



Society's Educational System - An introduction to Niklas Luhmann's pedagogical theory

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Abstractⁱ

In the spring of 2002, probably the last large manuscript of Niklas Luhmann, the German sociologist, who died in 1998 at the age of 70, was published. The manuscript is an almost completely developed analysis of the educational system of contemporary society. The book is entitled Das Erziehungssystem der Gesellschaft. Despite the fact that the work is one of many analyses of the differentiated functional systems of contemporary society, it is not only one book in a series, but is also based on Luhmann's lifelong interest in educational questions, which, among others, is expressed in a series of books published in 1982, 1986, 1990, 1992 and 1996, which he edited together with Karl Eberhard Schorr: Zwischen Technologie und Selbstreferenz, Zwischen Intransparenz und Verstehen, Zwischen Anfang und Ende, Zwischen Absicht und Person and Zwischen System und Umwelt. In addition, in 1997, he published a book with Dieter Lenzen entitled Bildung und Weiterbildung im Erziehungssystem. In this article, Das Erziehungssystem der Gesellschaft is introduced; it is put into the context of Luhmann's total oeuvre; and it is related to the situation and function of education in our modern, "hypercomplex" society.

Background

Niklas Luhmann was employed as a professor in 1969 at the then new Bielefeld University. His previous university career had been short. It was not until 1967, at the age of 40, that he went to work at Münster University. This was preceded by a career in the public sector.

When starting to work at Bielefeld, he had to fill out one of the employee evaluation forms that were new at the time, but which have become standard procedure today. It was, after all, necessary to define "result goals", on which to base a measurement of future activities. His answers to three general questions were as follows:

- "Forschungsprojekt? Social theory."
- "Dauer? Thirty years."
- "Kosten? Nothing!"ⁱⁱ

During his first years of employment, Luhmann outlined the project of developing a social theory, i.e. a general theory of society, and completed the preliminary work, being especially inspired by Talcott Parsons, the American functionalist sociologist. After several large monographs, he started on two series, for which he wrote all the contributions: *Soziologische Aufklärung* was his theoretical laboratory and grew into six large volumes.

Gesellschaftsstruktur und Semantik was a collection of academic sociological studies about subjects such as: the self-definition of the European upper class during the 17th and 18th century, the concept of time, the comprehension of European culture, legal consciousness, ideas of education and upbringing, historical concepts of nature, changing definitions of the ruling class, politics, religion, ethics, etc. Four volumes were published in this series and one book on the concept of love in Europe starting in the 13th century, *Liebe als Passion* (Luhmann, 1982). He already presented the motto of all these works – the program declaration for a system of critical theory – in his inaugural lecture in 1967, which to a great extent demonstrated an ironical attitude toward the type of critical theory that is based on normative standards, and which, in its social analysis, is focused more on what society is not and what ideals it does not correspond to than what society is and why it is this way: “More preaching and threatening is not necessary, neither is the spread of obedience and reasonableness, rather the dominant theme will be the exposure and discrediting of official facades, ruling moral concepts and common beliefs” (Luhmann 1970, p. 69). Suppression may also be socially relevant and not just the expression of “false consciousness”, he added as a sharp comment against critical theory. Also notions of virtue and reasonableness are notions in the society, about which normative requirements are expressed in words, and therefore, these cannot simply be brought out into the open as universal normative expectation. Also Marxism, which claims to present the truth about society and to expose ideology and false beliefs, must know how to explain its claims to truth.

Also, it was not until 1984, when Luhmann was 56, that the first work on social theory of his great research project concerning a theory of society appeared. The name of the book was *Soziale Systeme*. I remember how, in 1987 – or was it 1988 – I spent the whole summer deciphering incomprehensible expressions. The pages were filled with strange words like “autopoiesis”, “self-reference”, “distinction” and “interpenetration”. The author made a distinction between “psychic systems” and “social systems” and asserted that psychic systems do not comprise a society’s essence and building blocks but rather its surrounding world. Society is not a sum total of human individuals. Slowly I understood that this enables one to create a defensive barrier against the opinion that the will of the people is a certain type of essence, a total of individual wishes, which in turn, forms the basis for democracy. If society is not the sum total of single individuals, then the will of society is not the total of individual wills.

In other words, Luhmann thereby created an alternative to the fundamental question of how social order is possible. Social order is not created when a prince with his princely power, the state with its state power or the people with its will binds the society’s atoms together into a whole. No, social order is established when the diversity of communicative systems creates an extremely complex and dynamic stability. Society does not exist on the strength of the purity of social order but rather on the complex impurity of social structures.

One of the book’s main ideas was that society is not longer divided into layers with one ruling center, but a so-called functionally differentiated society, and therefore, consists of a large number of functional systems, each of which justifies itself: an economic system, legal system, art system, political system, religious system, etc., etc. At the same time, these multiple functional systems are not in mutual harmony. Quite the opposite, they constantly collide: they

influence each other, modify each other and attempt to achieve dominance over each other, at the same time, they are preconditions for each other and together form a whole that can be called society. It is no longer possible to refer to the one and only center of a society. Society is polycentric, or “polycontextural” as characteristically expressed by Luhmann, since in a polycentric society each functional system creates its own surroundings, its own context. Several systems together, however, create a “semantic horizon”, which represents the boundaries of what we understand and what is accessible to us, as opposed to that which remains on the other side of the semantic horizon. This is not “meaningless” (since meaninglessness also possesses meaning – even if it is negative), but is just beyond meaning.

During his entire career, Luhmann emphasized that the fact that society is polycentric does not mean that social theory, critical system theory, is “post-modern”. This does not relax the requirement for truth. The statement that society is polycentric does not mean that many truths, and therefore none, exist. Quite the opposite, it is necessary to toughen the requirement for truth: every observation, at least those that claim to be scientific, must not only prove that which it observes. It must also prove the correctness of its observation process, that is, it must include “autological” elements (cf. Luhmann 1997, p. 16). No one has been more acute toward the lax post-modern viewpoint that “anything goes”, and also toward truth and untruth, than Luhmann. As a systematician, Luhmann had no alternative: The theory on society had to include descriptions of the most important of the many functional systems. By his mid sixties, Luhmann had published large monographs on the economic system, the scientific system, the legal system and the art system. A preparatory work on the analysis of society’s mass media, with the characteristically ambiguous title of *Die Realität der Massenmedien*, the reality of mass media, was published in 1996. At the same time, he felt that his strength was waning. The tremendous workload had exhausted him. “When I wake in the morning and feel pain in my body,” he said in an interview “I know that I am not dead yet.” Therefore, although his project could be entered in the public accounting as “*keine Kosten*”, its cost was one life.

Just at that time, in the mid 1990’s, he therefore started his last project – the book that should complete his grand oeuvre. His entire project, the goal of which was to work out a theory about society, contained three main components from the beginning: the theoretical basis of social systems, which was published in 1984, books about the functional systems of society, of which four had been published between 1988 and 1995, and the final work, a book about how society as a society is formed, when the person observing society does not accept a position on the other side of society, but is always as an observer in the center society that he/she describes. There is not such a thing as a position outside society. Consequently, the title could not be “*Die Gesellschaft*”, implying the existence of an external observer, but had to be *Die Gesellschaft der Gesellschaft*: Society observed from inside, i.e. society observed by itself. The resulting 1,200-page work that deals with society, which has already become a main work of contemporary sociology, was published before his death.

At the same time, in spite of this colossal work, a large number of functionally differentiated systems were still not described. Therefore, Luhmann further increased his work load and worked simultaneously on the analysis of three other of society’s functional systems: a book about society’s religion, one on society’s politics and one on its educational system. And finally, he believed that it was necessary to write a book about that type of social systems that lies between society at large and the infinite number of small interaction systems. i.e. between sociology’s macro and the micro level, as it is normally phrased. This type of social system in between society and the many interaction systems is: organizations. The nearly completed book manuscripts on religions, politics and education, as well as the book on organization, *Organisation und*

Entscheidung, were handed over to a younger generation of Luhmannians, and they have all been published to date. The last one, the book about society's education system, was finished by Luhmann's young colleague, Dieter Lenzen, and it was published, as already mentioned, in the spring of 2002.

Functional differentiation: media, code, self-reference

Luhmann's project was a colossal 30-year research project, and also when he wrote 350 pages on the economic system or 580 pages on the legal system, the goal was to prove a general hypothesis, that across the numerous different function systems certain formal similarities exist.

As a result of the fact that any social system is based on communication and is self-referential, that is, operationally closed, it must observe the surrounding world through a specific media that the system in question has itself created. This media is based on a specific code. Also, every single functionally differentiated system creates its own symbolic generalization. Partly, the symbolically generalized medium raises the potential success level of a specific functional system's communication. Partly, however, by raising the potential success level the functional system also increases the risk that misinformation will be created by the communication.

These concepts – medium, code, symbolic generalization – thus represented elements of the assumptions concerning the nature of these functionally differentiated social systems, and in order to prove his theory, Luhmann must answer the question regarding what the specific media and code is for each individual functional system, and he must analyze the impacts concerning efficiency and risk of misinformation for each system.

For example, the media for the economic system is money and the code is payment/non-payment. Therefore purchasing at any discount supermarket is so effective. Just put the merchandise on the checkout line, the cashier calculates the price and money – metal, paper or electronic bytes – changes ownership. No words are needed. However, if one wants to communicate other things than buying and selling commodities, it will most likely be misunderstood. Try, for example, to declare love to the cashier. He or she will most likely misunderstand your communicative selections and call for the boss to help you out.

Similarly, the media of the political system is power and the code is power over non-power. Some believe that our political world is based on the sum of rational choices of politicians and voters. In reality, this is only part of the truth. Alliances are created in parties. Rhetorical methods are used, threats and promises are made and agreements drawn up. One party leader is overthrown by the next and political positions are distributed according to power criteria (not so much according to professional relevance), and although more words are used than when making purchases at the discount supermarket, the logic is the same: the range of communicative variations is reduced, thus increasing efficiency, but also raising the risk of excluding relevant communicative selections. In simpler terms, we could say that everyone knows what, to a lesser or greater extent, is behind all the nice words – power! And this naturally means that certain things can only be expressed with difficulty, for instance beautiful and loveable messages. Because one can assume that even in the case of the most loveable means of expression, the lust for power is hidden within.

The fact that the functional systems are operationally closed, does not exclude that they possess certain functions in relation to the society as a whole and perform certain services in relation to individual occurrences in society. On the contrary: They are so effective because they are operationally closed. The

function of the economic system is the reduction of deficiencies. The service is to satisfy needs. And the fact that this system possesses this function and provides the specified service is not dependent on the fact that is directed by an external higher logic, deus ex machina or world soul. Quite the opposite: the fact that the economic system is operationally closed, without taking others into consideration, contains the condition of its functionality. There are enough examples to demonstrate that the elimination of this operational isolation in favor of a political or scientific distribution does not reduce shortcomings, but rather increases them.

Another example is the mass media system. Its code is +/- information: What counts as news, what does not? Its reflection system or form of self-description is journalistic criteria, etc. Its function in society, i.e. to "irritate" society and to keep it awake, is based on the fact that it is functionally closed: It is not directed by any external power, but selects information, e.g. news, according to its own criteria. The same goes for its service, e.g. to create a transcendental illusion of a common world. These functions and services have not been created by a metaphysical authority (by which the mass media system is promoted as a "fifth state authority" and similar lyrical expressions). No, these are based on the autopoietic power and the resulting structural couplings.

This does not mean that this complex of differentiated functional systems represents the best of all worlds. Luhmann does not offer utopia, but a cynical description of society. The way in which these autopoietic systems work, that is "...the growth dynamic characteristic of contemporary society and the channeling of this growth through individual function systems, especially economics, science, education and politics", is a constant source of social problems. "All these systems are structurally stipulated to deviate from planned results. They follow individual growth and improvement objectives. It is not possible to grasp the internal effects for society of these dynamics. The increase in regional differences combined, at the same time, with global interdependence is perhaps the most noticeable fact." (Luhmann 1988, p.169f)

Even more imposing are the ecological effects, Luhmann pointed out as early as in 1988: "In our time, probably the most central problem of contemporary society is the feedback-results for society of the changes unleashed by it on the surrounding world. This does not apply only to the physical-chemical-organic environment; to the same extent this applies to the social system in relation to the physical surroundings. Our social system is changing the living conditions on earth to an extent never before seen." (Luhmann 1988, p. 169)

The characterization of Luhmann as a "neo-conservative" as Habermas has done on several occasions, is not fair. But Luhmann's goal wasn't to moralize. There is no purpose in describing the world the way it isn't, when there is such a great need to describe it as it actually functions. And this is the precondition for doing critical theory. True critical theory must be contra-intuitive, also in relation to that kind of emancipatory theory, which in its emancipatory beliefs defeats all competitors in conservatism.

Therefore, the majority of books dealing with functionally differentiated systems contain chapters on the "self-description" of the respective system. It is, therefore, not strange that the given functional system is on a communication level with itself. What is strange is that so many anachronistic social semanticists manage to survive. e.g. that it is still possible to view the mass media system as a "fifth state power", that is, as a representative of higher metaphysics. No, when the mass media system irritates society, the reason is the self-logic of the system. That a political system can be viewed as an expression of the will of the people, or that an economic system can be viewed as an expression of work-capital dichotomy – such simplifications or naiveties are the worst enemies of critical, contra-intuitive social analysis.

Books about functional differentiated systems

Luhmann's descriptions of social function systems, therefore, are based on a background that is, concurrently, strongly directed by theory and with a strong empirical orientation. He wants to describe social systems as they are, not as one would like that they should be and therefore are not, and this requires a strong empirical orientation. But he also wants to describe them in opposition to the assumptions caused by conventional wisdom, and this requires strong theory. On this basis, the books dealing with functionally differentiated systems provide two major scientific contributions:

1. They present contra-intuitive re-descriptions of individual functional systems, descriptions that, being strictly based on concepts, avoid all the traditional lyricism and ingrained assumptions. Since they are based on concepts, they are not sentimental, but rather, as some have put it, almost cynical.
2. They present actualized re-descriptions of different functional systems, descriptions that are actualized since they are strictly based on the presumption that society is functionally differentiated and that a basic social challenge is contingency, that is, the multitude of possibilities for establishing communication within society. Therefore, the basic presumption is not that society should be characterized by stratification. The basic presumption is also not that society should be characterized by divided into simple opposites – between good and evil, progressive and conservative, profane and sacred, or work and capital. No, a basic presumption is that social systems develop in order to cope with external complexities, and that they do so by increasing their internal complexity, which again provide increased external complexity for other differentiated functional systems.

I would like to focus on these two contributions when I present the book, *Das Erziehungssystem der Gesellschaft*.

However, a terminological problem must be mentioned: the German word “Erziehung” includes both “upbringing” and “education”. The background for this is that “Erziehungsfunktionen” were functionally differentiated in the 18th and 19th century respectively into upbringing and public education. Among other things, Luhmann's book also analyzes this differentiation process, and consequently it deals with upbringing as well as education. In English, the title of the book should therefore be “The upbringing-and-education system of society”. In the following text, I have generally translated the concept of “Erziehung” as “education”.

Das Erziehungssystem der Gesellschaft: Educational system theory

The need for an educational system theory

Generally what applies in the case of functional systems in society is that the more they are differentiated, the more they must base themselves on their own self-reasoning. The result is that the need for theories for these systems increases in step with their movement toward independence. Economic theories grow out of “tableaux economiques” forms from the 17th century, that is, models and theories about the self-reproductive character of economic systems. These theories culminate, in some sense, in Karl Marx's theory about the accumulation and circulation of capital, that is, capital as a autopoietic system (according to Bob Jessop), the effectiveness of which is increased according to how negligently – that is, self-indicatively – they function. Political theories develop as an extension of Machiavelli's rationale of 16th

century politics as an independent decision-making system, again with the implication, that negligence and performance are downright proportional.

The fact that these systems are autopoietic does not mean that they lack contact with the surrounding world. Quite the opposite, it is the self-reference of a system that makes it possible for it to establish contact with its environment, while also preserving itself as a system. Thereby, on the one hand, an interpenetrational relationship can be created between the system and the surrounding world, that is, the system can define the surrounding world as a resource for the maintenance of the system. On the other hand, a structural coupling relationship can be established between the system and the surrounding world, which means that the system can thematize the surrounding world as information or irritation in regard to the preservation of the system, and thereby examine the question as to uncertainty and adaptive self-preservation.

Similarly, a theory on the educational system as a system, which cannot be understood just as a residual of the modus operandi of other social systems, is strongly needed, cf. the attempts in the 1970's to develop a theory about the "political economics of the educational sector". The core of such a theory is a concept of education and study, that is, pedagogy. One such theory was articulated by Rousseau, see his book "Emile" on upbringing, and by Kant in his posthumously published pedagogical writings. But to a certain extent, only after the proposal to treat educational systems as a differentiated, autopoietic functional system the theory of the education system can be raised to the same level as theories about other functional systems in society. In retrospect, it can be said that this was the aim of Luhmann's pedagogical writings in the 1980's and 1990's, which culminated in the work, *Das Erziehungssystem der Gesellschaft*, in 2002.

As the other functional systems the educational system also, on the one hand, creates an interpenetrational relationship between the system and its surrounding world, and a structural coupling relationship on the other hand. The educational system, on the one hand, observes the surrounding world – the political system, the economic system, current and future students – as a potential resource. This represents the interpenetrational relationship. On the other hand, the educational system creates a structural coupling relationship between the system and the environment. In this case the educational system views the surrounding world as a potential irritant: it registers threats of interference from political and economic systems, or threats to the problem-free preservation of the educational system from current or future students (ill-bred or poorly socialized ones). Children are therefore always seen as students in the educational system, and these students are defined intermittently as teachable children (resource) and risk children (threat).

Preliminary work

As already mentioned, in 1982, 1986, 1990, 1992 and 1996, Luhmann, together with Karl Eberhard Schorr, published a series of collections of articles about upbringing and education: *Zwischen Technologie und Selbstreferenz* (Between technology and selfreference), *Zwischen Intransparenz und Verstehen* (Between intransparency and understanding), *Zwischen Anfang und Ende* (Between beginning and end), *Zwischen Absicht und Person* (Between purpose and person) and *Zwischen System und Umwelt* (Between system and environment). In addition, after the death of Schorr, in 1997, he published a book together with Dieter Lenzen entitled *Bildung und Weiterbildung im Erziehungssystem* (Education and further education in the educational system).

The starting point for all these books is the educational system, and each of them analyze a specific dilemma of the educational system:

The book about technology³ⁱⁱⁱ and self-reference deals with the dilemma, that teachers must, on the one hand, assume that he/she is capable of changing the children to be taught. In other words, the teacher acts in a systematic, teleological, manner that is technological. On the other hand, the teacher can never think that the person being taught is his/her handiwork: the teacher brings up and teaches a free being (a self-referential being) until its independence.

The book about non-transparency and understanding deals with the dilemma of that the teacher and the student, on one hand, try to understand each other, to create that which Habermas called mutual comprehension, while at the same time they are mutually non-transparent.

The book about beginning and end deals, on the one hand, with the uncertainty of teaching – that which is located between two definite points, between the start and the finish – and, on the other hand, with being constantly between the starting point, which had a purpose, and the finish line, the result of which deviates from the initial purpose. Thus, the book analyzes the basics of didactics, defining didactics as the art of structuring the time between beginning and end of a course or lecture.

The book about purpose and person deals – again – with the intentionality of the relationship, that is, between the movement toward the goal and the unforeseen result, here expressed in the relationship that teaching brings out the individual as a person, that is as somebody who is capable of relating to him/herself as something other than him/herself. If it succeeds, education maintains and forms non-trivial psychic systems that are capable of making distinctions, and can view themselves as malleable, that is, as individuals. Finally, the book about the relationship between system and environment deals with the fact that teaching means the surmounting of boundaries between the pupil as a psychic system and teaching as a communications system. Again, we are dealing with a project that, on the one hand, constitutes the sine qua non of teaching, but on the other hand is impossible, because this boundary is insurmountable.

The final volume, *Bildung und Weiterbildung im Erziehungssystem*, which is a collection of articles from 1997, can be treated as a preliminary work to *Das Erziehungssystem der Gesellschaft*. The topics treated herein include lifelong learning, and Luhmann modifies some of his earlier statements, for instance, about identifying the social construction of “the child” as the symbolically generalized medium of the educational system. Instead, it is suggested that in a society characterized by lifelong learning the concept of “life process”, in German “Lebenslauf”, should replace “the child” as symbolic generalization.

Das Erziehungssystem der Gesellschaft

As all other monographs about one function system, the book dealing with the educational system of the society includes, on the one hand, the characterization of the function system with the help of a collection of general concepts that for many at the first instance seem to be strange and even “queer”, but that because of their strangeness allow a series of acute and unsentimental observations about the function system in question. This represents a fundamental surplus of Niklas Luhmann’s scientific contribution: Just the strangeness of the system theoretical concepts makes it possible to create new observations, since we naturally see the world differently through

newly polished optics than we do through the eyeglasses of habit and traditions.

Fundamental concepts

What is the idea of an educational system? As already mentioned, earlier opticians have offered the idea that an educational system must maintain some definite instructional standard, to reproduce the “capital relationship” as it was called at one time, etc. But if we try to look beyond such statements, which are based on social semantics that is based on questionable general applicability, according to Luhmann we reach the general conclusion that the function of the educational system is to change people in the direction of definite goals. “Speaking about education (upbringing/education, LQ), one primarily thinks about intentional activities that try to develop a person’s abilities and foster his/her ability for social communion” (p. 15).

Does this sound self-evident? If yes, Luhmann adds a very quick objection: How is it possible “to change people”? Seemingly, there is a clear causal relationship in this: the subject does something with the object so that the object changes. But at least three problems are hidden therein. How does one determine the goal of the educational system? Who is the object of this change process? And how is this change process actually realized, i.e. which tools are available?

The purpose of the educational system: cultivation as contingency formula

Firstly, we must ask who is the subject, who is acting and how does he/she know what the goal of the action is? Is the family who is bringing up a child the subject of the upbringing and education? And to the extent that upbringing and education is a familial activity, it can be asked how does the family identify the goals? Something similar also applies to the educational system. What must a child know at specific ages? Can politicians determine this? Or developmental psychologists? Parents? Teachers or educators?^{iv} And how, despite the difficulty of the project, do they still arrive again and again at descriptions of the goals to which they attach applicability, calling them “definite goals”, “general cultivation” or “educational canons”? Here Luhmann persuasively argues that the concept of “cultivation” is that which he calls a “contingency formula” (I will return to this concept), namely society’s establishment of educational goals. As a contingency formula cultivation is a concept for something that cannot be generally defined, but for which a word is needed that signals a mutual understanding and agreement. Therefore, cultivation, the contingency formula of the educational system corresponds to “God”, the contingency formula of religion, or to the well known phrase of researchers, that “further research is needed”, the contingency formula of science. All these concepts are a kind of communication tricks that allow communication to continue despite the lack of metaphysical security.

The object of the educational system: a human being as a conglomerate of non-trivial systems

Secondly, we could ask, who is the object of the change process of education, this human being who is to be modeled in order to achieve some definite goal? Maybe it is here that we can find the decisive non-self-evidence of upbringing and education. Because what it is “a human being”? A human being is not a trivial machine. In other words, it is not some system that upon definite input through a specific function discharges some definite output. Furthermore, a human being is not just a non-trivial system, but even a conglomerate of non-trivial systems, a highly complex system in which a constant reproduction of

self-distinctions takes place, as Luhmann says. Luhmann characterizes such “machines” with uncommon ontological characteristics as follows: “They operate with the help of built-in reflection loops, which adapt all the input/output transformations to the actual condition of the machine; or more exactly: after such an actual historical condition into which the machine has brought itself. Since this condition changes with each operation, these machines have at their disposal a practically limitless, at least uncalculated repertoire of reaction possibilities.” (p.77). These are therefore the conglomerates of non-trivial, unforeseen systems, which educators and teachers must change without clearly defined goals – using communication as the only resource.

As it turns out, education as a field, namely to change human beings, is correctly understood as an extremely non-self-evident project. As Luhmann writes on p. 82: “If we are to comprehend individual people as conglomerates of autopoietic, self-dynamic, non-trivial systems, this doesn’t prove any motive for the opinion that they can be brought up/cultivated.” The only existing resources are structural couplings between instruction as communications, on the one hand, and psychic systems, on the other hand. Hereby Luhmann cuts through simplifications which were brought forth by descriptions of behavioral causality (which do not see the autonomy of learning as a problem at all), but also through those fog clouds which have been brought forth by those learning theories, which have expanded learning to everything – even to that which would otherwise be described as teaching – and which, therefore, does not have concepts for identifying the necessary structural coupling between the communications system (teaching) and the psychic system (the learning system).

As opposed to learning theory, which implicitly unites teachers and students into one and the same element of the learning process, Luhmann’s concepts bring forth the asymmetric role of teaching: some teach, that is, communicate. Others learn, that is, they couple themselves to the teaching communication. This specifically implies that Marx’s famous expression that the educator is also educated may be further defined: the educator educates – and may therefore be socialized.

Taken specifically, this asymmetric communication means that “*Wahrnehmung des Wahrgenommenswerden*” is an essential aspect of the student’s role in the teaching communication. As a non-trivial system, every student learns to become aware of the observation of him/herself. And in the same way, the majority of teachers learn to observe students with the knowledge that they are aware of being observed.

In his characteristically ironic side comments, Luhmann asserts that the elimination of trivialization from the *concept* of teaching means that the problem of the trivialization of teaching need not be taken as seriously, as it is usually done: because “... what happens when non-trivial systems find themselves in situations where they participate in trivialization? They attune themselves for this through self-socialization. Or in other words: they learn to handle it. They build a reflection loop within themselves, which makes clear to them the conditions under which it is advisable to act as a trivial system.”(p. 79). And this also has long-term beneficial prospects because “...thereby, in set situations, non-trivial system learn to act as trivial ones, without identifying themselves with this possibility.” (p. 80). Thereby one learns to imagine, that is, to develop a personal identity policy without identifying oneself with the situation with which one become attuned.

Educational system resource: communications

Thirdly, one could ask, what is the activity whereby some change others? The only way in which upbringing and teaching can take place is with the help of communication. Socialization may take place as an activity that is copied. But the one who brings up and teaches is directed to communicate. As a rule, this communication takes place in interaction groups, regardless of whether the interaction is that of Rousseau's concept of a dialogue between the educator and Emile, who is to be educated, or that which takes place in a school system's classrooms. In any case, this communication takes place between reciprocally present people. Therefore Luhmann makes the following proposal, as he calls it, for a quasi-tautological definition of cultivation/education: "As education (cultivation/education, LQ) all communications must apply which are actualized as interactions in order to educate." (p. 54).

If this definition is accepted, we feel that it implies, among other things, that e-learning, e.g. distance education, is also interaction, that is, communication between those present. E-learning does use distribution media other than seeing and listening, that is the light and air as communication media in the classroom, but despite this, it can be described as interaction (with a shift in time and/or distance) between those present. Otherwise, it would not be teaching. Therefore it is not valid to identify e-learning as a communications type alongside classroom teaching as an interaction system. Rather one should identify those special conditions that e-learning provides to teaching interaction. E-learning is teaching that uses other distribution media than the ordinary classroom to establish communicative relations between reciprocally present people.

Communications media of the educational system

Every communication or observation takes place through some media. When we observe someone – also some who is physically present – this takes place through media: through air, which facilitates hearing, with the help of light, which makes seeing possible.

According to Luhmann, the function of communications media is to reduce the improbability of communications. Generally speaking the success of communications is improbable. If this improbability is not as great as it usually should be, then this is the effect of the communications media.

In its fundamental form, the communications of the educational system take place in the classroom as interaction between the students and teacher or teachers that are present. This communication is characterized, as is all other communications, by three improbabilities. The first improbability is that one will hear what the other is saying. The teacher tries, sometimes without results, to have a say and make the students direct their attention to what he/she is saying. The second improbability is that one understands what the other is saying. The teacher asks the students to pay attention and they do not understand what he/she means. The third and last improbability is that the communications achieves the strived-for effect. The students hear and maybe also understand, but do not change their behavior.

In correspondence with these three improbabilities, Luhmann identifies three types or aspects of communications media.

The first type is distribution media: the teacher does not whisper but raises his/her voice. In order for the students to hear and see better, the teacher stands higher up and writes important words on the blackboard, uses an overhead project slides, PowerPoint presentations or computer-based communication. In order to reach parents, letters and notices are sent home to the family.

The second type is comprehension media. Language is one of the fundamental comprehension media; a conceptual vocabulary and reference system is another. Curriculum work and instruction planning consists of creating a purposeful development of comprehension media in the classroom.

The third type is effect media. The function of this media is to achieve the intended effect. This is achieved with rhetorical resources, with the creation of togetherness in the classroom, with the teacher acting “authentically”, and fundamentally with having the students acquire the specialized communications media of the educational system, that is, the comprehension that the aim of education is the acquisition of knowledge, and that this knowledge will be tested with the help of tests and examinations.

Just as the educational system has developed reflection resources for itself as an educational system (didactic and pedagogical), it has also developed reflection resources for its communications media. This reflection system is called the theory of the means of instruction. Its history reaches back at least to Petrus Ramus’s reflections on lectures as communications media and this achieved an early peak with Comenius’s textbook and with the reflection of the textbook as a specialized communications media.

These days, there is an accelerating theory on e-learning and also a theory on how digital media can reduce the improbability of teaching communication, again in three ways: by overcoming time and space barriers. By making comprehension more likely, for instance with repetitively programmed teaching or the help of simulation programs. And finally, by increasing the probability of changing behavior, for instance, with educational computer games and edutainment programs.

The primary function of an educational system: making human beings persons

According to Luhmann, the fundamental function of an educational system is not to impart knowledge, to discipline, etc., but to minimize the improbability of social communication. An educational system achieves this through the function of making human beings persons, that is, by creating that distinction, for which the labeled side is the person and the unlabeled side is the human being.

With the concept of “person”, Luhmann indicates that empiric people can be generalized and thereby made communicative. Just think if, in our everyday communication, we had to take into consideration the empiric multi-facets of other human beings! This would make communications impossible. No, the fact that it is possible to simplify, that is, to speak with one person as a seller, another as a teacher, a third as a schoolchild, and a fourth as a beloved, makes communication possible. On the contrary, the fact that we as human beings are capable of plugging ourselves into some form of person, allows us to participate in communications. “This form...” defines Luhmann, “...which allows the system dynamics of individual human beings to be ignored in social communications, is indicated by the concept of ‘person’.” (p. 28). Therefore the “human being” is the unlabeled side of the person as form, and it is not human beings but persons that make communication possible.

The ability to communicate therefore does not assume, adds Luhmann unsentimentally, that other human beings are observed in their total multi-faceted complexity, but that things are simplified. The form person is the condition for the continuation of communication, it is an address, calculation point and often also an explanation for strange circumstances in the communication process. Yes, the function of personal identities is a product of

the communications system. Persons are a communicative trick: products of and preconditions for communication.

Based on this, Luhmann presents a hypothesis that the primary function of the upbringing and education communications system is the transformation of human beings into persons: persons for themselves and for others. “Human beings are born. Persons develop through socialization and upbringing/education. Keeping this difference in mind, it is natural to set the education function into relation with the fact that human beings become persons. Especially in complex societies, this cannot be left only to socialization. This does not function specifically enough and is too connected to the environment where this occurs. In both instances we are dealing with the process of becoming a personality. It is here that leeway exists that education can use in order, on the one hand, to correct the results of socialization, and on the other hand to amend them. But that interaction develops at all between socialization and education depends on whether both processes are related to becoming a person.” (p. 38).

This naturally does not mean that the education does not have other functions. Although these other functions are also connected to the formation of person, since the transformation of a child into a person increases the possibilities for the child of coupling to the social system. And this is what is achieved by bringing up and teaching a child to function as a *homme, citoyen and bourgeois*, that is, as a person, citizen and worker. These three categories have been the three dominating person types since the 18th century: a human being for other human beings, a citizen for the society and a competent worker in private and public institutions.

The secondary function of an educational system: career selection

More specifically, an educational system functions not only for upbringing and cultivation, but also for career selection. Everyone does not have to do the same thing or fulfill the same function, and also this selection process is taken care of by the education system. Ergo, the education system includes, no matter how much the participants protest, two functions: on the one hand, it functions to create and (to an increased degree in the form of lifelong education) to maintain the preconditions for human beings to function in society as persons. On the other hand, it functions to execute evaluations in order to realize career selection. Naturally, both functions have to be fulfilled by the education system with the help of communications.

As it is known, education systems have always had difficulties with its selection function because this is in conflict with the development of people’s social skills. One increases the social coupling possibilities. The other limits them, since that human being, which develops into a number of persons in society, should not be made into all types of persons. Some selection needs to be made and therefore this selection impacts negatively and even as suppression.

However, actually selection is not an antithesis to the development of person, but is the continuation of the project to make human beings more communicative. If we became “everything”, our chances for participating in social communications, especially if we speak of contemporary and highly differentiated society, would be smaller than if a functional specification of that human being had taken place.

In addition, the career selection that takes place in a contemporary education system is decidedly different from the selection that takes place in traditional societies. The selection that takes place, for instance, in the form of examination, is not an effect of socialization, but of education. Therefore, selection helps social integration based on the past (family tree, social

network, connections, traditions, etc.) to be replaced by social integration based on the future (that is, existing career potential) (cf. p. 69).

At the same time, it is important to note that the highly formalized examination form familiar from contemporary education systems represents a “circular process”, which influences both the contribution and the evaluation (p. 66). The answers given in the examination room affect the evaluation. However, it also has a feedback effect to the teaching contribution preceding the examination. Not only the student is evaluated, but also the teacher, and therefore the examination allows for, or even intensifies, reflections on teaching (p. 67).

Finally, it should be noted that career selection based on examinations is separated from the use of power (p. 69), especially if examinations are highly formalized. A censor, that is an external observer, participates in the examination and observes both the student and the teacher, and in order to prevent the use of power to an even greater degree, an appeal system has been developed. Therefore it can be stated polemically that these highly formalized forms of examination are not harmful, but beneficial to students, if we leave aside that naturally they have a psychosocial effect, which may be irritating.

The educational system code

As already mentioned, every functionally differentiated system must have a symbolically generalized media and therefore a code for self-communication. Naturally this does not mean that the entire communications in an education system, for instance, takes place only in the code of this system, but this code molds the communications and increases its potential for success. Everyone knows what is being talked about and therefore does not need many words, as in the previously described example of discount supermarket communications.

Earlier, Luhmann – inspired by Philippe Ariès’s famous work on the social semantics of the concept of childhood – has proposed that the symbolically generalized media of an education system is “the child” (see Luhmann 1991). Naturally this concept of “child” does not denote a concrete, empiric child, but represents the generalization of those concrete children in the educational system. Since only on the basis of such a generalization and of a child as such (from time to time “weak”, from time to time “competent”) and with the constant characterization of his/her different phases of evolution (development psychology also tries with its phase-based specifications to offer generalizations) to carry out a generalization that makes the communication of the education system possible. What do teachers talk about among themselves? About children! What do teachers and parents talk about, not when they meet at the discount supermarket or at the election precinct, but at the parent-teacher meeting? About the child! While the contingency formula was a communication trick of the aim of communication, the code is the communication trick of the double contingency of communication.

At the same time, the specific social semantic specification of the category child expresses the general function of the education system: to change people. At least in earlier times human beings – grown up human beings – were completed realities that were not possible to change. But children were and are just defined as that human being which can still be molded. Faced by a challenge to do something intentional with the conglomerates of non-trivial systems (which is what empiric children are), this symbolic generalization “child” creates a hope: the individual child is not, after all, what he will be, and he does not simply learn that which he learns, because he conducts those selections of understanding that he is determined to do. No, observing the teaching object through the media of “the child”, teachers can “... understand the internal surplus production, the restlessness and movement and the self-

transparency and self-created inconclusiveness that is created by their clients, as their own chance, since they treat children as a medium which make the creation of form possible. (...) The media “child” is thus not a specific child. It is a social construction that allows for the educator/teacher to believe that it is possible to educate and teach children.” (p.91).

Despite this, in the work *Das Erziehungssystem der Gesellschaft* Luhmann abandons this proposition. In a society that is ever more characterized by lifelong education, the category of “child” does not work as an education system media. Rather, “human being” could be considered as media, if it is possible to identify some stabilized media in the changing phase of a society’s educational system, but “human being” with many of the social semantic characteristics that were previously assigned to “the child.” This “human being”, which forms a fundamental category in a society that holds lifelong learning to be an ideal, is an infantile human being, namely a human being, which allows for never-ending, continued molding. A human being becomes an adult – and acquires supplemental training. A person goes on pension – and has time to sit at a school bench again.

Since, however, the category of “human being” is already occupied, Luhmann recommends, inspired by Dieter Lenzen (see Lenzen/Luhmann 1997) to use the category of “Lebenslauf”, that is lifetime or life process (see p. 93). We can perceive that Luhmann thereby wishes to bring forth the expressiveness and malleability that is not dependent on age, and which has become a lifelong characteristic in our society. But this proposal still does not sound convincing. It is presented with a good purpose and well founded. But it is not seen in an educational system, the way money is seen in stores and supermarkets and power in the political system.

The code that corresponds to the media of “lifetime”, according to Luhmann is transmittable/non-transmittable. A positive value of an educational system is namely that some allow themselves to be transmitted and that something is transmittable. But still, although the proposal is presented with good reason, it is not very elegant.

Self-reflection of an educational system

Just as other function systems have reflection systems that have the purpose of reflecting what it is that gives the system a positive value (bookkeeping and budgets are used to ascertain how to make profits; the purpose of political programs is to identify measures that may create power; theories and methods are the preconditions of scientific systems to guarantee positive value in the code +/- truth), the reflection system of an educational system is pedagogy. Pedagogy – and more specifically related to the different subjects: didactics – allows for teachers to reflect on how their communicative selections in the interaction system of the classroom may increase the probability of successful transmission. Thereby, one also promotes the chances of positive values of secondary coding: better/worse. This is measured in the examination room and results in the abovementioned career selection.

Generally the rule applies, as mentioned above, that the more the function systems are differentiated, the more they must base themselves on their self-generated self-justification.

The result is that the education system from having been based on standards (that is, defined by others) increasingly becomes self-justified, that is on self-reflection. Thus, pedagogy develops into a scientific discipline. “Concurrently with the disappearance of the conviction, that an indisputable scholarly standard exists, on which the teacher’s authority could rest, unsolvable problems become visible. Pedagogy tries to establish itself as a science and to

acquire the respective verbiage.” (p. 192). Earlier upbringing and education could take place on the basis of standards. Upbringing and teaching were based on existing traditions and values. If, however, doubts occur about this basis, upbringing and teaching must be transferred to a reflexive basis, that is to a scientific one. Why have teacher’s colleges been eliminated in Denmark, as elsewhere, and a Danish Pedagogical University created? Because upbringing and teaching have started to doubt their own basis and must therefore study this basis – to be based on science, not traditions. Pedagogy has been transferred to university, because society has become contingent.

More specifically, my proposal is that regarding the self-reflection of the education system one should differentiate between first order and second order self-reflection. The first order of self-reflection is the direct reflection of teaching practices, that which Donald Schön calls the reflexive practice of reflective practitioners. The systematization of first order of teaching reflection is called didactics. This is related either to the teaching of special subjects, and in that case is called subject didactics, or with teaching generally, and in that case is called general didactics.

The second order of self-reflection is the indirect reflection of teaching practices, that is, the observation of the relationship between reflective relationship and the reflexive practitioner and his practice. This is the observation, in didactic form, of the observation relationship between teaching and acquisition, and observation. The second order of self-reflection is called pedagogy.

Das Erziehungssystem der Gesellschaft: The theory of society’s educational system

The society in which we live is characterized by an abundance of opportunities. We have more opportunities that we are capable of realizing or even pay attention to. This society is characterized by self-created uncertainty and insecurity. This basic characteristic expressed in professional sociological terminology is contingency: it creates the possibility for abundance.

Such a society can be described in at least two opposing ways: on the one hand, it creates the impression of a society where everything is possible. All the illusion masters are here: those who have coined society a “learning society”, and the so-called learning theoreticians, who wish to delete the concept of teaching, since teaching according to them creates limitations for the self-fulfillment of individuals and is therefore suppressive. No, only the concept of “learning” is legitimate, and the teacher’s assignment is to stimulate this splendid learning, that is self-fulfillment and self-realization.

On the other hand, such a society seems to be a society where nothing is assured. We have critics who speak about what heartbreaking and exhausting consequences are caused when no one ever says stop, no limits are set, and on the contrary, everyone can chase after their opportunities and this race never ends. This is treated by Richard Sennett’s *The Corrosion of Character*, as well as many, many other books on social criticism.

However, my point is that the either-or position will not lead anywhere. Instead it is much more interesting to ascertain what kind of society calls forth these two positions, that is, to remain a bystander in the either-or argument. How is a society, which is characterized by contingency, or the abundance of opportunities, constructed? And what are the consequences for a society that is constructed in this way?

Returning to an earlier mentioned concept, one can say that the fundamental function of such a society is to develop “contingency formulas”, that is

formulas that make possible the relation of oneself to the abundance of opportunities and their handling. But these formulas have very special characteristics. They cannot simply reduce the number of opportunities, that is, to say that you cannot do or get this, just as you cannot use medication which denies or forbids the illness to be treated.

What is the contingency formula of the society, if one can rashly say that society develops contingency formulas to describe itself? What concept does a society create about the insecurity that it generates itself? Naturally there are many of these, and the typical trend has been a so-called “post”-trend. That one can no longer say about society that it “is” this and that, but on the contrary that it “is not” this or that. This is not modern, but rather post-modern. This is not industrial, but rather post-industrial. This is not capitalist, but post-capitalist. But with one other concept, which fulfills the same function, society can be called “a learning society”, because this concept defines the fact that today may be as it is, but tomorrow may easily be different.

With this we have remained bystanders in the argument about whether it is this-or-that. We cannot satisfy the concept of a “learning society” with a “yes” or “no” answer, but we can explain where this concept comes from. This is not something that we like or don’t like, but rather a symptom of social conditions, and we can take a position regarding the consequences.

But the specific functional systems of society must also develop contingency formulas. Yes, because on the one hand, all function systems mold their specific surroundings, while on the other hand, they perceive the surroundings as unapproachable, that is, as contingencies, and therefore must develop contingency formulas, as expressed by Luhmann, that is, formulas that allow for the abundance of opportunities to be handled.

Maybe the best known contingency formula is the concept of God in religion. On the face of it, the concept of “God” represents someone or something that knows everything and has created everything. In other words, the concept of “God” indicates that not everything is possible, but also that not everything is incidental; at the same time the concept of God indicates that the possibility to receive knowledge about these opportunities and limits is not available for ordinary people. “God” is therefore, according to Luhmann, not a resource of certainty, but a resource of uncertainty. The background for this is the fact that the religion system is a functionally differentiated system, the special function of which is the observation of meaning. Meaning is the starting point for media, for world observation and communications media. In other words, meaning is the distinction that separates concepts and the world. However, the function of religion is to make meaning observable, that is, to reestablish the distinction between concepts and world within in the concept of God. God is therefore that instance, which can observe meaning as – with Hussler’s expression – the unobservable world horizon. As is recorded in the Gospel according to St. John: “In the beginning was the Word, and the Word was with God and the Word was God.”

Another contingency formula delivers modern art, since modern art not only helps to depict the world, but also to constantly define its own possibilities. Twentieth century avant-garde does not deal with the question of what the world is like, but how and why something became art – if conditions could also have been different. In a society influenced by self-produced insecurity, art becomes self-defining to an extreme degree.

The third contingency formula delivers science. What do we know for sure about today’s scientific propositions? Not that this or that is such, but – “that further research is necessary.” What we know for sure is that we will never get a final answer, but rather that insecurity continues to rule. We know that we

don't know what we don't know. Every research report therefore ends with a requirement for further research. The contingency formula for science is therefore a dispassionate concept, presented by Luhmann: "limitationality" – that after the presentation of partial results, one must always indicate the limited and temporary character of these concepts.

As to the *educational system*, the contingency formula is: cultivation – in German: *Bildung*. "With the concept of cultivation, the educational system reacts to the loss of external (societal, role-based), binding points about what a human being is or should be." (p. 186). As Luhmann adds ironically: "The word 'cultivation' presents the educational system's contingency formula with the use of a beautiful word package. It flows easily off the tongue." (p. 187).

As a result of the society's contingency, the concept of cultivation at the same time has changed its character. Ever more people doubt whether the concept of cultivation can be transformed into a standard of cultivation: that one must think this and that way, must have read this and that literature, etc. Most certainly the cultivation concept has been constituted by the fact that "we" can be distinguished from "them", although cultivation cannot be viewed from within, but must be seen from the outside. Yes, some adhere to standards – but does this as an expression of modesty, that is, thereby to receive means for handling contingency. But others – and clearly ever more people – see cultivation as a reflexive concept. A person can be cultivated only if he/she is able to put him/herself in the place of others, that is to imagine the cultivation of others. Cultivation is therefore not anymore the distinction between, but the reflexive observation of the distinction between "we" and "them". "Therefore cultivation can be acquired only when it is considered what others mean by this." (p. 191). In this version, scholarship is not a standard concept, but a reflexive concept. An individual is cultivated when he/she is capable of noticing what constitutes the difference between me and you, us and them.

Another consequence is that when teaching, the teachers stimulate students to handle their social contingency: Instead of being helped simply to learn "something" students are helped to "learn to learn". They may not, after all, limit themselves to assigned study materials, but should be capable of grasping more than is intended. They must, as Luhmann has said, not only "learn knowledge", but to "learn to handle non-knowledge" – for instance, by being able to make decisions. The concept of knowledge, used by the educational system, is not the same as used by the scientific system, where it is a form of knowledge, the possible untruth of which has been tested (p.98). No, the knowledge transmitted in the educational system is a form of knowledge that creates possibilities for giving the future life process a new direction. (p. 97). The direct extension of this mantra is "lifelong learning". In other words, this project is not a project that we should preferably handle according to standards (whether we like it or not?), but which we must handle analytically. In a society that is characterized by self-generated uncertainty, it is not strange that lifelong learning becomes a prominent concept. "What will be found in the 20th century, regardless of whether the concept of cultivation is used or not, is the adaptation of the educational system's contingency formula as a reaction to the loss of a well-founded "normative" guarantee." (p. 194).

Luhmann names two phenomena that symbolize this adaptation process. One of these is lifelong learning, which according to Luhmann primarily means that students that learn all their lives must possess the ability to learn. This expresses the insecurity of the educational system on an individual basis. The second phenomenon, which symbolizes the insecurity of the educational system, is the growing insecurity of the educational system regarding itself. The only thing that is known in the educational system is that it is unsure about its own validity and must therefore constantly change. It seems that the more conservative the government, the more important it is to change the educational system.

But my recurrent theme is that the phenomenon of a “learning society” is too important for normative handling: some rejoice, some are angry. But there is no reason to rejoice over the fact that the society is becoming contingent, and there is as little reason to believe that contingency will disappear, although we express our dissatisfaction about it.

No, today’s society is characterized – maybe more than anything else – by the opportunity for abundance, that is the insecurity generated by the society itself. We must handle this analytically, that is, try to understand it. And when we have understood it – or at least come closer to understanding it – we can delve operationally, well aware, that there is always the need for further research.

Keeping this in mind, Luhmann’s book is, despite its incompleteness and terminological indistinctiveness, a good starting point.

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ⁱ The manuscript is based on lectures that I held at the Danish Pedagogical University in 2002, and at Lillehammer University College in 2004.

ⁱⁱ Luhmann tells this story himself in the preface to the work *Die Gesellschaft der Gesellschaft*, Luhmann 1997, p.11.

ⁱⁱⁱ The concept of “technology“ is the concept for the causal relationships that are the basis of intentional activities and to which those actions must be aligned that are supposed to have practical effects.

^{iv} Here and hereafter I use the concept of “pedagogue” in its etymological, initial meaning, that is, as an indication of a specialized group that deal with pedagogy, that is, the art (theory) of upbringing and teaching.