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The Theory of Social Systems and Its Epistemology: Reply to Danilo Zolo's Critical Comments

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I

In his criticism of the epistemological premisses of my general theory of social systems, Danilo Zolo mostly refers to some essays I conceived in the sixties. These essays were written under the stimulus of a double irritation. On the one hand, I thought that empirical sociology had prematurely given up any attempt to construct a general theory of society. The influence of American sociology and the increasing precision and accuracy in satisfying severe methodological requirements made this renunciation virtually inevitable. However, this solution left a number of important needs for theoretical orientation unsolved. On the other hand, the only attempt to construct a general theory of society was Talcott Parsons' theory of the general system of social action. This attempt was too laden with problematic assumptions: I refer to the analysis of the concept of action, adopted by Parsons as a starting point for his theory; I also refer to Parsons' limitation of the validity of this theory to a merely analytical domain (this limitation raised a great deal of epistemological problems). Finally, I refer to his technique of cross-tabulation and to his rigid partition of analysis into four separated areas. Within such a context I felt the need for a theoretical and methodological reflection and I tried to fix some demarcations and theoretical distinctions. They have been to some extent superfluous and for some aspects excessive. This is the case, for instance, of my rejection of causal laws connected with the model of monofactorial theories.[1]

I have not modified the central concepts I defined in these essays. Here, notions, as system, function, meaning and complexity are conceived as recursively referring one to the other in a mutual interpretation. This procedure makes it possible to intertwine humanistic and technological traditions and promotes useful contacts with the major systems of the philosophical tradition. Nearly in the same period the General Systems Theory developed towards a theory of self-referential systems. By and large this unexpected development has confirmed my personal theoretical tendencies.[2]

In the course of the many years I devoted to the fundamental problems of a general theory of social systems I have more and more clearly realized that *general* theory is a very *specific* domain of research. That is to say, from a merely practical point of view, that one must use a great deal of scientific publications in a very selective attitude. Besides, it frequently happens that

1 Cf. M. L. Samuels, *Linguistic Evolution: With Special Reference to English*, Cambridge 1972, pp. 2ff.

2 Cf. N. Luhmann, *Paradigmawechsel in der Systemtheorie: Einführung*, in N. Luhmann, *Soziale Systeme*, Frankfurt am Main 1984, pp. 15-29.

research and its results turn out to be relevant from viewpoints which initially were not taken into account. That also means that both the development of empirical investigation and the construction of mathematically formalized theories imply supplementary methodological decisions and cannot be viewed as a theoretical *continuum*. Here some problems arise which contemporary philosophy of science would probably try to overcome by means of the theory of types or the multi-level analysis. I myself would be interested in reaching a higher level of complexity and transparency on this subject.

These problems arise especially when the general theory of social systems is conceived as a theory of self-referential relationships. In this case the circle or, according to Danilo Zolo's fitting formulation, the 'auto-logic' foundation becomes a central theoretical figure. That is to say that the theory of social systems looks at its *objects* from the viewpoint of self-reference, which has to be regarded as an internal feature of any social object.[3] Hence the theory of social systems is bound to apply self-reference *to itself*, since only the understanding of its own self-reference enables it to become the object of its own analysis, as one of the many objects of its own analysis. Accordingly, its *relationship with objects* becomes an aspect of its own self-reference, too. It is the social theory as object of the social theory which defines its own epistemology.[4] For a general theory of this kind, epistemology is anything but an *a priori* rule which can fix how science must work. On the contrary, epistemology, with its system of methodological rules, is a consequence of the specific self-referential approach to its object implied by social research. After all, this is a consequence which a consistent social science must apply to itself, too.

Consequently, like any other system, science must be viewed as a system closed by means of self-reference. Any operation of the system, whatever its meaning, always refers to the system as well. As it is well known, scientific knowledge can develop only within theoretical contexts which science itself defines and guarantees. This tautology cannot be avoided: it must be used and made fruitful from an operational point of view. Self-reference is a necessary theoretical tool for system analysis: in fact, without self-reference no system could be related to the environment.

The scientific theoretical tradition is full of different attempts to avoid a conception of this nature: from *certitude morale* or *common sense* to its opposite, the *transcendental conditions of experience*, and finally to the synthesis, i.e., the current concept of *Lebenswelt*. It is a sort of dialectical development which, however, proceeds in a wrong direction. *As an alternative* one could maintain, with Tarski, that it is necessary to disclose the tautology, namely to unfold its identity and replace it with symmetrical or asymmetrical differences.

With his 'second order cybernetics' Heinz von Foerster has argued against the absolute validity of categories as deduction and causality.[5] His self-reference

3 See, for instance, R. Glanville, 'The Same is Different', in M. Zeleny (ed.), *Autopoiesis: The Theory of Living Organization*, New York 1981, pp. 252-62.

4 See H. R. Maturana and F. J. Varela, *Autopoiesis and Cognition: The Realization of the Living*, Dordrecht 1980; in addition, H. R. Maturana, *Erkennen: Die Organisation und Verkörperung von Wirklichkeit*, Braunschweig 1982.

5 See H. von Foerster, 'Cybernetics of Cybernetics', in K. Krippendorff (ed.), *Communication and Control in Society*, New York 1979, pp. 5-8. Cf., in addition, H. von Foerster, 'Notes pour une épistémologie des objets vivants', in E. Morin and M. Piattelli Palmarini (eds.), *L'unité de l'homme*, Paris 1974, pp. 401-17; H. von Foerster, 'Kybernetik einer Erkenntnistheorie', in W. D. Keidel, Wl. Händler and M. Spreng (eds.), *Kybernetik und Bionik: Berichtswerk über den 5. Kongreß der Deutschen Gesellschaft für Kybernetik 1973*, München-Wien 1974, pp. 27-46.

principle—*I do not see what I do not see*—proves to be evident beyond deduction and causality. What is of importance here is the possibility of freeing self-reference from tautology. Equally important is *how* this result can be attained. Both deduction and causality are functions of the overcoming of tautology. They can transform undeterminable complexity into determinable complexity.[6] From the viewpoint of the reduction of complexity and the construction of structured complexity deduction and causality are functionally equivalent.

In somehow different terms one could also say that it is necessary to make asymmetrical the fundamental symmetry of self-reference, or, more precisely, that self-reference must make itself asymmetrical in order to become operationally fruitful. Temporal irreversibilities, system/environment relationships and even deduction, causality and dual schemata are forms of conversion of symmetry into asymmetry. They do not suppress the identity of the system. Rather, the system projects *itself* on the world of time, causalities, motivations, third persons, etc., in order to become operationally effective. The forms of the conversion into asymmetry are not created *ex nihilo*, they are not introduced in a 'decisionistic' way; they must prove to be valid in the world. However, today nobody would question that causality, semantics of duals, system-dependent temporal structures, many-valued logic are only contingently valid (i.e., they are neither impossible nor necessary) and that the extent and forms of their use change according to historical and cultural variables.

II

Danilo Zolo's critical remarks on the epistemology and methodology of functionalist systems theory may be considered right or wrong in accordance with one's opinion about the problem of the symmetry/asymmetry relationship. If the solution of this problem is taken for granted, we are within the context of normal science. In this case we use causal hypotheses or statistical procedures; we distinguish between dependent and independent variables; we accept the binary schema of classical logic and we overlook the question whether we are able to decide upon the truth of statements concerning a future naval battle. Obviously a research of this nature is not meaningless. The 'normal' researcher works with necessary technical tools of reduction of complexity. His theoretical premisses and practical tools may be always considered perfectible, but they cannot be thought of as totally wrong, nor be suddenly abandoned, nor left to the whim of discretionary choices. Epistemological problems are hardly important for practical research. Rather, the major problem arises from practical impossibility of taking full advantage of the possible (and expectable) methodological refining of scientific tools.

A general theory of social systems will never maintain that the procedures of normal science are a sort of huge mistake and that everything must be done in a totally different way. On the contrary, this theory will show that nothing can be done without overcoming tautology and reducing complexity.[7] What seems to worry Danilo Zolo is that in this way it would be necessary to give up any noncircular theoretical construction. But this is not the case. What is of importance here is only the form of the theoretical foundation. The general theory of social systems limits itself to convert usual *premisses* of scientific research into *functions*. In doing so this theory starts from very abstract problems. Some fitting formulations for this purpose are: indeterminate complexity, openness

6 Cf. N. Luhmann, *Funktion der Religion*, Frankfurt 1977.

7 I would suggest to interpret in the same way the famous 'anything goes' of Feyerabend's methodological anarchism.

towards the world of any meaning, tautology of self-reference, double contingency. There is the theoretical possibility of trying to intertwine these problems, to elaborate a cross-interpretation of their formulations and to gain a greater rational power for concepts which in isolation appear to be rather weak. The final goal is to submit any reduction of complexity to a systematic comparison with other, functionally equivalent possibilities.

I cannot deny that Danilo Zolo is right when he raises the question whether these abstract procedures can be fruitful. Obviously, I recognize that they are rather fruitless from a deductive point of view, since they imply a self-referential component. Nevertheless, they have an heuristic value, because they stimulate and define the search for other possibilities. If the function of the conversion of symmetry into asymmetry is assumed to be an unavoidable starting point, causality cannot be considered the necessary form for the solution of this problem. Nevertheless, the principle of causality, based on the laws of nature, cannot be arbitrarily substituted.

Even the philosophy of science, to the extent that it changes from 'transcendental' into a 'natural' epistemology, is inclined to accept an autonomous, self-referential foundation of knowledge by means of knowledge. If, for instance, cognitive research is conceived as behaviour directed to the solution of problems, then it is very easy to conclude that only solved problems can be considered unsolved problems, since this is the only way of accurately searching for different solutions to problems. Today difficulties arise particularly from the variety of competing theories which claim to be able to explain the natural processes of knowledge: from physicalist (materialist) theories, which surprisingly enough convince many philosophers,[8] to biological[9] and sociological theories. But it seems that the overcoming of transcendental philosophies of knowledge by a neonaturalistic conception of science necessarily implies the acceptance of self-reference. At least from the latter point of view these theories appear to be in agreement: after all, even the physical world creates its physicists in order to observe itself as an object different from any other.[10]

III

I want to stress here the importance of a general theory of social systems. Today I am strongly convinced that a general social theory, which claims to be valid for all social phenomena, is a specific domain of sociology totally neglected today. The amount of conceptual work which this kind of theory implies largely exceeds the usual standards of contemporary sociology. This theoretical goal will surely not be attained by means of new interpretations of the classics of sociology or the clarification of single concepts. The higher the number of concepts (for instance: self-reference, system, environment, complexity, contingency, action, communication, meaning, structure, conflict, time) the more numerous the problems of conceptual combination, and every choice correspondingly limits the possibility of introducing further specifications. The theory will not necessarily remain imprecise, but it cannot avoid a procedure of self-determination. This should not lead to a sort of theoretical narcissism. On the contrary, what obtains for its objects obtains for social theory, too: the self-referential closure can broaden the openness towards the environment.[11] All this

8 Cf. W. V. O. Quine, *The Roots of Reference*, La Salle, Ill. 1974.

9 See H. R. Maturana, op. cit.; and, in addition, R. Riedl, *Biologie der Erkenntnis: Die stammesgeschichtlichen Grundlagen der Vernunft*, Berlin 1981.

10 Cf. G. Spencer Brown, *Laws of Form*, New York 1972, p. 105 ('*in order to see itself*').

11 See E. Morin, *La Méthode*, vol. 1, Paris 1977 and vol. 2, Paris 1980, particularly vol. 1, pp. 197ff.

can be done by accurately constructing single concepts and by working them out in connection with contemporary research. The concept of meaning, for instance, can be connected with phenomenologic evidence. The concept of action cannot neglect the current research on attribution. The concept of time must take into account the historical change of the idea of time.

A general sociological theory could be viewed as an autonomous work of art. But first of all this theory is necessary in order to construct a theory of society. Today the concept of society, whatever its further specification, denotes a global system including everything that can be thought of as social. According to the old European tradition, totality was to be interpreted as completeness, with reference both to world and society. Today the systems theory does not agree with this interpretation: it substitutes self-reference for completeness. Whatever else it can be thought to be, society is always a system which includes its self-description and which accordingly defines its own identity.

These reflections introduce the specific form of theoretical work which is necessary to construct a general theory of society and to pose, in addition, the relevant question of values. Since we are confronted with a strongly ideological atmosphere, one is inclined to suppose that insisting on *Wertfreiheit* could be useful today. Nevertheless, *Wertfreiheit* cannot be interpreted as lack of values. Every practical procedure, including the elaboration of scientific theories, is selective in nature and therefore involves values. What can be done on this subject is to try to guarantee the independence of theory from values belonging to other functional systems, namely religion, aesthetics, politics, economics, pedagogy, etc. The best way to guarantee this independence does not consist in denying the connection between theories and values, but in exacting one's evaluative assumptions. (The denial of any connection between theories and values becomes rapidly suspect, since it is always rather easy to discover dissimulated values.)

Even the question of logical consistency of concepts involves values. Fitting concepts are preferred to the unfitting ones. This preference can be conceived like *l'art pour l'art*. But also the relationship between the general theory of social systems and the theory of society implies evaluations. If it is true that society can exist only as a self-referential and self-describing system, then sociology can feel the need to take part in the elaboration of an adequate self-description of society, i.e., in adequately communicating *on* society *within* society. Nobody would deny, I think, that current world society does not sufficiently know itself, and that so far it has not been able to elaborate an even remotely plausible self-description. All this primarily depends on problems of complexity. According to other analyses, the same opinion has been expressed in terms of loss of meaning. In fact, these are two different interpretations of the same problem, and they reflect the opposition between technology and humanism. In the face of this situation sociology can gain social value if, and to the extent that, it proves to be able to take part in an adequate self-description of society. Only starting from this theoretical perspective can one state the terms of more concrete problems, as for instance, the unequal distribution of welfare, ecology, social motivation and the danger of war arising from the multi-state structure of the political system of world society.

The latter is a good example in favour of the theoretical style we have recommended here. The thesis of a deficit of self-description by world society is a sociological thesis, i.e., a thesis which necessarily entails a theoretical choice. But the elaboration of this self-reference of the theory of self-reference and its correlates shows in addition that the circular figure is not an end in itself, but it is the expression of a concrete and very important problem. All this attributes

social value to the relevant theoretical work, yet without assigning to this problem any primacy or priority in comparison with other problems like famine, nuclear war, technological change. One can rightfully think that the self-description of the social system is an essential point (according to our theoretical approach this is quite a necessary conclusion). Yet people are inclined to overlook just what is essential.[12] However, we are undoubtedly confronted both with a difficulty and an engagement. The difficulty lies with the object itself: it consists in the antinomy between complexity and transparence (hence, no longer in Kant's antinomies, which disclosed only a contradiction inside the concept of world). After all, the engagement can be freely undertaken.

12 Cf. D. Henrich, *Fluchtlinien: Philosophische Essays*, Frankfurt 1982.