

THE CONCEPT OF SOCIETY

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I.

If one considers sciences such as biology, psychology or sociology from the distance of an uninvolved observer one might conclude that biology has to do with life, psychology with the soul or consciousness, and sociology with society. A closer look makes it apparent, however, that these disciplines have characteristic difficulties with concepts intended to designate the unity of their object. The concept of autopoiesis is addressed directly to this problem. It was originally introduced by Humberto Maturana with respect to life,¹ but it may well be applicable to consciousness and to society. It is, however, a concept which plays almost no role in the daily business of these disciplines, so that we are left with the question, why is there this particular problem of designating the unity of the object of these disciplines by a scientific concept.

It is therefore not surprising that sociology also has difficulties in designating the unity of its object. Should we say "social"? But the concept is too nice, too friendly, too warmhearted. What about the unsocial, crime, Durkheim's anomie? We could try the concept of society, and in fact what we find in other disciplines or in public discourse is the habit of counting sociology among the social sciences. But if one looks for a concept of society then the difficulties really begin. The word is used. One looks in vain, however, for a concept which designates the intended object with an accuracy sufficient for theoretical purposes.

Originally there may have been historical reasons for this abstention. When sociology started to organize itself as an academic discipline at the end of the last century the concept of society was already available but had been stamped by its own history and thus was problematic, even unusable some considered, for the purposes of the new discipline. Either the concept functioned as the component of a distinction: state and society or society and community, which caused what it was supposed to designate to disappear into the difference — or should I say into the fold? Or it was misused for political

ideas and consequently ideologically disputed. If one did not want to follow “formal sociology” by doing without the term completely, then it needed to be given precision against its own history. This, however, never really succeeded.

Well, those were the problems of our honoured classics. They are not ours. If sociology is still afraid of this hurdle there must be other reasons at work. It seems to me that we can speak of “obstacles épistémologiques” in exactly the sense Gaston Bachelard intended by this concept.² There are certain advantages in traditional expectations in relation to the concept which cannot be replaced (or only with difficulty, only in the context of a completely new paradigm).

I would like to indicate what I consider the three most important of these obstacles:

1. The first concerns the assumption that society consists of human beings or of relations between human beings. I call this the humanist prejudice. But how is it to be understood? Does society consist of arms and legs, thoughts and enzymes? Does the barber cut society’s hair? Does it sometimes need insulin? What kind of operation characterizes society if the chemistry of the cell is as much part of it as the alchemy of unconscious repression? Obviously the humanist deliberately clings to conceptual blurring. But then one must ask: why? The theorist becomes the patient himself.

2. The second prejudice which blocks conceptual development consists in the presumption of a territorial multiplicity of societies. China is one, Brazil another, Paraguay is one and so too then is Uruguay. All efforts at accurate delimitation have failed, whether they rely on state organization or on language, culture, tradition. Of course there are evident differences between living conditions in these territories but such differences have to be explained as differences within society and not presumed as differences between societies. Or does sociology want to let geography solve its central problem?

3. The third prejudice is of an epistemological nature. It is the result of the distinction between subject and object. The epistemology which was dominant into our century thought of subject and object (like thought and being, cognition and object) as separate and considered observation and description of the world *ab extra* as possible; indeed, cognition was only recognized as such when every circular interlocking with its object was avoided. Only subjects have the privilege of self-reference. Things are how they are.

Society, however, is quite evidently a self-describing object. Theories of society are theories in society about society. If this is epistemologically forbidden there can be no adequate concept of society. In other words: the concept of society has to be formed autologically. It must contain itself in itself. Outside of sociology this is a common occurrence. The concept of autologic — which is itself an autological concept — derives from linguistics. Names

like Wittgenstein or Heinz von Foerster, George Spencer Brown or Gotthard Günther testify to the currency of this insight. The linguistic turn in philosophy makes it inescapable. Equally Quine's call for a naturalized epistemology. Why then should sociology show itself resistant when its object makes its relevance particularly clear. Perhaps for this very reason! Perhaps sociology knows it too well — or too critically — to feel comfortable in it. If that is the case then sociology must be encouraged. It does not have to end in affirmation, consensus, conformism. On the contrary: the theological prototype of the observer of the system in the system is the Devil! Or Perseus, who decapitated Medusa with that ease and indirectness presented so beautifully by Italo Calvino in his *Lezioni Americane*.³

Trying to keep one's head above water by means of micro-empirical research is certainly not sufficient, nor is it sufficient, as in Frankfurt, to cultivate fear of contact, to persist in resolute resignation or to attack everyone who does not believe in the utopia of a normatively paid up rationality. The problem is rather a problem of theory design. Developments in interdisciplinary or transdisciplinary fields such as cognitive sciences or cybernetics, systems theory, evolution theory, information theory offer sufficient stimuli to make the attempt worthwhile.

II.

For this attempt I propose that we start from the concept of system. That does not say much yet, as this concept is used in very different senses. A first precision, which immediately leads to unfamiliar territory, consists of understanding system not as a particular type of *object* but as a particular distinction — namely that between system and environment. This has to be grasped exactly. To this end I take the conceptual scheme with which George Spencer Brown introduces his *Laws of Form*.⁴ A system is the form of a distinction, possesses therefore two sides: the system (as the inside of the form) and the environment (as the outside of the form). Only the *two* sides together constitute the distinction, constitute the form, constitute the concept. The environment is thus for this form just as important, just as indispensable as the system itself. As distinction the form is closed: "Distinction is perfect continence" in Spencer Brown's words.⁵ That is to say: everything which can be observed and described with this distinction belongs either to the system or to the environment. Certain peculiarities make themselves apparent. Does the unity of the system belong to the system or to the environment? And where do you find the boundary of the form? The boundary between system and environment separates the two sides of the form, marks the unity of the form and is for this reason not to be found on either side of the form. The boundary exists only as an instruction to cross it — whether from inside to outside or from outside to inside.

Let us put these difficult questions to one side for the moment. They cannot be dealt with on the level of development of a theory of such low complexity.

Instead let us take up the question of how form, of how the difference between system and environment is produced. The conceptual schema of Spencer Brown's calculus of form presupposes time, works with time, explains itself through time — similar to Hegel's logic.

Here I have chosen the concept of production (or poiesis as distinct from praxis) deliberately, since it presupposes distinction as form and asserts that a work can be produced even if the producer cannot produce all the necessary causes himself. This fits, as can readily be seen, the distinction between system and environment. The system disposes over internal and external causes for the production of its product, and it can use the internal causes in such a way that there results sufficient possibilities of combining external and internal causes.

The work which is produced, however, is the system itself or more exactly: the form of the system, the difference between system and environment. This is exactly what the concept of autopoiesis is intended to designate. It is explicitly set against a possible concept of autopraxis. It is not a question of self-satisfying activities like: smoking, swimming, chatting, reasoning. The concept of autopoiesis, then, necessarily leads on to the difficult and often misunderstood concept of the *operative closure of the system*. Applied to production it of course does not mean: causal isolation, autarchy, cognitive solipsism, as opponents have often supposed. It is rather the necessary consequence of the trivial (conceptually tautological) fact that no system can operate outside of its boundaries. This leads to the conclusion — which forms the first stage of a clarification of the concept of society — that we are dealing here (that is, if we want to use the form-concept of system) with an *operatively closed autopoietic system*.

On this level of abstraction it is not immediately clear what that means. It means that we have placed ourselves on the other side of those epistemological obstacles which appeared so problematic, since operative closure excludes human beings as well as countries from the system of society. And it includes instead operations of self-observation and of self-description. The humanists and geographers can draw comfort, however, from the fact that the environment is an indispensable component of the distinction. It belongs to the form of the system. Excluding human beings as living and conscious systems and countries with their geographic and demographic particularities from society does not mean that they are lost to theory. They simply are not to be found where they were previously thought to be — with disastrous consequences for the development of theory. They are to be found not in society but in its environment.

III.

The most important piece of work on the concept of society remains to be done. It is posed by the question: which is the operation which produces the system of society and, we must add, produces it from its products, that is, reproduces it?

It must be a precisely identified manner of operating. If, to be safe, one names many operations — such as thought and action, structure formation and processes — the desired unity disappears in the pallor and insipidity of “and”. (“Ands” should be forbidden in the technical requirements of theory construction.) We have to take risks in determining the manner of operation by which society produces and reproduces itself. Otherwise the concept loses all contours.

My proposal is that we make the concept of communication the basis and thereby switch sociological theory from the concept of action to the concept of system. This enables us to present the social system as an operatively closed system consisting only of its own operations, reproduced by communications from communications. With the concept of action external references can hardly be avoided. An action requires, since it must be attributed, reference to socially constituted complexes: a subject, an individual, for all practical purposes even a living body, that is, a place in space. Only with the help of the concept of communication can we think of a social system as an autopoietic system, which consists only of elements, namely communications, which produce and reproduce it through the network of precisely these elements, that is, through communication.

The theoretical decisions for a conception of society as an autopoietic system and for the characterization of the operation which reproduces the system as communication thus belong together. They are mutually conditioning. This means in turn that the concept of communication becomes a decisive factor in determining the concept of society. According to the way communication is defined, so too is society — definition understood here in the exact sense of the determination of boundaries. In other words, theory construction must be carried out with two eyes, one directed to the concept of society, the other to the concept of communication. Only thus does it gain the necessary sharpness of focus.

The concept of communication is already altered by this constellation. One cannot reduce it to communicative action and register the participation of others, either as mere effect of this action or as normative implication in Habermas’s sense. Nor can communication be comprehended as transmission of information from one place to another. Such conceptions presuppose in one form or another carriers of the events, who are not themselves constituted by communication. The combination systems theory/communications theory requires on the contrary a concept of communication which allows us to say

that all communication is produced only by communication — of course in an environment which enables and tolerates it.

Here we can utilize a distinction going back to antiquity and customary since Karl Bühler. I reformulate it as the distinction between information, communicative act (*Mitteilung*) and understanding. A communication only comes about when these three aspects can be synthesized. As opposed to simple perceptions of behaviour, understanding must be based on a distinction between the communicative act and information. This is our starting point. Without such a primary distinction no communication can come about. If this precondition is satisfied, and that is necessarily the case with the use of language, further communication can occupy itself with itself. It is now, and only now, rich and complex enough for that. It can occupy itself with the information or with the reasons why just this is said here and now; or with the difficulties of understanding the meaning of the communication or finally with the next step: whether the proffered meaning is to be accepted or rejected. The distinction between information, communicative act and understanding is therefore a distinction which produces distinctions, which, once made, keep the system going. And communication is nothing other than that operation which comes out of such transformation of distinctions into distinctions.

It is important to bear in mind that the individual communicative event is completed by understanding. This does not yet decide the question, whether what is understood forms the basis of further communication or not. That may be the case — or not. Communications can be accepted or rejected. Any other conception would have the absurd consequence that rejected communications were not actually communications. This is the reason why it is false to impute to communications an inherent, quasi teleological tendency to consensus. If that were the case, everything would already have been over long ago and the world as silent as it once was. Communication, however, does not exhaust itself, it produces rather, by means of self-provocation as it were, at every step a bifurcation of acceptance and rejection. Every communicative event closes and opens the system. And only thanks to this bifurcation can there also be history, whose course depends on which path is taken: the yes-path or the no-path.

IV.

If this concept of communication is accepted, then all the customary epistemological obstacles of customary social theory are dissolved in one go; and their place is taken by problems which are better suited to theoretically informed scientific research.

On this basis it is clear that concrete human beings are not a part of society but a part of its environment. Equally it would make little sense to say that society consists of “relations” between human beings. The concept

of communication contains a very much more precise proposal (and possibly reconstructs what normal sociologists mean when they speak of “relations”). It is not sufficient for instance that someone sees or hears someone else — unless he observes his behaviour with the aid of the distinction between information and communicative act. To speak or write about somebody is not sufficient to establish this relation to him as a social relation. Only communication itself is a social operation.

The concept of territorial boundaries is equally dispensable and with it the assumption of a multiplicity of regional societies. The meaning that space and boundaries have in space arises from their communicative use but communication itself does not have a place-in-space. It may be dependent through its material substratum on spatial conditions. But whereas spatial conditions are one of the most important, even the only means of expression of social order for animal societies, the significance of spatial conditions for the evolution of socio-cultural society has diminished as a result of language, writing, telecommunications to such an extent that we must assume that in present conditions communication determines the remaining meaning of space and not inversely that space enables and limits the possibility of communication.

Finally, the concept of communication brings out clearly that society is a self-observing and a self-describing system. Even simple communication is only possible in a recursive network of earlier and later communications. Such a network can become its own theme, can inform itself about its own communication, can doubt information, refuse acceptance, give norms to reliable or non-reliable information etc. — as long as this occurs in the operative form of communication. This makes a double state of affairs evident: that society is a self-observing and describing system and that it can use its own manner of operation and must use it in order to carry out such self-referential operations. And this applies also to science and also to sociology. All communications about society are conditioned by society. There is no external observer with any even partially adequate competence. Although, of course, each individual consciousness can think about what it considers society to be, each immune system can observe itself with respect to illnesses which only arise on the basis of the social life of human beings etc.

We can now determine the concept of society as an intermediary result. Society is the comprehensive system of all communications, which reproduce themselves autopoietically through the recursive network of communications which produce new (and always other) communications. The emergence of such a system includes communications, since they are only internally capable of continuation. And it excludes everything else. The reproduction of such a system thus requires the capacity to discriminate between system and environment. Communications can recognize communications and distinguish them from other states of affairs, which belong to the environment in the sense that one can certainly communicate about them but not with them.

This leads to the question: what changes when we use this concept? What becomes visible or invisible if we observe with the aid of the form thereby given? Or even, if I may employ a formulation from Italo Calvino's *Lezioni Americane*: does this concept offer us access "alla totalità del dicibile e del non dicibile"?⁶

To start, we lose the possibility of making statements about "man" (in the singular). This appears to discomfort many. But if it is the case that "man" has only been with us since the 18th century, there are good reasons for saying: forget it! He belongs to an age of transition in which it was not yet possible to describe modern society adequately, and where instead one had to take refuge in illusions about the future in order to preserve the hope of an improvable unity by means of the semantic association of "society", "the future" and "man". This projection of an imaginary man (or even worse, of an image of man) had to give up determining man through his difference to minerals, plants and animals. It presented itself as a concept without a counter concept, that is to say: with the high probability of a moral burden through the distinction good men/bad men.

If this can be sacrificed — with a light or a heavy heart according to the strength of the need to be good: what has been gained by proposing instead a differential concept, that is, a form of the concept of society which compels us to distribute everything between system and environment and to avoid statements about the unity of the difference?

I want to discuss this question with reference to three examples — language, the relation between individual and society, and rationality.

V.

As regards language, a system-theoretical concept of society suggests that we give up the notion that language is a system. However much linguists in the wake of Saussure cling to this notion because it appears to ensure the academic self-sufficiency of their discipline, one can hardly comprehend both language and society as system. The degree of overlap would be too great without leading to a congruence of the concepts, since there is also non-linguistic communication. The relation between the two systems would remain unclear. Linguists, of course, can take pleasure in the thought that they are not sociologists. The differentiation of disciplines is not, however, a sufficient answer to such questions of substance.

If the concept of system is no longer to be applied to language, this, of course, does not mean that the phenomenon of language loses significance. The contrary is true. The empty place in theory can be filled in a different way with the aid of the concept of structural coupling. This concept was introduced by Humberto Maturana⁷ and its purpose is to designate how operatively closed autopoietic systems can maintain themselves in an environment, which on the

one hand is the precondition of the autopoiesis of the system but on the other does not intervene in this autopoiesis. The problem, which is solved by this concept, consists in this, that the system can only be determined through its own structures and indeed only through structures which it constructs and can alter through its own operations; at the same time it cannot be disputed that this kind of operative autonomy presupposes a cooperation, an accommodation on the part of the environment. Life does not exist in just any physical or chemical environmental conditions, even if the world cannot determine where the hare runs. As Maturana puts it, structural couplings stand in an orthogonal relation to the autopoiesis of the system. They contribute no operations with the capacity to reproduce the system itself that is to say in our case: no communications. They stimulate the system, however, to irritations, they disturb the system in a manner which is then given an internal form with which the system can work. We could think here of Piaget's conceptual pair assimilation/accommodation or also of the way in which functionalist psychology speaks of generalized expectations and disappointment of expectations.

Applied to communication, we can say with the help of this concept that as a result of its striking characteristics language serves the structural coupling of communication and consciousness. Language keeps communication and consciousness, hence also society and individual, separate. A thought can never *be* communication just as communication can never be a thought. In the recursive network of its own operations communication always has different preceding and following events to the sequence in the field of attention of an individual consciousness. There is no overlap on the operative level. We are dealing with two different operatively closed systems. What is decisive is that *despite this* language is able to couple the systems and precisely in their *different* manner of operation. Language achieves this through its artificial noticeability in the acoustic medium of noises and then in the optical medium of written signs. It can fascinate and centre consciousness and at the same time reproduce communication. Accordingly its function does not lie in the mediation of references to the external world but solely in structural coupling.

This, however, is only the one side of its achievement. Like all structural couplings language has an inclusive and an exclusive effect. It increases the irritability of consciousness through communication and the irritability of society through consciousness, which transforms internal states into language and into understanding or non-understanding. This means at the same time that *other* sources of irritation are *excluded* for the system of society, that is, language isolates society from almost all environmental events of a physical, chemical or living nature with the sole exception of irritation through impulses of consciousness. Just as the brain is almost completely isolated from everything that occurs in the environment by the extremely small physical capacity for resonance of eye and ear, so too the system of society is almost completely isolated from everything that occurs in the world — with a small range of stimuli which

are channelled through consciousness. What applies to the brain also applies to society: this almost complete isolation is the condition of operative closure with the possibility of the construction of high internal complexity.

VI.

These reflections already take us into the vicinity of the question of the relation between individual and society. Let me first recall the corresponding epistemological obstacle: sociology cannot really comprehend the individual as part of society but it cannot separate itself from this notion. Sociology has been wrestling with this problem ever since it became an academic discipline. By contrast the concept of society presented here proceeds from a complete separation of individual and society. And my thesis is that on this basis a theoretical programme is possible which takes the individual seriously.

To put it in the harshest form: the "participation" of the individual in society is excluded. There is no communication between individual and society, since communication is always an internal operation of the social system. Society can never reach beyond itself with its own operations and take hold of the individual; it can only reproduce with its own operations its own operations. Society cannot operate outside its own boundaries — that ought to be easily understandable (but why is it not accepted?). The same applies in turn for life and the individual consciousness. Here too the system-reproducing operations remain in the system. No thought can leave the consciousness which it reproduces. And should not we add: fortunately? For what would happen and how would I be able to develop individuality if *others* with *their* thoughts could move *mine*? And how are we to imagine society as the hypnosis of all by all?

Of course it is possible for the individual to have his own conception of society. And above all it is possible for communication to use persons as addressees and as themes. But then we should speak of persons in the strict ancient sense and not of individuals (human beings, consciousness, subjects, etc.). The names and forenames used in communication have not the least similarity with what they designate. Nobody is "I". As little as the word apple is an apple.

Taking individuality seriously means: comprehending individuals as the product of their own activity, as self-referential historical machines, which determine with each auto-operation the starting condition for further operations and are able to do this *only* through their *own* operations.

There is thus no normative integration of individuals into society. There are, in other words, no norms from which one can diverge if one wants to. And there is no consensus, if that is understood to mean that the empirical circumstances, in which individuals find themselves, somehow concur. There are only corresponding observational schemata in which an observer self-determines the observation that behaviour agrees or diverges from a norm. And this

observer can also be a communicating system — a court, the mass media, etc. If we want to ask what the basis in reality of norms or of imputed consensus is, then we must observe an observer; and if we give up accepting God as the observer of the world, then there are several other possibilities.

Only if one accepts the theory in all its radicality is it possible to see what the complementary concept of structural coupling achieves. It explains why despite this operative closure things do not occur randomly in the world. Structural couplings ensure the cumulation of certain, and the exclusion of other, irritations. From this there arise trends in the self-determination of structures which depend on the particular irritations with which they have to deal. Organisms are adapted to the gravitational pull of the earth, often in a quite specific fashion. A whale crushes its own internal organs through its pure weight if it is not in water but beached. A human child, which is constantly exposed to the strange sounds which function as speech, learns to speak. Every society socializes individuals on the other side of its structural couplings, and as society, it is exactly adjusted to doing this. Language is binarily coded with the possibility of divergent behaviour. Society places in this fashion (completely uncontrollable) individuals in an optional schema. It concedes as freedom what it cannot in any case alter; and this in such a sharply schematized form that communication about yes and no, about conforming or non-conforming behaviour can be continued however the individual decides. We recognize here in evolutionary terms extremely improbable, highly selective arrangements: the separation and connection of systems, of freedom and order.

VII.

Freedom and order — they were the terms of the problem (or the “variables”) of the last convincing concept of rationality brought forth by Europe. The liberal credo could be formulated in a manner akin to Leibniz: as much freedom as possible with as much order as necessary. Since then there have only been products of disintegration, whether in the form of distinguishing several concepts of rationality without determining rationality as such (Weber, Habermas), whether in the form of the distinction between rationality and irrationality which acknowledges the justification of both sides of the distinction — but again: without indicating what is the nature of the assertion of this distinction; or to put it differently, what is designated by its form. To this corresponds the evaporation of the concept of reason: a quality of living human creatures has become an only approximately attainable — in the literal sense — utopian ideal.

It is not readily apparent whether a systems-theoretical concept of society could help us to escape this dilemma at all or how. In any case there is no way back to the old European rational continuum of being and thought or of nature and action, whereby rationality lay exactly in the convergence

of the two sides, that is, thought corresponded in its own fashion to being or action in its own fashion to nature. All the same we note in distinctions such as being/thought and nature/action a peculiar asymmetry which seems to conceal, from a present perspective, the structure of rationality. If we are to assume that thought should correspond *in its own being* to being and action *in its own nature* to nature, then it is clear that the distinction appears again on one of its two sides in thought or in action. George Spencer Brown calls the operation, which realizes such a structure, a re-entry of form in the form — or the re-entry of the distinction in what it has distinguished.⁸ The context of the calculus of form, in which this occurs, suggests we should think of the dissolution of a paradox, namely the paradox of the use of a distinction which cannot distinguish itself. Whatever the case, with the help of this active (but not violent) interpretation of the old European conceptuality of rationality we can pose the question, whether it must remain tied to anthropological (or humanistic) concepts like thought and action or whether we cannot at least detach the figure of re-entry. This is a step which is easy for systems theory since it determines the form of the system through the (asymmetrical) distinction between system and environment.

Such re-entry is inescapable not only for systems of consciousness but also for the system of society. The operatively accomplished differentiation between system and environment returns in the system as the distinction between self-reference and external reference. Communication can only occur if the system avoids confusion between its own operation and about what is communicated. The communicative act and information must be distinguished and remain distinct, otherwise no communication will occur. The system operates by means of the continual reproduction of the difference between self-reference and external reference. That *is* its autopoiesis. That alone ensures its operative closure. Correspondingly, consciousness externalizes continually and in each operation what its brain, the organ of self-observation of the states of its organism, suggests. Consciousness *must* equally distinguish continually between self-reference and external reference and observe itself-in-distinction-from-the-environment by means of this distinction. Precisely because operative interventions in the environment are impossible, self-observation by means of this distinction is the compelling condition of the autopoiesis of the system; and this applies as much to society as to consciousness.

If we are looking for a conceptuality which would replace the cosmological rationality of the old world, this is where we should have to start. The result, however, would be an operatively induced “as it is”-rationality, quite unideal and without an option for non-rational operations. It would amount to no more than the continual internally reproduced double orientation to what the system identifies as itself and as environment. This would be the rationality of a first order observer. We only arrive at a more demanding conceptuality on the level of second order observation. This presupposes that the system observes

itself during the execution of re-entry. It must accordingly take the distinction self-reference/external reference as its basis and carry this distinction over into its self-reference. It must be clearly aware not only that the differentiation of the system from the rest of the world (which then becomes environment) is accomplished through its own operations and could not come about without this Münchhausen-like self-activity. It must also be aware that the distinction between self-reference and external reference, which is thereby made possible, is a distinction of its own and requires operations of its own. The difference self-reference/external reference re-enters into what it has distinguished. It is the difference through which the system assures its own unity. With this insight the world becomes a construction, whichever distinction forms it. Indisputably the world is now reality, since the distinguishing and constructing operations have already been accomplished; and indisputably the world is now construction, for without a splitting through a distinction, which can be applied in very different ways (different for each system), there would be nothing to see. We thus find ourselves in a situation, which philosophers like Fichte and Derrida have used in order to drive philosophy to despair. If we want to see ourselves as successors to the old European conceptuality, rationality can only be comprehended from this situation. But how?

The best known way out is: to insist on an external reference. Or, what amounts to the same thing: to switch to meta-levels. We can adduce Russell, Tarski, Gödel here. Fundamentally, however, that is still thinking in terms of a theology of grace. As far as I can see, as a non-philosopher, even more exact analysis of the so-called problem of reference has only decomposed this problem. Think only of Quine's critique of logical empiricism and its assumption that reference, truth and meaning (*ens et verum et bonum?*) converge. We have already drawn the conclusion: the *problem of reference* must be replaced by the *distinction* between self-reference and external reference — by a distinction, which, like enzymes in cells, is at the same time product and code of the corresponding operations of the system. All the same, if we conceive of society as that system which is above all confronted with expectations of rationality, then the way out through externalizing or through meta-levels (Gödelization) is anyway unusable. For where would there be a higher level or an external world which could have a redemptive or conditioning effect?⁹

Does this lead to the conclusion that society finally is that system against which all rationality has to prove itself rational?

I must content myself with posing this question and, as at an auction, wait for other offers.

Notes

1. See Humberto R. Maturana, *Erkennen: Die Organisation und Verkörperung von Wirklichkeit* (Braunschweig, 1982).
2. Gaston Bachelard, *Le formation de l'esprit scientifique: Contribution à une psycho-analyse de la connaissance objective* (Paris, 1938).
3. Italo Calvino, *Lezioni Americane* (Milan, 1988), p. 6 ff.
4. George Spencer Brown, *Laws of Form* (1969) (New York, 1979).
5. Brown, *Laws of Form*, p. 1.
6. Calvino, *Lezioni Americane*, p. 72. cf. also Niklas Luhmann and Peter Fuchs, *Reden und Schweigen* (Frankfurt, 1989).
7. The "human kind" of the 18th century still had this meaning, whereas "humankind" according to the directives of American copy editors serves today to avoid the "sexist" expression "mankind".
8. Maturana, *Erkennen*, pp. 143 ff., 243 ff.
9. See Brown, *Laws of Form*, pp. 56 ff., 69 ff.
10. Jean-François Lyotard once conjectured (orally) that there could not finally be any environment for systems theory. I must admit that this conjecture applies at this point of the text. But at the same time it should be clear that this does not end up in a solipsistic position, rather it is the result of the fact that the real difference between system and environment remains the undisputed starting point.