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Surprised by Method – Functional Method and Systems Theory

Morten Knudsen *

Abstract: »*Methodisch überrascht – funktionale Methode und Systemtheorie*«. The paper is a contribution to the discussions on how to combine systems theory and empirical research. The paper focuses on functional method, which on the one hand is claimed as the method of systems theory but on the other hand is often only mentioned in passing – in Niklas LUHMANN's later works as well as in recent discussions on systems theory. The contention of the paper is that functional method can still be an important driving force in the development of interesting empirical problematics and analyses. The first and major part of the paper is a reconstruction of main characteristics of functional method. It is demonstrated how the method generates observations and the question is raised about which problem(s) the method is a solution to. The second part discusses functional method in relation to Niklas LUHMANN's later theoretical developments, especially the theory of second order observation. The overall aim of the paper is to reconstruct central traits of functional method in order to demonstrate how it works, what its function is – and where its limitations might lie.

Keywords: functional method; functional analysis; Luhmann; systems theory; second order observation; empirical studies.

1. Introduction

Several authors have recently discussed the relation between theory and empirical research in systems theory as developed not least by Niklas LUHMANN (NASSEHI & SAAKE, 2002; ÅKERSTRØM ANDERSEN, 2003; BESIO & PRONZINI, 1999, 2008; RÄWEL, 2007; VOGD, 2005, 2007, 2009). This paper is a contribution to the discussions on how to combine systems theory and empirical research. The paper focuses on functional method, which on the one hand is claimed as the method of systems theory (LUHMANN, 1995, p.52) but on the other hand typically is only mentioned in the passing – in Niklas LUHMANN's later works as well as in recent discussions on systems theory.

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The limited attention to functional method may be because it sounds like it is to do with out of date Parsonian functionalism or some kind of social instrumentalism with which we do not want to be associated. This is, however, unfortunate for several reasons.

Functional method has been and still can be an important ingredient in the development of interesting theoretical and empirical problems, questions, and analyses. If we want systems theory to be more than a world scheme then we need methods which can help us generate further analyses. Without methods students and researchers are left with an overwhelmingly complex theory but no clear idea of how to make this complex theory fruitful in empirical research. Furthermore functional method had a key role in the way Niklas LUHMANN developed his own analyses. In order to understand systems theory we must understand the methods by which it was developed. Finally, all methods have limits, so in order to observe the limits of systems theoretical analyses a more explicit reflection on functional method is necessary.

The first and major part of this paper is a reconstruction of main characteristics of functional method the way Niklas LUHMANN defined and used it. As we shall see, the functional method can be characterized as a scheme for observation, a scheme observing in the frames of problem and solution. I shall use the same scheme and ask which problem(s) the functional method is a solution to. The second part discusses functional method in relation to Niklas LUHMANN's later theoretical developments. The method was conceptualized by Niklas LUHMANN in the beginning of the 1960s, that is long before the introduction of concepts like autopoiesis, communication, and second order observation theory. Generally, Niklas LUHMANN was very attentive to the epistemological consequences of the theoretical developments. But when it comes to the functional method, he did not carry out any thorough re-interpretations. This makes it relevant to reflect upon the relationship between the functional method and Niklas LUHMANN's later theory of observation. As Niklas LUHMANN defines observation as an indication in the frames of a distinction (1997, 1998) the question is: what is the role of the problem/solution distinction vis-à-vis other prominent guiding distinctions in systems theory?

The overall aim of the paper is to reconstruct central traits of functional method in order to demonstrate how it works and can contribute to not least empirical analyses.

2. Functional Method – An Outline

In this part I shall outline central aspects of functional method as defined and applied by Niklas LUHMANN. Different notions of function and functional method have been in use in the history of the social sciences (central names are Bronislaw MALINOWSKI, Alfred RADCLIFFE-BROWN, Talcot PARSONS,

Robert K. MERTON; see e.g. MERTON, 1963 [1957]; LUHMANN, 1991a [1970], pp.10f; JETZKOWITZ & STARK, 2003). In the following “functional method” refers to the way Niklas LUHMANN defines and uses it.

In a reconstruction of functional method we face the problem that Niklas LUHMANN wrote his main methodological articles in the beginning of the 1960s – that is 20-30 years before he wrote some of his major works. In *Social Systems*, Niklas LUHMANN’s comprehensive presentation of his general systems theory, he states that he will assume the use of functional method throughout (1995, p.52). The statement is followed by references to two articles which were originally published in 1962 and 1964 (LUHMANN, 1995, p.54, Note 107 and 109).¹ This presupposition of functional method pervades Niklas LUHMANN’s later writings in which we find only sparse references to functional method.² In a situation in which it seems that functional method is just as much a habit, an implicit way of generating the analyses, as it is an explicit method, we must observe both the explicit discussions and the actual use of the method in order to reconstruct it.

We will structure the reconstruction around the question: What is the function of functional method? Or in the terms of functional method: which problem is functional method a solution to? To start with we can focus on the concept of function: what does “function” mean?

2.1 Function and Problem

A function can be defined as the unity of the difference between a problem and various equivalent solutions (LUHMANN, 2000a, p.116). A function is never only the solution, as the solution is only a solution to a specific problem. The problems on the other hand can be found nowhere else than in the problem-solutions (LUHMANN, 1998, p.426). The problems are not observable as such, they are only detectable together with the solutions. Media for distribution deal for instance in different ways with the problem that it is improbable that the communication will reach its addressees. Printing expands the number of possible receivers (in time and space), but so do electronic media. Thus printing and electronic media are different solutions to the same problem of communi-

¹ The two articles “Funktion und Kausalität” (published 1962) and “Funktionale Methode und Systemtheorie” (published 1964) are reprinted in LUHMANN (1991a [1970]).

² The references to functional method are typically followed by a reference to the two articles from 1962 and 1964. For instance there are no references to the functional method neither in his major theory of society “Die Gesellschaft der Gesellschaft” (LUHMANN, 1997) nor in his work on organizational theory “Organisation und Entscheidung” (LUHMANN, 2000b). In his book on science, LUHMANN does have a short discussion of aspects of the distinction between problem and solution, which is central in functional analysis. But there is no systematic discussion of functional method in the light of the theoretical developments of his systems theory during the 30 years since he published his first article on the functional method.

cation reaching its addressees. The function is the unity of the problem of distribution and the different solutions to this problem.

With function defined as the unity of a problem and various equivalent solutions it is obvious that functional method also deals with problems and solutions. Functional analysis relates in the final instance to problems and seeks to find solutions to these problems (LUHMANN, 1979, p.5). To generate analyses by means of problems raises the question of where these problems come from. A problem is not just there in itself, it must be constructed. That is the task of theory. Functional method is an analytical technique that can be worked out in abstract terms, but it depends on a substantial theory that can construct the problems that the method needs (LUHMANN, 1991a [1970], p.38).

In the division of work between theory and method it is the task of the theory to develop the problems that the phenomena can be seen as solutions to. This means that the problems generating the observations are themselves scientific constructions. But as Peter FUCHS claims, it only makes sense to give problems this status, if they can be seen as something also generating the structures of the systems analyzed (2003, p.206). It is taken for granted that the phenomenon studied is already a solution to a problem and can therefore be reconstructed departing from a problem/solution scheme.

In the 1960s complexity had the status of the central problem. Different phenomena like organizations, law, trust and power could be compared as different solutions to the same problem, that is the problem of reduction of complexity (LUHMANN, 1979). But as the systems theory develops, Niklas LUHMANN becomes more specific about the problems and he works on different types of problems. For instance function systems are solutions to different problems (religion is a solution to different problem than law etc.). At the same time Niklas LUHMANN still works on more fundamental problems related to complexity. The concept of double contingency in particular has a central role as problem-concept (1995, pp.103ff).

The relation between theory and method indicates one of the many circularities in systems theory. The method generates the analyses and the development of the theory. But the theory also influences the method, as the theory specifies the problems that the analyses may look to find solutions to. The method is both dependent on and independent of the theoretical developments. It is independent as it insists on the distinction problem/solution as basic. It is dependent as the formulations of the actual problems and solutions depend on the theoretical developments. Thus "the problem" changes with the development of the theory.

2.2 Equivalent Solutions

Central to the functional method is the way it relates problems and solutions to each other. Contrary to what Niklas LUHMANN calls causal functionalism, he

does not wish to establish causal relations between problems and solutions. He does not claim that problems are causes and solutions effects in a deterministic way. Functions do not explain in the causal meaning of the word. Instead he claims that “The function is not a causal cause, but a regulative formula of meaning that organizes an arena for comparisons of equivalent solutions” (1991a [1970], p.14; my translation). Something is explained as a possible but not necessary solution to a problem, a contingent solution.

In his earliest text on functionalism Niklas LUHMANN gives the concept of functional equivalents a central position. He sees *Äquivalenzfunktionalismus* [equivalence-functionalism] as an alternative to causal functionalism. The functional method means to compare equivalent solutions. The idea of functional analyses is to open a limited field of comparisons (LUHMANN, 1991a [1970], p.13). It is equivalence functionalism because it studies solutions in the light of other solutions.

Whereas Robert K. MERTON (1963 [1957]) saw the distinction between latent and manifest as the gain of functionalism (pointing at latent, hidden functions), Niklas LUHMANN claims that the gain lies in the establishing of possibilities of comparison. He states that “... the functional method is finally a comparative one” (1995, p.54). What is compared is not identities, countries, companies or the like, but solutions. Trust and distrust are for instance functional equivalents, as they are different solutions to the same problem, namely (the reduction of) complexity (LUHMANN, 1979). Also symbolically generalized media such as money, power and love are functional equivalents. The problem to which symbolically generalized media are a solution concerns the special problem of an improbable connection between selection and motivation of communicative events.

We may sum up these preliminary statements by saying that functional method is formulated by Niklas LUHMANN as an observational technique (that is a method), that generates its observations by means of the distinction between problems and solutions. What a problem is depends on the theory that works together with functional method. The aim of functional method is not to establish causal relations between problems (causes) and solutions (effects). Instead the aim is to compare different solutions to the same problem: functional method is a comparative method. The concept of functional equivalents is key.

I will now exemplify how the functional method generates its theoretical and empirical analyses. After the examples I discuss which problems the functional analysis is a solution to.

2.3 Functional Method in Action

In this part I will draw the contours of functional method further as I show how it performs in both theoretical and empirical analyses. As Niklas LUHMANN

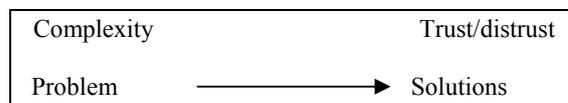
works not least with meta-theoretical problems in his way of generating analyses the examples are partly quite abstract.

For Niklas LUHMANN, in the 1960s, complexity was the central problem generating observations. His small but influential book on trust can exemplify how the problem of complexity is used in the analyses. He writes

Complexity, and the capacity for dealing with it, however, is not just the hidden motive, the unifying purpose behind the whole conceptual orientation of the functional method, it is at the same time the most fundamental substantive problem for functional research (1979, p.5).

Complexity means that the world contains more possibilities than can be realized (p.6).³ What is going to happen in the future is uncertain and unknown, we always know too little. Trust understood as confidence in one's own expectations can be analyzed as a solution to the problem of complexity as it reduces the complexity. Trust compensates for an element of uncertainty related to other people's behavior. If everything possible should be expected all the time it would be difficult to do anything. Trust can be compared to other ways of reducing complexity – for instance distrust, which is a functional equivalent for trust (p.71). Both trust and distrust seem to be self-fuelling (p.74). The comparison opens up the question of when and how one solution is replaced by another, that is, when distrust replaces trust or vice versa. The comparison also shows different consequential problems arising from the solutions, which can be the point of departure for further analyses – how are they solved? We may summarize the analytical practice in the following figure:

Figure 1: From Problem to Solution



The figure shows how the analysis is generated by means of a basic theoretical problem which gives rise to a) analysis of solutions to the problem and b) comparison of the different solutions. The task of the analysis is to find solutions to the problem and compare different, relevant aspects of these solutions to one another. In the first outlines of functional method the analytical movement primarily goes from known problem (complexity) to solutions that are yet to be investigated (reduction of complexity).

³ See also Paul CILLIERS (1998) for enlightening discussions of the complexity concept.

2.3.1 Examples of Problem/Solution Relations

As mentioned in the introduction references to functional method become sparse in Niklas LUHMANN's later works. Nonetheless, the functional method seems to be an integral part of the development of the analyses. Let me point to some examples. In "Social Systems" (1995), Niklas LUHMANN defines communication, and not action, as the basic element of social systems. Complexity is still an important concept, but as a general concept for the problem generating of the analyses it seems more adequate to claim that it is improbability. Communication and social systems are improbable – that is the starting point in Niklas LUHMANN's later analyses (1995, pp. 114ff., 2009 [1981]). Improbability is the problem that generates the analyses as it raises the question of how communication is made more likely in spite of its improbability. Two steps now characterize the functional analysis: a) the development of a perspective showing the improbability of the studied phenomenon (= the problem) and b) the analysis of the phenomenon studied showing how it is made probable in spite of its improbability (i.e. the solution).

The improbability can be qualified and specified: in which sense is the communication improbable? This is where theory comes in as the functional method does not provide an answer to this question. Basic concepts of systems theory (like complexity, selection, contingency, and paradox) are constructed in ways that make communication improbable – and thus in need of explanation.

The scheme below can summarize some of the main problem/solution-relations in Niklas LUHMANN's later works.

Table 1: Examples of Problem/Solution-Relations
in Niklas LUHMANN's Later Works.

Problems	The problem explained	Solutions
Double contingency (LUHMANN, 1995, pp.103ff.)	Communication is improbable because of the contingency of the selections of ego and alter – too much openness can paralyze communication	Structures limiting the expectations to communication
Contact (LUHMANN, 1997, pp.202ff.)	How to make contact with someone not present. It is improbable that communication will find persons who are not present	Media of diffusion
Motivation/connectivity (LUHMANN, 1997, pp.316ff., 1979, pp.109ff.)	How to increase the probability that communication is accepted and used as a premise for further communication	Symbolically generalized media
Paradox (LUHMANN, 1991b, 2000b)	Paradoxes giving undecidability and pointing to the contingency of communication	Invisibilizations and displacements of the paradoxes to less disturbing places.

The different problems are interrelated by the fact that Niklas LUHMANN has placed communication as the basic operation of social systems. Communication consists of elements with the form of events. They disappear the moment after they have happened – therefore connectivity is crucial for the reproduction of communication. The basic problem of social systems is not to secure a unity with certain characteristics, but the reproduction of elements that are constantly disappearing (LUHMANN, 1995, p.55).

Let me unpack one of the problems in Table 1 namely the problem of paradox. The paradox is – like complexity – one of the problem-concepts, and a concept that becomes more prevalent in the 1990s (LUHMANN, 1991a [1970], 1993a, 1993b, 1996). In relation to management studies his idea of the paradoxical decision is central. According to Niklas LUHMANN, an organization is a network of recursively connected decisions (2000b). A decision is an indication in the frames of a distinction which has the form of an alternative. This means that the other side of the alternative could have been indicated – otherwise it would not be a decision but the result of a calculation. The decision fixes contingency and absorbs uncertainty as it indicates one side of the alternative: this and not that. But communicating itself as a decision it cannot help communicating that it could also have been made differently: the other side of the alternative could have been indicated or could have been indicated in the frames of another distinction (LUHMANN, 2000b, p.147). This clash between message and information makes connectivity less likely: why connect to a decision which itself says that it could also have been made otherwise? It is this analysis of the paradoxical form of decisions and the inherent problem of connectivity that generates Niklas LUHMANN's theory and observations of organizational communication (2000b, pp.123ff.). At the core of Niklas LUHMANN's way of doing organizational theory is the question: how do organizations manage the paradox, the lack of necessity, the contingency of their decisions? As the organizations exist they must have managed the paradoxes. This leads to the question of how organizations de-paradoxify their decisions (for empirical analyses on this basis see KNUDSEN, 2005, 2006, 2007).

The example above illustrates how Niklas LUHMANN also uses functional method in his later writings as he generates his analyses by means of problems and solutions. I will now exemplify a similar situation in empirical system theoretical analyses. The examples are limited to a few analyses made by researchers at Copenhagen Business School. When it comes to management studies several researchers at the school have been experimenting with analytical possibilities in systems theory since the end of the 1990s. The purpose of presenting the examples here is to show how functional method is at work – even though it is not mentioned explicitly in the articles.

In Niels ÅKERSTRØM ANDERSEN and Asmund BORN's study (2003, 2008) of the emergence of a semantic of passion about the relationship between

employee and organization in the Danish public sector we find an implicit functional analysis. The semantic analysis is accompanied by an analysis of new differentiations of the public sector. The emerging semantics of passion is interpreted as a solution to problems created by these new structures. Structure and semantic are related to each other as problems and solutions. Annegrete NIELSEN, Morten KNUDSEN and Katrine FINKE (2008) is another example of the important but implicit use of the functional method. In an analysis of an organization responsible for public health activities in Copenhagen a study is carried out of how the organization draws its boundaries to the environment – observing the organization against the distinction system/environment. The drawing of boundaries is interpreted as solutions firstly to a certain concept of health, secondly to problems following the first kind of boundary-drawing. Holger HOJLUND and Anders LA COUR's analysis of standardization of elderly care and how solutions are developed as responses to problems created by earlier solutions (2003) is also a good example of the implicit use of functional method. As with the other examples mentioned above, Holger HOJLUND and Anders LA COUR do not fixate their analysis on to a basic problem; instead they locate both problems and solutions at an empirical level – drawing on system theoretical concepts in order to do this. The analysis is developed in a chain of problem/solution/consequent problem/solution.

Even though the analyses mentioned above relate their analyses to different analytical strategies (ÅKERSTRØM ANDERSEN, 2003) they all implicitly draw on the functional method-distinction between problem and solution. They do this as a way of explaining phenomena like the emergence of semantics of passion or they do it as a way of generating further analyses on the basis of the problems diagnosed in the analyses. It also seems that the problem/solution distinction is involved when the analyses explain dynamics in the studied developments (for instance semantic changes do not explain themselves, they remain rather descriptive and are therefore in need of supplementary analyses in order to acquire explanatory capacity).

Summing up, the functional method still plays an important role in systems theoretical analyses – both in Niklas LUHMANN's later works and in the works of other researchers using systems theory for empirical analyses. But the relationship between problem and solution seems to have become less linear and more circular. This calls for a reflection on the circularity of the problem/solution distinction.

2.3.2 Circularity in the Problem/Solution Relation

Some of the examples above may give the impression that problems are theoretically given and that solutions are something we can study empirically. This may be so in the presentation of the research, but not in the research itself. As the theory develops and becomes more complex the analysis of problems also develops. It becomes possible to define the problems more specifically and it

becomes possible to start with the solutions and ask which problem a communication system is a solution to. The analytical move is not (only) from problem to different solutions, but also the other way round: from solution to problem. For instance, Niklas LUHMANN asks what the function of law is. That is: which problem is solved by differentiating specialized legal norms ending up with a legal system (2004, p.142). The analytical movement inherent in this question is from known solution (the differentiating of specialized legal norms) to unknown problems. The specification of the problem is the result of the analysis. Both problem and solution are results of investigation. Or as Andreas PHILIPPOPOULOS-MIHALOPOULOS puts it: “Indeed, function is the question, rather than the causal answer” (2010, p.68).

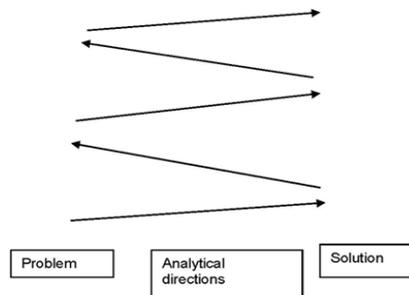
Systems theory is characterized by circularity. Niklas LUHMANN distinguishes between two forms of method a) deductive methods which take the starting or the achieved position for certain b) cybernetic methods which operate without guaranteed positions. The certainty in the cybernetic analysis inheres instead in the process, as the background can be revised if the process gives occasion for it. The process both serves as a guide for further steps in the analysis and as a validation (or questioning) of the position already achieved (LUHMANN, 1998, p.418). This is important when it comes to the relation between problem and solution – a relation that is also circular. We may illustrate the point with a parallel to the hermeneutical distinction between question and answer (GADAMER, 1990, pp.386ff.; MARQUARD, 1981, pp.117ff.). According to Hans-Georg GADAMER to understand something means to understand it as an answer to a question. You do not understand it, if you do not know the question to which it is an answer. Different questions will enlighten the text in different ways. This circularity between question/answer is parallel to the relation between problem/solution. The problem becomes a problem through the analysis. Thus research is as much about analyzing the problems that something is a solution to, as it is about analyzing how problems are solved. In empirical research, it is fruitful to follow both problems and solutions – and not least to ask: which problem is this a solution to? In the presentation of the research, though, the process of investigation may be hidden and the results presented as a solution to a problem that seems to have been known all along – for instance paradoxes of decision-making.

Figure 2 illustrates how the analytical movement between problem and solution can go both ways. The relationship between problem and solution is circular and analytically it is possible to change the points of departure.⁴

We may supplement Figure 1 like this (Figure 2):

⁴ It is of course also possible to follow chains of problems, solutions, consequent problems, solutions, consequent problems etc.

Figure 2: Circular Analytical Movements Between Problem and Solution



2.4 The Function of Functional Method

Now let us return to the question regarding the function of functional method and ask which problem the distinction problem/solution is a solution to. The short answer is that the problem to which functional method is a solution is the problem of how to interrupt the continuity between reality and knowledge, how to gain a distance to the object of study so we can learn something that we did not already know. Niklas LUHMANN claims that what

... is at issue here is ... first and foremost an analytic interest: to break through the illusion of normality, to disregard experience and habit ... The methodological recipe for this is to seek theories that can succeed in explaining the normal as improbable. From the functionalistic perspective this can occur with the help of problem formulations that make it possible to represent the normal experimental contents of the life world as an already-successful solution to the problem, but one that could also, perhaps, be otherwise (1995, p.114).

Methodology is often related to questions of control of the analyses and avoidance of arbitrariness. As Armin NASSEHI and Irmhold SAAKE put it: qualitative methodology focuses on the removal or control of contingency (2002, p.71). The function of functional method is, on the contrary, not control.⁵ Instead it is a solution to the problem of how to enable scientific research to surprise itself (LUHMANN, 1997, p.37). Sociology is part of the object it studies; it is always-already permeated with concepts and understandings from the object it wants to study. An interruption, a creation of a distance between knowledge and reality, is a condition of possibility for surprise, that is for the production of new information. Functional method creates such a distance as it uses problems (for instance improbability) in light of which well-known phe-

⁵ Or to be more exact “research guided by system theory produces knowledge while seeking to increase both the awareness of contingency and the non-arbitrariness of combinations at the same time” (BESIO & PRONZINI, 2008, p.16).

nomena may look different. It is one thing to manage the techniques of qualitative or quantitative research and another to create interesting problems and surprising analyses.

The identification of functional equivalents introduces contingency. In a functional perspective everything becomes contingent, as it is offered for comparison with other possibilities. Niklas LUHMANN states that

the gain that functionalization tries to obtain is not the problem-solving in itself (as the problems most often have been solved long ago). Instead the gain it tries to obtain is related to the reference to a plurality of functionally equivalent problem-solving; that is in the establishing of alternatives or functional equivalence (2000a, pp.116f; my translation).

The production of functional equivalents makes it possible to compare the studied phenomenon with other possibilities – a comparison which also includes a distance to the specific solutions which are seen in the light of alternatives (LUHMANN, 1991a [1970], p.36). The comparison shows the artificiality of the taken for grantedness, but it also produces insight about the solutions being compared, which are seen in the light of each other. Furthermore, Niklas LUHMANN claims that equivalent functionalism must be understood as a suggestion for looking for other, functional equivalent problem-solvings (LUHMANN, 2000c, p.82). Thus functional method is a way to give systems theory a kind of dynamo. I will return to this later.

LUHMANN states that “Functions are always constructions of an observer” (2000a, p.118; my translation). Pursuing the question of the function of functional method and the establishment of functional equivalence we should introduce an observer and ask “who is the observer?,” when inquiries are to be made about the function of functional method. It seems that Niklas LUHMANN operates not only with science as the observational perspective, he also looks at the function of functional method from a societal point of view. For instance he claims that theories make comparisons possible, and comparisons increase the area of possible practical substitutions (1998, p.409). The purpose of comparative method focusing on functional equivalents thus also seems to be to enhance the amount of possible solutions to “practical” problems, which could be understood as problems outside the scientific system. We may state that the problem that functional method is a solution to is at the same time the problem of how to open up society for a greater number of alternatives, “to open up what lies at hand for a sidelong glance at other possibilities” (LUHMANN, 1995, p.54).

Above I have presented an outline of the function of functional method. We shall now proceed to the second part of the article in which functional method shall be related to second order observation theory.

3. Functional Method and Second Order Observation Theory

Niklas LUHMANN's two basic articles on functional method were – as mentioned – originally published in 1962 and 1964. In the 1980s and 1990s, his theory and analyses developed with many innovations. For instance, communication replaced action as the basic concept constituting social systems, the concept of autopoiesis was given a central position in the theory, a theory of observation (followed not least by references to G.S. BROWN's "Laws of Form" [1969]) was introduced, and distinctions and paradoxes were moved up front. Based on readings of Niklas LUHMANN's theory of observation, I now discuss the function of functional method in the context of these theoretical innovations. If functional method is a way to generate potentially surprising observations, then how does this method relate to Niklas LUHMANN's theory of observations?

The concept of observation is defined as *Unterscheiden und Bezeichnen* [distinction and indication] (LUHMANN, 1997, p.69, 1998, pp.68ff.). It is not possible to indicate something without distinguishing. Observation is not bound to visual perceptions; the concept of observation covers any praxis of distinguishing indications, including actions (p.757, Note 309). If you make an indication you also draw a distinction. Communication is for instance also distinguishing indications. For the observation the distinction is itself not observable in the moment of the observation. The blind spot is the unity of the difference. Focusing on communication, systems theory can be described as observations of observations (i.e. second order observation). For instance, it can be observed how the economic system observes (its environment or itself), how the legal, the religious or the political system observe. Different systems construct their environment differently in the way they observe it. This means saying goodbye to the way the world "really" is – instead we have different distinctions constructing the world, each in their own way and with no common denominator.

This theory of observation has consequences for how scientific research is carried out. The scientific observation of observations is also bound to the distinctions applied. The objects studied can be constructed in many different ways – depending on the distinctions framing the analyses. In his book on analytical strategies, Niels ÅKERSTRØM ANDERSEN (2003) has tried to extract some of Niklas LUHMANN's most important distinctions that form different observations. The guiding distinctions are the core of the analytical strategy. An *analytical strategy* is defined as

a second-order strategy for the observation of how 'the social' emerges in observations (or enunciations or articulations). The elaboration of an analytical strategy involves shaping a specific gaze that allows the environment to appear as consisting of the observations of other people or systems (ÅKERSTRØM ANDERSEN, 2003, p.VI).

Niels ÅKERSTRØM ANDERSEN condenses some of the systems theoretical analytical strategies in the scheme below.

Table 2: Some Systems Theoretical Analytical Strategies
(ÅKERSTRØM ANDERSEN, 2003, pp. 78ff.)

Analytical strategy	Guiding distinction
Semantic	Condensation/meaning
Form analysis	Unity/difference
Systems analysis	System/environment
Differentiation analysis	Similarity/difference
Media analysis	Form/medium

In a second order perspective, theory becomes the display of basic guiding distinctions and thus programs for observation. Similarly, functional method can be characterized as a program for observation characterized by the guiding distinction problem/solution. This makes it relevant to discuss the problem/solution distinction vis-à-vis other guiding distinctions. The condensation or extraction of systems theoretical gazes, of different types of guiding distinctions (*Leitdifferenzen* in German) means it is relevant to ask if these guiding distinctions can be seen as functional equivalents to the distinction problem/solution associated with functional method. Let us follow functional analysis and make a comparison between the problem/solution-distinction and other prominent guiding distinctions in systems theory.

Functional method was ascribed the function of making phenomena appear contingent. The different guiding distinctions we today find active in systems theory seem to be functional equivalents when it comes to the demonstration of contingency of a phenomenon studied. For instance, historical-semantic analyses can historicize our current semantics and thus show their contingency. Form-analyses can show the paradox of ways of observing. Analyses of differentiations can show the existence of alternative forms of differentiation. Today, the possibilities for creating a distance to the phenomenon studied abound and contingency pervades the entire theoretical architecture of systems theory. [46]

The statements above could indicate that functional method has lost its central function in the construction of systems theoretical analyses. But the fact that the problem/solution distinction still is very active when analyses are carried out indicates another conclusion: that functional method today is a solution to another problem than the creation of contingency and analytical distance. The hypothesis I shall pursue in the following is that functional method is a solution to the problem of dynamics, of how to produce further analyses, how to make further operations connect to earlier ones and point forwards.

A semantic analysis can be done and finished – but how is it connected to other analyses? How does it avoid a situation where communication simply stops after the analysis, maybe with a tired “and so what?” Here it seems that

the problem/solution distinction can take the analysis further by asking which problem the described semantics is a solution to. Or: which problems does it create? And how are these problems solved? Analyses of differentiation can form another example: Along an analysis of the differentiations (using the guiding distinction similarity/difference) in, for instance, an organization, one can bring the analysis further by asking which problem is this differentiation a solution to and which problems does it cause? The problem/solution distinction is used in order to move the analysis of differentiations. An analysis of a certain way of drawing a boundary between system and environment may lead to the question: which problem is this boundary a solution to (and could there have been other, functional equivalent, solutions) – or we can instead ask which problems does it create. An analysis of the form of decision raises the problem: how is the paradox of decision making managed? This means that it is the problem/solution distinction that brings the analysis further.

Functional method secures what Niklas LUHMANN calls a rest-liquidity vis-à-vis theoretical determinations (1998, p.423). The distinction problem/solution places a restlessness in the analyses, which presses the analyses further. It is the problem/solution distinction which makes the singular analysis transgress its own boundaries; the distinction becomes a solution to the problem of how to move analyses further. Other guiding distinctions frame and condition the analyses. The problem/solution distinction moves the analyses, gives them a restlessness and an internal dynamic. It seems that concepts like dynamic, restlessness, movement are closer to the actual function of functional method than concepts like comparison and contingency. Functional method is a way to avoid closure of theories and analyses. After an analysis, it can always ask which problem does this raise and how is it solved – or: which problem is this a solution to.

The problem/solution distinction has a peculiar form: it is at the same time empty and dynamic. It is *empty*, as it does not itself make any claim about what a problem is – this must be worked out theoretically and analytically. Theory can give content to the problem. The form stays open for theoretical changes. It is dynamic as it can make analyses, guided by other distinctions, advance and transgress themselves. The problem/solution distinction seems to be a homodromous distinction; it runs together with other distinctions and opens new questions. It makes the other distinctions move.

We can now supplement the answers given in part one regarding the function of functional method: the function is not only to create comparisons and contingency (functions for which other guiding distinctions in systems theory seem to have become functionally equivalent). Instead the term “generating observations” is central. The point being that functional method drives the analyses forwards, that it generates further questions. We can interpret functional method as the solution provided by systems theory to the general problem of communicative connectivity. Communication has the form of events

and if communication is to continue, further events must connect to earlier ones and point forwards to future events. Without that kind of connectivity communication simply stops. The problem/solution distinction is a way to fuel this process in systems theoretical analyses. Instead of conclusions which stop the communication, we get new problems which call for further analysis/communication.

4. Final Questions

In the introduction, I asked whether the theoretical developments of systems theory have had any effects on functional method. Focusing on the function of functional method it seems that there is a shift in the problem to which functional method is a solution. The development of theoretical techniques and analyses, which just as well as functional method can enlighten the contingency of the analyzed phenomena, means it is relevant to ask if functional method can be seen as a solution to another problem. I have suggested that functional method and the distinction between problem and solution is a solution to a dynamic problem: how to make the analyses move on, reach out for further analyses, create an internal pressure for further communication. We can say that the problem/solution is the motion principle of systems theory.

This motion principle seems to be mirrored by, or co-produce, an assumption that also problems outside of systems theory are the motion principle for communication. In 1962 Niklas LUHMANN criticized the “optimistic assumption” that problems themselves mobilize the causes for their solutions (1991a [1970], p.11). But it is exactly such a figure Niklas LUHMANN himself seems to use when he later talks about double contingency as a “basic problem that operates autocatalytically” (1995, p.122). It is autocatalytical in that the appearance of the problem also initiates a process for solving it (pp.117ff.; RITSERT, 1988, p.175).

There is an isomorphism between the functional method and assumptions about what moves social systems. Niklas LUHMANN puts it the following way:

Of course, when we speak of problems here we do not mean only the artefacts of the art of scientific problematization. Although the concept of problems, the concept of double contingency, and the concept of autocatalysis are formed in the system-specific context of scientific efforts and must find their home, function, and confirmation there, they mean real facts in the domain of the objects to be analyzed. Thus we maintain that there are problems – and not only for science. Reality reacts to the problems that occur within it by selection. Problems are the factually effective catalytic agents of social life (1995, p.122).

This is also why Jürgen RITSERT can claim that “problem” rises to be the most general expression of the motion principle (*Bewegungsprinzip*, RITSERT

1988, p.175). The functional method is close-knit with the assumption that problems move social systems.

It seems to be a basic assumption in systems theory that problems are effective catalytical agents of both systems theory itself and of social life. By way of a conclusion we can ask three final questions connected with this assumption:

- 1) How can we conceptualize the functionalism that is actually at work in systems theory? While it is obviously not an old school causal functionalism the concept of equivalent functionalism seems to miss central characteristics of the function of functional method.⁶ To establish and compare equivalents does not seem to be the central function of functional analysis any longer.
- 2) As we have seen, the concept of problem must be defined theoretically. But it also seems that the form (i.e. the difference problem/solution) in itself limits what can be put into it. Problems have solutions but can we not imagine some agents of social life that do not have solutions? That is: Agents that cannot be observed within the frames of functional method.
- 3) If the function of functional method is to move the analyses as a kind of autocatalytic fuel – and if this method has a blind spot when it comes to social agents that cannot be given the form of the difference between problem and solution – can we then invent some functional equivalents? Or is the identity of systems theory so closely related to the distinction between problem and solution that we cannot observe beyond problems and solutions without leaving systems theory?

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⁶ Jac CHRISTIS (n.y.) deals with the problem as he suggests re-interpreting the concept of causality.

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