INTELLECTUAL DISCIPLINES AND SEMIOTICS

Harald SCHWEIZER

Eberhard-Karls-Universität, Tübingen

harald.schweizer@uni-tuebingen.de

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Résumé :

Cognition, Logique et Communication sont la base de *toute* activité scientifique. Pas une ne peut réclamer *plus d' objectivité* qu'une autre. La différentiation des disciplines peut être effectuée par le concept de *l' observateur*, à partir de la théorie des systèmes: toutes disciplines opérant sur le même plan matériel appartiennent au même type, par exemple: les disciplines qui se consacrent aux aspects de la physique, celles qui analysent les différents types de langues naturelles et de communications, les disciplines qui démontrent les possibilités de l'esprit humain, et finalement la science de la science (par ex. Herméneutique).

I should be giving my lecture approximately 200 kilometers to the south of Lyon. For in the years 1320s a man was awaiting trial at the pontifical court in Avignon. Initially the Franciscan monk William of Ockham, the theologian and philosopher from Oxford and London, had the impression that things were going well. But after 2 or 3 years the climate changed, and the death sentence threatened.[1] So William fled from the papal residence to Munich where he received asylum for the last 17 years of his life.[2]

Why were William and his friends, the nominalists, classified as inordinately dangerous by the official authorities? The answer is a semiotic one.[3] The nominalists rejected the standard definition of truth in scholastic philosophy in which intellectual activity and things of the external world are bound closely together: *adaequatio rei et intellectus* (with the reality of the external ideas, the reality of god in the background). Even today that relation is very often characterized as the relation of *reference*.[4] And there are different types of formal logic in which the search for "truth values"

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1 .. Around the same time Meister Eckhart also awaited his trial in Avignon. He died before the sentence could be pronounced.

2. See Leppin - Seelhorst 40s characterizes the intellectual position of the nominalists excellently: „Die Absolutheit Gottes und die daraus resultierende Kontingenz der Schöpfung bilden die theologisch ontologische Grundlage der Erkenntnistheorie und Semiotik des sogenannten *Nominalismus*.. Nur die Einzeldinge sind real, Art- und Gattungsbegriffe, die Universalien, stellen, im Gegensatz zum Realismus, keine höhere Seinsstufe dar, sondern sind lediglich aposteriorisch-konventionelle Hilfskonstruktionen ohne ontologische Entsprechung. Nur die Intuition eröffnet einen Zugang zum Real-Singulären. Ihr gegenüber bleibt die Abstraktion sekundär, da sie in ihrer wesenhaften Allgemeinheit das Einzelne als solches nicht erfassen kann. Die Wissenschaft kann daher kein mimetisches Wissen der Welt: adaequatio rei et intellectus bereitstellen, der Anspruch einer prästabilierten Welthaltigkeit ihrer Aussagen ist nicht aufrecht zu erhalten. Als Logik ist sie Wissenschaft von den Zeichen und vollzieht formal korrekte Ableitungen aus evidenten Prinzipien, primärer Erkenntnisgegenstand ist der für die Sache supponierte Begriff, zur Debatte steht die Wahrheit von Sätzen, für die es keine extramentalen Verifikationskriterien mehr gibt. Der fraglose Repräsentationszusammenhang von Sprache und Welt ist aufgehoben. Das realistische Band zwischen Theologie und Philosophie ist zerschnitten, die Glaubenswahrheiten der Theologie sind über- oder gar widervernünftig und daher dem Bereich wissenschaftlichen Schließens entzogen: „credo quia absurdum“.“

3 Cf. Schweizer (2002) 7-10.

4 In my view such a definition is wrong because no one is able to leave the domain of language and to build a bridge to the external world - without using language. A better issue would be to ask: In which case do several language users agree quickly and easily on determining an object as "real" object, as extant, attainable by the senses. The definition of "reference" remains a question of language use, of conventions and agreement. Any illusion of mere "objectivity" is excluded. Cf. Schweizer (1995).

reflects that medieval scholastic position exactly.[5] Various writers[6] linguists[7] and philosophers / sociologists[8] maintain that the core of the nominalists is still waiting to be accepted by the scientific community.[9]

William of Ockham and his friends have often been characterized as the starting point of our modern world, of modern science. But that process leading to us actually started with a defeat. In an official statement the University of Paris condemned the position of the Nominalists in 1340, renouncing the conviction that scholars can exclusively use the mind, logic, notions, propositions, syllogisms. But no one can introduce extramental aspects or pure "things" in his/her argumentation. Logic and the philosophy of language are the main topics of science. There is no confirmation of a sentence by an aspect of the external world. And refutation is not carried out by an objective state of affairs but only by counterargument or counterstatement. Every science develops in the medium of communication, by a semiotically relevant interaction of different observers = researchers. We have to make explicit how the mind functions, how language works, how misunderstandings are best avoided. The main task is to better understand perception and communication.

With the issue of the nominalists the question of "truth" has to be seen in a totally new light: instead of guaranteeing the relation between language/mind and the external world – usually called "reference" – it turns out to be a question of correct thinking, arguing, perceiving, using terms. In scholastic philosophy and theology – at that time not yet clearly separated – communication plays no essential part in the search for truth; therefore the "owners of the truth" could be established at the top of the papal hierarchy. From a nominalist perspective – on the contrary – communication, language use, precise argumentation are the decisive media of any search for truth. In that issue there is no place for an "owner of the truth". Implicitly, that intellectual change negated the traditional power of the medieval church.

One could call this Nominalist position an early logical, cognitive or semiotic turn.A turn away from the dominant "realistic" position as its main column began to crumble away: the relation of "reference" up to then guaranteeing the truth and security of official theological doctrine was weakening more and more. Therefore the harsh reaction of the institution is not surprising. The Franciscan monks were eager to find better epistemological solutions. They didn't consider themselves rebels. But implicitly and necessarily they broached the question of power. Obviously, the institution was quick to comprehend that danger.[10]

Despite great differences in detail[11] one can say that Immanuel Kant in the Age of Enlightenment (XVIIIth century) took up the thread of the Nominalists. In contrast to an empirical conception of science[12] he instituted his "Copernican turn": Despite the fact that all knowledge starts with

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5 Cf. Lohnstein (1996) who explicitly wants to apply logic to natural language.

6 E. g. Peter Handke, see Schweizer (1992). Handke warns of comprehending language like glass that facilitates a clear look at reality. On the contrary: through language every "thing can be turned". In German that metaphor even has a criminal aspect.

7 Cf. Lyons speaks of 'naive realism' characterizing every day language use.

8 E. g. general systems theory, Niklas Luhmann.

9 In the early days of semiotics – at the end of the 19th century – there was talk of reactivating of the Nominalists' ideas.

10 .. Schweizer (2002) shows that even modern theology isn't able to cut the "realistic" tie between language and the "real world". This explains the persevering justification or minimization of "miracles" apparently opposing physical or biological laws, thus disregarding the exciting communicative power of such stories. Therefore the hopeless hope of reconciling the texts of world creation with insights from the natural sciences. There is a great lack of sensibility for poetry and its functions.

11 .. E.g. pre-Kantian tradition maintained that reflection has to start with terms *inferences*. On the contrary Kant stressed the prevalence of *propositions*, the synthetic character of (*universalia*): their contents could be grasped independently from *propositions* and and statements – an idea later confirmed by Frege Wittgenstein; see Brandom 208. The main reason for this shift: It's only for *propositions* that someone can be called *responsible*, but not for pure terms.

12 . Even today many scholars are satisfied with calling their own type of research "empirical". Albert & Koster present linguistics as "empirical" science. Often such an approach is due to the hope of gaining "objectivity" and reliability. Rereading Kant proves such that this orientation is chimerical. – See Gärdenfors, Pörings & Schmitz. Applied to texts/discourses: Ramsay makes jokes about a purely empirical orientation in textual analysis: the butterflies already seen are given Latin names. One doesn't learn new informations. On the contrary, the question should be:"'How do we ensure

empirical perception the mind is not formed by the things of the external world. On the contrary: All perception is formed or filtered by the possibilities and impossibilities of our mind.[13] Because of these constraints no one has communicate our insights? The door access to so-called "objective reality". The symbiosis of Being and Thinking has been destroyed[14] and the decisive question now is: how to perceive our world and how to to semiotic reflections is open (e.g. Charles S. Peirce, Ferdinand de Saussure). Kant, who died 200 years ago, made an important contribution to the key word of our time: "globalization", elaborating that all human minds in principle work in the same way. There is no superiority at this point, no hierarchy, no difference between the "owners of the truth" and others who are silly and deaf.[15]

Respecting that antirealistic and cognitive turn and using terms of general systems theory one could say - following Luhmann - that there is no longer a world without observers. All statements - as 'objective, clear, true' they may sound - have to be retraced to the speaker, to the observer who formulates that sentence.[16] 'Knowledge' - and science as well - always is the knowledge of someone.[17]

Any individual language and culture binds the language user into a specific segmentation of the world.[18] The specific contribution of an observer (in the social system "science") to the presentation of *facts* can be seen in the following aspects:

- the observer = scholar chooses the thematic field (*isotopy*) that shall be examined. At the same time that is equivalent to the exclusion of many others.
- The scholar chooses a narrow definition of terms - in contrast to every day language that is rich of connotations.
- In modelling the terminology the scholar/observer might follow strategy 1: exclusion of connotations in favor of denotation alone to gain as much precision as possible.
- Or one may follow strategy 2: using metaphorical language as type of tentative scientific models.[19]
- The profession of observers in science is the attempt to amplify knowledge about the specific world segment.
- New knowledge must be confirmed within scientific communication - otherwise it is futile.
- Any observer - *à son tour* - can be observed: *How* does he/she observe the

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that it (=the text) keeps on meaning?' - how, in other words, can we ensure that our engagement with the text is deep, multifaceted, and prolonged?" (170).

13 . Kant cited by Hirschberger 281s: "Bisher nahm man an,alle unsere Erkenntnis müsse sich nach den Gegenständen richten; aber alle Versuche über sie a priori etwas durch Begriffe auszumachen, wodurch unsere Erkenntnis erweitert würde, gingen unter dieser Voraussetzung zunichte. Man versuche es daher einmal, ob wir nicht in den Aufgaben der Metaphysik damit besser fortkommen, daß wir annehmen, die Gegenstände müssen sich nach unserem (sic!) Erkenntnis richten, welches so schon besser mit der verlangten Möglichkeit einer Erkenntnis derselben a priori zusammenstimmt, die über die Gegenstände, ehe sie uns gegeben werden, etwas festsetzen soll. Es ist hiermit ebenso als mit den ersten Gedanken des Kopernikus bewandt, der, nachdem es mit der Erklärung der Himmelsbewegungen nicht gut fortwollte, wenn er annahm, das ganze Sternenheer drehe sich um den Zuschauer, versuchte, ob es nicht besser gelingen möchte, wenn er den Zuschauer sich drehen, dagegen die Sterne in Ruhe ließ.. In der Metaphysik kann man nun, was die A n s c h a u u n g der Gegenstände betrifft, es auf ähnliche Weise versuchen. Wenn die Anschauung sich nach der Beschaffenheit der Gegenstände richten müßte, so sehe ich nicht ein, wie man a priori von ihr etwas wissen könne. Richtet sich aber der Gegenstand (als Objekt der Sinne) nach der Beschaffenheit unseres Anschauungsvermögens, so kann ich mir diese Möglichkeit ganz voll vorstellen."

14 . A fine illustration of the axiom of general systems theory: "Make a difference and you create a world". Kant opened the door to a new kind of science. His far-reaching influence actually can be detected in the cognitive Sciences, hermeneutics, general systems theory or semiotics.

15 . Following Kant Brandom often (e.g. 106) points to the fact that anyone formulating a statement/proposition is responsible for it. Every statement is bound to a subject or observer. There are no 'objective', impersonal true statements.

16.. Following Lacan: "Objekte (werden) durch intrapsychische Strukturen in ihrer Beobachtbarkeit (Sichtbarkeit) erst konstituiert ... reale Objekte mögen existieren - ohne intrapsychisch, interaktiv konstituierten Psychismus würde der Mensch jedoch keine Referenzmöglichkeit haben", Ort 85.

17 .. It is curious that in the 'most objective' science, in mathematics, the practice of linking the proper name of the scientist with his or her findings. E. g. the Heisenberg uncertainty principle, the Vlasov equation, the Schrödinger equation, the Laplace-Beltrami operator, the Lagrange function, the Falk-Konopka model, Gödel's proof.

18. That is the heritage of the Sapir-Whorf-hypothesis. But Umberto Eco expressed the same idea several times, e. g. explaining the scholastic term *transsubstantiatio*.

19 . Cf. Schweizer (2002) 254.

thematic domain?[20]

Concerning the 'humanities' or – in German – 'Geisteswissenschaften' it is not difficult to accept that conclusion. But it is equally valid applied to the 'natural sciences'. All the important physicists of the XXth century felt forced to reject the "realistic" use of language. Whereas the scholar asks: *What* are the structures in the thematic field?[21] Each of the natural sciences uses terms, models, abstraction, quantification, hypotheses – mental activities that are constructions in the medium of language. Therefore D. T. Campbell certainly is right saying: "Facts may be microtheories no longer controversial within the scientific community".[22] Or one could express the same idea by saying: there is no world without an observer. If someone maintains this nevertheless, then at least he or she is the one *speaking* of it.[23] And that shows an revealing self-contradiction.[24]

Combining insights from general systems theory and semiotics I would like to classify the intellectual disciplines as follows:

To level$_1$ belong all disciplines that direct their research interests to the material conditions of life: material systems are chosen as research theme.

On level$_2$ the focus of research is *how* we organize our biological (= material) life: what are the sign systems, how do we communicate, how ecology functions, what is the contribution of the arts to society, etc.? Different *social systems* are interacting and thus constituting *society*.

The disciplines of level$_3$ deal with the methods of formalization and abstraction. On both previous levels the scholar is forced to find general terms, concepts, classifications, relations. Otherwise he/she would submerge in the multitude of phenomena. *How* can this process of abstraction be traced? That is the subject of level$_3$ in two directions: *Quantitative* – e.g. mathematics or computer science try to solve problems by quantification or digitilization. All reference to material contents is excluded. And so pure formal logic and strict proofs become possible. – From a *qualitative* perspective different disciplines try to outline patterns of human behavior, psychic structures, communicative needs, mental strategies to understand the other[25] and mental forces/diseases.[26] In short: *How* the

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20. Whereas the scholar asks: *What* are the structures in the thematic field?

21 .. See Pulaczewska 16-27. Luhmann (1998) 505s. points to the fact that terms like "relativity", "uncertainty" "*in*determinateness", "probabilities" show the state and attitude of an observer; they don't represent attributes of an external object.

22.. See Luhmann (1998) 288. – Often it has been possible to observe a change in scientific paradigms: a model of a certain domain of science that had been totally transformed by revolutionary findings of a scholar initially regarded as fool and an outsider. See e.g. the contributions of Copernicus, Charles Darwin, Albert Einstein. In the case of Galileo Galilei the Roman catholic church took 400 years to accept that change in scientific paradigms.

23 .. See Luhmann (1998) 288. – That means at the same time that medieval scholastic ontology proves to be nothing other than one type of world observation among many others.

24.. In this perspective we have to be aware of ambiguous language. Some scholars, having abandoned the traditional definition of truth, nevertheless continue to speak of 'objective and true cognition / perception'. But they mean an insight that can be proven within the frame of a certain theory. That is an *intrinsic, relative* definition of truth that doesn't contradict what has been said up to now. Cf. Schröter 442-5.

25. For me Greimas "Sémantique structurale" (1966) is an early and important example of a qualitative structuring of the activities of the mind. For a more recent example see Lyons.

26 .. Why do we read novels, poems, why do we attend films, study objects of art? The negative answer: we wouldn't be interested in such activities if we only learned something about other persons whose problems don't touch us. The positive anwer: Artists offer creative, new interpretations of *typical* problems and questions. So by observing an artistic interpretation of a well-known problem it is possible to discover new interpretations for my own problems and questions. In this sense Johann Wolfgang Goethe called himself an "ethisch-ästhetischen Mathematiker", Cf. Schöne II 61. -Rechenberg clearly shows that the notion of information as Shannon defined it had been bound to quantitative measuring and so fascinated many contemporaries (and probably still does). But the major mistake was the confusion of information as *data* (in a technical medium) with *information* as something important and relevant for humankind. All attempts to reduce the second meaning to the first failed. Therefore Rechenberg pleads for a distinction of levels that can't be reduced to one another: Syntax (is analysing physical Signals = data), semantics (information understood by human

psychic system can be modelled?

Observers of the fourth category reflect on how we are able to observe ourselves. Apparently we are entering an unavoidable paradox. Most disciplines dealing with more individual and more concrete domains imply a "theory of...", e.g. "theoretical physics", "theoretical computer science". Analogously "hermeneutics",[27] "general systems theory" and often "semiotics" do not practically analyze a thematic field of our world or life. But they reflect on the possibility of doing this.[28] $Level_4$ represents the science of science and that formulation shows the inherent and unavoidable circularity of language use – even in the field of science.[29]

There is no world without an observer – and every observer can be observed. We can't leave that circle. We use our cognitive capacities, we communicate by language. Societies are not only mere agglomerations of many people, instead they should be defined by the network and coherence of communications. Of course, there are overlappings e.g. between the communication network in France and that in Germany. But in many respects it is easy to establish a border. The differences start with the different expression levels of both languages (vocabularies and the rules for constructing sentences) and they end with many different accentuations due to different historical and cultural experiences of both peoples.

As a researcher looking at some domain or segment of our empirical world I may ask, *what* is the topic of my research? But: observing another observer/researcher, my question is: *How* is he/she doing his/her work, *how* is he/she communicating, *how* is he/she living? *What* are the implications of a certain type of research? *What* other aspects and questions are excluded? *How* does the actual science deal with these gaps? Or are they neglected? – So we just need the twofold question to caracterize an observer = scholar: *What* and *How*?

$Observer_n$ . . .

$Observer_4$ of the possibilities of meaningful statements.Theory of Science/Knowledge, Hermeneutics, General Systems theory, Theory [*of individual disciplines*], Semiotics, Mathematics, 're-entry': *psychic system*[2]

$Observer_3$ – Formalization, Abstraction, Modelling, Formal Languages, Methodology (Philosophy/Logic, Applied Mathematics), Practical Computer Science, General Linguistics, Cognitive Sciences, Psychoanalysis: *psychic system*

beings) and pragmatics (message = meaning behind the literal sense, what is relevant for the addressee). Exactly that definition of the three methods was the basis of my comprehensive analysis of the story of 'Joseph in Egypt' (Hebrew Bible, Genesis 37–50), cf. Schweizer (1995). The greatest contrast to traditional grammar is implied in the new understanding of "syntax" (handling data without any knowledge of contents; that is exactly the way the term is used in computer science. It would be very helpful to introduce such a narrow understanding in linguistics. And – by the way – such an understanding fits the semiotic definition of "sign" very well. – "Semantics" includes some elements of traditional syntax, but analyzes further aspects of literal meaning. It is strictly content-based (refusing to be bound by structures of the expression level). Finally, "pragmatics" has no equivalent in traditional grammar: discourse structures, second = implied meanings, dialogues, thematic developments are the topic.

27. Cf. Brenner with an impressive survey of the historical development of that discipline.

28 . See Kant's "Bedingung der Möglichkeit"..

29 .. That is meant roughly by the term "re-entry" originating in general systems theory. – Brandom 51 says that the development of vocabulary of the natural sciences is itself a cultural phenomenon that only can be understood within the intellectual horizon established by the humanities.

Observer$_2$ of social (=communicative) conditions (Languages/Literature, Psychology, Educational Theory, Sociology, Ecology, History, Aesthetics, Jurisprudence): *social systems*

Observer$_1$ of the material life conditions (Physics, Chemistry, Biology, Medicine, Geology, Astronomy, Technical Computer Science): *natural systems*

- *Cognition - Information - Communication* are the *media* of every discipline (rarely are they, too, explicit subject of the disciplines) ⇒ science as a closed system of communications

- Every observer (= researcher) works in his/her specific field of research (*What* is the subject of research?)

- From any higher level the question can be raised: *How* is the research on the next = deeper level(s) done, under which conditions? (Some disciplines are not mentioned here).

- There seems to be a hierarchy. But no valuation is included. The levels are separated according to the degree of abstraction. Level$_1$ deals with great variety, whereas level$_4$ is settled in the heights of structures, equations, self-observations and patterns.

- Theoretically, the number of levels is infinite; practically, we soon feel limitations: it is hard to proceed.

- Observers of levels 1 + 2 usually use insights from level 3. But it is generally an exception that insights of level$_2$ are included on level$_1$ (e. g. Psychosomatics).

- If a scholar excludes insights from the other levels of science that proves to be problematic. The 'messianism' of an individual discipline threatens. The aim should be an application of insights from all levels by the scholar. The more this is done the less we need a separate "Ethics": Then communicative competence is developed well enough to find good solutions for the emerging problems. 'Job-sharing' should be avoided: Some do their work e.g. on level$_1$, the others reflect on 'Ethics' and responsibility.

- Scientific communication is destroyed in the case of interventions from the outside: E. g. churches / religions, separate ethics, politics, jurisprudence, economy etc. E. g. we read in the newspaper that pharmaceutical companies made great efforts to gain researchers for their interests. In such cases a distortion of science will be entailed.

- Through such a structure we can surmount alternative formulations ("Natur- vs. Geisteswissenschaften"; "natural sciences vs. humanities"); instead, we see the thematic competence of every discipline, the relations between disciplines of different levels; all are working on the same cognitive basis; and finally: all scientific statements are circular or paradoxical ('re-entry').

It should be added that any terminology using only one pair of terms, one opposition, sounds dangerous, oversimplified and ideological. That holds in the field of politics or religion as well as in science. To divide the scientific world into two parts - "natural sciences vs. humanities", or "Naturwissenschaften vs. Geisteswissenschaften" - produces a lot of negative effects:[30]

(1) it is overlooked that several disciplines are difficult to classify. Often mathematicians refuse to belong to either grouping. Or there are disciplines that use insights and methods from both domains (e.g. archaeology).

(2) The oppositional formulation creates an atmosphere of battle and mistrust, it deepens the

30. Take Charles Percy Snow and his talk of "two cultures" or think of the concept that understands "Geisteswissenschaften" as disciplines that are oriented retrospectively, only compensating the achievements of modern technique whereas "Naturwissenschaften" are future oriented and conveying progress. That position is held by the German philosopher Odo Marquard. See the characterization of both issues by Mittelstrass (1996).

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& [31] For *both* components are objectivizations of human mind. "As soon as nature becomes a topic of discourse, it is not nature any more, but a part of culture."[32]

(6) Taking only one term of that opposition into account and disregarding the other means to perceive by a blind spot.[33]

I greatly appreciate John Searle's designation of "science" as a modus of knowing, a search for knowledge among others. Science has no privileged status. And given the cognitive basis of all types of knowing he sees no fundamental differences but an extensive common ground:

"[W]hat we are all aiming at in intellectual disciplines...is knowledge and understanding. There is only knowledge and understanding, whether we have it in mathematics, literary criticism, history, physics, or philosophy".[34]

Despite the key word "globalization" in the field of sciences and in the field of culture we often have the impression of particularities, of an accumulation of specialists hardly understanding each other, of limits to our personal knowledge. Being a specialist in one domain means at the same time being a dilettante in many other scientific domains. The reflection on the same type of knowledge anywhere, on the same cognitive apparatus of all scholars and on the same language use and need for communication may help to see the basic semiotic layer as the common ground bearing all differences.[35]

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31. See Mittelstrass (1999). - During the last 500 years "God" has been increasingly excluded from the explanation of the world. 'Nature' lost its significance, sense and finality. Counterbalancing these processes the development of sign systems and the reflection on them became more and more important. So any 'natural science' methodologically turned out to be a 'Geisteswissenschaft'. See Breuer 399.

32 . Ipsen 209. Or 206: "If anything used by humans, if everything conceptualised, graded, considered, or calculated becomes part of the human culture, there is virtually nothing 'purely natural' left in the universe, save for objects or concepts as yet unknown to humankind."

33 .. To say it in terms of general systems theory: "Mit allem, was man bezeichnet, ist also immer ein 'und nicht' mitgemeint ... Wovon Teller zu unterscheiden sind, ist ebenfalls weithin offen: von den Gläsern? Von den Speisen? Vom Tisch?" Luhmann (1998) 376s. "Alles, was beobachtet wird, ist mithin abhängig von der Unterscheidung, die der Beobachter verwendet." Luhmann (1998) 82. "Beobachten ist demnach das Bezeichnen der einen (und nicht der anderen) Seite einer Unterscheidung" 84. More formally - and following Spencer Brown , cf. Luhmann (2003) 72ss - one could use"⌷|" as symbol: the vertical line expresses the difference, the horizontal line, pointing to the left, means that only one side of the difference is being observed and named,whereas the other side is only presupposed and won't be dealt with.

34 .. Cited by McCarthy 133. One could add that one of the 'fathers' of modern semiotics, Charles Morris, in 1930s had the idea that by respecting the definition of the sign and the use of signs it would be possible to bridge the gap between the 'Natural sciences' and the'Humanities', see Wahl 260s.

35 Cf. Mittelstrass (1993a). Normally, a certain affinity of humanities to questions of orientation, values, normativeness is presupposed. But "they have no special competence in answering them", Mittelstrass (1996) 289.

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