

SYSTEMIC APPROACHES IN SOCIOLOGY

Discussion of Some of the Theses Set Forth by Capra, Luhmann and Habermas

Elías Capriles and Mayda Hočevár¹

Fritjof Capra's Proposal: Replacement of the fragmentary, mechanistic old paradigm with a systemic, holistic new paradigm

The scientific paradigm that is now being superseded, could be defined in terms of the second maxim of Descartes' *Discours de la méthode*: «to fragment every problem into as many simple and separate elements as possible.»² The old paradigm constitutes a development of the fragmentary perspective that causes us to feel separate from our environment and other human beings and set ourselves against them, and which makes us perceive the universe as a sum of inherently separate, disparate and disconnected elements.

This perspective was illustrated in Oriental traditions by the image of the men in the dark who attempted to establish the identity of an elephant that stood before them: one man who grasped the trunk believed it was a hose; another who held an ear thought it to be a fan; another who put his arms around a leg decided it was a pillar; another who laid his hand on the back of the elephant concluded it to be a throne, and one man who clasped the tail threw it away in terror, believing it to be a snake.

The human illusion that we are inherently separate, self-existing entities and in general our failure to grasp the oneness of the universe and the interrelatedness of the parts we single out in it, together with our penchant to utilize all phenomena as tools, produced the mechanistic, atomistic, utilitarian paradigm that is now being seriously questioned, as well as the powerful technology derived from it. This technology has allowed us to destroy those parts of the world that either disturbed us or frightened us—the snake that could bite us and the pillar against which we could bump in the dark—and has made it possible for us to sever and appropriate the parts which we deemed useful—the hose, the fan and the throne. Thus we have caused the ecological crisis that according to specialized studies threatens to destroy the systems upon which life depends not later than the middle of the next century.³

¹English kindly revised and corrected by Professor Alastair Beattie, Universidad de Los Andes, Mérida. Professor Beattie not only corrected the language, but helped us to express our ideas with greater precision. We sincerely thank him for doing this.

²Martínez M., Miguel, 1990.

³Editorial team of *The Ecologist*, 1971; Bosquet, Michel, quoted in the volume *La contaminación* of the Biblioteca Salvat de Grandes Temes; Eichler, Arthur, personal communications; Capriles, Elías, 1989 unpublished.

During the last decades, the widespread acceptance of systems theory has allowed for the development in different disciplines of new approaches intended to overcome the fragmentation characteristic of previous paradigms and give rise to a science and technology that are not aimed at dominating the environment and other human beings but which may allow us to overcome the contradictions produced by our mental and perceptual fragmentation, as well as by the technical application of the old mechanistic paradigm.

The upsurge of these new approaches constitutes a progressive transition from the atomistic and mechanistic theories which have prevailed until our time, toward a systemic and holistic perspective. Fritjof Capra has insisted that the old paradigm has now become obsolete and has come to jeopardize the true interests of humankind as well as its survival and, therefore, must be replaced with the new paradigm, which he deems capable of producing an ecologically viable and more fulfilling order.⁴ In regard to the scientific and cultural paradigm that is being surpassed Boaventura De Sousa Santos has written:

This paradigm may have worked more or less adequately in the past, but today, in the face of the global danger of nuclear annihilation and ecological catastrophe, a situation is created for the first time in history in which, «in face of a common danger, men and women are called upon to assume a common moral responsibility.»⁵

The Search for Totality via the Deconstruction of Entities

The new systemic paradigm should deal with totality. In order to do so, it will have to cease considering mountains, trees, cells and atoms—as well as human beings, families, nations, etc.—as isolated, self-existing entities, and will have to deal with relations, i.e. with information. In fact, nowhere in the universe can we find a self-existing entity, in itself separate from its environment for, as shown by contemporary physics, all entities are manifestations of a single substance,⁶ and the universe constitutes one perfectly integrated system, within which our minds may single out and abstract subsystems characterized by an «operatively closed»⁷ and «autopoietic»⁸ way of functioning (within which we may

⁴Capra, Fritjof: 1982; 1988. See also *ReVISION* magazine, vol. 9., Nº 1, summer/fall 1986, *Critical Questions About New Paradigm Thinking*.

⁵De Sousa Santos, Boaventura, 1989. The phrase in inverted commas is from Apel, Karl-Otto, 1984.

⁶For example, according to Einstein the universe is a single energy field. Although what we regard as isolated entities conserve their pattern or structure (which allows us to identify them and recognize them as entities subsisting through time) there is not some layer of a substance different from the energy field—nor is there any layer of emptiness or a cut in the energy field—that would separate those entities from their environment. They are separated by our perception, which is able to single them out (as Sartre would say, «through the nihilation of their environment») thanks to the subsistence of their pattern or structure, the temporal continuity of which could be regarded, in terms of Bateson's theories (see next note), as a «mental» phenomenon.

More recent physical theories such as those of David Bohm, John Wheeler, etc., go so far as to deny the self-existence of space and time, conditions of every separation. Similarly, Geoffrey Chew's *bootstrap hypothesis* denies the existence of continuous space and time at the dimensional level of «elementary particles».

⁷As noted by Niklas Luhmann (English, 1990), this does not mean «empirically isolated». Therefore, it does not represent a return to a pre-Pasteurian scientific vision, but a progress toward a post-post-Pasteurian scientific vision.

⁸The meaning of this term *partly* corresponds to those of the Sanskrit *swayambhu* and its Tibetan equivalent, *rang-'byung*.

single out and abstract further subsystems of the same kind, and so on and on) which, however, are never physically isolated or self-existing entities.

In the field of physics, a good example of new paradigm theories is Geoffrey Chew's Bootstrap Hypothesis. In this area, systemic approaches deal with subsystems of relations between hypothetical entities, and then consider these entities as subsystems of relations between lesser entities, which are in turn treated as relations between even lesser entities. The smallest entity posited by physicists is the quark; however, the basic proposition of the Bootstrap Hypothesis is that the quark is not a material entity but only a postulate of fragmentary thinking, and that our perception of the universe as a sum of material parts arises due to the self-consistency of a whole which is made up of relations rather than by the aggregation and organization of elementary particles supposedly existing materially and autonomously.⁹

In the field of sociology, the most widely acknowledged systemic approach may be that of Niklas Luhmann, according to which:

Systems do not include human beings as social actors or agents, but consist of functions or interactions. This means, e.g., that an interaction between mother and daughter with regard to their life in common in the same house belongs to the family system, whereas an interaction between the same persons with regard to a testamentary contract belongs to the legal system.¹⁰

Being an application of systems theory, Luhmann's approach regards the social system, the legal system, etc., as systems of «communications,» in the sense of «flow of information» rather than in the ethical sense which Habermas gives to the term.¹¹ Thus, Luhmann's theory deals with functions or interactions, and in spite of the fact that the latter are interactions between human individuals, it excludes the interacting individuals as social (or legal, etc.) actors or agents, for it regards them as operatively «external» to the system.

In the fields of psychology, psychiatry and psychoanalysis something similar has happened. Structuralist approaches such as Jacques Lacan's, systemic approaches like that of the Palo Alto group,¹² phenomenological approaches such as that of antipsychiatrists,

⁹Let us remember that, according to Gregory Bateson (1979), we can only discover «mental» qualities in composed, complex entities or systems—i.e., in that which comprehends two or more elements. Since the concept of autopoiesis can only be applied to «mental» systems in the above sense, on the basis of Bateson's premise we are not allowed to speak of autopoietic systems at the dimensional level of the particles that physics regards as «non-composed». Now, if the only «non-composed» particle were the quark and if the quark had no «material» existence, we would hardly find in the universe something that may be called «non-composed»—and, therefore, «non-mental» (let us remember David Cooper's concept of MUA [Cooper 1971]).

Another physical theory according to which at a given dimensional level there are no entities separate in space and time, is David Bohm's *holomovement*, which posits an «implicate order» free from space and time, on the basis of which the dimensional order of our everyday experience comes about. In general, the task of «Recognition Physics» is to establish how dimensionality comes about on the basis of an order which in itself is not dimensional (Wheeler, John A., quoted by Gliedman, John, 1984).

¹⁰Gessner, Volkmar and Konstanz Plett, 1987. Gessner and Plett are explaining Luhmann's theory, as expressed in Luhmann, 1982.

¹¹That which Luhmann calls «communications» would be better designated by the term used by Gregory Bateson, which is «messages». Then, instead of referring to all human interactions as «communications,» we could speak of «exchange of messages,» and leave the term «communication» for conveying the meaning given it by Habermas.

¹²In Bateson, Gregory, 1979, we can read (the following is a retranslation from the Spanish: Spanish 1982. 1st reprint 1990):

have discarded the conscious subject and the self, and have replaced them with structures, processes or relations. On the basis of the theory that the self is but a fiction, in *System and Structure* Anthony Wilden wrote:

Since the traditional epistemology of the life and human sciences is founded on an essentially religious belief in the real existence of such popular fictions as the «autonomous ego,» closed structures, atomistic individuals and isolable entities..., it necessarily generates a further fiction, essential to its own survival...

...The protective fiction engendered by the traditional viewpoint is precisely the denial... of the INSTRUMENTAL function of all theories in the real and material world of socioeconomic relations. Consequently, the traditional epistemology generates the fiction that a theory can be NEUTRAL. In actual fact, of course, no matter what it is «about» «in itself,» any theory—or any statement or message whatsoever, as it happens—is also a communication about the context in which it arose and from which it cannot in fact be isolated, except in the imagination of «science,» or through the delusions of the theorist.¹³

This imagination and these delusions allow us to believe our fragmentary interpretations to actually be what they interpret—the given, actual field of our study—and thus prevent the eradication of the essential fallacy which lies at the root of the crisis faced both by the sciences and by the ecosphere.

Systems theories tend to deconstruct human individuals, reducing them to systems of relations. In the field of sociology, systems theories reduce the social system to a set of social relations or interactions, excluding the human agents or actors from the field of their study. In psychology, they reduce the individuals themselves to the set of relations or interactions that take place within the psyche. (These relations or interactions within the psyche are the result of the internalization of a set of social relations or interactions, which they reproduce. Then, the relations within the psyche again reproduce themselves as a set of concrete social relations.)

Dangers of Luhmann's Systemic Theory

As noted by Gregory Bateson,

Buddhists hold that the self is a kind of fiction. In such a case, our task will be to identify this species of fiction.¹⁴

In fact, millennia ago, Buddhism had already deconstructed human individuals, having developed sophisticated arguments in order to show that the self is a construction of thought and of cognitive processes on the basis of a series of relations, such as: the five

«It is correct (and it constitutes a great advance) to begin to think of both of the sides that participate in the interaction as two eyes, each of which gives a monocular vision of what happens, and together give a binocular vision in depth. This double vision *is* the relation.

«The relation is not internal to the individual person. It makes no sense to speak of «dependence,» «aggressiveness,» «pride,» etc.; all these words have their root in that which occurs between persons, not in such-or-such-thing presumptively located inside a person.

«There is, no doubt, some learning in a narrower sense. There are changes in A and changes in B that correspond to the dependence-protection of the relation. But the relation comes first: it precedes them.

«Only if one clings rigorously to the primacy and priority of the relation can one avoid dormitive explanations. Opium does not contain a dormitive principle and man does not contain an aggressive instinct...»

¹³Wilden, Anthony, 1980 (2d edition).

¹⁴Bateson, Gregory, 1979. Retranslated from the Spanish translation: Spanish 1982. 1st reprint 1990.

skandha or aggregates;¹⁵ the three aspects of existence;¹⁶ the constellation of «internalized others» that constitutes the collage called «ego»;¹⁷ and also the relation between the human entity in the world, consciousness and the image that consciousness has of that entity.¹⁸ Nevertheless, while it denied the substantial, autonomous¹⁹ and independent existence of individuals, Buddhism acknowledged the fact that human consciousness has the impression (however delusive) of being a subjective, autonomous individual, and that it feels and suffers as such; therefore, it presented the doctrine of *ahimsa* (non-violence) and stressed the need to deal with individuals «communicatively» (in the sense Habermas gives the term) and to fully respect their decisions and life projects.²⁰

¹⁵Form-matter (*rupa*), «feeling tone» (*vedana*), perception-impulse (*samskara*), concept-perception (*samjñā*) and consciousness (*viññāna*). For an exhaustive description of the *skandhas* see Trungpa, Chögyam, 1973.

¹⁶Body, speech and mind, the wisdom equivalents of which are the three *kayas*. This explanation is found in the Mahayana, the Vajrayana and the Atiyana.

¹⁷David-Neel, Alexandra and the lama Yongden (2d French edition 1961); Capriles, Elías: 1976; 1986. As noted by David-Neel and the lama Yongden, «the ego is a collage of others». The term «internalized others» was coined by David Cooper (1971), who points out that those «others» constitute Freud's «superego». Although the constellation of «internalized others» is a constellation of *relationships*, the human mind deals with that constellation in terms of images (facial expressions, voice inflexions, etc.) of the «significant others» in their relations with us or with other others—perhaps partly because, as noted by Gregory Bateson (1979), images pass through the human interfaces with greater facility and economy. Thus, systems theories must acknowledge that interpersonal relations have a very «personal» character, for they are processed in terms of images of people, of their voices, etc., and would be meaningless without reference to the people in question.

¹⁸See Tarthang Tulku, Ed., 1975, and Capriles, Elías, 1976.

¹⁹When we say that human individuals are not «autonomous,» what we are declaring «not autonomous» is the element of the human system that most continuously we feel we are (although it *becomes* many other aspects of «ourselves» in different occasions): the mental subject, the noetic pole of the noetic-noematic complex, the impression that someone inside our head is knowing, acting, etc.—in short, the «ghost in the machine.» The latter cannot determine at will the system's functioning, for it cannot control the passions, it cannot freely choose the courses of action to follow, etc. Instead, the *individual system as such* is autonomous, if by «autonomous» we understand «autopoietic.»

²⁰According to Buddhism, selfishness, which is the cause of disharmony and violence between human beings, is the result of experiencing ourselves as though we were absolutely true, ultimately important selves. If we get rid of this delusive experience, we become free from selfishness and thus we naturally work for the benefit of others, whom we no longer experience as different from and juxtaposed to us. Although we know that other selves are fictions, we also know that insofar as those fictitious selves are possessed by the illusion of being absolutely real and important, they experience and suffer as though they were what they believe they are. Thus, wisdom—which shows the unreality of our fictions—is inseparable from compassion, love and respect for others.

The Buddhist sage Nagarjuna (English: London, 1975) noted that if we continue to experience our selves as though these were absolutely true and important, and thus continue to be possessed by selfishness, and yet intellectually assert that selves are mere fictions, this could become a nihilistic view that we use as a pretext for giving free rein to the impulses that issue from our selfishness, ignoring the natural rights of others and eventually harming them on the grounds that they are mere fictions.

Similarly, we could use a systemic theory that excludes or deconstructs human individuals in order to technologically manipulate them, ignoring their experience of selfhood, however illusory, and their natural rights. As noted by Gregory Bateson (Collection 1972), the use of social engineering to manipulate human beings contradicts the democratic ideal of the supreme worth and moral responsibility of the individual human person. Paradoxically, the more emphasis Western states put on the ideal of democracy, the more they develop and resort to social engineering.

This kind of respect for the human individual does not seem to be emphasized by Luhmann. The substitution of relations or interactions for individual human entities, unless balanced by a powerful emphasis on the need to respect the impression people have of being autonomous selves and the fact that their consciousness feels and suffers as though they actually were what they have the impression of being, could induce us to further disrespect human beings. This would in turn foster the development of the kind of relations that Habermas called «instrumental,» which are at the very root of the ecological crisis and of deleterious utilitarian relationships between human beings, and encourage the development of social engineering aimed at controlling individuals while making them believe they are expressing their freedom in a democratic society. As early as 1941, at the Congress on Science, Philosophy and Religion held in New York, Margaret Mead and Gregory Bateson had warned the democratic West against this trend; one decade later, in *Brave New World Revisited*, Aldous Huxley alerted the world to the fact that the technology to implement the nightmare foreseen by Bateson and Mead had already been developed. In our time, we have become puppets of this technology, and yet authors such as Skinner insist that it should be further perfected in order to produce

...a technology of behavior... comparable in power and precision to physical and biological technology.²¹

The danger inherent in using systems theory in order to technologically manipulate human beings was realized by Habermas, as evidenced in the title of the book containing his controversy with Luhmann, *Theory of Society or Social Technology: What is Achieved by Systems Research?* Luhmann's theory, in particular, rejects Habermas' concept of «communicative action» and gives the term «communication» a meaning that makes his theory useful for instrumental manipulation. According to Luhmann, the systems theories of society cannot include the occurrences taking place within the bodies and minds of interacting individuals²² and, therefore, should deal with the interactions between those individuals but exclude all references to the actor or agent. Since an agent deprived of body and mind is but a fiction or a concept, and there can be no action without an agent, Luhmann concludes that it is not admissible to speak of communicative action.²³

²¹Skinner, B. F., 1975.

²²«Communications presupposes awareness states of conscious systems, but conscious states cannot become social and do not enter the sequence of communicative operations as a part of them; they remain for the social system environmental states.» (Luhmann, English 1990, p. 16).

²³Luhmann writes:

«Communication cannot be defined as communicative action because this would require an actor hardly thinkable without body and mind.» (Luhmann, Niklas, English 1990, p. 6.)

By his use of the term «communication» in the first instance Luhmann means «interactions» or «exchange of information». By «hardly thinkable» he means «hardly conceivable». Therefore, he is saying that interactions or exchanges of information can *never* be understood in terms of Habermas' concept of communicative action, apparently on the grounds that, since all action implies an actor or agent, but his systemic approach to society precludes considering the actor or agent, the concept of *any kind* of action is inadmissible to him.

Habermas, instead, realizes that unfortunately a great deal of human interaction is nowadays instrumental, and proposes that *all* interactions between human beings *should* conform either to the concept of communicative action or to that of emancipatory action.

This is the fallacy of *ignoratio elenchi*.²⁴ From the premise that we should not take human actors or agents into account it does *not* follow that when we consider social interactions we should by the same token ignore the structure of these interactions and refuse to read into them the implicit attitudes of the parts in order to establish whether the interactions in question are structured *as though a subject were dealing with another subject which must be considered and respected as such or, quite to the contrary, as though a subject were treating a mere object as something to be manipulated which deserves neither consideration nor respect*. Besides, if we concede that the exclusion of subjects forbids us from reading into interactions the implicit attitude of each part toward the other, in the systemic theory of law we shall also be forbidden from considering—as Luhmann does—the «expectations of the parts» or any other factor that depends on consciousness, at least when these expectations are not explicitly manifest in interactions.

Evaluating Aspects of Habermas' Non-Systemic Theory in View of Establishing the New Paradigm Social Theory

Habermas' distinctions between instrumental action, communicative action and emancipatory action²⁵ are essential to any theory of society—whether or not that theory is systemic—for, if these distinctions are not made, we shall hardly be able to halt the development of the trends against which we were warned by Mead, Bateson and Huxley.

No doubt, defending these distinctions implies holding to an ethical and political position, but rejecting them implies holding to a position that is no less ethical and political. Making the distinctions in question amounts to sustaining the ideal, both liberal and libertarian, of the supreme worth and moral responsibility of the individual human person (which is also held by Buddhism, in spite of the fact that it deconstructs the individual self). Rejecting these distinctions implies that we are more committed to conforming to a limited and delusive concept of «science» than we are to forestalling the development of instrumental interaction patterns and the manipulation of individuals as though they were mere things.²⁶

²⁴For a description of the fallacy of *ignoratio elenchi* see Copi, Irving M., 24th Spanish edition, May 1982, pp. 97-99.

²⁵Who owes so much to Martin Buber's «dialogal philosophy».

²⁶In order to justify his application to society of the concept of autopoiesis, Luhmann attempts to discredit and disqualify Maturana on the basis that he objects to the application of the concept to that field because of political reasons which are ideological rather than «scientific» (as though science were not always ideological): in English, 1990, Luhmann says that Maturana once objected that a social systems such as Chile's under the rule of Pinochet is unable to produce and reproduce individuals by its own structure and process.

Now, how can we ignore that the political system of a society affects the structure of the relations that obtain within that society—i.e., that the political praxis of an authoritarian government will obstruct communicative and emancipatory action, and will further instrumental action? It was precisely because technology also obstructs communicative action that in *Holzwege* Heidegger wrote that a self surrounded by mere objects will also tend to objectify all selves, so that

«...modern science and the totalitarian State are, as well as consequences, sequences in the essence of technology.»*

Nonetheless, Habermas' proposals would be unable to eradicate instrumental relations in social interaction and, therefore, fail to represent a wholesome alternative to Luhmann's theory. This is because these proposals stem from a lack of comprehension of the systemic functioning of the two types of human mental process first outlined by Freud in the *Project* of 1895²⁷ and successively elaborated upon by authors such as Bateson, Haley, Lacan, Wilden and Pribram:

According to Fenichel—quoted by Gregory Bateson (collection 1972)—primary process lacks negatives, possesses no indication of verbal tense and mode, stresses relations rather than their protagonists, and is metaphorical. Secondary process, instead, has negatives, specifies verbal tense and mode, stresses the identity and position of the protagonists in the relationship, and is literal. According to Anthony Wilden (1972/1980), primary process is analogical and secondary process is digital.

Primary process does not distinguish clearly *to which persons or things* the different types of relations must be applied; that distinction is made quite clear by secondary process, but the latter is always determined by primary process and is unable to direct this process at will. Recently I noted that once instrumental and conflictive primary process relations are introduced into any human system and begin to develop within it, there is no way to confine their development to the field of the inner relations of the individual, to that of the relations between individuals, to that of the relations between societies, or to that of the relations between human beings and their environment (Capriles, Elías, 1990). Since primary process lacks negatives, the only way in which primary process relations may be overcome is by stretching them to the threshold at which they achieve their *reductio ad absurdum* and, unable to stretch any further, they break like a rubber band that is stretched beyond its maximum resistance.

Nietzsche foreshadowed the Freudian distinction between primary and secondary process when he noted that the «unconscious» (a concept that I prefer not to use) from which creativity springs is not critical, and thus the «creator» can only criticize his or her creation after having created it.²⁸

The relations established in our primary process become ubiquitous and come to determine all of our relations, for given the structure of primary process and secondary process (and the relationship between these) we have no way of confining them to a particular field. This is why we cannot accept Habermas' proposition that instrumental action should be the norm in the field of relationships between human beings and their natural environment. If instrumental action is allowed to develop in one field, it will creep up into all other fields and we shall be unable to avoid regarding human individuals as things and dealing with them instrumentally. Moreover, instrumental action destroys our natural environment and therefore is not viable in our relations with it. The American Indians related to the environment communicatively and thus never jeopardized ecological balance; as soon as they perceived the instrumental attitude of European colonists toward the natural environment, Indian sages foreshadowed the crisis that we face (as evidenced in

Obviously, Luhmann attempts to disqualify Maturana through the application of the epithet «political» (that is, on the basis of a fallacy of *argumentum ad hominem* [offensive])†, thus implying that his own theory is not «political» and therefore is not ideological. Now, Luhmann's argument may be applied to himself just as validly as it may be applied to Maturana: is it not political to reject the concept of «communicative action» and thus favour the development of instrumental action? Is it not political to assert that there are great advantages in the *status quo*? And is it not political to disqualify every theory that aims at the necessary transformation of society, on the basis that all such theories are «political» theories?

*Quoted by Estiú, Emilio, in Heidegger, Spanish 1980.

†See Copi, Irving M., 24th Spanish edition, May 1982, pp. 84-85.

²⁷Freud, Sigmund, 1895, Spanish 1974.

²⁸Capriles, Elías, 1990 unpublished.

the famous letter that Chief Seattle sent to the President of the U.S.A. when the latter attempted to buy the lands of his tribe).²⁹ As noted by Gregory Bateson:

To compare the mountain to the man and to speak of its «mood» or its «anger» does not do much harm; but to compare the man to the mountain is to propose that all human relations should be what Martin Buber would call relations *I-It*, or perhaps *It-It*. The mountain, personalized in our language, will not become a person, will not *learn* a more personal way of being; but the human being, depersonalized in its speech and thought, may in truth learn more thing-like habits of behavior.³⁰

Habermas' fear that Luhmann's theory may become a manipulative tool in the hands of technical reason was to a great extent justified. However, it is equally justifiable to give warning that Habermas' proposals would be unable to restrain the advance of technical reason and of the instrumental relations inherent in it. What is *not* justifiable is to claim that we should replace the instrumental attitude associated with our scientism with shamanistic modes of experience and an animistic pantheism. *Both* the pan-communicative attitude of aborigines of various regions *and* the pan-instrumental attitude of the prevailing civilization are but stages that appear and are surpassed in the process of social and cognitive evolution; in our time, this process is bound to do away with both attitudes.³¹

Social Theory and Emancipatory Action:

²⁹For a detailed discussion of all the above, see Capriles, Elías, 1990. A more detailed discussion will appear in Capriles, Elías, 1990 unpublished.

We have recently discovered that some of the ideas expressed in Gregory Bateson, 1979, seem to be more or less compatible both with our critique of Habermas and with the philosophy of history at the root of our work. In particular, see pp. 121-128 of the Spanish version (Spanish 1982. 1st reprint 1990).

³⁰Bateson, Gregory, 1979. Retranslated from the Spanish translation: Spanish 1982. 1st reprint 1990.

³¹Perhaps it would not be wholly wrong to designate the essential characteristic of interpersonal relations in the oncoming stage of our evolution with the Christian sacramental term «communion.»

According to the systemic philosophy of history and the theory of social evolution at the basis of this article, human history and «evolution» constitute the process of *reductio ad absurdum* of a delusion or error based on fragmentation (that Baruch van Spinoza characterized as «incompleteness and abstractness»), which has been developing since time immemorial and which will continue to develop until ecological crisis proves that «it does not work» and thus causes it to be superseded.

The philosophy of history in question is contrary to Hegel's. Although the German philosopher acknowledges that dialectics works as a process of *reductio ad absurdum*, what in his view achieves a *reductio ad absurdum* is the positions or theses that (in terms of our theory) arise successively on the digital level corresponding to secondary process (which is the only one acknowledged by the German author). This allows Hegel to understand «evolution» and history as a process of constant increase in wholeness, truth and authenticity and thus to invert the process' character, which in truth is marked by a constant increase in fragmentation, delusion and unauthenticity. Since primary process (which is analogical and which Hegel overlooks) lacks negation, the constant increase of fragmentation, delusion and unauthenticity, and of the functioning inherent in them, will be impossible to halt until their *reductio ad absurdum* is completed and a threshold level is reached at which, having stretched like a rubber band beyond its maximum resistance, they break and cease to function (Capriles, Elías: 1986; abstract 1988/complete version unpublished; 1989 unpublished; 1990 unpublished).

As noted by Gregory Bateson, 1979 (the following quotation was retranslated into English from the Spanish translation: Spanish 1982. 1st reprint 1990),

«We could say that there is something like a Gresham law of cultural evolution, according to which excessively simplistic ideas always replace more elaborate ones, and the vulgar and obnoxious replaces always the beautiful. And, nevertheless, the beautiful persists.»

And not only *persists*: during the process of human «evolution» and history (especially during certain stages of spiritual splendor and political and social renewal) the great creations of the human spirit arise.

Transformation of Society and of Individuals (Further Evaluation of Luhmann's Theory and Additional Requirements for a New Paradigm in Sociology)

Just as it is necessary to rescue Habermas' concept of communicative action in order to forestall the development of instrumental action, it is essential that theories of society be the result of an emancipatory interest and hold emancipatory action as an end.

This end does not seem to be the one Luhmann has in mind. Rather, he appears to be interested in justifying current social systems along with concomitant political, economic and legal systems. His theory of society is oriented toward a direction quite contrary to the changes necessary for the alleviation of present ecological (social and biological) difficulties and therefore opposes the new paradigm. Instead of aiming at resolving the problems created by the fragmentation of human consciousness and trying to achieve the transformation of society on the basis of a holistic awareness and its inherent principles, Luhmann's theory justifies certain kinds of social atomization that he regards as a means to prevent society from «flaring up like a matchbox:»

By localizing conflicts, a highly «parcelized» social order can prevent crises from spreading like brushfire from one social sector to another. In other words, or so Luhmann would have us believe, the «absence of a common life» is hardly a cause for unmitigated grief, since it may well ensure that society as a whole does not flare up like a box of matches.³²

Luhmann's definition of social integration as mere «resistance to disintegration»³³ shows that the author does not aim at achieving the transformation of society necessary for producing a system that approaches the ideal of a genuinely integrated, homeostatic and steady³⁴ community (*Gemeinschaft*), but at forestalling the disintegration of present society (which is almost completely *Gesellschaft*) and conserving the *status quo*. In other words, Luhmann seemingly wants to prevent the social transformation which would restrain ecological devastation and produce a viable, harmonious society. Moreover, his theory lends itself to the technological manipulation of human beings.

Systems theories in the field of sociology should point the way toward the transformation that has become imperative. In order to do this, these theories should emphasize the inseparability and continuity between the primary process relations that structure the mind of the individual, the relations between individuals, the relations between states, and the relations of human beings with their natural environment. So long as the primary process relations in individuals continue to be relations of domination, oppression and exploitation, we shall be unable to overcome our predicament. Therefore, it is absolutely necessary that a revolution in the psyche puts an end to our fragmentary vision and to the instrumental relations which prevail in our primary process.³⁵

³²Holmes, Stephen and Charles Larmore (1982), Translators' Introduction to Luhmann, English 1982, pp. xv-xvi.

³³*Ibidem*. See also Luhmann, 1982.

³⁴The social pathology that Gregory Bateson christened «schismogenesis» may be understood as a runaway pathology in a cybernetic system—a pathology that, in the long run, drives the system toward disintegration. Therefore, a good grasp of systems dynamics could be helpful in curbing schismogenesis and producing a steady, homeostatic society.

³⁵This fact has been widely acknowledged both in Eastern literature (as early as in Lao-Tzu's *Tao Te King* and as late as in the following books written recently by Easterners in Western languages: Chögyam Trungpa,

A change of scientific and cultural paradigms would not suffice to grant our survival and build a viable and harmonic society. Although the development of a new systemic paradigm is an essential part of the necessary transformation, even more essential is the transformation of human consciousness, which is the source both of every paradigm and of every human act. A fragmentary, instrumental consciousness is capable of applying systemic scientific theories in order to increase its effectiveness in achieving its short-sighted and selfish ends, and thus continue to destroy the basis of life and to build an ever more unjust and repressive society. A holistic, panoramic awareness freed from instrumental relations may create a sustainable society that allows human beings to truly realize themselves.

According to the philosophy of history and the theory of social evolution at the basis of this work,³⁶ fragmentation and instrumentality have achieved their *reductio ad absurdum* in the present ecological crisis and, therefore, must be surmounted. The movement of history in which at present we participate must put an end to fragmentation, both root and branch, of so that we may cease interfering with the elephant that we have been destroying, and allow it to recover its health.

Luhmann's Theory and Capra's New Paradigm: Open and Closed Systems Theories

According to Fritjof Capra, a truly holistic systemic theory will not describe von Neumann-type «open» systems, which function in terms of input-output, but will deal with self-organization and therefore with operatively closed, autopoietic systems. In other words, new paradigm systems theories should be of the type conceived by Norbert Wiener and developed by Gregory Bateson, Ilya Prigogine, Francisco Varela, Humberto Maturana and others:

Systems theory has a history of several decades, beginning in the 1940s with Bertalanffy and Laslow and continuing with the development of cybernetics after World War II with the whole group that gathered for the Macy conferences: John von Neumann, Norbert Wiener, Gregory Bateson, Margaret Mead, Heinz von Foerster, Ian McCulloch.

There have been two schools of cybernetics—the John von Neumann school and the Norbert Wiener school. The John von Neumann school was a mechanistic model of systems theory, with an input/output system and linear thinking, whereas the Norbert Wiener school dealt with self-organization and living systems right from the start; it was a physiological model. The John von Neumann school won at first, and the rise of computer technology and input/output systems was the result of this more mechanistic model. But during the

1984; Namkhai Norbu: 1988; Namkhai Norbu English 1989) and in Western libertarian literature. An example of the latter is the following statement of M. Bookchin:

«The task of revolutionaries is not to «make» the revolution. The latter is only possible if the whole of the people participates in a process of experimentation and innovation aimed at the radical transformation both of daily life and of (human) consciousness. The task of every revolutionary will then be to bring about and to promote this process.»*

In fact, changing the individual amounts to changing the system of interactions between that individual and other individuals in human society, for—as noted by Bateson, 1979 (see note 12)—*the individual is* that system. This is why inner and outer, psychological and social change always go together, whether on a microsocial or macrosocial scale.

*Bookchin, M., quoted in Clastres, Pierre, Spanish 1985/1987.

³⁶Capriles, Elías: 1986; abstract 1988/complete version unpublished; 1989 unpublished; 1990 unpublished.

past fifteen years there has been a shift, and the Norbert Wiener school is coming to the fore based on the work of Gregory Bateson, Ilya Prigogine, Humberto Maturana, Francisco Varela, and several others...

This theory has the concept of self-organization at its center, and it deals with living systems. Mind, or mental process, or cognition, is at its center. It is connected with life at its very outset, at the conception of life, and it is, for me, the first scientific theory that really goes beyond Descartes...³⁷

Since the concept of autopoiesis lies at its center, Luhmann's systemic approach should be placed within the Wiener and Varela-Maturana tradition. In fact, against the warnings of Maturana himself, and of Heinz von Foerster,³⁸ Luhmann applies the concept of autopoiesis to social and legal systems. However, Luhmann's theory excludes the occurrences taking place within the psyche of individuals and refuses to hermeneutically uncover the mental attitudes implicit in social interactions—and, in general, does not fully account for mind, mental process or cognition. Moreover, as we have seen, by trying to conserve the *status quo* and prevent social upheavals and radical change, Luhmann's theory can only be regarded as contrary to the present interests of humankind. Therefore, the essential distinction between the new paradigm and the old paradigm should not lie merely in the type of systems theory at its basis. Elías Díaz characterizes the new paradigm as follows:

...a paradigm which puts in first place the values of growth which are not so much quantitative as qualitative, not consumer welfare, but quality of life, the care of the environment, the satisfaction that everyone has their basic needs, freedom, culture, peace and ecology etc.³⁹

This may contribute toward clarifying the essence of the new paradigm. However, as we have already seen, far more important than the transformation of scientific and cultural paradigms, is the transformation of human consciousness.

Conclusion

It is essential that we apply a genuinely systemic approach to the study of society, and cease fragmenting reality and interpreting it atomistically, so that our species may dodge the dangers lurking in its path. However, if we produce a sociology and a psychology that reduce individuals to relations but fail to respect the need to treat individuals communicatively, as human subjects, we shall cause instrumental relations to continue to develop and therefore our situation will continue to worsen.

Therefore, although systems theories in sociology should deal with relations and do away with the fictions that we call «individuals,» they should do so as was done by

³⁷Capra, Fritjof, 1986. As noted by Luhmann himself (English 1990), the systemic theory that Talcott Parsons applied to society deals with open systems, conceived in von-Neumannian terms of input/output. For a more complete criticism of Parsons by Luhmann, see Luhmann, English 1982, pp. 47-65.

³⁸Von Foerster, Heinz, interview 1985, p. 263. Quoted by Luhmann, Niklas, English 1990. Maturana, Humberto R., 1985, pp. 6-14, quoted by Luhmann, Niklas, English 1990.

³⁹Díaz, Elías, 1989. Díaz is basing himself on the ideas set forth in Offe, Claus, 1985.

Buddhism, rather than as would be done by social engineering. We should acknowledge that the network of social relations is a set of relations of consciousnesses, each of which has the impression, however delusive, of being an autonomous, subjective self, and feels and suffers accordingly.

BIBLIOGRAPHY

- Anderson, Walter Truett; Ernest Callenbach; Fritjof Capra, and Charlene Spretnak, Ed. (1986), *Critical Questions About New Paradigm Thinking*. Washington, D. C., ReVISION magazine, N° 1, vol. 9, summer/fall 1986.
- Apel, Karl-Otto (1984), «The Situation of Humanity as an Ethical Problem,» in *Praxis International*, 4, p. 250. Quoted in De Sousa Santos, Boaventura, 1989.
- Bateson, Gregory (collection 1972), *Steps to an Ecology of Mind*. New York, Ballantine; London, Paladin. In particular, see the essays: «The Cybernetics of Alcoholism», «Social Planning and the Concept of Deutero-Learning» and «Bali: The Value-System of a Steady State.»
- Bateson, Gregory (1979), *Mind and Nature. A Necessary Unity*. New York, Dutton. We have had to retranslate from the Spanish version (1982; first reprint 1990): *Espíritu y naturaleza*. Buenos Aires, Amorrortu editores S. A.
- Biblioteca Salvat de Grandes Temas (1973), *La Contaminación*. Barcelona, Salvat.
- Bohm, David (1980; Spanish 1988), *La totalidad y el orden implicado*. Barcelona, Editorial Kairós.
- Capra, Fritjof (1975/1983), *The Tao of Physics*. Boulder, Shambhala Publications.
- Capra, Fritjof (1982), *The Turning Point*. New York, Bantam New Age Books.
- Capra, Fritjof (1986), «The Santiago Theory of Life and Cognition.» In *ReVISION*, Vol. 9, N° 1, summer/fall 1986.
- Capra, Fritjof (1988), *Uncommon Wisdom*. New York, Simon and Schuster.
- Capriles, Elías (1976), *The Direct Path*. Kathmandu, Mudra Publishing.
- Capriles, Elías (1986), *Qué somos y adónde vamos*. Caracas, Unidad de Extensión de la Facultad de Humanidades y Educación de la Universidad Central de Venezuela.
- Capriles, Elías (abstract 1988/complete version unpublished), «Wisdom, Equity and Peace.» Paper presented at the First International Encounter for Peace, Disarmament and Life, held in Mérida, Venezuela, in April 1988). Abstract published in English and Italian by *Merigar Review/Rivista Merigar*, pp. 53-8, October 1, 1988, Arcidosso, Grosseto, Italy. Complete version in Spanish to be published by *Actual* magazine, University of The Andes, Mérida, Venezuela.
- Capriles, Elías (1989). «Ecological Appendix» to the *Brochure for the Worldwide Demonstration for the Preservation of Life*. Mérida, Padma Group and Coordinadora Ecológica Arturo Eichler.
- Capriles, Elías (1989 unpublished), *Mind, Society, Ecosystem—Transformation for Survival*.
- Capriles, Elías (1990), «Las aventuras del fabuloso hombre-máquina: contra Habermas y la ratio technica.» Mérida, *Actual* magazine, University of The Andes, Ns. 16-17.
- Capriles, Elías (1990 unpublished), *Filosofía y liberación*.
- Chang, Garma C. C., *The Buddhist Teaching of Totality. (The Philosophy of Hwa-Yen)*. London, George Allen & Unwin.
- Chew, Geoffrey (1968), «'Bootstrap': A Scientific Idea?» In *Science*, Vol. 161, pp. 762-5, May 23, 1968.
- Chew, Geoffrey (1970), «Hadron Bootstrap: Triumph or Frustration?» In *Physics Today*, Vol. 23, pp. 23-28, October 1970.
- Chew, Geoffrey (1974), «Impasse for the Elementary Particle Concept.» Chicago, *The Great Ideas Today*. Also in *Encyclopædia Britannica*.
- Clastres, Pierre (Spanish 1985/1987), *La economía de la abundancia en la sociedad indivisa* (first published as a preface to Marshall Sahlins' *Stone Age Economics*. Supplement to *Aletheya* magazine, N° 6, Ediciones Anthropos, Buenos Aires, 1985; supplement to *Testimonios*, October, 1987.
- Cooper, David (1971), *The Death of the Family*. Harmondsworth, Pelican Books.
- Copi, Irving M. (Spanish 1962; Spanish translation of the fourth English edition, 1972; 24th edition, May 1982), *Introducción a la lógica*. Buenos Aires, EUDEBA S.E.M.

- David-Neel, Alexandra and the lama Yongden (2d French edition, 1961), *Les enseignements secrets des Bouddhistes Tibétains. La vue pénétrante*. Paris, Adyar. English editions: *The Secret Oral Teachings in Tibetan Buddhist Sects*. Calcutta, Maha Bodhi Society, and San Francisco, City Lights Books)
- De Sousa Santos, Boaventura (1987; 2d edition 1988), *Um discurso sobre as ciências*. Porto, Edições Afrontamento.
- De Sousa Santos, Boaventura (1989), «Towards a Postmodern Understanding of Law.» In *Oñati Proceedings*, 1, 1989, *Legal Culture and Everyday Life*. A publication of the Oñati International Institute for the Sociology of Law, Oñati, Gipuzkoa, Euskadi, Spain.
- Díaz, Elías (1989), «The New Social Contract. Political Institutions and Social Movements.» In *Oñati Proceedings*, 1, 1989, *Legal Culture and Everyday Life*. A publication of the Oñati International Institute for the Sociology of Law, Oñati, Gipuzkoa, Euskadi, Spain.
- Editorial team of *The Ecologist* (1971), *A Blueprint for Survival*. Reproduced in enlarged version by Pelican Books, Harmondsworth, U.K.
- Estiú, Emilio (1980), «El problema metafísico en las últimas obras de Heidegger.» In Heidegger, Martin (Spanish, 1980), *Introducción a la metafísica*. Buenos Aires, Editorial Nova.
- Freud, Sigmund (1895; Spanish 1974), *Proyecto de una psicología para neurólogos y otros escritos*. Madrid, Alianza Editorial.
- Gessner, Volkmar and Konstanze Plett (1987), «Sociología y psicología jurídicas.» *Anuario Vasco de Sociología del Derecho*, 1987.
- Gliedman, John (1984), «Turning Einstein Upside Down: In the Quantum Universe of Wheeler nothing exists until it is observed.» In *Science Digest*, October 1984. John Archibald
- Habermas, Jürgen (1968; Spanish 1982), *Conocimiento e interés (Erkenntnis und Interesse)*. Madrid, Taurus Ediciones, S. A.
- Habermas, Jürgen (English 1971; reprint 1977), *Toward a Rational Society*. London, Heinemann.
- Habermas, Jürgen (English 1979), *Communication and the Evolution of Society*. London, Heinemann.
- Habermas, Jürgen (Spanish 1984), *Ciencia y técnica como «ideología»*. Madrid, Editorial Tecnos.
- Heidegger, Martin (1950), *Holzwege*. Frankfurt am Main. Quoted by Emilio Estiú, 1980.
- Holmes, Stephen and Charles Larmore (1982), «Translators' Introduction» to Luhmann, Niklas, English 1982
- Huxley, Aldous (1934), *Brave New World*. London, Chatto & Windus.
- Huxley, Aldous (1952), *Brave New World Revisited*. London, Chatto & Windus.
- Lacan, Jacques (1957), «L'instance de la lettre dans l'inconscient ou la raison depuis Freud.» In *La Psychanalyse*, N° 3, 1957, pp. 47-81.
- Lacan, Jacques (Spanish 1971/1972), *Lectura estructuralista de Freud*.
- Luhmann, Niklas and Jürgen Habermas (1971), *Theorie der Gesellschaft oder Sozialtechnologie—was leistet die Systemforschung?* Frankfurt, Suhrkamp Verlag⁴⁰.
- Luhmann, Niklas (English 1982), *The Differentiation of Society*. New York, Columbia University Press.
- Luhmann, Niklas (German 1984; Spanish 1990), *Sociedad y sistema: la ambición de la teoría*. Barcelona, Ediciones Paidós/I.C.E. de la Universidad Autónoma de Barcelona.
- Luhmann, Niklas (English 1990), *Operational Closure and Structural Coupling. The Differentiation of the Legal System*. Conference reproduced in photocopy.
- Martínez M., Miguel (1990), «Enfoque sistémico y metodología de la investigación.» In *Atlántida. Cuadernos Interdisciplinarios del Vicerrectorado Académico de la Universidad Simón Bolívar*. Year XVI, N° 27, Caracas, Venezuela, January 1990.

⁴⁰Fragments consulted with the help of J. Hocevar.

- Maturana, Humberto R. and Francisco Varela (Spanish 1984; English 1987), *The Tree of Knowledge. The Biological Roots of Human Understanding*. Boulder and London, Shambhala Publications, New Science Library. Original in Spanish: *El árbol del conocimiento*, Santiago de Chile.
- Maturana, Humberto R. (1985), «Biologie der Sozialität,» Delfin 5. Quoted by Niklas Luhmann in English 1990.
- Mead, Margaret (1941), «The Comparative Study of Culture and the Purposive Cultivation of Democratic Values.» In *Science, Philosophy and Religion: Second Symposium*. New York, Conference on Science, Philosophy and Religion.
- Nagarjuna (English 1975), «The Precious Garland of Advice to the King». In Nagarjuna and the Seventh Dalai Lama (English 1975), *The Precious Garland and the Song of the Four Mindfulnesses*. Translated by Jeffrey Hopkins and Lati Rinpoche in collaboration with Anne Klein. London, George Allen and Unwin.
- Norbu, Namkhai (1988), *Un'introduzione allo Dzog-chen. Risposte a sedici domande*. Arcidosso, Shang-Shung Edizione.
- Norbu, Namkhai (English 1989), *Dzogchen, The Self-Perfected State*. London, Arkana.
- Offe, Claus (1985), *New Social Movements: Challenging the Boundaries of Institutional Politics*. Bielefeld, Department of Sociology, University of Bielefeld. Quoted in Díaz, Elías, 1989.
- Popper, Karl R., Theodor W. Adorno, Ralf Dahrendorf and Jürgen Habermas (1969; Spanish 1978), *La lógica de las ciencias sociales*. Mexico, Grijalbo.
- Pribram, Karl and Merton Gill (1976), *Freud's «Project» Re-assessed*. New York, Basic Books.
- Prigogine, Ilya e Isabelle Stengers (1984), *Order Out of Chaos*. Boulder and London, Shambhala Publications, New Science Library.
- Rodríguez, Darío (1986), «Elementos para una comparación de las teorías de Maturana y Luhmann.» In *Estudios sociales* (CPU), Nº 54, 4th trimester 1987, Santiago de Chile.
- Skinner, B. F. (1975), *Beyond Freedom and Dignity*. New York, Bantam Books.
- Tarhang Tulku, Ed. (1975), *Reflections of Mind*. Emeryville, Ca., Dharma Publishing.
- Trungpa, Chögyam (1973), *Cutting Through Spiritual Materialism*. Boulder and London, Shambhala Publications.
- Trungpa, Chögyam (1984), *Shambhala: The Sacred Path of the Warrior*. Boulder and London, Shambhala Publications.
- von Foerster, Heinz (1981), *Observing Systems*. Seaside, California.
- von Foerster, Heinz (1985), interview published in *Généalogies de l'auto-organisation*. Paris, Cahiers du C.R.E.A., Nº 8. Quoted by Luhmann, English 1990.
- Wilber, Ken, Ed. (1982), *The Holographic Paradigm and Other Paradoxes*. Boulder and London, Shambhala Publications.
- Wilden, Anthony (1972; 2d ed., 1980), *System and Structure*. London, Tavistock.