

# Philosophy and Human Ecology<sup>1</sup>

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The subject matter of ecology has excited the pens of a great many philosophers. Not since the advent of Darwin's version of evolution theory have we seen such a cross-disciplinary interest in a particular area of biology. I think this interest is chiefly due to two important factors. In the first place, ecology, in its study of the relationship between organisms and their environments, represents a new kind of contextualism. As such it has become a model for all those who have been critical of atomistic and isolationist investigations in the sciences and the humanities. Secondly, the scientific findings of ecology provide us with new information concerning the consequences of human actions and their impact on the natural world. This information leads us to re-evaluate the significance of certain of our behaviors and to question many of our goals and practices. The perception of the need to change is the beginning of politics, and thus ecology has lent its name as well as its findings to the causes of various political movements.

Both of these issues are of obvious interest to philosophers and constitute problems of both theoretical and practical concern. Though these issues arise in the study of natural ecology they attain a clearer focus when we come to the study of human ecology, because the nature and consequences of human behavior become the central topic of investigation. Human ecology also provides us with additional problems of philosophical interest.

The attempt to apply scientific and naturalistic principles to the study of human behavior raises some long smoldering problems concerning the limits of naturalistic explanation. This problem expresses itself in a kind of identity crisis of subject matter. Is the study of human ecology to be considered merely as the extension of the theories and techniques of the science of ecology to the behavior of human groups, or does it include the various kinds of cultural studies usually associated with the social sciences and the humanities? Does it include, for example, both descriptive and prescriptive investigations of values? We have been careful to keep disputes over values separate from the investigations of the various sciences. In the case of evolution theory, the great philosophical debates it inspired can be seen, from

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our perspective, as peripheral to theory itself and not an essential part of its subject matter. The extension of the idea of evolution into almost every other subject area and the philosophy of Social Darwinism cannot be considered to be part of biology.

In a like manner the new rise in contextualism and the politics of the environmental movement cannot be seen as an essential part of the science of ecology. They belong to the periphery of ecology, that shadowy area where science as a social institution intersects with the general culture in which it functions and whose purposes it serves. But in the study of human ecology there are many philosophers and others associated with the humanities who think of their work as essential to the subject matter, and whose work includes various kinds of value investigation. Either the concerns of these investigators belong more properly to the periphery of the subject, or human ecology has to be thought of as something other than a natural or social science. This raises serious philosophical issues concerning the relation of the sciences to the humanities and the nature of human ecology. I think it would be worthwhile to look at some of these questions in further detail.

## Ecology and context

The word “ecology” is being used, properly or improperly, for many different kinds of contextual and non-isolationist studies. We hear of such subjects of study as “plant and animal ecology,” “social ecology,” “ecology of the family,” “design ecology,” “urban ecology,” “ecology of mind,” “ecology of freedom,” and so on. About all that these many topics have in common from one point of view is that they consider their subject matter from a very broad perspective. This wide interest in the general concept of ecology can be explained in part by the rise of a new contextualism in the approach to problems. It is necessary to understand this interest in its historical as well as in its logical perspective.

The world of intellectual culture has its fads and fashions as does the world of popular culture. These fashions or styles often reflect deep seated and more general views concerning the nature of the world and as such will come to embody certain kinds of metaphysical beliefs. Such beliefs reinforce practices and the success of practice helps in turn to verify beliefs. When the usefulness of a particular practice reaches its limits, both the practice and its associated beliefs can be called into question and a general re-evaluation may take place. This general kind of re-evaluation seems to be taking place in many intellectual disciplines simultaneously.

The development of the scientific method in the seventeenth and eighteenth centuries had a tremendous influence on the rest of European culture. The beliefs and techniques that had been applied with such great success in the areas of physics and astronomy were copied in all the other areas of intellectual endeavor. Complex systems were analyzed into their constituent parts and deterministic laws were sought

that governed the behavior of these elements. Individual elements were studied in relative isolation to determine their essential properties, and the system to which they belonged was treated as if its properties were derived from the mechanical summation of the actions of its parts. The experimental method became almost synonymous with isolation studies in the laboratory. There is nothing terribly wrong with this method of analysis, in fact it is not only useful but it is even necessary for the attainment of certain kinds of knowledge. A problem arises when this kind of analysis receives a metaphysical justification, when the elements of analysis are treated as more basic or more “real” than the system to which they belong. In the sciences this view led to a mechanistic reductionism in which the whole of the natural world, including organic as well as inorganic processes were to be understood in terms of atoms and their physical properties. Any phenomena that were not ultimately subject to this kind of analysis were considered at best as incapable of scientific study, and at worst they were considered as “unreal” or merely subjective phenomena.

The atomic and mechanistic models were also applied to the study of human behaviors and social groups were understood in terms of “atomic individuals” subject to the “forces” of desire and personal interest acting in accordance with “natural law.” Individuals were more “real” than the groups to which they belonged and were possessors of “inalienable rights” and “free will.” Though this model has been useful in justifying the development of democratic institutions, we have discovered that a community cannot be formed by the mere summation of atomic individuals.

It is the metaphysical bias that has dictated an almost exclusive use of the method of atomistic analysis that is presently under attack and not the method of analysis itself. We have discovered that there are laws and regularities that govern the behaviors of systems that are autonomous in their own right, and that, while they may be in accord with the laws that govern the parts of the systems, they are not reducible to them. While it is obviously important, for example, to study an animal in the isolation of the laboratory, we must not allow a metaphysical prejudice to prevent us from studying the animal in its natural environment. Both kinds of study provide us with information that is important and useful and need to be used in conjunction with each other. The science of ecology has become an important model for other disciplines, not because it has renounced the method of atomistic analysis, but rather because it has demonstrated the importance of contextual analysis and the relative autonomy of systematic regularities. The fact that the nature and behavior of an individual are intimately connected to its context has led us to the realization that the autonomy and isolation of an individual within a system is at best the result of an abstract and relative narrowing of attention. The broad use of the word “ecology” marks a conceptual trend away from isolationist studies toward analysis at more complex levels, and represents on both practical and theoretical levels the attempt to rethink the relationship between parts and wholes. It provides us with a model for rethinking the meaning of community in all of its significant uses.

## Ecology and human action

The findings of ecology come to us at a time in which we are all aware that the world is growing smaller. If we were to look for a word that would express the greatest lesson of the twentieth century, it might be something like “interconnectedness.” The interests of anybody easily become the interests of everybody. We have fought wars in and for countries on the other side of the world that we can barely find on maps. Some of our actions can be felt almost instantaneously and with unprecedented magnitude anywhere in the world. It is very difficult to be an isolationist, to merely attend to our own business—other people no longer allow us this luxury.

The news that ecology brings us makes us feel that the world is even smaller than we may have imagined. Our actions reverberate through nature and rebound toward the human world with frightening consequences. This news does not merely trickle down to us through textbooks or Sunday afternoon nature programs, it makes headlines in the newspapers and speaks to us of pollution and poisonings and vanished species—things we can hardly ignore. It is unwelcome news that adds to the sense of crises in our times.

By placing human action firmly in the causal matrix of ecosystem dynamics, ecology changes our understanding of the significance of action. The word “action” has some interesting conceptual implications. It is usually applied to something that I do by accident or that I am somehow caused to do by something like a nervous spasm. There is a great difference between a wink and a blink. I can get my face slapped for the former but not for the latter. A wink is an action, a blink is not. The science of ecology shows us that the scope of our intended actions is much wider than we may have imagined. I may intend to do my laundry, but I may also, as we trace the causal consequences of my action, be polluting my neighbor’s drinking water and killing various plants and animals. The first time I do it we can consider it an accident, but once I learn that my action will be continuously attended by undesirable consequences, the significance of my action changes and the question of responsibility rises where it had not been raised before. An action becomes morally questionable when it threatens the well-being of others, and it becomes the focus of political attention when the action is collectively performed, for the essence of politics is the attempt to change the behavior of others.

Many philosophers feel that ecology presents us with a mirror that critically reflects the nature of our collective actions. Its descriptions of possible ecological catastrophes present us with a clear “ecological imperative” that is “change or be changed,” “change or become extinct.” This imperative not only speaks to moral sensibilities, but to self-interest as well. As a science, ecology reinforces our awareness that the world is a strongly interacting causal community, and its findings cannot help but awaken the basic values of the culture it serves and inspire a new attempt

to integrate the human and natural communities in the pursuit of survival and well-being. Just what changes and accommodations will be necessary becomes a major issue for all the different sections of society.

## The range of human ecology

Ecologists cannot help but study the effects of human behavior on the natural world for it is often difficult to find a natural setting that has not felt the significant impact of human actions. Why, it might be wondered, do we need a special area of ecology devoted to human beings? There are of course many answers to this question, chief among which will be our desire to increase our scientific understanding of ourselves. But there is an important difference between the study of plant or animal ecology and the ecological study of humans. In studying the ecology of a particular animal species we are concerned with the relationship of its behavior to its environment. But unlike other animals, whose behavior is determined by genetic and environmental factors, human behavior is largely governed by personal and social values. We are predominantly cultural creatures. This adds a whole new level of complexity to the study of ecology. It means that for a certain range of questions concerning the ecology of human beings, the analysis of cultural values and practices will be important. Social systems and ecosystems are intimately connected, and the study of one casts light on the nature of the other. Cultures differ in their value systems and thus in their behaviors, and so in some sense, there will be as many different human ecologies as there are significantly different cultures.

We can sidestep this cultural issue by limiting the kinds of questions we ask about human behaviors. Cultures cancel out at one level of investigation. If, for example, we are concerned with the energy impact on the environment of different cultural technologies, we need not concern ourselves with the relation between values and technology. But this only carries out one-half of the ecology project—how a behavior affects the environment. Ecology is essentially a study of natural feedback systems and also includes the investigation of how the changed environment affects the species in question. Since cultural systems mediate these changes, the full study of the interrelationship between humans and the environment will require that the study of human ecology resembles a social science more than it will a natural science. Indeed, many people think of human ecology as a social science that makes use of the principles of evolutionary and ecological biology to cast light on the structures of cultural institutions and behaviors.

But such social science will run into certain kinds of conceptual difficulties if it construes its scope too narrowly. It will examine various cultural behaviors in terms of the “natural economies” that other species are subject to, and will apply various forms of the “adaptivity principle” to show how a particular behavior is retained

because of its adaptiveness to the environment. Unfortunately the concept of adaptation is often very vague and borders at times on the edge of being tautologous. We can conclude from the persistence of a certain trait or behavior in a species that it meets certain minimal energy requirements. But the mere presence of a trait or behavior does not automatically tell us whether it is more adaptive or most adaptive when compared to other possibilities. Its survival merely tells us that it is “adaptive enough.” To make a stronger claim we will have to define our terms independently of the mere fact of survival, and show both that other possibilities are less adaptive and that the energy niche is so narrow that only the most adaptive trait or behavior can be retained. In the absence of this kind of demonstration, the most we can do is declare that adaptiveness is a necessary but not a sufficient condition for the continued presence of the behavior in question. Even at its best the adaptivity principle constitutes a very low level of explanation, for it gives no account of the origin of the behavior or trait in question.

If we construe the task of human ecology more broadly, we can investigate the extent to which cultural behaviors are strategic responses to the economies of nature. When we come to the realm of strategic and practical behavior, a realm we do not enter when we investigate the behavior of other animals, belief systems and cultural models of the natural and social worlds will become important areas of study. This involves the investigation of all the relevant aspects of culture including the history of the culture, its religion, and its arts and politics. Human ecology, understood in this way, has a conceptual advantage over ordinary ecology in the sense that we are often in a position to explain the origins of a particular behavior.

The importance of these kinds of far ranging cultural studies become particularly clear if we are to understand our own behaviors from the perspective of human ecology. Here we will attempt to understand our own relationships to the natural world in terms of our cultural beliefs and practices. This self-reflexive investigation is subject to the dictates of the uncertainty principle, for what we observe we tend to change. Reasons can be good or bad, if only in a prudential sense, and when we investigate our own strategic and practical behaviors, it is natural, given the values we hold, to try to change them. Some philosophers believe that human ecology applied to our own culture becomes an applied science akin to medicine. Here, of course, human ecology provides a greater scope for ethical disputes than does medicine, for we can only know what medicine will be best if we have a clear idea about the conditions of individual and societal health.

Thus we see that any general understanding of human ecology opens a kind of Pandora’s box of approaches and issues. It is not as easy to relegate some area of interest in human ecology to its periphery as it was in the case of ecology proper. How can humanists who are concerned with value issues be an essential part of the same discipline as scientists whose work is supposedly value free. This issue is the source of an identity crisis in human ecology and has animated a search for a clearer definition of subject matter.

## The definition of human ecology

In an old-fashioned sense, to give a definition of something is to describe its essence or essential properties, and thus disputes over a definition are seen to be disputes concerning the correct characterization of a real property that the thing in question possesses. I call this an old-fashioned idea of definition because we realize today that many things called by the same name do not necessarily have the same common thread that clearly runs through all the instances so named. Things may have a common name because they share what the philosopher Ludwig Wittgenstein referred to as “family resemblances.” Failing to find a simple thread running through all the things that are called ‘games’, he said that we find instead:

A complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail. I can think of no better expression to characterize these similarities than “family resemblances”; for the various resemblances between members of a family: build, features, color of eyes, gait, temperament etc. etc. overlap and criss-cross in the same way. And I shall say: games form a family. (Wittgenstein, 1953, p. 32)

This concept of family resemblances provides us with a helpful way of considering the field of human ecology. Almost everyone concerned with the subject seems to have a favorable definition that reflects, in one way or another, the interests of their own particular field. Many of the proposed definitions are strongly prescriptive in the sense that in attempting to say what human ecology is, they are also saying what it ought to be. These kinds of definitions seek to limit the subject matter and restrict the nature of the questions to be pursued. Is this necessary?

Everyone will probably agree that human ecology is the study of the relationship between human beings and their environment. Why not leave it at that? At present the subject seems to consist of a whole range of overlapping and interconnected questions and concerns that involve disciplines that have been traditionally thought of as fundamentally distinct in purpose and method. There are good reasons for making a logical distinction between the sciences and the humanities, but this does not mean that human ecology must be understood in terms of the traditional model of an intellectual discipline. There are no good reasons to give it an artificial unity by imposing a particular set of purposes and methods on its subject matter; by giving it the stamp of one discipline rather than another. It has its own unity in terms of its nested and interconnected questions. Its wide-ranging investigations need not compromise the integrity of the particular disciplines involved, as long as the investigations are carried out in the spirit of pluralism.

The humanist’s investigation of the relation between belief structures and environmental behaviors need not conflict with the biologist’s attempt to measure the relative adaptivity of those behaviors. Neither one alone can answer all the kinds

of questions that might be relevant, nor does either one possess a complete list of all the questions that might be of interest. Unfortunately, there is a long-standing quest for the unity of knowledge that has become synonymous with a kind of simple reductionism. According to this reductionist model all knowledge will be unified by being translated into the languages of the sciences. But this is akin to thinking that all maps, including those mapping social and political divisions, can be reduced to maps of physical geography. A more realistic approach to the idea of the unity of knowledge is to think of constructing a series of maps covering a common terrain but displaying different levels of relationships between concepts and objects of different kinds. Some of the features on different maps will be able to be closely correlated, other features will be found to be related only to items that appear on their own map. This cross-mapping approach to the search for knowledge is used all the time in the sciences, particularly those that deal with human behavior. The reductionist model prevents us from noticing it.

As the natural sciences are committed to a non-teleological approach to phenomena, teleological references to reasons and purposes will not appear as features in a scientific mapping. Yet, in an area with neurophysiology, we are constantly locating interesting phenomena in teleological terms and then studying their projections on a map of physiological structures and events. Many of the questions of neurophysiology are “nested questions” in the sense that questions that are stated on one level of conceptual mapping are given subsidiary information in terms of a different conceptual map. The bankruptcy of reductionism is shown when the attempt is made to reduce all questions and answers to one particular mapping.

Human ecology can be generally understood then as a pluralistic approach to a series of nested, interrelated, and overlapping questions concerning the relation between humans and their environment. It is interdisciplinary in nature and yet is not a discipline itself in the usual sense.

## Something new and something old

If human ecology is to be understood generally as the study of the relationship between human beings and their environment, or more particularly, the relationship between human beings and nature, then its subject matter must be as old as human culture itself. For the natural world is the stage upon which all human action takes place—it sets the basic problems of survival and tests the strategies that guide a variety of human behaviors. Without some knowledge of the working of nature, and without some set of successful strategies for dealing with the natural world or the immediate environment, no group can long survive. Thus the search for this kind of knowledge is as old as it is necessary. That a group survives for an extended period of time is a testament to its knowledge and understanding of



the practical economies of nature. This knowledge becomes embedded in its folk wisdoms, its images and ideals and in its cultural institutions in such a way that it seems largely unconscious and unreflective. Its value structures will determine which actions will be permitted and which actions will be proscribed. In a relatively unchanging world the form of a culture comes to fit the form of its environment on a very basic level.

Our own society is a peculiarly dynamic one. We are continually changing both the form of our society and the form of the world. Our actions often run ahead of our knowledge of their long-run consequences so that it is difficult for us to decide which of our actions to permit and which to proscribe. Many of our cherished beliefs and ideals seem to make self-restraint a virtue that is difficult to practice. Yet, we stand in need of the same kind of knowledge—or if you will permit—the same kind of wisdom that others have sought before us. Our task is made more difficult not only because of the complexity of our society and its relationship to nature, but also because our knowledge is so vast and fragmented by the necessities of concentration and specialization. Where else but in the area of human ecological studies, with its rich pluralism, can all the necessary information be brought together with the right kinds of questions? To its diversity must be added the ability to raise questions concerning new strategies and new goals in our relationship to the environment.

This broadens the field of human ecology still further by including not only questions concerning what our relationship to the environment is, but also questions concerning what our relationship to the environment ought to be. These are, after all, the questions that most interest philosophers and politicians. But in what way can prescriptive investigations and descriptive investigations be considered part of the same enterprise? There are no major difficulties here if we remember the prevalent use of “nested questions” that are already part of many of our investigations. The study of medicine does not compromise the field of biology merely because the pursuit of health is a societal value. Values guide and inform almost all of our behaviors including the pursuit of knowledge and truth in the most theoretical of our investigations. The so-called “problem of values” arises in two different ways. In the first place we must not allow our values to distort and prejudice our investigations or our judgments in certain areas. This is the issue of objectivity, and it is as important in the law courts as it is in the laboratories. In the second place we must remember Hume’s warning that we cannot get value out of nature unless we first put it in. This is especially important for philosophers who are concerned with what our relationship with nature ought to be. The danger lies in thinking that we can somehow discover what ought to be valued by studying the way nature is. What we can discover by studying nature are better strategies or more intelligent goals, but these already presuppose a set of accepted values. The scientific facts of ecology, or the facts uncovered by the study of cultures add at best merely

prudential weight to a philosopher's arguments. There can be experts in ecology but there are no experts in values. The realm of values has its own kind of dialectic and its own methods of arguments and demonstration.

The facts disclosed by ecological investigations can show us that given certain values and goals, our strategies are mistaken. We can do one or both of two things upon this kind of realization. We can change our strategies while leaving our goals and values intact—this is the approach of the “technological fix,” or we can give various kinds of arguments to change our goals and values, and thus ultimately our strategies as well. The decisions to deal with the important disclosures of ecology or human ecology in either of the two ways is a matter of practical prudence and, in our society, of practical politics. This is the best that the “human ecology project” can accomplish. There are no short cuts to wisdom. We can only assemble the best information we can get concerning the relationship between human beings and their environment and present it in such a way that we can inform the dialectic of decision-making. Nature cannot help us here, we have to help ourselves.

## References

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