

giving rise to lively discussions. An ever-repeating theme is evaluation of the contribution of Luhmann (see for example: Newsletter 4). To facilitate the understanding and communication of this contribution, members of RC51 such as Loet Leydesdorff and Barry Gibson have participated in different workshops. Below you can find two reports about such workshops.

3.1 THE OPENING OF SYSTEMS THEORY

Luhmann Workshop at the Copenhagen Business School, 23-25 May 2003

Loet Leydesdorff

The newly organized *Center for Corporate Communication* organized a workshop with this title on May 23-25, 2003. The workshop can be considered as a follow-up on a workshop about "Luhmann and Organization Theory" organized in Munich in June 2002. Approximately ninety mostly European scholars presented more than forty papers. The papers in the sessions can be retrieved at <http://www.cbs.dk/ccc>. Four keynote addresses were provided to the conference audience.

The description of the social system

Dirk Bäcker (Sociology, University of Witten, Germany) opened the workshop with a lecture entitled "Niklas Luhmann observing the Computer." In this address he noted Luhmann's fascination with computers and their effects on communication. Bäcker distinguished four dominant modes of communication: oral, literal, print, and computer mediated communication. Four phases of social development were accordingly distinguished and associated with (1) segmentation, (2) stratification, (3) functional differentiation, and (4) a new mode of rewriting complex communications reflexively. Luhmann's theory was characterized by Bäcker as mainly a self-description of the third mode of social organization and differentiation. This description, however, provides us with categories for the analysis of the fourth and currently emerging mode.

In Bäcker's opinion, future research should use elements from older systems theoreticians (Ashby, Von Foerster, Shannon, etc.) in order to move the description of the complex dynamics forward. The development of the semantics lags the development of social structure, but the meaning-providing layer restructures the social reproduction from hindsight. The development of the semantics enables us to solve arising puzzles innovatively. The analytical problem for describing complex communications, however, can be formulated as to provide meaning to a description of the system while it develops further as a function of itself and its relevant environment. Bäcker provided the following formalization for such a system: $S = f(S, E)$. He argued that Spencer-Brown's *The Laws of Form* is helpful for the elaboration of this description (Bäcker 1999; Brown 1969).

In my opinion, what was remarkable about this presentation was not what was in it, but what was left out. There were no references to the theories of scholars working in the so-called Toronto school. These authors have elaborated on the phases of social communication as dependent on the media of communication (Innis 1950; McLuhan 1964; Meyrowitz 1994; Zelman 2002). There were also no references to the tradition of anticipatory systems which uses a formula $S_t = f(S_{t-1}, E_t)$ and $E_t = f(S_t)$ for the computation (Dubois 1998; Rosen 1985).

Anticipatory systems entertain a representation of themselves and by operating they provide this representation also with meaning (Leydesdorff & Dubois 2003). However, the major theoretical themes were brought clearly on the agenda of the workshop by Bäcker's introduction.

In the track sessions understandably there was a large representation of the host institution. In addition to fine papers elaborating on Luhmann's theory of social systems, a number of authors addressed "the opening of systems theory" from the perspective of discourse analysis inspired by Foucault. This finds its origin in the institutional background of the organizing unit with a research focus on corporate communication and management. Niels Åkerstrøm Andersen (CBS, Denmark), for example, elaborated in his keynote address entitled "The Pedagogisation of the Employee" on the communication of power. In the discussion Andersen stated that he wished to combine the analytical power of the analytical apparatus (Luhmann 1984, 1997) with the passion of Foucault. As a management consultant strategy he advocates a reflection that raises impractical questions in existing practices. The counter-intuitive results of the analysis can thus historically be put into action.

The operation of the social system

Urs Stäheli who is currently a visiting scholar at the Copenhagen Business School, provided the conference with a historically informed study about the differences between gambling and speculation, entitled "Contested Boundaries: Financial Speculation and Gambling." The presentation raised interesting issues about "structural coupling" that were further discussed in the track sessions. Stäheli argued that money provides a medium for *different* types of coding. In the historical process speculation has increasingly been appreciated as functional to the economic subsystem, while gambling tends to be outlawed. This further development of the functional differentiation (of the codes of communication) was also discussed in the various track sessions of the conference.

It seems to me that the "coupling" between functional *subsystems* is different from the "structural coupling" between social systems of communication and consciousness systems as different *systems*. While the coupling between different layers can be considered structural (Maturana & Varela 1980), the coupling between subsystems can also be characterized as "operational." The (social) system functions as the next-order level and the subsystems couple if that is functional for the further development of the system. The subsystems belong structurally to the same system and thus don't have to couple structurally. When they don't couple operationally, the subsystems can be expected to perform their own routines asynchronously. In that case, they may disturb one another. However, disturbance takes place at the level of information processing and not at the level of meaning processing.

For example, technology can be considered as a systematic exploitation of science within the economic system generating a feedback of the economic system upon science. Both subsystems develop according to their own logic, but they interact at the system level in the event of a possible coupling. Urs Stäheli noted that such a next-order "translation" from one subsystem into another can not be expected to become complete; it remains unstable. In the track sessions, Michael Hutter (Economics, Witten, Germany) elaborated another example of this coupling between subsystems in his paper "The Pattern of Structural Coupling between

Functional Systems: the case of Economy and Art." The issue of various forms of coupling among systems and subsystems was also raised, among others, by Lars Qvortrup and Stinne Helles (University of Southern Denmark) in a paper entitled "The Dynamics of Organisational Change. In Search of the Secrets of the Organisational Parasite."

The status of social systems theory

In a closing keynote address entitled "What will remain of Niklas Luhmann's Philosophy? A Daring (and Loving) Speculation", Hans Ulrich Gumbrecht (Literature, Stanford University, U.S.A.) distinguished among three genres in Luhmann's work:

- a first period from the early 1970s until the mid-1980s (including the book *Social Systems* of 1984) in which Luhmann had laid the foundations for the theory. The emphasis in these studies is on the environment of the system and how functions can be understood in terms of a reduction of complexity;
- a period from the mid 1980s until the early 1990s when the focus was on developing the ideas about the social system as an *autopoietic* system (sometimes in discussion with Maturana; e.g., Luhmann *et al.* 1990);
- a third period from the early 1990s until 1997 when the emphasis shifted towards the system/environment distinction and the reference was mainly to Spencer-Brown's (1969) *The Laws of Form*.

In Gumbrecht's opinion, the latter period had not been so inspiring while the main new ideas were produced in the second period. He saw the third period as "a streamlined version of hermeneutics". Perhaps, one can consider the main works of this latter period as also an attempt to codify the theory further into an encompassing theory. However, the universalistic aspiration of the self-referential theorizing should not be confused with a philosophical claim of self-grounding à la Hegel. Sociology, however, can be demarcated as an empirical enterprise from philosophy. Let me quote Luhmann on this:

The distinguishing (again: distinguishing!) characteristic of a sociological contribution to a self-description of society seems to be that it cannot neglect the operational and structural level of societal reproduction. In other, more familiar words, sociology has to be an empirical science (2000: 41).

It may be possible to give the oeuvre of the later period a philosophical reading and to study the theory without due attention to sociological questions. This was obviously not Luhmann's intention. I agree with Gumbrecht that the emphasis on Spencer Brown's (1969) *The Laws of Form* in the latter period distracts from a sociological reading. Goguen & Varela (1979), for example, have tried to elaborate these laws into an encompassing calculus, but the applications have hitherto remained very abstract. This approach does not invite sociological operationalization and the measurement of, for example, network data.

How can one open up systems theory in directions other than further theorizing? Theorizing without sufficient feedback from the research process can easily become speculative. How can one answer the question initially raised by the organizers of this conference without returning to discourse analysis or historiography? The natural candidate for the empirical opening, in my opinion, is systems research, which can be considered as an already existing discipline. Sociocybernetics as a specialty functions at the interface between

social systems theory and systems research. The existing journals of the name *Systems Research and Behavioral Science*, for example, is filled with contributions from fields like sociocybernetics in discussion with, for example, "critical systems theory". "Sociocybernetics" is also the name of a Research Committee (51) of the International Sociological Association, which focuses on debating theoretical, empirical and simulation studies related to the issue how society can be considered as a system of communication. This Research Committee publishes its e-journal entitled *Journal of Sociocybernetics*. One can find many references to Niklas Luhmann's systems theory in the contributions to both these journals.

As Dirk Bäcker noted in his opening address to the workshop, scholars working in the tradition of Luhmann's systems theory find their way back to the mainstream tradition of systems theory including such authors as Von Foerster, Maturana, Simon, Shannon, Wiener, etc. Additionally, the interfaces with other branches of sociology (e.g., Giddens 1984; Urry 2000) and communication studies can be elaborated (Leydesdorff 2001; Zelman 2002). How can the perspective of Luhmann's theory add to this body of literature and how one can enroll oneself in this discursive process of empirically informed reformulation? Empirical and simulation studies enrich the semantics if they can be interpreted and appreciated from the new theoretical perspectives. This requires mutual adaptations and that process drives the research process (for example, by providing us with new perspectives and questions).

In my opinion, the relation of the social theory of communication to the mathematical theory of communication provides us with a unique opportunity to develop both theory and methods in a single framework. How are social systems that process meaning different from other anticipatory mechanisms as they are studied in biology and neural networks? For example, how can codes of communication provide us with additional degrees of freedom in an emerging system of communication, while they tend to be stabilized in biological homeostasis? How can such a volatile system be sustained by institutions? Can this be expressed precisely and then also be measured and/or simulated? Can the concepts be operationalized and/or the hypothesized subroutines be (provisionally) formalized algorithmically?

Unlike biological mechanisms of communication, the communication of meaning cannot be observed without theorizing. How does an algorithmic understanding provide us with new semantics for reproducing the social system, for example, in a more sustainable way? At the end of the conference there was an offer by our colleagues from Berlin to organize a workshop in the near future. This next conference may provide us with an opportunity to bring other (research) traditions to the fore and to show how the systems theoretical approach is different and competent in addressing social issues, while competing in terms of the fruitfulness for the explanation.

Works Cited

- Bäcker, D., ed. 1999. *Problems of Form*. Stanford, CA: Stanford University Press.
- Dubois, D. M., ed. 1998. *Computing Anticipatory Systems: CASYS -- First International Conference*, AIP Conference Proceedings 437, American Institute of Physics, New York: Woodbury.

- Giddens, A. 1984. *The Constitution of Society*. Cambridge: Polity Press.
- Goguen, J. A., & F. J. Varela. 1979. "Systems and Distinctions: Duality and Complementarity." *International Journal of General Systems* 5, 31-43.
- Innis, H. A. 1950. *Empire and Communications*. Oxford: Clarendon Press.
- Leydesdorff, L. 2001. *A Sociological Theory of Communication: The Self-Organization of the Knowledge-Based Society*. Parkland, FL: Universal Publishers; at <<http://www.upublish.com/books/leydesdorff.htm>>.
- Leydesdorff, L., & D. Dubois. 2003. "Anticipation in Social Systems." International Conference on Computing Anticipatory Systems Casys'03, Liège, Belgium, August 2003; at <http://www.leydesdorff.net/casys03>.
- Luhmann, N. 1984. *Soziale Systeme. Grundriß einer allgemeinen Theorie*. Frankfurt a. M.: Suhrkamp.
- . 1997. *Die Gesellschaft Der Gesellschaft*. Frankfurt a. M.: Suhrkamp.
- . 2000. "Why does Society Describe Itself as Postmodern? In *Observing Complexity: Systems Theory and Postmodernity*. Edited by William Rasch and Cary Wolfe. Stanford: Stanford University Press, 35-50.
- Luhmann, N., H. Maturana, M. Namiki, V. Redder, & F. Varela. 1990. *Beobachter. Konvergenz Der Erkenntnistheorien?* München: Wilhelm Fink Verlag.
- Maturana, H. R., & F. Varela. 1980. *Autopoiesis and Cognition: The Realization of the Living*. Boston: Reidel.
- McLuhan, M. 1964. *Understanding Media: The Extension of Man*. New York: McGraw-Hill.
- Meyrowitz, J. 1994. "Medium Theory." In *Communication Theory Today*. Edited by D. Crowley & D. Mitchell. Stanford, CA: Stanford University Press, 50-77.
- Rosen, R. 1985. *Anticipatory Systems*. Oxford, etc.: Pergamon Press.
- Spencer-Brown, G. 1969. *The Laws of Form*. London: George Allen and Unwin
- Urry, J. 2000. *Sociology Beyond Societies: Mobilities for the Twenty-First Century*. London and New York: Routledge.
- Zelman, A. 2002. *Mediated Communication and the Evolving Science System: Mapping the Network Architecture of Knowledge Production*. Ph. D. Thesis, University of Amsterdam; at <http://www.rozenbergps.com/files/zelman.pdf>

3.2 THE LEGAL AND POLITICAL SOCIOLOGY OF NIKLAS LUHMANN

**Workshop held at The International Institute for the Sociology of Law, Oñati, Spain,
18-19 September, 2003**

Barry Gibson

The aims of this workshop were twofold; firstly, to explore Luhmann's ideas on law and politics in the context of his general social theory and secondly, to discuss the relevance and importance of these ideas for today's society. The workshop was initiated by Michael King and Chris Thornhill and hosted by The International Institute for the Sociology of Law (<http://www.iisj.es/webiisl.html>) which is located in the Old University (http://www.iisj.es/images/foto_univ.html) of Oñati (<http://www.iisj.es/aboutonati.html>). Needless to say that the surroundings and hospitality of the Institute were excellent. On arrival