Finke, P. 2013 "A Brief Outline of Evolutionary Cultural Ecology," in Traditions of Systems Theory: Major Figures and Contemporary Developments, ed. Darrell P. Arnold, New York: Routledge.

14 A Brief Outline of Evolutionary Cultural Ecology

Peter Finke

1 Background of Evolutionary Cultural Ecology (ECE)

Evolutionary Cultural Ecology (ECE) is a new cultural theory based largely on recent transdisciplinary studies in evolutionary theory and in the structure and function of ecosystems.[1] Therefore it is partially rooted in natural science, where it is related, for example, to the powerful and nonconformist thinking of the biologist Jakob von Uexküll (1864–1944). But there are important roots in the humanities, too. For instance, new research allowing a fuller understanding of the mind, anthropological theory, and the ecological philosophy of Arne Naess (*1912) have had a strong influence on ECE;[2] but the most important source for its ideas is the creative work of Gregory Bateson (1904–1980), especially his groundbreaking research on an "ecology of mind." Therefore, although actually developed in Europe, ECE bears heavily on European and American transdisciplinary research.[3] It is no simple refinement, however, of other conceptions calling themselves "Cultural Ecology" or similar developments such as Julian H. Steward's influential theory of cultural adaptation.[4]

Whereas most other theories of culture—the classical as well as more recent ones developed by Steward, Geertz, Rappaport, Luhmann, Assmann, or Bhaba—have largely been based on ethnological, sociological, anthropological, or other human-related fundaments, ECE takes a broader view of the problem. It includes a thorough study of some results of modern biological research that have not been sufficiently appreciated by those working with other theories. Yet one should not be mistaken: ECE is not natural scientific approach in general or a sociobiological one in particular; but these do place knowledge at our disposal that can no (longer) be neglected by any academically rigorous explanation of cultural phenomena. One weakness in conventional cultural theory has long been its insufficient assimilation of important results from the natural sciences, despite that it is surely of major importance for a better understanding of man and human culture. While ECE integrates such research, at least two facts show that ECE does not favor biologisms: (1) although it is indebted to modern biological insights, it fundamentally assumes a critical stance toward the current physicalist foundation of biological thinking (e.g. the "normal" conception of an ecosystem); and (2) it explains culture as a system of conventional rules rather than of natural laws. (Both points will be taken up below.)[5]

2 Three Fundamentals of ECE

ECE can be characterized by three fundamental convictions:

I. *The world consists of two realms, the realm of nature and the realm of culture. There is not a third.* Nature is older, culture younger. Culture has developed out of nature by evolutionary processes; and since this development has begun, culture has accompanied and influenced nature, but it does not replace it. Therefore, the two realms are not entirely distinct. Culture in particular still shows traces of its evolutionary mother nature. Besides,

the two are not strictly separated but are rather linked by a transitional zone that has to be carefully studied if culture is to be adequately explained.

II. *The evolution of culture has produced a second level of manifold varieties, mirroring the natural diversity that was produced by the earlier evolution of nature.* Nevertheless, there are universal features of culture as well as particular ones. Generally, cultures resemble ecosystems functionally and structurally for evolutionary reasons; this is the central hypothesis. However, they also exhibit characteristic differences from them. Nevertheless, they can be understood as representing an evolutionarily new type of ecosystem.

III. *Culture is neither fully restricted to the human sphere, nor is it identical with the good, the true, and the beautiful.* The latter is only a small part of culture; and our actions fail to live up to these ideals. Like their positive counterparts, these failings also become a part of culture. Our cultural behavior is ambivalent. There is a striking gap between our cultural aims or ideals, on the one hand, and our cultural everyday performance, on the other. As a consequence, we have to extend our cultural theorizing to include normative arguments, too, and to include the negative as well as the positive in the study of culture.

The following paragraphs will explain these features in more detail.[6]

3 Methodical Principles of ECE

There are some rather general principles ECE takes as a guideline for its new approach to culture: it places culture within an evolutionary context; it uses a broad conception of culture; and it fosters a consciousness of the remarkable complexity of culture.

3.1 The Evolutionary Context

Cultural scholars coming from a traditional perspective may be astonished by the weight ECE places on the earliest facts of culture, when normally such facts are of only marginal interest or are even neglected altogether. From the point of view of ECE, there is no reasonable alternative to an evolutionary explanation of our world. And we have to thoroughly study the beginning of the evolutionary process because that beginning is likely to have left lasting traces in the systems generated in the course of that development.

Long before culture came into existence, the evolution of nature began. It is not the task of cultural theory to explain natural evolution, but it is of major importance that a sufficiently developed nature preexists culture and is a precondition for any cultural process. It is important because an awareness of the structural relics of nature that are present in culture is required for an adequate understanding of culture. In ECE, nature is defined as the realm of relations governed by natural laws. This is equivalent to speaking of a realm not constructed by human action or capable of being fundamentally changed by human action. We can change the rules of the culture we are living with, but we are not able to change the natural laws. All we can do is unveil and obey them. This does not mean natural laws are invariable constants. Although this is the widely believed conservative position, there are some serious arguments that natural laws change.[7] But such change is not instigated and controlled by man; we have no influence over it. In the cultural sphere, however, we construct and influence our cultural

law.

rules—and we do so every day. We tend not to be fully aware of this constant change in culture; but even without being conscious of it, we engage in changing culture.

In the strict sense the term "cultural evolution" refers to the processes that took place during the evolution of life, which eventually led to the addition of the new dimension of psychic life to the older, physical life. It entails the emergence of new species, the systemic tools that are able to influence behavior (e.g. semiotic systems),[8] and the emergence of humans and their language and culture. Cultural evolution refers to the processes that bring about this somewhat different "daughter evolution" by means of mechanisms of the natural "mother evolution." However, "cultural evolution" is often used in a second sense, too, referring to later developments of the different cultural systems (e.g. "technical evolution," "the evolution of the computer," etc.). This usage is problematic because it commingles evolution in its strict sense with the history of human activities. Evolution is a process of self-organizing systems, whereas human history is full of personal or institutional organizers. Nevertheless, evolution is an ongoing process in human history, too, and it entails cultural evolution; but one has to bear that conceptual problem in mind.

3.2 A Broad Conception of Culture

The evolutionary context of the problem leads to the broadest conception of culture possible: nature is a predecessor to culture; and culture is its evolutionary offspring. This results in a concept of culture that is not identical with the human sphere. If the origins of culture occur well before man appeared in the world, then we have to consider the living world around us in order to fully understand culture. There is no need to describe the extrahuman cultural world in the same detail as the human world, or even to concentrate on it; but to neglect it as a vital source for information about culture is a fatal mistake of conventional cultural theories. This mistake is mirrored in the obscurity and vagueness of the common definitions of culture, and it is missing in some clear definitions like that provided by Princeton biologist J. T. Bonner, which emphasizes that "[c]ulture is the transmission of information by behavior and communication,"[9] rather than the transmission of information by genetic means, as is found in nature.

The fact that nature is seen to be a predecessor to culture does not mean that culture is viewed generally as succeeding nature. This too is a common mistaken view. Culture did not replace nature when it emerged; but since that emergence, it has accompanied its evolutionary mother and—certainly—has affected her in many respects. But nature is obviously still existent today, and it influences culture in many respects. Indeed, it remains fundamental for all culture. Because nature is the energized and carrying basis system, the disappearance or death of nature, or merely severe damage to it, would undoubtedly result in the disappearance of culture or in considerable damage to it. If we destroy the vital functions of nature, there will no longer be any culture.[10]

Everything that is not natural belongs to the cultural sphere, and vice versa. This does not imply a strict borderline between the two spheres. On the contrary: there is an important (and growing) intermediate zone between them that has played a vital role in the past evolutionary process and that continues to play a vital role today.[11]

3.3 Cultural Complexity

Culture is an extremely complex phenomenon that, again, is paralleled by the complexity of nature.

There are at least four dimensions of cultural relations: (1) the relations between nature and culture; (2) the relations between the different levels of culture; (3) the relations between cultures of the same level; and (4) the relations between parts of the same culture.

There are three different levels of culture: the psychic, the social, and the ethnic levels. Cultures on the psychic level are innate or acquired systems of personality; these are characterized by the beliefs, knowledge, and ways of life of individuals. They entail considerable cultural diversity. The social cultures distinguish between groups and subcommunities within a given society. They are more or less related to institutions that have been built on that sociocultural basis. The cultural diversity on the ethnic level ("the cultures of the world") represents a cultural manifoldness that is mainly based on the linguistic and religious systems used in apprehending the world. Today ethnic cultures are strongly affected and modified by forceful social cultures, especially science, politics, and economics.

This indicates that the intermediate level of social cultures is of special importance.[12] It has been developed into institutional forms, producing the most influential and well-defined institutions and institutes. Religion and churches, science and schools, and the economy and money are examples. On this level, we can best study the various changing strategies of intercultural immissions and emissions, influence and divergence. The narrow conceptions of culture ("music, museums, literature," etc.) that have traditionally been popular refer to this level as well.

The whole realm of culture therefore forms a complex net of relations on different levels; and the elements are parts of the whole. One of the reasons for the hitherto unsatisfactory state of cultural theory is that the complexity of the cultural net is usually only partially perceived.

4 Theoretical Principles of ECE

Following these general lines, there are three theoretical principles that distinguish ECE from other cultural theories: (1) on the basis of a functional view it understands culture as an ecological means by which it becomes possible for living beings with a psychic dimension of life to handle the new problems of that dimension; (2) it has a central structural view of culture, showing it to be a new type of ecosystem; and (3) it highlights the characteristic series of interconnected new developmental stages of natural evolution called "cultural evolution" (in the strict sense of the word), most prominently bound to the origin and further development of humankind and its language.

4.1 The Function of Culture

An explanation of the function of culture inevitably relies on the concepts of life and the living. Although important parts of culture, as it is conventionally understood, are related to nonliving objects or institutions, it is the life of the living beings that needs, makes use of, and shapes culture, cultural objects, and institutions.

Culture provides these living beings with a suitable psychic environment. It places psychic structures at their disposal that they need similarly to the way they need a suitable physical habitat in order to meet their continuing natural needs. Long before man entered the stage, many animals appeared that were endowed with certain different but well-defined cognitive abilities. Therefore, they already needed the substantially adequate psychic extensions of their physical environment that had developed with them in the process of coevolution. In ECE these are called "proto-cultures," the

systems of animal behavior. J. v. Uexküll, one of the great independent thinkers in the field of biology, already engaged in deep investigations of these "inner worlds" that codetermine the ecology of animals.[13] Such protocultures are the first evolutionary experiments dealing with the construction of useful psychic habitats, many of which have proved to be very successful and can be observed up to the present. One of their most important and conspicuous features is their use of rather species-specific interactive means for communication, which establish the species-specific webs of communicative relations. Humans still use many nonverbal skills to structure their cultures that are akin to those prehuman achievements, but the emergence of language has provided us with an important new means for cultural advancement.

The cultural environment is essential to us in a similar way to the physical environment. Human life requires the fulfillment of specific cultural needs as much as many forms of animal life require the fulfillment of protocultural needs. Therefore, any description of human life limited solely to physical life and omitting the psychic level is insufficient. The usual biological definition of an ecosystem, which makes reference only to physical parameters ("biomass," "material energy flow," and "trophic circularity"), is insufficient as a characterization of an ecosystem, even when only the nonhuman world is concerned. The web of cognitive and communicative relations that is spread out in all of those systems by the populations living with them contributes to their unity and consistency, not only externally and superficially, but even centrally and vitally. They prove the natural ecosystems to be the birthplaces of culture.

Whereas its function already clearly indicates the ecosystemic role of culture, it is especially its structural aspects that lead ECE to the conclusion that by developing culture, evolution created a new type of ecosystem.

4.2 The Structure of Culture

Culture is a systemic phenomenon. This is not a new insight, but in ECE new consequences are drawn from it. However, they will not become apparent if the systemic quality of culture is not substantially stated much more precisely than in conventional cultural theorizing, which has overlooked the key role of nature for the explanation of culture. Since everything can be described as a system, we have to characterize the special features of the cultural systems in a rather detailed way in order to cull substantial lessons from the insight that nature plays a key role in explaining culture. Bateson's ability to do this is the most innovative aspect of his thinking. To a certain extent, it could be called the kernel of the theory.[14]

If we describe culture structurally, we are often struck by the extreme differences between such structures and the structures we know from nature and by the novelties of such structures in comparison with natural structures. But the view that such differences are deep-seated only indicates the superficiality of conventional cultural analyses. In fact, a culture does resemble a woodland or a lake not only in a functional sense—since they both benefit the creatures living in them—but also in some decisive structural sense, which in present culture is largely masked by other superficial structures of later origin. What is the system-specific structure of an ecosystem? It is not only the openness to an environment or the creativity of such systems, which we can find in some nonecological systems too. The structural specificity of an ecosystem lies in its dependence on an ongoing stream of energy from outside of the system that makes possible the assembly and

maintenance of the very typical and characteristic nonlinear dynamics of its internal systems organization: a circularly organized interconnection of productive, consumptive, and reductive processes. Only a system that exhibits such a structure is rightly to be called an ecosystem.

This type of circular organization, well known from natural ecosystems, can be found in cultures, too, although they are neither found there to be governed by natural laws nor directed toward a material product (biomass). Instead, they exist there as rule-governed processes that deal with the circulation of nonmaterial information. Obviously, evolution has made a second use of the structural form of the ecosystem, which initially proved very successful within the material world and has now been redesigned to organize the immaterial world of information. Basically, Bateson already had that insight,[15] and he consequently spoke of an "ecology of mind" as an extension of the well-known ecology of matter into the psychic world of mental processes. Although this is still not very widely known or held in great esteem, this was one of the great scientific discoveries of the twentieth century, along with Watson's discovery of the genetic double helix and Chomsky's discovery of the syntactical creativity of language. In ECE, we consequently call cultures "cultural ecosystems" and relate them to their ancestors, the natural ecosystems. We thus call the new theory "evolutionary cultural ecology."

Therefore, the cultural theory that constitutes the core part of ECE is a theory of new ecosystems that have developed from their natural ancestors and have become more and more (although not fully) autonomous. In this process of the growth of culture, semiotic evolution and especially the development of a language faculty play important roles.

4.3 The Innovations of Culture

Like every evolutionary process, the emergence of culture from nature involved conservative and nonconservative processes. The fundamental conservativeness of evolution is explained by the fact that the capacity for copying a given object is its basic type of process; we call it "replication" and an object with the ability to do the copying a "replicator." The non-conservativeness of evolution is mainly based on "mistakes" happening spontaneously during these copying processes ("mutations"). As pointed out, structurally the conservative aspects seem to dominate. But there are quite a few innovations accumulating through mutations. During the whole process that eventually led to the emergence of *Homo sapiens,* a typical bundle of joint developments took place. Probably, none of these clearly preceded the other; they are typical examples of coevolutionary processes. All of them are the results of evolutionary experiments, loosening the bounds of natural determination and extending the scope for free behavior and interaction. Analyzing that coevolution, there are at least six developments of major importance to be singled out:

1. The cognitive faculties allow more and more abstract thinking, which replaces the concrete objects observed by the senses with signs handled by thought. This involves a sort of disembodiment or abstraction from spatio-temporal bindings that is quite typical for the whole of cultural evolution.
2. Whereas the natural evolution of living beings is based on a single type of replicator, the material gene, its cultural offspring begins with the emergence of a new type of replicator, the meme, and uses the new substitutional objects as carriers of information. By this, it starts and accelerates what has been called the semiotic evolution: the evolution of signs.[16]
3. The continued semiotic evolution subsequently adds new types of signs to the older natural signs: from indexical signs that already play a part in animal communication to icons that

already arose in nature, albeit reluctantly and not extensively, and from those icons to symbols quite typical for the human cultural sphere. There are many intermediate stages that could be illustrated by adapted communication systems and early forms for visualizing language (writing).

4. Action supplements and partly replaces behavior. Whereas behavior is cause driven, governed by natural laws, and lacking the possibility for free will, action allows aim-driven intentional behavior and deviations from behavioral tendencies anchored in the laws of nature.
5. Rules supplement natural laws. Rules permit the construction of new systems with organizational structures that are not to be taken for granted and that are not to be viewed as unamenable to change, but that should rather be viewed as amenable to modifications through intentional action and the development of new conventions. ECE therefore views rules and conventions as the evolutionary cultural offspring of the laws of nature.
6. The development of language (see 4.4 below).

The whole process of cultural evolution had two important effects shaping the new ecosystems: Firstly, they no longer needed roles partitioned in reference to special groups of living beings, as is characteristic of the materially based natural ecosystems. With these material systems, the production, consumption, and reduction of biomass are distributed to well-defined types of organisms ("the producers—green plants; the consumers—animals; the reducers—bacteria and fungi"). By contrast, in the circulation of immaterial information, not only is such partitioned role-playing rendered superfluous, but it also benefits new creatures who learn to act on the basis of information in all of these roles, switching easily among them. Producing information (e.g. "speaking"), consuming information (e.g. "understanding"), and reducing information (e.g. "forgetting") are three roles in the information cycle that must be mastered by each partner of an informational process. Secondly, cultural ecosystems further depend on the existence and proper functioning of their natural ancestors, and therefore on the ongoing flow of the energy of the sun. However, because of their own immateriality they do not make use of that physical energy themselves; for their own development and perseverance they need psychical energies. It is a striking fact that modern cultural theorizing (in accordance with most of the conventional humanities) entirely lacks a conception that the cultural processes need a form of energy in order to become possible at all. There is considerable evidence that the cultures themselves, especially the highly original ones, possess faculties that make it possible to perceive that energy. Given our scientific understanding of culture, however, we have to relearn that energy is not only a concept of physics.[17] It is a clear misconception to argue that, within an ever-changing world, the diverse and forceful psychic processes can be carried out with no energy at all. ECE proposes a view different from this, influenced by the thinking of the famous physicochemist Wilhelm Ostwald and other pioneers of the theory of psychic energy.[18]

These innovative views describe culture by comparing it to its mother nature. They clarify the status of the cultural theory of ECE, showing it to integrate learning from the research of natural scientists but not as belonging to natural science itself.

4.4 The Link: Language

Within that innovative framework, new means of communication became possible, language being the most effective since it allows a creative use of abstract symbols. Language certainly is the most

important innovation in the process of cultural evolution. Modern linguistics supports the view that it is not only a refinement of some recent system of animal communication but also a newly generated system adapted and restricted to the powers of the human brain. In this respect, language was the first and only developmental tool for the generation and maintenance of culture. Human culture is strictly bound to language. A different language opens a new view of the world; it renders a different culture possible. Each case of language diversity on all possible levels of linguistic diversity indicates a diversity of cultures on all possible levels of cultural diversity.

As with the signs, the rules have developed, preserving all intermediate stages up to today. The preserved, rich rule systems of natural languages might be taken as proof for this hypothesis, indicating the succession of language growth during the process of the evolution of language. In the vast structures of our natural languages they are finely assembled, spread out through the whole range of linguistic regulations. They range from strict natural laws (phonetics, neurology, and physiology of language) to rules that are still very strictly valid but that are no longer natural laws (most rules of pragmatics, parts of syntax) to those of a midrange validity (large parts of syntax, elementary semantics) further on to less strictly valid ones (most parts of semantics) to conventions toward which there is low and very low commitment (stylistics): a series mirroring the different ages of the respective parts of natural language. (The same series is to be found in complex systems of cultural rules of every kind, ranging from strictest law-like ones to various conventions toward which there is an intermediate-level obligation, to rules to which there is very little obligation: beginning with instincts and rituals, progressing through animals and man, to dogmas in the state, society, or the church, to norms like orders or decrees, to laws in the legal order, to traffic rules and rules for many games, to the directions given by composers or novelists, to usages, styles, and fashions, to advice, rules of behavior, and "etiquette," to purposes, loose recommendations, and, finally, inspiration and fancies of the moment.)

Modern linguistics has shown language to exhibit ecosystemic structures; in light of ECE this is not surprising. Language links the natural with the cultural sphere in a chronological development, and its structure mirrors the basic conservative tendency of evolution.[19]

5 Practical Principles of ECE

There are some properties of a cultural ecosystem that invariably determine its vibrancy. They insure its prospects for survival. Among the most important are diversity, flexibility, transitoriness, creativity, and cooperation. All of these properties have in principle developed on the basis of sustainable conditions in the natural sphere; they are already indispensable for nature.

Cultural diversity, for instance, is an evolutionary clone of biodiversity. Although natural ecosystems exist in many variations, including variations with rich diversity and variations with poorer diversity, less diverse systems, too, are built on a minimally required inner diversity, necessary for their functions. Diversity is as important a means for culture as it is for nature. Not only does the latter result from nature, but it also provides a starting point for later evolutionary processes. Today, the importance of this cultural diversity is widely ignored, as is the importance of natural diversity; and cultural inflexibility is often mistaken for cultural power. A necessary precondition for the needed flexibility is an intelligent regime at the borders of a culture. No culture could forever rest on its own creative powers; so learning from external cultural sources is necessary in order to augment cultural creativity, too. The cooperative ideas especially have to be developed creatively since we, as

inhabitants of the one earth, have no alternative to the development of symbiotic lifestyles. If we want to learn from the long experience of natural evolution, then our attention is not to be directed primarily to the survival of the fittest but to win-win cooperative relationships. Yet, cooperation does not entail that one give up one's cultural identity; rather, it enables us to participate in the cultural net and to learn from alternative forms of cultural life.

Culture consists of matters of fact as well as evaluations. It allows descriptive and normative characterizations. A science of culture without that normative component is blind to differences of major importance. It cannot discriminate between democracy and tyranny, humanity and inhumanity, good and evil. All that belongs to the realm of culture.

The diversity of cultures misleads many to think that there are no universal parameters for cultural evaluation. But this is not the case. In protocultures there is little need for evaluation since the lack of alternative possibilities for behavior means that alternative structures are out of reach. In human cultures things have become much more differentiated. Our freedom to act, and not only to behave, has led to the development of possible alternative actions that enable us to develop our cultures in one or the other direction. There are some important evaluation systems, especially moral, legal, and aesthetic ones. Although the different systems of morals are tightly bound to the different cultures, we nevertheless conceive of a universal set of ethical principles, which form the basic kernel of human rights. Similarly, we conceive of some basic aesthetic features as probably universal, although they are still less well defined than the ethical universals.

Mostly, culture is discussed as either an ethnic or a social phenomenon; but as has been shown, it is false to maintain that we must choose between these two. Culture is intertwined in a complex net of relations between all three of its levels ("the cultural net," cf. 3.3), and every more specified definition of culture fails to include some important features of it. ECE leads us to the conclusion that, within this complex cultural net, the role of individuals is more important than is largely perceived in the "sociological age": it is the persons who have ideas, discover new problems, and invent new ways of solving them. Since we are the agents of creativity, our cultural future is heavily dependent on the cultures of the individuals. The often hailed "wisdom of the crowds" is a biologism that is misleading and dangerous.

There are two types of life conditions: natural ones and the cultural ones. In recent decades, the growing risks to our natural life conditions have been widely discussed; and, consequently, some political steps have been taken to better them. It is a cultural issue of major importance that these steps are to be reenforced, since nature bears all of culture on its shoulders. But many involved in the discussion on this issue also fail to perceive that there are conditions for cultural life, too.

Therefore, ECE states a "principle of the intelligent learning from nature" as one of the leading principles for cultural action related to our cultural future. It does not imply a form of biologizing which would recommend that every solution nature has come up should be strictly copied in the domain of culture; that would be a rather unintelligent strategy. But it means that it is rewarding to consider whether nature has found a solution to a problem that recurs in a modified garment within the new cultural sphere. Sustainable systems are the most striking examples of natural systems that we must try to copy in cultural processes. Sustainable systems are by no means a genuine invention of man; the most perfect examples are to be found as unspoiled and fully intact natural ecosystems. An example of the original form is the sustainability of a natural woodland or river that is capable of maintaining its ecological balances over long periods of time: our practices of sustainable forestry or fishery have only intelligently imitated those. Presently we are trying to learn this for all of our economic activities.

The principle of the intelligent learning from nature makes use of what has been called the

rationality of nature. It is a rationality that has long been developed by the trials and errors of natural evolution. Although by no means all cultural problems can be solved by applying that principle, many of the systems in the natural world have faced problems similar to the problems now faced in culture, and we can learn from such natural systems. Yet the learning process at times also requires conscious deviations from the ways of nature. Nature has often preferred solutions that cannot be intelligently used as cultural guides for moral reasons. In contrast to nature, the cultural capacities of mankind allow ethical reasoning; and this certainly excludes some natural solutions from being applied to the human sphere as inadequate or shortsighted. For instance, a social Darwinism, the insipid cultural propagation of the survival of the fittest, is one example of an ethically wrong cultural strategy, a biologism, unacceptable when applied to culture. However, in the attempt to establish a sustainable economy, we find an example of intelligent learning from nature.

6 Short Remark on "Western Civilization"

In view of the factual influence of the cultural world powers, it is of vital importance that cultural development continues concomitant with ongoing strivings for cultural change. This needs to be undertaken in all cultures but especially the leading ones. So-called "Western civilization," a complex superculture with its own combination of religious, scientific, and economic features, is surely a leading force in the present global developments; and its de facto course of development is ambivalent and laden with problems. It is an economically, not ecologically, driven culture; sustainability has come to be known as a rational guide, but political actors still do not pay it its deserved attention; our globalization endeavors are carried out in ways more reminiscent of the win-lose scenarios of predators and their prey than of the win-win scenarios of symbiotic systems. Cultural diversity is severely threatened and being thinned out. We still think of borders more typically as lines of exclusion than as transitional zones of learning, and so on. However, the problems of our world are only to be solved culturally; and this requires many modifications, even hard turns, in our leading contemporary cultures.

Undoubtedly, in Western civilization many important cultural achievements are to be saved and defended: the pursuit of a rational view of the world, the models of democracy and freedom of thought, the equality of the sexes, the ideal of fraternity, and several other things besides. But there is a marked gap between those ideals and the reality of our Western culture. This is mainly caused by the ambivalent course of the globally acting cultural powers that—openly or concealed—follow the dubious ideals of egoism, marking the starting point for necessary cultural change. The aggression of the Islamic civilization, for instance, can be understood as a reaction to another more subtle aggression: the dangerous ideals in Western culture accompanying its politics of global economic and ideological dominion and control. Therefore one of the main cultural aims of our age is a substantial reform of Western civilization from the present "Wall-Street culture" to a new liveliness of its real ideals.

7 Anthropological Issues Relating to ECE

It is not difficult to understand that ECE has some major consequences for anthropological theory and

for our collective self-understanding at the present time. They are drawn not only from the practical principles we have considered, but also from the more fundamental theoretical and methodological ones. This becomes apparent once we are confronted with some common views that have arisen and become popular during the past century.[20]

The fragmented views of twentieth century scientific specializations have contributed to an image of mankind that in many respects does not align with the views of ECE. We are broadly viewed as refined constructed machines, driven by egoism and barely concealed instincts, hardly capable of real communication and moral advancement, much more endowed with destructive than constructive powers. The yes-no scheme of digitalization, far from resulting merely in a leading technology, has come to characterize our general approaches to and views of the world. Two-valued logic, computer science, the theory of abstract automatons, radical constructivism, psychoanalysis, sociological systems theory, sociobiology, and the study of our aggressions, along with other specified fields of research, have each contributed to that image. Nevertheless, it provides a distorted picture, emerging from the isolated perspectives of separate disciplines, without vision of a coherent culture of knowledge. The age of transdisciplinarity, of which Bateson's ideas and ECE are products, could contribute to some major corrections in that antiquated understanding of knowledge and man. Skeptical of the powers of our ruling paradigms, ECE strengthens the cooperative forces instead of the confrontational ones; it strengthens the consciousness of change and of the ongoing dependency of all culture on the fundamental natural processes. Man may resemble a complex machine if viewed through the superficial lenses of computer scientists, but a deeper analysis shows that it is no longer difficult to perceive the limitations of such a view, which can be seen as reflecting the tunnel vision of specialization. We are increasingly once again learning of our existential, vital rootedness in the nonhuman world; and we increasingly conceive of ourselves as partners in a comprehensive energy-flow and communication system. Led by the insights of transdisciplinary research in such various fields as quantum physics, neurobiology, cognitive linguistics, and ecological economics, we are again learning to relativize materiality and direct attention to the immaterial world. We are learning that creativity—rather than schematic skills and routines—is the most important cultural competence in life, and sustainable lifestyles, the best kind at which to aim.

ECE has not invented that emerging new picture of ourselves, but it shares the basic outlines of that view and adds information to help clarify it.

Notes

1. For a thorough introduction to this theory, see my recent monograph, *Die Ökologie des Wissens: Exkursionen in eine gefährdete Landschaft* (Freiburg: Karl Alber, 2005.). I have also dealt with this in numerous other works including "Identity and Manifoldness: New Perspectives in Science, Language and Politics," in *The Ecolinguistics Reader: Language, Ecology and Environment*, Alwin Fill and Peter Mühlhäusler, eds, 84–90 (New York: Continuum, 2001).

2. For an introduction to Naess's view, see *Ecology, Community and Lifestyle*, D. Rothenberg, ed. (Cambridge: Cambridge University Press, 1989).

3. Heidegger, Bakhtin, Ricoeur, or Foucault, for example, who influenced the alternative ecological theorizing especially in America, played no prominent role within the development of ECE. Nevertheless, there are parallels to be detected.

4. Some conceptions of "human ecology" or "social ecology" are also sometimes referred to as "cultural ecology." There are many parallels, however, nothing more.

5. Presently ECE is mainly being developed by the "Evolutionary Cultural Ecology Research Group" (E.C.E.), which

comprises scholars in Europe, Asia, and America from many different fields of research. The group is based at the University of Bielefeld (Germany).

6. See Yüce and Plöger, *Die Vielfalt der Wechselwirkung: Eine transdisziplinäre Exkursion im Umfeld der Evolutionären Kulturökologie* (Freiburg: Karl Alber, 2003); see also Finke, "Kulturökologie," in *Konzepte der Kulturwissenschaften: Theoretische Grundlagen – Ansätze – Perspektiven*, ed. Ansgar Nünning and Vera Nünning (Stuttgart: Metzler, 2003) and "Die Evolutionäre Kulturökologie: Hintergründe, Prinzipien und Perspektiven einer neuen Theorie der Kultur," *Literature and Ecology* (2006): 175–217.

7. Rupert Sheldrake, *The Presence of the Past: Morphic Resonance and the Habits of Nature* (New York: Times Books, 1988).

8. It is in this respect that J. v. Uexküll has influenced ECE to quite a great extent; cp. Jakob von Uexküll, *Umwelt und Innenwelt der Tiere* (Berlin: Springer, 1909) and *Kompositionslehre der Natur: Ausgewählte Texte*, ed. Thure von Uexküll (Frankfurt: Ullstein, 1980).

9. John Tyler Bonner, *The Evolution of Culture in Animals* (Princeton, NJ: Princeton University Press, 1980), 17.

10. Fortunately, man's capabilities for the destruction of nature are limited. Even destroying himself as a species (not only human populations) or life in general (not only special forms of life) or earth (not only parts of the earth) is not equivalent to destroying nature. The nonliving or the extraterrestrial world may not be affected to a noticeable extent. Culture, however, would certainly have to start anew.

11. This is not equivalent to saying nature is gradually fading away into culture (a slogan of popular philosophy). If nature is defined by the scope of the natural laws, nothing is lost by the progression of culture.

12. Many influential theories of culture therefore entirely restrict themselves to this level, e.g. Luhmann.

13. Uexküll, *Umwelt und Innenwelt der Tiere*. Being one of the founders of modern biology, Uexküll hoped to anchor not only the outer-worlds conception of the environment in biological ecology, but also the dimension of the innerworlds of cognition and behavior. He was disappointed that most biologists were unwilling to learn that lesson.

14. See Peter Finke, "Kultur als Ökosystem: Eine kurze Beschreibung, Erklärung und Anwendung," *Living* 3 (1993). Among Bateson's significant work on this are his *Mind and Nature: A Necessary Unity* (New York: Hampton Press, 1979) and *Sacred Unity: Further Steps to an Ecology of Mind*, R. Donaldson, ed. (New York: Harper Collins, 1991).

15. As Gregory Bateson notes: "[L]let me say that a redwood forest or a coral reef with its aggregate of organisms interlocking in their relationships has the necessary general structure." *Steps to an Ecology of Mind* (Chicago: University of Chicago Press, 2000), 490. Redwood forests or coral reefs represent what biologists call "ecosystems." Bateson obviously speaks in a more acute way than many of his interpreters, most of whom tell us his insight is merely into the pattern that connects a system. There are many types of systems, however; Bateson clearly thought of a system with a rather special structure and function: an ecosystem. Speaking of an "ecology of mind," he meant that mode of speech literally, not as a metaphorical expression only.

16. The theory of the meme as being an evolutionary new replicator following the physical gene was originally published by Richard Dawkins, *The Selfish Gene* (Oxford: Oxford University Press, 1976), ch. 11, "Memes, the New Replicators"; but, unfortunately, the author neglected the role of signs. For a discussion of the consequences to the understanding of language and culture, see Finke, "The Memory of Language: New Research in Cultural Evolution," in *Language, Signs, Nature: Ecolinguistic Dimensions of Environmental Discourse. Essays in Honour of Alwin Fill* (Tübingen: Stauffenburg, 2008). For another important work on memes, see Susan Blackmore, *The Meme Machine* (Oxford: Oxford University Press, 1999).

17. Cf. most textbooks on the energy problem, e.g. A. L. Lehninger, *Bioenergetics: The Molecular Basis of Biological Energy Transformations*, 2nd ed. (Menlo Park: Addison-Wesley, 1971).

18. Wilhelm Ostwald, *Der energetische Imperativ* (Leipzig: Akademische Verlagsgesellschaft, 1912).

19. Peter Finke, "The Memory of Language."

20. Ervin Laszlo, *The Whispering Pond* (Boston: Element Books, 1999).

References

Bateson, Gregory. *Steps to an Ecology of Mind*. New York: Chandler, 1972. Reprinted with a foreword by Mary Catherine Bateson. Chicago: University of Chicago Press, 2000.

—. *Mind and Nature: A Necessary Unity*. New York: Hampton Press, 1979.

—. *Sacred Unity: Further Steps to an Ecology of Mind*. Edited by R. Donaldson. New York: Harper Collins, 1991.

Blackmore, Susan. *The Meme Machine*. Oxford: Oxford University Press, 1999.

Bonner, John Tyler. *The Evolution of Culture in Animals*. Princeton, NJ: Princeton University Press, 1980.

Dawkins, Richard. *The Selfish Gene*. Oxford: Oxford University Press, 1976.

Finke, Peter. "Kultur als Ökosystem: Eine kurze Beschreibung, Erklärung und Anwendung." *Living* 3 (1993): 56–59.

—. "Identity and Manifoldness: New Perspectives in Science, Language and Politics." In *The Ecolinguistics Reader: Language, Ecology and Environment,* edited by Alwin Fill and Peter Mühlhäusler, 84–90 (New York: Continuum, 2001).

—. "Kulturökologie." In *Konzepte der Kulturwissenschaften: Theoretische Grundlagen—Ansätze—Perspektiven,* edited by Ansgar Nünning and Vera Nünning. Stuttgart: Metzler, 2003.

—. *Die Ökologie des Wissens: Exkursionen in eine gefährdete Landschaft*. Freiburg: Karl Alber, 2005.

—. "Die Evolutionäre Kulturökologie: Hintergründe, Prinzipien und Perspektiven einer neuen Theorie der Kultur." Special issue, *Literature and Ecology* (2006): 175–217.

—. "The Memory of Language: New Research in Cultural Evolution." In *Language, Signs, Nature: Ecolinguistic Dimensions of Environmental Discourse. Essays in Honour of Alwin Fill*. Tübingen: Stauffenburg, 2008.

Laszlo, Ervin. *The Whispering Pond*. Boston: Element Books, 1999.

Lehninger, A. L. *Bioenergetics: The Molecular Basis of Biological Energy Transformations*. 2nd ed. Menlo Park: Addison-Wesley, 1971.

Naess, Arne. *Ecology, Community and Lifestyle*. Edited by D. Rothenberg. Cambridge: Cambridge University Press, 1989.

Ostwald, Wilhelm. *Der energetische Imperativ*. Leipzig: Akademische Verlagsgesellschaft, 1912.

Sheldrake, Rupert. *The Presence of the Past: Morphic Resonance and the Habits of Nature*. NewYork: Times Books, 1988.

Uexküll, Jakob von. *Umwelt und Innenwelt der Tiere*. Berlin: Springer, 1909.

—. *Kompositionslehre der Natur: Ausgewählte Texte*. Edited and with a foreword by Thure von Uexküll. Frankfurt: Ullstein, 1980.

Yüce, Nilgün, and Peter Plöger. *Die Vielfalt der Wechselwirkung: Eine transdisziplinäre Exkursion im Umfeld der Evolutionären Kulturökologie (with contributions by Fritjof Capra, Hans-Peter Dürr, Peter Finke, Ervin Laszlo, Adam Makkai and others)*. Freiburg: Karl Alber, 2003.