume, simultaneous translation to sign language, with respect to time, problems with incompatibility of sign language and ordinary language	Impediments in some cases to catch utterance due to inability to move swiftly (e.g. turn around swiftly when someone is calling)
<b>Information</b>	Loss of information that is not easy	Loss of information that depends on visual impressions/ expressions	Loss of information that depends on hearing impressions	Loss of information that depends on usage of physical movement
<b>Understanding</b>	Impediments to distinguish and relate utterance and information, misinterpretation failure in communication	Misinterpretation, failure in communication. The security provided by perceptions against some sources of error is undermined.	Misinterpretation, failure in communication. The security provided by perceptions against some sources of error is undermined.	Misinterpretation failure in communication. The security provided by perceptions against some sources of error is undermined.
<b>Action</b>	No action due to absence of understanding	Restricted use of utterances (e.g. body language)	Restricted use of utterances that depend on subtle language (e.g. poetry)	Action not occurring due to impediments to move

**Scheme 2. The relation between the communication concept and impairment**



Disability in systems theory is observed in communication. The characteristic of disability as a social phenomenon is not its external reference to physical or psychical impairment. A description of disability is not a matter of locating it physically in individuals – a discussion at lunch time in school or over the dinner table at home can just as well be characterised as disability as can a meeting in a social insurance office, or a lecture at a university. Social systems, as communication systems, are not physically anchored, but anchored in communication and composed of meaning. Therefore, disability must be inner-systemic construction rather than physical or psychical impairments.

It is crucial to understand that disabilities as they are observed and communicated within interaction systems, are *not* referential with respect to a unique, pre-given external objectivity. They are constructed by the communication system itself. Such constructions are certainly not arbitrary; they are indeed sharply constrained by a physical and/or psychical condition; but the very nature of what these constraints are and hence the nature of disabilities is inseparable from the nature of the communication system itself.<sup>4</sup> The concept of disability thus refers to something that is in reality a disability and thereby incurs the responsibility of testing its statement against reality. Thus the statement “there are disabilities” says only that there are objects of research that exhibit

features justifying the use of the concept of disability, just as, conversely, this concept serves to abstract facts that from this viewpoint can be compared with each other and with other kinds of facts within the perspective of same/different. But disabilities as objects of research come into view only when the claim is uttered, because the concept of disability gives one the means to make disabilities visible. Once we have described disabilities using the tools the concept provides, we can test them against reality. But which reality? The reality that pre-existed the descriptions of disabilities, or the reality that emerges with the reality of disabilities? Both realities exist for Luhmann, but only the reality that emerges through the disability concept can serve as the reality against which statements can be tested. “The former /.../ must be assumed in order for a ‘second-order’ reality of observation and description to exist at all, but the ‘first-order’ reality that enables the second-order one remains inaccessible to observation and description.” (Rasch, 2000)

It is in this sense that disability in systems theory is to be understood strictly communicatively. It means that when individual impediments are observed from within society – they cannot socially be observed otherwise – they become disabilities. Disability then signifies the communication overload due to impairment.

Physical and psychical impairment thus means that the sensors – understanding and perceiving – in an interaction system are impaired i.e. that the structural link between the interaction system and the psychical and physical system is impaired. The interaction system has problems with its coupling to the environment. Therefore in the system-environment relationship the social system's openness to the environmental information that makes it to a cognitively open system, is strained, overloaded or interrupted or in one word; disabled. *The disability concept then seems to thematise the difficulties of communication itself. The concept of disability draws our attention to an understanding of the cognitive problems involved in the distinction between information and utterance as well as to the production, reproduction, transmittance, or reception of perceptions.* That is to say, the disability concept draws attention to the problems involved regarding the coupling between communication and consciousness.

## Conclusion

Communication theory has several important consequences for the understanding of disability. One is that the social meaning of disability cannot be understood as an individual characteristic. Disability has to be observed as communication and therefore not reducible to individual characteristics. Disability is a product or consequence of

communication in systems. Disability is a social category that determines what we observe and what we do not observe; and it also controls which causes and effects are attributed to one another and which not.

The understanding of disability proposed here challenges the traditional understanding as something located in the body or mind of an individual or to the building environment, attitudes etc. but is linked to communication. Disability in systems theory calls for the transfer from a bodily and psychical to a social reference. Disability is observed as communication and hence is genuinely social. Individual disablement cannot be isolated, no matter how conclusive this disablement might appear for its possessor. Neither the effects of disability can be traced back to the individual. If there is no communication of disability, this disability will have no social effect. From a systems theory point of view what is disability and what is its characteristics is not the question, but central interest is focused on which function disability as a communication device serves within social systems. Physical and/or psychical impairment is understood as a condition for the operation of communication. Ability to perceive is the link between the environment and the interaction system; the link between the social and the psychical/physical system. The ability to perceive is a condition for the genuine social operation of communication, without cognitive openness to the

environment no communication. Communication therefore presupposes cooperation of psychic systems but cannot be attributed to one single psychic system. The success of communication requires that all participants in the interaction system participate.

Disabilities are such variable phenomena that it is difficult to find a precise concept to describe them. Different systems have different underlying definitions of what a person with a disability refers to because the observation is made from different observation points. This leads to that the targeted persons, the circumscribed population, refer to partly different people. There is no general criterion, no code or meaning structure applying for all systems that can be used for categorising people as being disabled. Current operational definitions rely heavily on medical observations. Medical observations are usually seen as more legitimate because of the easiness to delineate a population in empirical research but also of the traditional monopolisation of disability assessment by the medical profession. A tentative term proposed in this article is “overloaded communication”. Disabilities are, sociologically speaking, communications addressed by social systems. The questions to be answered are *how* social systems communicate about disability, what are the questions they address, which are the distinctions employed. A disability observed sociologically, I have argued, is a communication. It can be expressed in an

exclusion from attending a classroom, a prohibition to testify in a law court, in a right to receive a welfare benefit, in an obligation to be examined by a physician and accept a certain treatment. Disabilities are not something that is imported into the system from the environment, they are communications, they are constructs of the system itself – together with welfare benefits, rights, exclusion rules and practices – the grounds for which are then assigned to the environment, to impaired bodies and minds. This does not mean that a disability cannot have comprehensive grounds, and in particular grounds comprehensible to the individual. Constructs are not fictions, disabilities are not self-deceptions. In this way – communications constructed within the system and then assigned to the environment – the system combines in every operation external reference and self-reference, i.e., external impairments for an internally constructed disability. From a systems theory approach disabled people are not ‘real’ people with functional impairments (physical or psychological) but semantic artefacts.

Luhmann’s sociological systems theory is a complex theory that aims at addressing complex issues. A theory’s ability to handle complexity can be seen as a criterion of the superiority of a description over another. There are no simple solutions. Problem solutions, which facilitate higher complexity, will be superior to solutions facilitating lower complexity. A sociological understanding

of disability that takes its point of departure in communication systems enables a genuinely social conceptualisation of disability. Disability is no longer to be seen neither as a solely property of the system nor as a solely property of the environment.

#### Notes

1. Avoidance of reductionism is of particular importance for the development of disability research since the field is dominated by reductionisms of two kinds. Namely those reducing disability to the individual (medical and rehabilitation models foremost) and those reducing disability to the social environment (social model).

2. The experiences of a person during communication are therefore unobservable. The question is what does a for instance sociological study using interview technique to describe reality through the experiences of disabled persons actually say about disability in society? Are these descriptions anything else than second order observations of the particular interaction system (interviewer, interviewee), and not indications or reflections of a reality outside the specific observation system? What does the observer observe during the interview? The implication for disability research is that society's use and understanding of disability, the impediments social systems raise for disabled people, the organised exclusion, the distributive mechanisms etc., in short, what disability means as a social phenomenon can empirically not be reached through interviewing people about their experience (psychical system) of disability, but by observing communications in interactions, organisations, function systems and the texts these systems use and refer to. The reality that is observed by a sociologist in an interview is nothing else than the interaction system that s/he is also a part of. The psychical system is an autopoietic system and is therefore normative closed. The sociologist has no access to the disabled person's thoughts, feelings and experiences. We cannot observe feelings, only communications. There is no causality or reflexive relationship between social reality and the

psychical system. The systems theoretical understanding of the interview is thus as an independent system of communication based on meaning. The idea of expecting to get factual information through the interview relies on the idea of an objective reality that is mirrored in cognition. According to systems theory the observer (interviewer) becomes part of the system by observing it and, thus, intervenes into the system (see Tömm, 1989).

3. Constructivism cannot of course represent referential states of affairs in the external objective world (Stewart, 1996).

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#### References

- Andersen, Niels Åkerström. (2003). Polyphonic organisations. In: Bakken, Tore & Hernes, Tor (eds). *Autopoietic Organization Theory. Drawing on Niklas Luhmann's Social Systems Perspective*. Abstract förlag AS.
- Baker, Bernadette. (1999). Disabling Methodologies. *Pedagogy, Culture & Society*. Vol. 7. No. 1.
- Bakken, Tore & Hernes, Tor (Eds). (2003). *Autopoietic Organisation Theory. Drawing on Niklas Luhmann's Social Systems Perspective*. Copenhagen Business School Press.
- Beyes, Timon. (2003). An Opening of Management Theory: Some Consequences of Niklas Luhmann's Notion of Contingency for Management Thinking. Paper presented at the Opening of Systems Theory Conference Copenhagen 23-25 May 2003.
- Hendry, John & Seidl, David. (2003). The Structure and Significance of Strategic Episodes: Social Systems Theory and the Routine Practices of Strategic Change. *Journal of Management Studies* 40:1 January 2003.
- Holmström, Susanne. (1996). *An Inter-systemic and a Social Systemic Public relations Paradigm. Public Relations Interpreted from*

- Systems Theory (Niklas Luhmann) in Opposition to the Critical Tradition (Jürgen Habermas)*. Public Relations Dissertation. University of Roskilde, Denmark.
- International Classification of Functioning, Disability and Health (ICF). WHO 2001.
- Jönhill, Jan Inge. (1997). *Samhället som system och dess ekologiska omvärld. En studie i Niklas Luhmanns Sociologiska systemteori*. [Society as System and its Ecological Environment. A Study in the Sociological Systems Theory of Niklas Luhmann] Sociologiska Institutionen, Lunds universitet. Lund Dissertations in Sociology 17.
- Knodt, M. Eva. (1995). Foreward. In: Luhmann, Niklas. 1995. *Social Systems*. Stanford University Press. Stanford.
- Luhmann, Niklas. (1990). *Essays on Self-reference*. Columbia University Press.
- Luhmann, Niklas. (1995). *Social Systems*. Stanford University Press. Stanford.
- Luhmann, Niklas. (1997). Globalization of world Society: How to Conceive of Modern Society? *International Review of Sociology*. Vol. 7. Issue 1. March.
- Luhmann, Niklas. (2000). *The Reality of the Mass Media*. Polity Press.
- Luhmann, Niklas. (2003). *Kärlek som passion – om kodifieringen av intimitet*. [Love as Passion – On the Codification of Intimacy] Liber AB.
- Maturana, Humberto. (2002). The Nature of Time.  
<http://www.teco.cl/biology/nature.htm>
- Michailakis, Dimitris. (2004). Systemteoretisk Handikappforskning – En mångfald av perspektiv. [Systems Theoretical Disability Research – A Multitude of Perspectives]. In: Söder, Mårten. *Handikappforskng*. Studentlitteratur. (Forthcoming)
- Rasch, William. (2000). *Niklas Luhmann's Modernity. The Paradoxes of Differentiation*. Stanford University Press.
- Rasch, William. (2002). Introduction Niklas Luhmann *Theories of Distinction. Redescribing the Descriptions of Modernity*. Stanford University Press.
- Reich, Wendelin. (2003). *Dialogue and Shared Knowledge. How Verbal Interaction Renders Mental States Socially Observable*. Department of Sociology, Uppsala University, Sweden.
- Seidl, David. (2003). Organisation Identity Luhmann's Theory of Social Systems. Bakken, Tore & Hernes, Tor (Eds). *Autopoietic Organisation Theory. Drawing on Niklas Luhmann's Social Systems Perspective*. Copenhagen Business School Press.
- Stewart, John. (1996). Cognition = Life: Implications for Higher-level Cognition. *Behavioral Processes* 35 (1996) 311-326.
- Thyssen, Ole. (2003). Luhmann and Management: A Critique of the Management Theory Organisations und Entscheidung. Bakken, Tore & Hernes, Tor (eds). *Autopoietic Organization Theory. Drawing on Niklas Luhmann's Social Systems Perspective*. Abstract förlag AS.
- Tomm, Karl. (1989). *Systemisk Intervjumetodik. En utveckling av det terapeutiska samtalet*. [Systemic Interview Methods. A Development of the Therapeutic Discussion] Mareld.
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