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## The complexity of morphogenesis - Changes in the semantics of help and solidarity

*Maria Appel Nissen*

In *Die Gesellschaft der Gesellschaft* Niklas Luhmann argues that, no other theory has been able to explain the building and reproduction of the structures of society, and he points out that an essential theoretical problem is the morphogenesis of complexity (Luhmann 1997:413, 415), meaning how society changes its own form of complexity. His solution to the problem is a theory of evolution based on the premise that evolution and the reproduction of society must be explained by a paradox: *complexity is what makes society both improbable and probable* (Luhmann 1997:451). From this paradox Luhmann describes how society communicatively, selectively and through changing modes of self-description has reformed unsolvable problems of complexity into operative solutions, rebuilding its own structures and 'against all odds' has reproduced and made itself possible. This description is closely coupled to the concept of functional differentiation as a meaningful conceptualization of how modern society organizes itself and best can be described. One can say that the concept of functional differentiation works as an ontological premise for the explanation of the building and reproduction of the structures of society. It is the theory and analysis of the emergence of functional differentiated society which makes the theoretical paradox stated probable.

There is nothing controversial about this since this is how science also works – making theoretical explanation probable through empirical analysis. However, if to be critical, one can say that by paying empirical attention to the probability of the paradox, Luhmann does not unfold it theoretically. We might say that the theoretical problem, which Luhmann to some degree leaves unsolved, is not the morphogenesis of complexity, but the *complexity of morphogenesis*. This is what this paper explores, and in this way it represents an attempt to raise some questions and lay out some possible directions for an elaboration of Luhmann's theory of evolution. In the paper, I will first discuss themes concerning *evolution*,

*morphogenesis and differentiation and signs of change*. A main point is that the question of the direction of evolution is a theoretical problem yet to be explored. This is done through an empirical example of *changes in the semantics of help and solidarity*. At the end of the paper, I will outline some theoretical elaborations on the complexity of morphogenesis and the direction of evolution as well as some challenges for Luhmann's sociology.

The relevance of this theoretical exercise is perhaps not so obvious as long as the concept of functional differentiation *yet* offers a plausible way of conceptualizing the present. However being part of a society where temporal self-descriptions and complexity leave us only with "the certainty of the uncertainty of the future", one must ask whether there might be a time, when this is *no longer* the case not only due to "fashionable terms of postmodernity" (Luhmann 1991:287), but because society is already changing its mode of organization. What destiny will a theory of evolution so closely linked to the concept of functional differentiation then become? My point is that the theory of evolution must be developed with a higher sensitivity to social change, which seem to and do perhaps evolve without reference to already known structures.

### **The theory of evolution and the direction of evolution**

The theory of evolution is a subsystem to the theory of functional differentiation specifically dealing with the *generative mechanisms* of differentiation. The theory seeks to explain how society has changed its form of complexity in terms of differentiation.

The concept of evolution is a modern concept itself related to a scientific problem of understanding structural change (Moe 2003:264). It is *a concept of time* as well as a *time concept*. As a concept of time, Luhmann argues that the semantics of evolution have changed from the idea of *progress*, over the idea of *social planning/social control* to the *problem of orientation* (Luhmann 1991:287). He argues sociology has not yet responded adequately to those changes and suggests the paradox of complexity as a theoretical basis for understanding how evolution is set forward. However this means that evolution - as a *time concept* - becomes complex too. For example Moe finds that Luhmann's theory operates with three concepts of time - *system time*, *world time* and *cosmological time* - but has a problem of taking into account anything but system time, perhaps because of the ef-

fort to avoid ontological obstacles when handling the problem that we are in time while trying to conceptualize it. The result is that time in a more generalized form becomes a precondition for the theory of evolution however only latently explored theoretically (Moe 2003:358). This is perhaps why Luhmann's theory stresses how modern society operates in multiple time horizons; evolution is the operational construction of time dependent of the system observing. The theory of evolution stresses the epistemological and methodological problems of observing social change due to different time horizons, and is therefore well suited for describing and explaining present problems of synchronicity.

However, one can ask what this operative constructivist approach to evolution leaves out? Haferkamp et al. (1991) suggest that any theory of change must contain three elements that must stand in definite relation to another: *Structural determinants, processes and mechanisms, directions of social change*. Luhmann's theory of evolution sees the problem of complexity as a structural determinant for processes and mechanisms of change, but the concept of complexity does not prescribe a certain selection of a system in time. It is in this sense the question of the direction of social change – including what directs the direction of change – is to some degree left unsolved. One can say that Luhmann reproduces the problem of orientation and the theoretical question of the direction of evolution.

How is it possible then to explore theoretically the direction of evolution? Since Luhmann defines evolution as a synthesis of variation, selection and restabilization it seems a natural place to start. He clarifies the meaning of variation, selection and restabilization as follows:

“(1) through *variation* the *elements* of systems is varied, including communication. Variation is the non conform reproduction of the elements through the elements of systems, in other words: unexpected unanticipated communication.

(2) *Selection* concerns the *structures* of systems in this case communication related to the primary expectations. From the variation of non conform communication at hand they select meaning which is promising in terms of rebuilding structure, is suitable for repetitive use, and effective in terms of forming and condensing expectations; and they disturb, because they include the non conformity of the situation, leave it to be forgotten or even explicitly deny it as changes which apparently are not suitable for structure – for guiding further communication.

(3) *Restabilisering* concerns the state of evolving *systems* following either a positive or a negative selection. In this state it concerns first of all the sys-

tem of society itself in relation to its environment ...In the further process of the societal evolution the function of restabilization will increasingly be distributed to the subsystems of society which must maintain them selves in an inter-societal environment. In the end it concerns the problem of the durability of the differentiation of society (Luhmann 1997:454-455, my translation)

This clarification also raises some questions. Even if systems, given (selection and restabilization of) their elements and in the face of complexity (variation) will select what they expect will contribute to the rebuilding of expectations, is it then always probable that their selected form of communication will contribute to the restabilization of the system? Or is it possible that variation, in terms of unexpected communication and the tendency to select what seems to contribute to the rebuilding of expectations will at the same time lead to destabilization eventually destruction of the system? There is no absolute answer, but a question is: if complexity is what makes society both probable and improbable, *what makes the difference between restabilization and destabilization (eventually destruction)*? This question is not only of theoretical interest. The direction of evolution has to do with the (observation of) probability of restabilization (including the restabilization of a time horizon). Since time is an element of meaning, since communication operates in meaning, and since society is produced communicatively on the basis of meaning, the structuring of time is an essential aspect of integration as the capacity to enforce more stabile expectations of expectation. A more elaborated understanding of the difference between restabilization and destabilization will perhaps make society more capable of distinguishing between when integration is at risk or not.

### **Reflections on morphogenesis**

For a theoretical elaboration I suggest we look further into the concept of morphogenesis. Morphogenesis does not refer to the difference between system/environment but to the difference between possible/impossible; it is the operative potentiality or the question of probability (Moe 2003:235).

Luhmann defines morphogenetic processes as specific forms of evolution developing on an uncoordinated or "open terrain" (Luhmann 2000:410), in opposition to processes developing on the basis of coordinated selectivity. Furthermore they:

"...only handle the increase in selectivity one-sidedly. They connect one structural change to another without orienting themselves by anticipation of or retrospection on the results. In this way, they accumulate improbabilities without including them as a meaningful result in the process. They remain dependent of "chance", an uncoordinated interplay of selection and variation" (Luhmann 2000: 414, my translation)

One can also say that morphogenetic processes takes place within a system generating a rigid self-referential orientation based on a non reflexive communication and therefore not coordinated reaction to systems in its environment including its own (inter)actions. If not being able to reflect, the system will become 'out of sync' or 'out of time'. It will base its selections on contrafactual variation and will react inadequately.

In relation to evolution the concept of morphogenesis specifies the generative mechanisms of evolution. It indicates that evolution is not just dependent on system relative selections. Evolution is also dependent on the degree of interdependence and integration. In this perspective the concept of morphogenesis is a time concept addressing the question of restabilization/destabilization. It indicates a specific process among other processes specifically related to the *rebuilding* of systems which "tend toward unanticipated phases of development, towards stagnation and towards destruction" (Luhmann 2000:415) One can say that morfogenesis is the distinction between restabilization/destabilization. *But what generates the generative processes of morfogenesis?* For such an exploration of the complexity of morphogenesis, I suggest we offer attention to what it means, that "the function of restabilization will increasingly be distributed to the subsystems of society" (cf. quotation p. 4)

### **Differentiation and signs of change**

Theoretically the distinction between restabilization/destabilization must work independent of the concrete mode of differentiation. We can assume that destabilizing structures are structures 'competitive' or functionally equivalent to structures restabilizing the primary differentiation of society. One might call these structures *latent* structures of society; structures yet to be unfolded. If the function of restabilization increasingly is distributed to the subsystems of society, one can assume that this is where signs of restabilization/destabilization can be observed. And perhaps we can specify

our focus a bit more by building on Luhmanns distinction between interaction and society.

Luhmann describes interactions as “episodes in the societal process” but also as the “hydraulic” of society (Luhmann 2000:469, 479). Changes in modes of interaction are the generative precondition for differentiation in an evolutionary sense. Therefore the “differentiation of the economy is a consequence of the use of money; the differentiation of politics a consequence of the use of power” etc. and the precondition for this is that “a sufficiently effective semantics has become available by means of which one can distinguish between the use of money and the use of power” (Luhmann 1998:6). Following this we can assume that it is within the difference between organization/interaction that signs of restabilization/destabilization can be observed as the differentiation of functional equivalent semantics.

In relation to contemporary morphogenetic processes functional equivalent semantics is on the one hand semantics related to functional differentiation which does *no longer* sufficiently guide selections; on the other hand semantics indicating a future *not yet* realised form of complexity and mode of integration testing the “durability of differentiation of society” (cf. quotation p. 4). It is in this sense the complexity of morphogenetic processes is related to a question of integration. *However, what are these semantics not only in functionally differentiated society but in any society?* Luhmann defines morphogenetic processes as processes of change taking place on an unknown ground (Luhmann 2000:416). At this stage, so does this paper.

### **Changes in the semantics of help and solidarity**

The semantics of restabilization and destabilization can be concretized if we explore changes in semantics of solidarity and help because they are related to how society respond to the effects of its integration.

In Hagens terminology solidarity is a medium enforcing collective rationality which is reproduced communicatively through a system of collective action (Hagen 1999). According to Hagen, societies have in various forms developed systems of collective action, which communicatively generates expectations of expectations. As a system of collective action it observes various problems that no single system can deal with, *be-*

*cause* the solution is dependent on interdependence and the capacity to make binding decisions. If there was no such system, there would be no society. In terms of differentiation Hagen sees the welfare state and the politics of the welfare state as a precondition for integration in modern society. He describes the welfare state as a complex form of realization of solidarity working as a reflection system for and contributing to social integration primarily by the integration of state and market economy, secondly by the coordination of actions in relation to specific areas of performance on an organizational level.

The specific part of the welfare state guided by social policy performing in relation to social problems of exclusion can be seen as a reflection system for solidarity, marking the scope and limits of integration (Nissen 2005). The system of social help, as described by Baecker (1994), is thus reflecting society's capacity to handle problems of integration as they are specifically manifested in problems of exclusion. Therefore one can assume that changes within the use of semantics of help and solidarity are exposing semantics of restabilization and destabilization closely linked to the reproduction of society.

### **Sceptic semantics of the risk of ineffectiveness**

The following example represents a certain elaboration of an in depth functional analysis of two organizations functionally related to the system of social help (Nissen 2005).<sup>1</sup> The organizations are performing observation and treatment of families, in cases where the authorities – the caseworkers - are worried that the development of the child is at risk. On behalf of the authorities the organizations work out reports on the functionality of the family, the ability of the parents to provide care, and the welfare of the child. The reports are guiding the caseworker's decision. The problem is often lack of knowledge whether it is best for the child to be placed in foster care/institution or if it is better that the child stay by the parents.

The organizations perform within an area of social policy, which during the last 10 years have been subject to intense debate. The

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<sup>1</sup> The analysis was based on a qualitative study performed during 6 months including participant observation, different forms of interviews and the analysis of documents such as social records and reports.



cost, numbers of and range of preventive measurements have increase but have not led to a decrease in placements. Research has placed doubt on the effects of placements, and has pointed out several problems in the way caseworkers make judgements about children. The search for knowledge about the effects of social work and the search for best practice has been intensified and institutionalized. The demand for documentation and evidence based social work too. All in all it seems there is an increased scepticism towards the use of help and an awareness of the risk of (cost) ineffectiveness (Nissen 2007). Both organizations pay an obligation to a collective semantic about the rationality in helping families and children at risk however; they also observe this sceptic semantic of the risk of (cost) ineffectiveness.

*Organization A* acknowledges that society produces social inequalities which help cannot compensate for in longer run. It is reflected that "being at an institution is not meaningless, but it might not mean that much". As a minimum, the organization tries to ensure that at least the child does not suffer from being included into the programme of the organization. To avoid this and to compensate for the potential lack of efficiency, the professionals strive to base their treatment on facts rather than "fantasy". The subjective values of social workers must be controlled to prevent judgements based on insufficient knowledge. Therefore observations are documented and the professional decision processes follow standardized procedures. In this way the idea of evidence based social work is reproduced in a local form. This semantic of help generates its own problems. Sometimes it is not possible to provide documentation that makes a certain treatment evident. Sometimes parents react in an unexpected way. Sometimes it is not so easy to get objective knowledge about the child. To organization A such incidents of disappointment are difficult to handle. The effort to control and provide documentation is enforced leading to a rigid self-referential process of selection, where it becomes more and more difficult to see, how help is possible. This process is characterized by the production of negative expectations to positive change on the behalf of the parents, a reduction in help offered, a production of contrafactual observations based on assumed risks, and the use of force. At last but not the least this process produces a semantic of the "meaninglessness of help" explained by the lack of solidarity of the parents.

*Organization B* represents a second order observation of the problems of *Organization A*. It is acknowledged that certain systems of help are ineffective. Fear of risks and making mistakes makes such systems act rigid and force help into a negative process where the primary purpose becomes the systems need for control rather than what is best for the family and the child. They do not respond to the needs of the individuals. Therefore *Organization B* does not use standardized programmes. Instead it operates on the basis of a general 'philosophy' based on values. An important idea is that parents are competent individuals who have not yet acknowledged their competences and therefore must be helped to re-discover and regain their parental responsibility. Help is help to self-help. The organization does not spend time on documentation. The treatment is based on the individual professional "style" and ability to act and reflect "directly" in interaction in a personalized way. Therefore the direction of the treatment becomes a question of personal preferences. This semantic of help also generates some problems. The individualization of the treatment generates a variation of time-horizons, and it becomes difficult to generate expectations of expectations and to coordinate actions. For example what is communicated in *present* as a social expectation *yet* to be realized can sometimes at almost the same time be communicated as a social expectation *not longer* realizable, depending on who observes. When such eruptions in time occur the treatment becomes extremely coincidental due to lack of synchronicity and a general sense of time. In the end it becomes difficult to act and reflect "directly" in interaction, because the individual professional does not know if their actions are coherent with the expectations of the environment. Among the professionals it creates a sense of taking part in an uncontrolled "social experiment".

### **The complexity of morphogenesis**

The example indicates that the sceptic semantic of the risk of ineffectiveness is a precondition for morphogenetic processes. It confronts a primary semantic of help systems as systems capable of helping, and sets forward processes where help as an act of solidarity becomes more improbable than probable.

It is important to understand that the sceptic semantic of ineffectiveness does not prescribe a certain selection. Neither does it prescribe

whether the selection will lead to restabilization or destabilization eventually destruction. However being a semantic confronting the effectiveness of a system, it is probable that it occurs in a society where the effectiveness of systems has been probable but is no longer evident.

At present this is the effectiveness of functional differentiation. Being systems of help reflecting social policy and the scope and limits of solidarity, the operations of the organizations demonstrate the integration capacity within such a form of society. On one level this is related to problems of solidarity and the political response to this. Hagen sees New Public Management, as a political theory based on the assumption that welfare state organizations and professionals are most likely to be (cost) ineffective (Hagen 2006). On another level, the sceptic semantic of ineffectiveness reflects problems of integration in functional differentiated society. Functional differentiated societies have – given the effectiveness and autonomy of the function systems – problems of integration in terms of solidarity, and this can be observed as morphogenetic processes in its performance systems latently enforcing the evolutionary improbability of integration. Here problems of integration are very concrete and related to the problem of dealing with problems of exclusion. As Luhmann says, the improbability of evolution and the risk of a certain form of differentiation becomes visible in the way society deals with problems of inclusion/exclusion (Luhmann 1997:634). Much – including the ability to deal with problems of inclusion/exclusion - is dependent on society's capacity to reflect upon its own improbabilities. A precondition to this is sensitivity to the question of the direction of evolution.

### **The direction of evolution**

The example indicates that the direction of evolution can be reflected and explored through the observation of modes of reflection. Luhmann suggest there is an evolutionary self-referential correlation between the amplification of uncertainty and differentiation, in the sense that uncertainty requires a stronger effort to bind expectations of expectations, which in itself precipitate differentiation (Luhmann 2000: 358). It is exactly what the example exemplifies. Organization A represents a second order reflection of help, reflecting the uncertainty of the effectiveness of help but still in belief that planning and control makes sense. Organization B represents a sec-

second order reflection of the semantics of Organization A, sceptic towards planning and control but with an inherent problem of orientation. The two organizations potentially represent eruptions or different modes of differentiation and reflection in present time. At the time of the study, Organization B was already in a time of a certain kind of reflection, which Organization A had *not yet* reached. It is remarkable that by now Organization A has developed a scepticism towards planning and control and has turned into a more individualized and value based form of organization. This is according to Luhmann the "final reachable level for generating expectations of expectation", because at this level one has refused the idea of coordination of actions, and can just refer to values as individually symbolized preferences (Luhmann 2000:372). It is perhaps even more remarkable that Organization B does not exist any longer: "Changing everything at once amounts to destruction" (Luhmann 1976:149).

Two points concerning the direction of evolution can be made from this. First, the difference between restabilization and destabilization eventually destruction represents a higher separation through abstraction in the relation between organization and interaction. Secondly - and this is closer related to the direction of evolution in functionally differentiated society - individualization has reached a state, where the rebuilding of social structure is limited to the symbolic use of values – values which leaves a very open space for individualized 'uncoordinated' preferences. Therefore we can assume that *the direction of evolution is equal to the increased improbability of the organization*. It indicates the limits of the capacity of the functional differentiated society to integration. Luhmann expresses it like this:

"... the modern type of differentiation, namely functional differentiation, is a highly improbable state with more negative aspects than either segmentation or stratification. The new framework of temporal description encompasses the old ones. Moreover, it also reevaluates them and provides conceptual space for including actual feelings of insecurity and risk, distrust in optimizing strategies and good intentions, an unavoidable alienation" (Luhmann 1991:290)

One can also say that the mode of functional differentiation is *no longer* in a state where the positive side of a difference is marked semantically. In fact it is already basing its operations on the observation of the negative

aspects of its own operations and in this way reproduces a negation of itself putting an extreme pressure on the capacity of organizations.

One can ask whether there are any alternatives to this destruction of functional differentiation. An alternative to the semantic of scepticism could be a semantic of trust; however trust can only be an alternative in the longer run if reconfirmed in action (Luhmann 1999:59). Therefore an alternative to scepticism can only be modes of reflection that make it possible for society to build up expectations of expectations that guide actions. This will not make contemporary problems of integration disappear; however it might ease the negative effects of periods of transformation. It is still an open question if Luhmanns theory of evolution has the capacity to contribute to such modes of reflections. Bringing the theory closer to the (empirical) probability of integration and solidarity as well as coordination of action within subsystems of society might be a help.

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