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The Paradox of Observing Systems

Niklas Luhmann

I

In spite of several attempts, it is still difficult to submit formal sciences such as logic or mathematics to a sociological analysis. Such an analysis would entail discovering empirical correlations between specific social conditions and specific formal structures. Both the conditions and the structures would then have to be treated as variables whose “values” would appear as contingent, despite their claims to be “natural” (as society) or necessary (as the principles, axioms, and rules of logic). One would have to assert that the natural is artificial because it is produced by society and that the necessary is contingent because under different conditions it may have to accept different forms. These are paradoxical statements, but we need them when we have to distinguish different observers from each other or when we have to distinguish self-observations from external observation, because for the self-observer things may appear as natural and necessary, whereas when seen from the outside they may appear artificial and contingent (see Löfgren, “Towards System”). The world thus variously

observed remains, nevertheless, the same world, and therefore we have a paradox. An observer, then, is supposed to decide whether something is natural or artificial, necessary or contingent. But who can observe the observer (as necessary for this decision) and the decision (as contingent for the observer)? The observer may refuse to make this decision, but can the observer observe without making this decision or would the observer have to withdraw, when refusing this decision, to the position of a non-observing observer?

All this does not affect the self-claimed validity of logic or mathematics; and we may find comfort with Dr. Johnson: "When speculation has done its worst, two and two still make four" (114). We may, however, pursue a less trivial, a less commonsensical interest and continue to ask: Who says it? Who is the observer?

II

Paradox was invented—that is, discovered—more than two thousand years ago, at the beginning of serious experiments with second-order observing.¹ Since that time we find two different, even contradictory uses, the one logical, the other rhetorical. The logical tradition tries to suppress the paradox. It exploits the ontological distinction of being and non-being to say that only being exists according to its own distinctions, above all: *hypokeimenon/symbekos*. The observer can make true and false statements and can correct him- or herself (or be corrected by others) because being is what it is (not *as* it is, as we probably would say). Being is framed by such secondary distinctions (or categories) *and not by its distinction from non-being*. Being does not need to be distinguished from, or to exclude, non-being to be itself. It simply *is*, by itself (nature) or by way of creation. Disregarding this structure of ontological metaphysics, it has been claimed, would lead cognition the wrong way. It would end with paradoxes and destroy the telos of thinking. The appearance of unacceptable self-contradictions at the other side of the ontological scheme is then said to prove ontology as metaphysics. Thinking has to stay on the right path and avoid paradoxes.

The rhetorical tradition that invented the term² introduced paradoxical statements to enlarge the frames of received opin-

ions—therefore “para-doxa”—to prepare the ground for innovation and/or for the acceptance of suggested decisions. At first sight, this seems to be a completely different notion, and the collection of examples of rhetorical paradoxes hardly ever demonstrate logical contradictions (see, for instance, Lando, *Paradossi*). After the introduction of the printing press such collections were in fact recommended and sold as amusing jokes. “They are only but exercise of wit,” Anthony Munday excuses himself, sending his book on paradoxes to the King,³ and Ortensio Lando adds to his book on paradoxes a second publication trying to extinguish the fire (Lando, *Confutatione*). But why do we communicate paradoxes in the first place if we are not supposed to take them seriously?

The conventional answer seems to be—exercise of wit.⁴ This may be good advertisement for selling books, but it is not the whole truth. When we go back to the traditional definition of paradoxes as going beyond the limits of common sense,⁵ the immediate intention seems to be to deframe and reframe the frame of normal thinking, the frame of common sense. The communication of paradoxes fixes attention on the frames of common sense, frames that normally go unattended. If this is the function, then it will not surprise us that deframing again needs its own frames. Therefore, we find comments on paradoxes in prefaces, in letters of dedications, in other books, or at the end of the text (as in Erasmus’s *Praise of Folly*), and it seems to require other texts to frame the deframing, to look at it from the outside and to lead back to common sense—it is only an exercise of wit.

But cancellation can hardly be the whole meaning of the operation, for it could not explain Shakespeare’s theater with its elaborate use of paradoxes and frames within frames, or Plato’s cave as a stage for the shadows of ideas to appear, that is, as a frame for these shadows. And the cave is also itself framed by Plato’s theory of ideas and of the ways we are able to remember them, which explains that in daily life we only use the cave-frame and need not, indeed cannot, reflect the double closure of the frames.

The interest in paradoxes emerging in the 16th century directs attention to the frames of common sense. It seems, when we are allowed to appeal to a further frame, to indicate the appearance, the coming on the stage, of a new historical interest, the interest in frames as frames or in limits as parts of a form that are

neither inside nor outside but in a certain sense nowhere or “nothing” (Da Vinci 73). If paradoxes are teleological operations aiming at a perfect state, then this state could be described as enriched common sense. However, it may be more rewarding to ask whether the assumption of a natural end is adequate or whether we are not observing a discovery that, like Kant’s final cause without finality, is inherently paradoxical.⁶ The rhetorical paradox, then, may be an autological operation, infecting itself with whatever is a paradox.

During the 18th century rhetoric lost its traditional reputation, partly because of the spread of literacy, partly because the hierarchical structure of the estates of society was replaced by a class structure. The rhetorical figure of the paradox that was still in use was definitely seen as frivolous play and as insolence (see Bernard, Morellet, and Schkommodau). And finally, during the 19th and 20th centuries, with the increasing development of formalism in mathematics and logic, and with the increasing interrelation of logic and mathematics (e.g., Cantor, Frege, Russell), paradox was treated as something to be avoided by all means, be it by simple interdiction or by constructing “hierarchies” of types or levels and presenting them as logical or linguistic necessity. However, if we maintain an interest in frames, we may well describe such hierarchical distinctions as frames, this time not of commonsensical opinions but of logical operations, and revive the curiosity of the 16th century to see what would happen if we deframe these frames. In such a revival of 16th-century curiosity, we will receive the support of systems therapists who say that everyday communication cannot but confuse these levels and reproduce paradoxical communication,⁷ and we will receive the support of Gödel who would say that one cannot cleanly separate (and I would like to add: in communication) the statement about numbers from the statement about statements about numbers.

If at the end of this history, observing frames is a serious consideration, does it then make any sense to maintain the traditional distinction between the logical interdiction and the rhetorical recommendation of paradoxes? Or is this double tradition but another sign for the inherent paradoxicality of the paradox?

III

We began our investigation by asking how a sociology of knowledge can include among its objects formal sciences such as logic and mathematics. We now have to answer the question: How is it possible to observe frames? Whatever difficulties may emerge during this investigation, we will certainly need a medium that is the same on both sides of the frame, on its inside and on its outside. I propose to call this medium *meaning*, and thereby exclude two other possibilities—the world and truth. The world, as an unqualifiable entity, an entity without information, seems to be too large. Truth, on the other hand, is too narrow because it itself serves as a frame, as the inner side of a form whose outside would be everything that is not true. But what then is meaning?

If we want to observe paradoxical communications as deframing and reframing, deconstructing and reconstructing operations,⁸ we need a concept of meaning that does not prevent or restrict the range of such operations. “Meaning” cannot be understood as the result of obedience to the methodological instructions of the Viennese school of “logical empiricism” which would exclude metaphysics and much more as “meaningless,”⁹ nor can it be understood in relation to the subjective aspiration of individuals and what seems meaningful to them and for them (see Hahn). Such definitions of meaning exclude unmarked possibilities and are valid only within their methodological or subjective frames. They are, that is, deframable (deconstructable) meanings and do not fulfill the requirements of a medium that gives access to *both* sides of *any* frame.

To avoid such limitations we need a concept of meaning that is (for systems that can use meaning as a medium) coextensive with the world. Meaning in this sense will have no outside, no antonym, no negative form. It knows, of course, negative meanings, even artificially constructed non-sense meanings (non-sense poems for example), but every possible use of this medium called “meaning” will itself reproduce meaning, and even an attempt to cross the boundary of meaning into an unmarked space will be a meaningful operation. (The unmarked space has, for this purpose, the name “unmarked space.”)

With reference to Husserl’s transcendental phenomenology

we can conceive of meaning as the simultaneous presentation (in Husserl's terms, intention) of actuality and possibility (Luhmann, *Soziale Systeme* 92ff). The actual is given within a "horizon" of further possibilities. Since operationally closed systems consist of operations only and have to renew them from moment to moment, they can maintain their self-reproduction only by continuously actualizing new meaning. This requires selection from many possibilities and, therefore, will appear as information. The internal dynamics of communication (in the case of social systems) and living experience ("Erleben" in the case of psychic systems) is only possible because, strangely enough, actual operations are also possible operations. The distinction actual/possible is a form that "re-enters" itself (see Spencer Brown and Kauffman). On one side of the distinction, the actual, the distinction actual/possible reappears; it is copied into itself so that the system may have the sense of being able to continue actual operations in spite of an increasing change of themes, impressions, intentions.

If we observe such a re-entry, we see a paradox. The re-entering distinction is the same, and it is not the same. But the paradox does not prevent the operations of the system. On the contrary, it is the condition of their possibility because their auto-poiesis requires *continuing* actuality with *different* operations, *actualizing different possibilities*.

That psychic and social systems are *based* on a re-entry has dramatic consequences. From a purely mathematical point of view (following Spencer Brown), it means (1) creating an imaginary space that includes unmarked states and makes it possible to introduce expressions of ignorance, and (2) producing a system with unresolvable indeterminacy—the system becomes incalculable and therefore intransparent to itself. Furthermore, (3) the system nevertheless has to start every operation from a historical state that is its own product (the input of its own output) and needs a memory function to distinguish forgetting from remembering, and (4) it has to face its future as a succession of marked and unmarked states or self-referential and hetero-referential indications. It needs, in other words, to be prepared for oscillating between the two sides of its distinctions. An oscillating system can preserve the undecidability of whether something is inside or outside a form. It can preserve and reproduce itself as a form, that is, as an entity

with a boundary, with an inside and an outside, and it can prevent both sides from collapsing into the other. A self-referential system that continually regenerates its re-entry will be, in Heinz von Foerster's terms, a non-trivial machine, structurally determined by its own output and therefore *unreliable* ("Principles" 8 ff.).

A system that is bound to use the meaning as a medium constitutes an endless but complete world in which everything has meaning, in which everything gives many cues for subsequent operations and thereby sustains autopoiesis, the self-reproduction of the system out of its own products. To see (and we will say: to observe) possibilities and to use meaning as a medium, the system will use the distinction of medium and form.¹⁰ Medium within this distinction means a loose coupling of possibilities without regard to actual happenings, and form means tight couplings that construct the form, for example a thing, with an outside. Again, the medium is inside and outside, but the attention of the system has limitations and observes only forms. Forms are actualized in time, just for a moment, but since the system has memory it can reactualize well-tried forms and direct its operations from form to form, thereby reproducing the medium. The distinction medium/form serves as a frame without outside, as an internal frame that includes, via re-entry, its own outside.

IV

Now we are sufficiently prepared to observe the observer, to enter the circle of "observing systems" (in the double sense of von Foerster's *Observing Systems*). As with so many other terms, the expression observing/observer has to be adapted to this theoretical context. It does not only mean attentive sensual perception, though it does not exclude this particular definition. In more recent literature, initiated by George Spencer Brown, Humberto Maturana, and Heinz von Foerster, the term corresponds to the autopoietic self-reproduction of systems, to the operation of re-entry, and to the oscillation between marked and unmarked states, to the inside and the outside of forms and self-referential and hetero-referential indications (see Luhmann et al.). Observing means making a distinction and indicating one side (and not the other side) of the distinction.

The other side can be left completely unmarked—say, Bloomington and nothing else. But normally our indications will frame our observations with the effect that the other side implicitly will receive a corresponding specification—say, Bloomington and no other city, the university in Bloomington and no other university. In this case the indication implies a double boundary, the inner boundary of the frame “cities,” “universities,” and the boundary of this frame that excludes animals, numbers, fine wines, and everything else, i.e., the unmarked space. Our next operation may cross the boundary that separates Bloomington from its unmarked state and may select another frame. For example, we may ask whether it would be possible to find fine wines in Bloomington, and this would lead us to look for a further frame—say, restaurants or shops. One will thereby be led to places where one can find fine wines. Proceeding in this way from frame to frame or from form to form will, by necessity, reproduce the unmarked space (see Meyer). It will maintain the world as severed by distinctions, frames, and forms *and maintained by its severance*. “We may take it,” to quote Spencer Brown, “that the world undoubtedly is itself (i.e. is indistinct from itself), but, in any attempt to see itself as an object, it must, equally undoubtedly, act so as to make itself distinct from, and therefore false to, itself. In this condition it will always partially elude itself” (105). This partiality precludes any possibility of representation or mimesis and any “holistic” theory. It is not sufficient to say that a part is able to express or to symbolize the whole. The miracle of symbolization, the marvelous, that which has been most admired by our tradition, has to be replaced by a difference that, when observed, always regenerates the unobservable.

The operation of observing, therefore, includes the exclusion of the unobservable, including, moreover, the unobservable par excellence, observation itself, the observer-in-operation. The place of the observer is the unmarked state out of which it crosses a boundary to draw a distinction and in which it finds itself indistinguishable from anything else. As such, the observer as a system can be indicated, but only by way of a further distinction, another form, a frame, for example, that makes it possible to distinguish one observer from others or psychic observing systems from social observing systems. We arrive, then, at the autological conclusion that the observing of observers and even the operation of self-

observation is itself simply observation in the usual sense—that is, making a distinction to indicate one side and not the others.¹¹ And this again can only happen in the world and by severing the unmarked space, crossing the boundary that thereby comes into existence as a boundary separating a marked from what now can be marked as “unmarked” space. We resist the temptation to call this creation.

V

It is by no means necessary to conceptualize this situation of meaning-producing operations. To clarify the world or to indicate the unmarked space as unmarked is neither a requirement of daily life nor of autopoietic reproduction. To elaborate on its self-description remains one of the possibilities an observer sees and can, if required, actualize. But even then, it will just change its frame, cross the boundary between self-reference and hetero-reference; it will mark itself as a thing among others or as an observer among others. Switching frames, proceeding from form to form is the normal way of observing operations, and the “self” of the system can appear and disappear as suggested by circumstances. Language may make the speaker more visible if it is required to say “I love” and not simply “amo.” For social systems the emergence of organizations that can communicate in their own name makes all the difference. No other social system can do that, no society, no societal subsystem, no interaction. If the “estates” of the old European society wanted to have a voice, they formed a corporation (“*Standschaft*” in Germany), and if the economy wants to have a voice in political affairs, it sends representatives of its organizations. Nations have names, but to be able to participate in communication they form “states.” Names, addresses, persons (in the traditional sense)¹² are taken for granted. Their use has to adapt to the speed of perception, thinking, or communication, to the speed required by the necessity of replacing vanishing events by other events. There is simply no time to include the world or the complete reality of the observing systems (as “subjects” and as “objects”) in the operation.

But if an observer—again, a psychic or a social system—

wants to observe and describe the continuous deframing and re-framing of frames, the autopoietic operation of observing systems (including himself), it will end up with paradoxical formulations. It would have to say that the different is the same, that the distinction of marked and unmarked is *one* distinction among others, that any distinction is a unity, a frame that separates two sides and can be used to connect operations only at one side (at the positive side, at the inner side of the form) and not at the other side. The other side remains included, but as excluded. The excluded third, or the “interpretant” in the sense of Peirce, or the operation of observing in our theory, or the “parasite” in the sense of Michel Serres, or the “supplement” or “parergon” in Derrida’s sense, is the active factor indeed, without which the world could not observe itself. Observation has to operate unobserved to be able to cut up the world.

When observers (we, at the moment) continue to look for an ultimate reality, a concluding formula, a final identity, they will find the paradox. Such a paradox is not simply a logical contradiction (A is non-A) but a foundational statement: The world is observable *because* it is unobservable. Nothing can be observed (not even the “nothing”) without drawing a distinction, but this operation remains indistinguishable. It can be distinguished, but only by another operation. It crosses the boundary between the unmarked and the marked space, a boundary that does not exist before and comes into being (if being is the right word) only by crossing it. Or to say it in Derrida’s style, the condition of its possibility is its impossibility.

Obviously, this makes no sense. It makes meaning. It makes no common sense; it uses the meaning of “para-doxon” to transgress the boundaries of common sense to reflect what it means to use meaning as a medium. However, even paradox cannot be observed without a distinction, but one that is involved in two different ways. On the one hand, paradox is always the unity of a distinction (for example, in the case of the Liar’s Paradox, the unity of the distinction true/false); and on the other hand, one may find ways to deparadoxify or to “unfold” (Löfgren, “Some Foundational Views”) paradox (again, in the above case, by making a rule to separate types or levels and to forbid “strange loops” [Hofstadter]). It seems, then, that any distinction can be paradoxified

and deparadoxified, depending on conditions of plausibility. The distinction used to make the paradox visible and invisible has to be presupposed to apply a second distinction, the distinction between the paradox and its unfolding, its visibility and its invisibility. Only the paradox itself provides for unconditioned knowledge; the distinction used for unfolding the paradox depends on conditions of acceptability. Paradox, then, is, as unconditioned knowledge, a transcendental necessity, the successor of what was supposed to be a performance of the transcendental subject. But all usable, connectable knowledge will be contingent.

The paradox, then, would be the *parergon*, a supplement to the work that remains to be done and that has already been done (see Derrida again, and also Dünkelsbühler). It has a double identity, a logical identity by oscillating in itself between positive and negative versions of the same, and an empirical identity due to the recursive network of operations of a system that paradoxifies and deparadoxifies its distinctions.

VI

And now, we are on our way back to a sociology of knowledge within the framework of a theory of society. Neither ontology nor cosmology, neither nature (with its substances, its essential and accidental forms) nor knowledge of God (theology) will help. We will have to distinguish observers, and the most important of them will be society, i.e., the encompassing social system.

Society produces culture—memory—and its culture will decide whether distinctions and indications may be communicated as natural (not artificial), as normal (not pathological), and as necessary or impossible (not contingent). In periods of semantic uncertainty and structural transitions, paradoxes will become fashionable, as in the 16th century after the introduction of the printing press and after the Protestant reformation and during its civil wars (see Colie, Malloch, McCanles, and Schulz-Buschhaus). We may find society, now world society, at the end of the 20th century in a similar situation of uncertainty, for very different reasons, of course. And again, paradox has become fashionable, if not *the* predicament of the century (see Lawson).

There are at least two interconnected reasons for this renewed interest in paradox. One is the establishment of a world society with a plurality of cultural traditions. The invention of “culture” at the end of the 18th century was still a European affair, opening European perspectives for historical and regional comparisons (Luhmann, “Kultur” and Williams). With the two world wars of this century and with the dissolution of the colonial empires, Europe lost its centrality in both structural and in semantical terms. We may now imagine shifting centers of modernity (Tiryakian), but no one center can assume to be the center of society as a whole.

Secondly, that we have to live with a society without top and without center is due to the fact that the structure of modern society is determined by functional differentiation and no longer by a coherent hierarchical stratification nor by a one-center/periphery differentiation. Functional differentiation requires polycontextural, hypercomplex complexity-descriptions without unifying perspective.¹³ Society remains the same but appears as different depending upon the functional subsystem (politics, economy, science, mass media, education, religion, art, and so on) that describes it. The same is different. The integration of the system can no longer be thought of as a process of applying principles, but rather as a reciprocal reduction of the degrees of freedom of its subsystems. Reason and consensus are replaced by evolutionary tests, i.e., by uncertainty, and motivating orientations shift from symbols of identity, principles, and norms to boundaries and differences, to ecological problems, to individuals as distinct from society, or to more or less fundamentalistic oppositions. This very condition implies that there is no need to adapt to it, but theories of society that refuse adaptation will increasingly be described as counterfactual, as purely normative, as having a conservative bias toward ideas, even of being ideological.

VII

A final consideration returns us to forms in which our Greek, Roman, and European tradition treated, nourished, and killed paradox (Luhmann, “Observing”). We examine here two distinc-

tions which were probably the most important ones, the distinction between being and non-being, elaborated as ontology, and the distinction between good and bad, elaborated as ethics.

Ontological metaphysics presents itself, hiding its paradox, as the science of substances and essences, of individual beings (substances) and generic entities (essences) that may exist and be visible (for angels only) as ideas. There is no non-being in this world, this *universitas rerum*, but there are perfect and corrupt natural forms and, in cognition, true and false opinions. Cognition, too, is a natural process of being impressed by substances and essences. On this view, cognition exists, either with true or with false results. Its distinguishing capacity (*dichairesis*) is its very essence, but it relates only, via mimesis, to the substances and generic forms of being. Reflection (including the reflection of reflection) is nothing but a particular way to be, a special capacity among others of the human psyche, and the category of the “infinite” serves as the asylum for all questions that cannot be solved with this approach (Günther, “Logistischer” 8). “Something is or it is not; that is all there is to it in ontology” (Günther, “Life” 286).

But why are we supposed to observe the world with this primary distinction of being and non-being, and why are we to treat the distinction finite/infinite as a supplement to this primary distinction? Why don't we, operating as observers, that is, as systems, start from the distinction between inside and outside (Herbst 88)? Apparently, being is the strong side, the powerful side of this distinction. It is the “inner side” of the ontological form. You can operate on the side of beings but not on the side of non-beings. Only beings have connecting value. The exclusion of non-beings from beings is a natural and (logically) necessary aspect of their being. But what would happen if we set out to observe the natural as artificial and the necessary as contingent? That is, what would happen if we permit the question of what kind of society lends plausibility to these ontological assumptions?

The same series of questions emerges when we look at “ethics” in its classical, premodern form. Here, the guiding distinction is good and bad or, taking the human origin of action into account, virtue and vice. Perfect action is good, corrupt action is bad; human perfection is virtue, human corruption is vice. In human society, only good actions have connecting capacities, whereas bad ac-

tion or vice is seen as an isolated event or an isolating habit. This leads to the conclusion that being is good (*ens et verum et bonum convertuntur*) and that the world and society can be accepted. The good is the form that is taught in ethics and the form itself is good, which means that it is good to distinguish the good from the bad and that ethics itself is morally good. The good represents both the positive side of the distinction *and the distinction itself*. In our logical and linguistic frames, its unity is due to a confusion of levels. In social communication this presupposes authority—for example, of the old over the young, of men over women, of noblemen over commoners, of clerics over laymen. In structural terms, this form of unfolding the paradox presupposes a society with hierarchical and/or center/periphery differentiation.

What we label “modern” society, then, reacts to the dissolution of these premises. The printing press and technological advances may mean that the young have access to better knowledge than the old (Thomas) and that the reading public may have the better judgment compared to the local magnates or the clerics bound by orthodoxy (James). First the aristocracy and its political apparatus and then finally everybody needs money, so money becomes the medium, at least for this transitional period, organizing the differentiation of social status (Stone). As a result, recruitment patterns of organizations (state bureaucracies, enterprises, universities) become more and more independent of family origin, i.e., nobility. Having to digest these social changes the social and political semantics has to change its conceptual frames.¹⁴ But it also, and this is our point, has to provide new patterns for the unfolding of the paradoxes inherent in all distinctions that are used for framing observations and descriptions.

During the second half of the 18th century new problems were invented, not to describe this social change, but to cope with increasing uncertainty. The traditional ontology became superseded by the Kantian quest for the condition of possibility of experience, and in order to provide a solution, the *hypokeímenon/subiectum* became the subject, the observer himself. Moreover, good behavior now no longer needed good manners but good reasons, and ethics became an academic discipline branching out in transcendental and utilitarian theories. So, in the subject it is now easy to recognize the observer, and in good reasons for good behavior

it is easy to recognize the ambivalent duplication of the good, i.e., the veiling of the paradox. The social—treated in the tradition either as naturally domestic (economic) or political (civil) society—became thereby pulverized as the culture (*Bildung*), language, economy, or the state of individuals. The social, then, could only be reconstructed by an inherently paradoxical term—intersubjectivity.

The old-European tradition resolved its paradox by fetishism and disavowal, to use (or misuse) these Freudian terms. It used a re-entry of the distinction between being and non-being into being and a re-entry of the distinction between good and bad into the good. The substantial being and the reasonable good take the place of the paradox. This solution could efface the original differences and reconstruct them in terms of internal distinctions so successfully that medieval theology accepted it as cosmology and saw no need to reflect on paradoxes or even to retain the word. Only with Nicholas of Cusa and the early modern mystics did the problem come back and paradoxical formulations re-emerge as a form to rationally communicate ineffable experiences.¹⁵ But the so-called “modern” solution could never achieve a similar stability. Its “present time” became “pregnant with future,” that is, with the unknown and with the prospect of oscillating within the framework of its distinctions—now described as “ideologies.” There were many competing distinctions, such as society and state, society and community, individual and collectivity, freedom and institution, progressive and conservative politics, and, above all, capitalism and socialism, but in none of these cases did the unity of these distinctions, the sameness of the opposites, become a problem (Luhmann, “Tautology”). The paradox now becomes resolved as oscillation, that is, as the still undetermined future. Supported by a universally accepted “open future” these distinctions (and others as well) stand in for the paradox of any frame used by an observer.

If “modernity” relies on its future for its deparadoxification, it is, and will always remain, an “incomplete project” (Habermas). The future never becomes present; it never begins but always moves away when we seem to approach it. But how long are we supposed to live with or wait for this future if we run into troubles with our present society? The more pressing need might well be to describe the present condition, but then we might have to ac-

knowledge that there are many possible descriptions, so that we will have to move from first-order to second-order descriptions.¹⁶ This will require a transclassic logic in Gotthard Günther's sense and will certainly go beyond the suggestions we find in Spencer Brown's *Laws of Form* (see Esposito). I have no idea how this can be worked out in sociological terms, but if we could develop theoretical frames of sufficient logical and structural complexity to dissolve our paradoxes, we may find that there still is one paradox left—the paradox of observing systems.

This theory of paradox is in no way a theory that founds itself explicitly or implicitly on systems theory, i.e., on the distinction between system and environment or inside and outside. All distinctions—this one too—can be paradoxified. We only need to ask the question “of what is the unity of this distinction?” to see the paradox. And what prevents us from doing precisely that?

We would have to use the distinction of paradoxification and deparadoxification of distinctions. We would have to admit that all distinctions, including this one, can be reduced to a paradox. In this sense, paradox is an invariant possibility, and all distinctions are of only temporary and contingent validity. We can always ask: who is the observer? And then, why do we distinguish him or her? If there are sufficient plausible reasons in present-day disciplinary and interdisciplinary research, systems theory may offer itself as a way out of the paradox—for the time being.

Notes

1. On this, see Lloyd, in particular pp. 72 ff., about the emergence of paradoxes (Zeno) as the byproduct of the elaboration of the right way to describe the world. Lloyd's “sociological” explanation points to the Greek culture of public debates and the political need of consensus—and not so much to the phonetic writing that also existed in other countries without leading to science based on observing how observers observe.

2. For references, see Probst.

3. Munday, A. 3, and he adds: “Let no manne thinke then, that I or any other would be so sencelesse, as to hold directly any of these vaine reasons.”

4. Even for officers, as recommended by La Noue 355 ff.

5. As, for instance, “sentences ou propositions qui repugnent aux opinion (sic) communes” (La Noue 355), or “inopiniatam atque alienam à communis sensu, vulgataque consuedine sententiam” (Lemnius 416).

6. This may remind the reader of Derrida's analysis of the “parergon” in

Kant's *Kritik der Urteilskraft*. And in fact, there are close similarities between *parerga* and *paradoxa*, both being forms that dissolve the distinction of inside and outside by indicating that a form (be it an aesthetic form or a cognitive or conceptual form) has to include the exclusion of the outside. See Derrida, *La vérité*, for example: "Il y a du cadre mais le cadre n'existe pas" (93).

7. See Ruesch and Bateson for an early statement of what now seems to be the common sense of the therapeutic profession. The therapeutic profession will then distinguish between normal and pathological confusion of levels and see a *need* for therapeutic intervention only in pathological cases. But this again is a frame that makes sense as long as there are limits to what people or insurances are willing to pay for.

8. We may also think of Derrida's *différance*. See Luhmann, "Deconstruction."

9. See among others the contributions to the section on "Meaningfulness and Confirmation" in Feigl and Sellars, eds.

10. This is a generalization and formalization of Fritz Heider's distinction of medium and thing restricted to the field of perception. A very similar distinction, used by cyberneticians and information theorists, would be variety and redundancy.

11. So, at the end of his text, Spencer Brown comes to the conclusion that was implied (but not explicable) at the beginning: "An observer, since he distinguishes the space he occupies, is also a mark" (78). And "is also a mark" means "can be observed."

12. In the sense that Hobbes explained in his *Leviathan* Ch. XVI: "So that a *Person*, is the same that an *Actor* is, both on the Stage and in common Conversation; and to *Personate*, is to *Act*, or *Represent* himselfe, or an other" (217).

13. "Polycontextural" in the sense used by Gotthard Günther ("Life"). The term "contexture" corresponds to a transclassical logic that admits transjunctional operations that can surpass "tertium non datur."

14. This is the organizing idea of the lexicon *Geschichtliche Grundbegriffe* (Brunner et al.).

15. For the very different Jewish tradition, see Atlan.

16. Or a second-order semantics in the sense of MacCannel and MacCannel.

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