There is No Biotic Community

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It has been suggested that the biosphere and its component ecological systems be thought of as "communities"; this is often invoked as a reason to attribute it moral significance. I first disambiguate this claim, distinguishing the purely moral, social-factual, and biological-factual senses of this term, as well as distinguishing primary from derived meanings, drawing on material from philosophy, sociology, psychology, and ecology. I then argue that the ethically important sense of the term is one that does not apply to ecological systems, though it could in the future, and that it is misleading to base ethical arguments on claims about "biotic communities."

Environmental ethics is replete with references to "community," singular or plural, factual or moral. The term appears in the oft-quoted "summary maxim" of Aldo Leopold's "Land Ethic," declaring that "[a] thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (1949, 224). Some critics have regarded the term as so ill-defined as to be meaningless, or else as incoherent when applied outside human politics. Against such critics, I argue that we can make perfectly good sense of a "biotic community"; against many environmental ethicists, I argue that in this intelligible and clear sense, there does not exist a biotic community: there may be many human and many non-human communities, but ecological systems, or the whole biosphere, are not communities.

Showing this will require carefully distinguishing various senses of the term "community." In summary, I argue there is a primary non-technical sense, namely, a group connected by mutual benefit and mutual concern. Other senses are derived from this sense in various ways. Distinct from these is the technical sense—biologically, a "community" is a group of co-located interacting populations.

In section 1, I review the ways that some environmental ethicists deploy the term "community" in elaborating their views. I argue that there are two distinct forms of deployment, one invoking a moral sense of "community" and the other a factual sense.

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In section 2, I consider how the factual sense of the term is defined by various authors in different disciplines, arguing that there is a core definition widely agreed on, despite variations in detail.

Section 3 starts by pointing out that, in this sense, ecological systems or biological communities are clearly not "communities," and then considers whether it might nevertheless be appropriate to call them such in a secondary or metaphorical sense. Finally, in section 4, I draw some conclusions about how this might affect the way we think about ecological systems and their value.

The Appeal to Community

In reviewing the uses of "community" by environmental ethicists, the first thing to clarify is the contrast between factual and purely moral uses, which work very differently but are often mixed together. We can distinguish them by asking whether the "community" exists before we decide to value it, or whether it comes into existence through that decision.

This contrast often appears within a single text: for instance in *A Sand County Almanac* we find it said of the Land Ethic both that "it implies respect for [our] fellow-members, and also respect for the community as such" (1949, 204), and that it "simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land" (203–4). In the first quote, "the community" is what is *given* respect, implying that it exists prior to our giving it respect: this is the factual use of "community." By contrast, in the second quote, "the community" has its boundaries decided by what we include within it, and a particular entity's being within the community is *determined by* our paying it respect, not a *prior reason* why we should: this is the moral use.

Or consider this single quotation from Michael Nelson: "Once we come to see the natural world as a community . . . upon which we depend, our feelings of care and respect further expand outward to include the biotic community . . . [we] realize that wholes such as ecosystems, species, or biotic communities might also be included within our moral community" (1996, 110). So first we see that the natural world *is* a community, recognizing certain pre-existing facts, and then we *can* and *should* include it within our "moral community."

Both uses are widespread, so let us consider each in turn, starting with the moral use. This is often framed in a particular historical narrative: in the past, humans recognized moral obligations only to a handful of other humans, but over centuries the range of people recognized as having "moral status" grew, and now (in theory) encompasses the entire human race. This is described as an "expansion of the moral community." Philosophers have then attempted to present their favored views "as the next 'step' in the on-going process of social-

ethical evolution" (Callicott 1984, 305), often by incorporating non-human beings, rejecting anthropocentrism as analogous to racism or national chauvinism. This move has been made both by Animal Liberationists, demanding "inclusion" for higher animals, and also by environmentalists demanding it not only for animals but for plants and even certain corporate entities like species. Some examples:

- "Animal welfarists point out that some long-disdained animals have intentional and qualitative states. They suggest that the moral community be expanded accordingly" (Agar 1997, 148).
- "[We might] ope[n] the community of morally considerable beings to plants as well as animals" (Callicott 1984, 301).
- "As man advanced in civilization, and small tribes united into larger communities . . . each individual . . . extend[ed] his social instincts and sympathies to all the members of the same nation though personally unknown to him" (Darwin 1904, 97).

In the moral sense, then, our "community" is all those beings in which we recognize some sort of intrinsic moral status. Importantly, this recognition may be asymmetrical and requires no definite relationship between "us" and those we recognize. Moral philosophers can debate where we *should* draw the boundaries of this community, without leaving their armchairs, because such a debate concerns what values we regard as valid. I shall return to this purely moral sense of the term later, to explore how it relates to the other senses.

While a moral debate might frame its conclusions in terms of how our "moral community" should be drawn, it will need to make reference to those pre-existing factual entities which are regarded as morally relevant. Among these latter entities we find "communities," in a factual sense. Here we find environmental ethicists declaring, not that there should be communities of a certain sort, but that there *are*, and that this fact has ethical consequences.

The weaker claim that might be made here is that biological "communities" should receive moral consideration, *for whatever reason*. The iconic such claim is in Leopold's already-mentioned "Land Ethic," to what promotes "the integrity, stability, and beauty of the biotic community." The "biotic community" here is not something whose boundaries we can choose how to draw, or which *moral* philosophers can be asked to adjudicate; it is something that already exists. It might more neutrally be called "the biosphere," or "the totality of living things on earth and their interactions." I will say nothing about this weaker claim, that ecological systems have value in themselves. My concern is with a stronger claim: that they have value *in virtue of being communities*. That is, "communities" in general are valuable, or otherwise morally

significant, and ecological systems are "communities," and hence they share in this value.

This argument is well expressed in Donald Worster's gloss on Leopold: "The right of life and liberty . . . must belong to all beings, *for* all are members in the biotic community" (1994, 288, emphasis added). In more developed form, it typically has three steps.

First, there will be some claim about the link between "community" in general and ethics. Sometimes this simply notes that traditional ethics recognizes the intrinsic value of communities as wholes, whether in extreme form as in Plato's hyper-communal Republic (Callicott 1989, 326–329), or in more mundane forms such as "moral sentiments . . . toward family as well as family members and toward community as well as its constituents" (Nelson 1996, 109).

At other times the link is stronger, claiming that "all ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts" (Leopold 1949, 203), or that "the key to ethics, ethical behavior, and the process of ethics is found in society and sociability, or community. . . . Ethics, then, is correlative to society or community; i.e., a change in one brings about a corresponding change in the other" (Nelson 1998, 743–744).

Following this claim about how we think about human communities come claims about "biotic communities." Here is a sample:

- "The insights of ecology can reveal to people that they are integrally part of the large biotic communities of the world" (Frasz, forthcoming, 5).
- "Leopold . . . simply pointed out that ecology represents plants, animals (including human beings), soils, and waters as members of one humming 'biotic community'" (Callicott 1986, 305).
- "[Leopold] recognized that the land or biota, like our human societies, is organized as a community—the biotic community" (Nelson 1996, 110).
- "Ecology represents nature as a biotic community; it reveals that humans are members of a nonanthropocentric, biotic community. . . . The Land Ethic is the ethical response . . . corresponding to our most recent realization that land is likewise organized as a community" (Nelson 1998, 744).

The reason I sought earlier to carefully distinguish the moral and the factual uses of "community" is that it is crucial to this step in the argument under consideration that our membership in "biotic communities" is a fact, something we are called upon to recognize. It is

not presented as a moral aspiration or injunction, but as a reality that we must attend to.

So the claim is that we intuitively and uncontroversially value certain social wholes (which we call "communities") and ecological systems are, *as a matter of fact*, relevantly similar. They can thus be called "biotic communities," and our intuitive moral respect for human communities ought to be extended to them. This is the line of reasoning which I think a careful analysis of the meaning of "community" will show to be fallacious.

In section 2, I will undertake that analysis. In the remainder of section 1, I will briefly run over some existing criticisms of the "biotic community," as well as noting some of the complexities of the appeals to it made by writers like Nelson and Callicott.

Already we have the word "community" performing a confusing variety of tasks. Firstly, it names the subject which is to be accorded moral significance; secondly, it identifies the reason for according it that significance; and thirdly, it expresses the response that is called for. We are asked to expand our moral community to include biotic communities, because they are communities.

A further complexity is that the moral significance of communities might lie in their being valuable themselves, or in them conferring value on their members. For instance, Callicott asks us both "to preserve the integrity, stability, and beauty of the biotic community" as a whole and also "to extend [our] social instincts and sympathies to all the members of the same (biotic) community though differing from [us] in species" (Callicott 1986, 305). Indeed, this duality has been appealed to in defense of the view against the charge of "environmental fascism" leveled by Tom Regan and others[1]: we can value the whole and the parts simultaneously (e.g., Nelson says holism "is not inhumane because, as fellow members of the biotic community . . . individuals garner due moral consideration" [1996, 113]).

Of course, there have been voices critical of this talk of "biotic community." I will consider three examples. Firstly, Frederick Ferré writes that "the words Leopold chose . . . are notoriously hard to understand with precision . . . 'community' was never an exactly defined term" (1996, 17). But Ferré in the same article speaks of the "community of valuers" that inhabits our planet (25). This sort of criticism—that the terms are vague and ill-defined—is paradoxically moderated by its severity. Because it is so severe as to accuse "community" talk of being not just wrong but *meaningless*, it cannot on that basis *reject* such talk without rejecting all talk of community in any context, which no one

1. See for instance Regan 1983, 361–363, and Zimmerman 1995.

wishes to do. Hence it becomes not so much a substantive critique of the concept as a proof-reader's comment: "be more precise here!"

Secondly, Bob Taylor says that "it is difficult to understand how the non-human world can ever be integrated in a meaningful way into [a liberal political] community," because such a community "requires a relationship of equality" (Taylor 1991, 573). But this is a very specific sort of community: arguably, many people are members of communities in which they are not equals—consider children. So while it may be an appropriate criticism of a particular way of cashing out the term "community" (Taylor has in mind Nash's analogy between environmentalism and abolitionism), it says nothing about the validity of the term itself, or arguments based on it.

Thirdly, there are the various critics of "eco-fascism," who object not to the coherence of "community" talk but to the perceived threat it poses of "collectivisms that would submerge individuals for the sake of some mythic supervening 'good of the whole'" (Ferré 1996, 23). I briefly alluded to one manner of defense that has been offered, and I will not further rehearse this controversy: suffice it to say that anyone who advocates culling humans deserves the "fascist" label, but nobody is committed to advocating such culls merely through according intrinsic value to "biotic communities," since this does not preclude according intrinsic value to individuals.

Against all of these criticisms, I want to suggest that talk of the biosphere or ecological systems as "communities" is neither hopelessly vague, nor totally inappropriate, nor automatically dangerous. It is a perfectly coherent claim, which could conceivably become true, but happens to be false.

What is a Community?

We have already seen the distinction that must be drawn between a factual community, which is prior to moral judgments and can provide grounds for them, and a moral community, which is defined by the moral judgments we make. We must now ask what sort of fact is involved in the existence of a factual community.

Two types of systems in particular have traditionally been called "communities": ecological "communities," and certain sorts of human social groups. It is important to recognize that these two senses of the word are not simply the same idea applied in different contexts, but distinct ideas. The claim made by certain environmental ethicists is that communities in the biological sense are *also* communities in the social sense, and hence should be accorded the same moral significance.

We should note the diversity of terms which appear in the history of ecology to refer to some sort of ecological system larger than a single individual or species-population: "ecosystem," "community,"

"climax community," "biosphere," "biocenosis," "holocoen," "biotope," "biome," and "formation."

To give an impression of the complexity of this collection of terms, consider a sample of the questions that distinguish them:

- Does the complex in question include only living organisms, or organic matter, or does it also include soil, air, water, etc.?
- Is it a definitional requirement that these complexes be in some sort of equilibrium or long-term stable state, or that they be progressing steadily towards such a state?
- Can these complexes be productively studied as whole units, rather than via study of their individual components? Must they be?

Very roughly, the term "community" seems to be used with a negative answer to the first two questions: hence a recent textbook defines a "community" as merely "an assemblage of species populations that occur together in space and time" (Begon et al. 2006, 469). This distinguishes it from "ecosystem" ("a system involving the interactions between a community and its non-living environment," *Times English Dictionary*). But nothing in my analysis turns on this; for each of these fundamental questions, I seek to be non-committal.

In the rest of the essay I will tend to use terms like "biological community," "ecological community," or "ecological system" for this generic scientific meaning, intending them as neutral on these various significant questions, and reserve the term "biotic community" for the ethically-charged concept employed by Leopold and others.

I should also note that I will steer clear of the idea of ecological systems as "complex organisms" or "superorganisms" (as in Phillips 1931 and 1934). This idea is in some respects similar to the idea of them as "communities," but is clearly distinct, since we typically do not hold a human community to be a single organism, at least not by definition.

Given everything that I am deliberately ignoring, what points about the ecological term "community" do I think *are* important? Firstly, that it is a scientific concept, and as such does not intrinsically carry any ethical significance. It is a tool for identifying an object of study, and as such says nothing about the value that this object may or may not have.

Secondly, the fact that the same word ("community") is used both for ecological discourse and for discourse involving human social groups tells us nothing definite, in itself. It may be suggestive of some analogy between them which prompted the term's use for both, but this will have to be investigated independently. The term has been given a technical meaning (e.g., "assemblage of species populations together in space and time"), and so the statement that certain populations form a

community means that they fit that definition (e.g., occur together in space and time).

I emphasize this because of the tendency, evidenced above, for some writers to suggest that science "reveals to us" that ecological systems "are communities." In one sense, this is clearly true—they are communities *in the technical sense*, meaning simply that they are ecological systems. But in another sense, that of communities like our human communities, this claim is not obviously true. Perhaps it is true, but it is not shown to be true just by the occurrence in ecology of the word "community."

So any claim about the ethical significance of these ecological systems must be justified by some argument that goes outside of ecology itself. As discussed in section 1, this has sometimes involved drawing a link with human communities, which are often considered ethically valuable, and which ecological systems are claimed to resemble in the relevant respects. But what are these relevant respects? What are the relevant features of a human community? This is the question to which I now turn.

Now, since "community" in this sense is not a scientific term, its usage is much looser and more nebulous. Any appeal to dictionaries will yield around a dozen subtly different definitions, such as "a group of people living together in one place," "a group of people having cultural, religious, ethnic, or other characteristics in common," "a feeling of fellowship with others," "a group linked by a common policy," or just "a unified body of individuals."[2] Within this jungle, we must distinguish both the primary meanings from the derived ones, and the relevant ones from the irrelevant ones. I will try to argue that there is a single primary meaning, which demands that members of a community care about each other in some way, and that all other uses are secondary, derived from this one.

First consider some issues of grammar. "Community" can be used as a count-noun ("giving power to local communities"), as a mass noun on its own ("we need more community," "this place is devoid of real community"), and as a mass noun with "of" ("community of interests," "community of property"). Correspondingly we can speak of a pairwise relation of two people "being in *a* community with each other," "being in community with each other," or there being "community of interests (etc.) between them." Finally, we often speak of a "sense of community," which may be distinct from, synonymous with, or a representation of, "community."

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2. Taken from *The Times English Dictionary* (3rd ed.), *Merriam-Webster's* (10th ed.), and *Google-dictionary* (accessed May 2011), s.v., "community."

Matters become a little clearer when we consider the link between "community" and "common," both meaning something like "shared." If two people have "community of interests" we can also say they have "common interests," i.e., they share interests. Similarly, "common values" or "common land" could plausibly be called "communal values" or "communal land."

This invites the question: when people form "a community" *simpliciter*, what do they share? Relatedly, when people feel a "sense of community," what do they feel a sense of sharing? It cannot be sufficient to just share "something," since any two entities "share" both infinitely many properties, and infinitely many overlapping regions of space and time.

Similarly, we cannot rest content with the diluted meaning involved in phrases like "the Hispanic community," or "the academic community"—if any group with a shared feature were a community, the term would not have any moral connotations (consider "the psychopath community"), and would be simply a tool for referring to groups. Certainly it would be no aid to environmental ethics to say that "all living things are a community," if it just meant that they share the property of being alive.

It will be helpful therefore to move beyond dictionaries and consider how theorists have used and defined the term. I begin with two philosophers, Ronald Dworkin and Alasdair MacIntyre. Dworkin analyses the concept of community with the goal of using it as a defense of political legitimacy. This involves first elaborating a set of conditions for a "true community," based on considering relationships widely recognized as having special moral relevance (family, friendship, etc.) and then showing that those conditions can be plausibly seen in the structure of many states or "political communities."

These conditions are fourfold: members must *regard* their relationship as generating *special* obligations owed *personally* to individuals, and must see each of these obligations "as flowing from a more general responsibility each has of concern for the well-being of others in the group," a concern which must be *equal* at least in the sense of "assum[ed] . . . [to be] equally in the interests of all" (Dworkin 1988, 200).

Given these conditions, Dworkin says "we must be careful to distinguish . . . between a 'bare' community, a community that meets the genetic or geographical or other historical conditions identified by social practice as capable of constituting a fraternal community, and a 'true' community, a bare community whose practices of group responsibility meet the four conditions just identified" (201).

The first thing to note is that Dworkin distinguishes stronger and weaker ways of using the term community; the second thing to note is that he makes the stronger sense definitionally primary, since

we can only speak of "bare communities" because we can speak of "true communities," whose self-definitions specify certain "genetic or geographical" conditions (e.g., speaking the same language as, having given birth to, etc.) that can be fulfilled even without the mutual concern that would make them "true communities."

A final note: Dworkin is sensitive to the complaint that *feelings* of concern for particular other people are unlikely when we are dealing with millions of individuals. Hence he emphasizes that the "mutual concern" he requires is "not [a] psychological condition . . . [but] an interpretive property of the group's practices of asserting and acknowledging responsibilities" (201). That is, while members of some "communities" (like a family) may feel and express mutual concern directly, in a large political community, they do so by supporting general practices and institutions that themselves express such concern, and by taking the appropriate standard for evaluating those institutions to be their success at expressing mutual concern.

Dworkin assumes that members of communities must value *each other*. A subtly different model appears in the work of Alasdair MacIntyre, who has been influential in the rise of "communitarianism" as a political school. MacIntyre argues that "the virtues," and moral reasoning in general, can only coherently take form in the context of "practices," which are activities such as sport or art providing "internal goods," goods found in the activities themselves (as, e.g., artistic appreciation is only obtainable through the practice of art) in contrast to "external goods" such as money, relaxation, or popularity, which can be sought through a variety of means (1981, 188–189).

Around a practice, MacIntyre writes, there must be a community of people united by their concern for its internal goods; without this community, the standards defining the practice can neither be learnt nor applied, and so the practice itself is impossible. As a result, "care and concern for individuals, communities and causes . . . [is] crucial" to a practice (192).

We need not decide whether such communities are really necessary for virtue; what is relevant here is the way that participants in such a community value other participants on account of their shared valuations of some other good; what defines the community, so to speak, is not relations directly between persons but rather a relation to an impersonal value, mediated through relations between persons.

A less recent contribution to this topic is the influential distinction drawn by the early German sociologist Ferdinand Tonnies between the German terms *Gemeinschaft* and *Gesellschaft*, commonly translated as "community" and "society" respectively. In his seminal work dedicated to this contrast, Tonnies says that both are species of *verbindung*, sometimes translated "association," i.e., "relationships of

mutual affirmation" between "human wills," in which "assistance, relief, services . . . are transmitted back and forth from one party to another and are to be considered as expressions of wills" (2002, 33).

So both *Gemeinschaft* and *Gesellschaft* are relationships in which people transmit "assistance," "relief," and "services" to each other; what differentiates them? Tonnies says that *Gemeinschaft* includes "all intimate, private, and exclusive living together" (33), and covers family relationships, marriage, and bonds of religion, nationality, and language. By contrast, *Gesellschaft* covers "business, travel, or sciences . . . [or] any other groups formed for given purposes." Tonnies says that *Gesellschaft* can be morally ambivalent, while *Gemeinschaft* is by definition positive: "A young man is warned against bad *Gesellschaft*, but the expression bad *Gemeinschaft* violates the meaning of the word" (33–34).

There are, then, two characteristic ways in which people's wills can be in "mutual affirmation": the "mechanical" manner of *Gesellschaft*, typical of business and capable of being good or bad, and the "organic" manner of *Gemeinschaft*, definitionally good and paradigmatically expressed in the family. This already suggests a parallel with Dworkin's "bare communities" and "true communities." But let us consider one more approach to definition, found in more recent empirical literature.

The psychologists David McMillan and David Chavis propose to define, not "community" *per se*, but "sense of community." Given plausible assumptions, these two endeavors come to the same thing: if the factors that lead people to feel a sense of community are the same as those that lead them to utter and assent to statements like "this is a strong community," then investigating the determinants of the feeling will *ipso facto* reveal people's implicit definitions of the term. But even if not, the two are closely linked.

McMillan and Chavis propose four elements to a "sense of community": defined boundaries that let members be confident of "belonging" and give them a sense of "privacy" and safety from external threats (emotional or physical); reciprocal influence so that each member both influences and is influenced by the group; integration and meeting of needs, so that members receive benefits for being members; and emotional connection, produced by shared experiences, history, or values (1986, 9–14).

The more each of these factors is present, they claim, the stronger people's sense of community will be. They do not say whether there is some minimum threshold below which that sense is entirely absent; it would seem natural to think that there is, and that even though, for instance, a market transaction might involve both reciprocal influence and mutual meeting of needs, and define "membership boundaries" clearly, it might easily generate no sense of community at all, because it

lacks emotional connection. Indeed, McMillan and Chavis suggest that "shared emotional connection . . . seems to be the definitive element for true community," and connect it explicitly with Tonnies' *Gemeinschaft* (14).

Having considered a range of definitions, I make two claims, a weaker and a stronger. The weaker claim is that there is *a* meaning of "community" that unifies all of the four theoretical definitions considered, as well as many everyday uses. The stronger claim is that this meaning is *the* primary meaning, and that all others are derived from it in one way or another.

I will start with the weaker claim. First, consider Dworkin's and MacIntyre's accounts, which share that idea that, whether in the direct concern found among friends, the institutional concern of a polity, or the shared values animating a community around a practice, members of a community are linked by their *valuations*. These need not be "moral" valuations per se, but could include affection, fondness, admiration, etc. Either the members value each other, or they value the same things. Moreover, these two will tend to converge, because typically when two people both value an activity or ideal, they will value each other for that valuation (or, MacIntyre might say, for the virtues exhibited in their pursuit of the shared value), and conversely, when two people value each other, they are likely to value whatever the other values, if only as "something that pleases and benefits this person." Of course we need not require each member to value every other member—only that each values, and is valued by, "enough" of the others that the whole group is "woven together" by such links.

This sharing of values connects with how Tonnies describes *Gemeinschaft*: not only must it, like *Gesellschaft*, involve "mutual affirmations of wills," but it "is based upon . . . direct interest of one being in the life of the other, and readiness to take part in his joy and sorrow" (2002, 47).

This value-based criterion does not suffice to yield the full set of variables that McMillan and Chavis assemble for their "sense of community," but it is one part: feeling in community with people involved "a sense of security that they were among people who cared and whom they could trust" (McMillan & Chavis 1986, 17), "a feeling of acceptance by the group, and a willingness to sacrifice for the group" (10), "emotional security" (9), and a "shared emotional connection" (14). That their construct should extend beyond this minimal definition need not challenge that definition's adequacy, since their goal is not just definitional, but also empirical, demanding interest in factors that tend to result from, indicate, or contribute to "community," as well as those that directly constitute it.

This account is not quite complete. Shared valuations are the *distinctive* feature of communities on this definition, but they do not seem

to be the only necessary condition. Tonnies says that both *Gemeinschaft* and *Gesellschaft* involve a "mutual affirmation of wills," i.e., they involve the voluntary actions of A being also such as B might voluntary choose. Similarly, McMillan and Chavis speak of "reinforcement" that members gain through their membership. The purely subjective element, mutual concern, needs to be supported by objective events and actions providing mutual benefit. But this on its own is mere "society" or *Gesellschaft*.

Could we perhaps have only mutual concern without mutual benefit? I would suggest that such a phenomenon is rare and inconsequential in practice, and hence there is no generally-accepted verdict. This is because if people do care about each other, we would expect them to benefit each other when they had the opportunity, and more fundamentally because merely conveying to someone a positive valuation of them *is* beneficial: it makes them feel good, boosts their confidence, etc. A group of friends, for instance, who do not give each other money or services, but simply "hang out," will in general be hugely beneficial for each member's quality of life, and for their mental and physical health, simply because of the effect of spending time with people who convey, explicitly and implicitly, that they value each other.

So it seems that "community" in this sense requires *both* mutual concern and mutual benefit, largely because mutual concern typically guarantees mutual benefit, given communication. This, I think, is why Dworkin speaks of true communities as not only sharing valuations, but also requiring some sort of "genetic or geographical" criterion; typically these criteria function to secure meaningful interactions, if only communicative (consider the criteria for friendship—I may wish you well, but we are not friends if we never talk).

So we may frame at least one prominent definition of "community" as: *A group of people 1. in regular, mutually beneficial interaction, 2. who either a: value each other intrinsically, or b: intrinsically value the same things.*

Now, it seems unlikely that this definition will apply to ecological systems; indeed I will argue that it does not. Might there be some other definition of the term? My second claim is that, outside specifically defined scientific terms, all other definitions are derivatives of this one. Section 3 will discuss the implications of this; here I must try to substantiate this analysis, which I will begin by showing how this derivation works in some particular cases.

First, recall the purely moral way that some philosophers use "community," reviewed in section 1, asking us to "expand our moral community" to include various beings. This is simply the valuation element of a community, abstracted from the rest of the definition, and thereby moralized and made unilateral. That is, in the primary sense, a community is linked by its members valuing each other; thus

to ask someone to value a certain set of beings could be expressed as asking them to regard them "as if" they were members of that person's community. This would mean something like "the attitudes which *would* be constitutive of a community between you and X *are*, for whatever reason, warranted by the nature of X."

Secondly, consider a common dictionary definition: people are in community when they "live together in the same area." As it stands, this definition is clearly inadequate, because it leaves implicit the standards by which it would actually be applied.

For instance, the simplest example of people *not* being in community is when they do not interact at all. But two people who don't know of each other, who consume different resources and keep different hours and generally have negligible effects on each other, might nevertheless live very nearby. So merely "living in the same area" is insufficient for community.

What if we added a requirement that the people interact significantly? But consider two armies facing each other on a battlefield, and suppose that the soldiers of each are sufficiently fanatical or brutalized to fight without mercy or rules of war. As the bullets fly, these people are clearly interacting with each other, and they are living, and they are in the same area. In a protracted campaign, they might even be "living together" for months or years. But they are clearly not "a community."

What emerges here is that "living in the same area" is leaving things unsaid: the word "living" is shorthand for a certain sort of interaction, where people are valued by and beneficial to each other, and so people who do not interact, or who interact in destructive ways, may be alive simultaneously in the same area but not "live together."

Thirdly, consider the habit of referring to groups who share significant characteristics as "communities"—"the gay community," "the Asian community," or just the people of a certain village or neighborhood. I think this sort of usage tends to mingle, in varying proportions, three references to the primary sense of community: the epistemological claim that, given their commonalities, these people are *probably* a community; the causal claim that, given their commonalities, they are well-placed to *become* a community, or will exhibit some *tendency* in that direction; and the evaluative claim that, given their commonalities, they *should be* a community, and that if they are not that is regrettable or inappropriate.

If we find that, say, residents of a certain neighborhood show no signs of caring about each other, or do not know each other, or interact only in minor, sporadic, or destructive ways, we will tend to say in a disappointed tone that "there's no real community here," or "they're not a true community." Empirically, of course, this lack of community will usually not be total, because as Tonnies says, "proximity of

dwellings . . . necessitate[s] many contacts of human beings, . . . inurement to and intimate knowledge of one another, . . . [and] co-operation" (2002, 43).

A certain degree of fuzziness remains in all this discussion—we should expect the usage of emotionally-laden and common terms like "community" to waver and fluctuate somewhat. But, I have tried to show, from the varying usages and definitions we can extract a "primary" meaning, namely a group of people who mutually benefit and mutually value each other, either directly or indirectly, and then understand other "secondary" meanings in terms of their relation to this.

I have not been able to establish this analysis conclusively: doing so would require compiling all known ways of using the term and considering each in turn, which nobody has the time for. But I have tried to cover the most commonly encountered sorts of usage, and I think we should exercise a weak presumption in favor of unified analyses of a term's meaning. Given this, I will suppose from here on that "community" functions in more or less the way I have described.

Are Ecological Systems Communities?

If that is the primary sense of "community," it seems unlikely that ecological systems, though they may be "communities" in a scientific sense, will qualify. A wolf who benefits trees by reducing the deer population has no concern for trees: wolves kill deer out of hunger (or some similar personal motive). Similarly, deer do not raise their young out of concern to ensure that wolves have something to eat, trees do not grow leaves out of concern for deer, and soil definitely has no benevolent agenda when it nourishes trees.

This is fairly obvious, although it is sometimes denied.[3] But the line of argument we are evaluating rests on claiming *some* sort of relevant similarity between human communities and ecological systems; without this it becomes simply a fallacious equivocation. Se we need to ask whether such ecological systems can be called "communities" in some secondary sense, derived from the primary one and distinct from the technical scientific one.

Here I will try to show that there is no obvious secondary sense in which it is true and perspicuous to say that there are biotic communities and that we are members of them. There are senses in which it would be perspicuous that are not true, and senses in which it would be true but that are not perspicuously expressed by that phrase.

It follows from this diversity of meanings, contrasting with each other and none particularly fitting, that the claim is likely to be hopelessly

3. E.g., Geoffrey Frasz claims that "there is no fundamental difference between human communities and nonhuman ones" (forthcoming, 3).

misleading unless used with a clear specification of its meaning. This is only reinforced by the possibility of confusion between the scientific sense, in which the membership of "communities" is indisputable but need have no ethical relevance, and the non-scientific sense, in which it will typically be taken to have some inherent ethical relevance. Given this potential for confusion, and given that there is no true claim which can be *best* expressed as "we are members of a biotic community," I conclude that the statement should be rejected and avoided.

So, in what secondary, derived sense might we say that ecological systems are communities? One possibility is that we should *imagine* that they were communities, and as though we were members, and then, when such an imagination produces a sense of ethical obligation to and concern for the other beings around us, we should act on that sense of obligation and concern. In short, the statement "X form a community" is really saying "you should act *as though* X formed a community," i.e., "you should act with concern for X."

It might be that even this claim is false; I am not here concerned with positive ethical claims, so let us suppose that it is true, and people should act in roughly this fashion. But if so, that true claim is not perspicuously expressed in this way of speaking, for there is normally a great difference between "P is true" and "act as though P is true, even though it is false." One might use them interchangeably if one made this clear, but without such clarification it can only breed confusion.

Moreover, we have perfectly good other ways to say "you should act with concern for X," which also use the term "community" but in a clearer way, namely the talk of "moral communities" considered earlier. If we want to encourage people to act a certain way, we need not obscure this by pretending to inform them of a factual arrangement ("recognize that you belong to a biotic community") but can instead present it as the injunction to act which it is: "include animals and plants in your moral community."

A second possible derived meaning might be that "X form a community" really means "we ought to seek to form X into a community," that is, it might signal an aspiration. I will make some more comments on this at the end of this section, but for now just note that this shares the deeply confusing structure of the first proposal, in that the sentence "P is true" is used to stand in for "P is not true, but should become true." Telling people to aspire to something new is not the same as telling people to recognize an existing fact.

A third possibility is that ecological systems can be called "communities" in the same way that a neighborhood or village can be casually called a "community" without inspecting the actual relationships among its members. But while the above two possibilities involved taking plausibly true ethical claims and expressing them un-

perspicuously, this would seem to involve the perspicuous expression of a false claim. For a start, many human settlements are true communities in Dworkin's legalistic sense: they are run according to rules self-consciously intended to benefit everyone. This is not the case for ecological systems. Secondly, the sorts of objective relations of mutual benefit that connect such humans will *predict*, *tend to produce*, and perhaps *morally demand* the growth of community in its primary sense. This is clearly not the case in ecological systems: nobody could rationally infer mutual concern from the mutual benefit they display, nor does such mutual benefit tend to produce mutual concern, nor is it reasonable to demand of plants and animals that they work to develop it.

The fourth possibility is that, in some other fashion, the objective relations that *do* obtain among members of ecological systems are such as to warrant the term "community" even in the absence of any mutual concern. I think this is the most plausible way to construe the claim that we live in "biotic communities," and will give it the most discussion.

First, note that there are two sets of objective relations that such a position might be based on. It might be based on their present relations—the mutual benefits they bring each other, the interests that they share, and their over-arching interdependence. Different components of an ecosystem often act in ways that tend to maintain the stability of other components. Of course, this claim itself might be controversial. For one thing, we might wonder whether it makes sense to include certain beings in this web of "mutual benefit," since they may not be capable of being benefitted, or of having "interests." Many people would think this about water, air, and soil; some might think it about plants. For another thing, one might overstate this interdependence by painting an image of perfectly stable populations working in perfect order, without crises or changes. But let us put these issues aside.

The second way to make this claim would appeal not to the present interests of things but to their evolutionary history. Because the effects of natural selection give a simulacrum of purposiveness in the design and even behavior of organisms without subjective purposes (i.e., desires or intentions) we might also speak of such organisms as "valuing" those outcomes which they "are designed to" produce, meaning by this that the reason a given individual produces those outcomes is, among other things, that the production of those outcomes enhanced the "genetic fitness" of its ancestors, causing them to pass down genes coding for the behavior (or the structures which produced the behavior) which now produces that outcome.

We might then define a "genetic community" as a set of organisms which not only benefit each other, but whose beneficial actions are "designed to" benefit each other in this evolutionary sense, i.e., which

"genetically value" each other's welfare in the same way that members of a community subjectively value each other's welfare.

It does not seem, though, that these sorts of "genetic communities" will extend to cover major ecological systems. The co-evolution between flowers and pollinating insects, for instance, would seem to qualify as a genetic community, in that both presently do things which benefit the other (carry pollen, produce nectar) *because* those actions have, performed by their ancestors, brought benefits to the other's ancestors. But such mutualism, though it may be very widespread, is not universal; it co-exists with "hostile" and "indifferent" genetic relationships, both between and within species. The flowering plant might be, so to speak, in community with the butterflies, but it cannot be said to be in community with the aphids who drink its sap.

It might perhaps be said that mutualism is all-pervasive when we consider large ecological units as interacting by "group selection," e.g., wolf populations evolved to kill the "right" number of deer because those who killed too many depleted their own food supply and then starved. But this seems empirically very dubious. *Prime facie* what prevents wolves from killing "too many" deer is not any moderating trait the wolves possess that might have been selected for, but the efforts of deer to avoid being killed. A population of wolves who were destabilizingly successful might be destroyed in an ecological crisis of its own making, but might equally move on to a fresh area, to destabilize that as well. Moreover, if one population of wolves became destabilizingly successful, any more "moderate" wolf population would suffer *more* from the lack of food than the de-stabilizing one, precisely because they would be less efficient at catching the deer that remained.

But suppose that we put these factual worries aside as well. Suppose that we have some true claims about the present and historic interdependence of things in ecological systems; is it appropriate to express these claims by saying that the members of such systems "form a biotic community," where that claim is meant to connect with whatever intuitive emotional and ethical concern we feel for "our communities" and their members? I think it is not appropriate, for three reasons.

Firstly, in the human case, doing so would obscure a distinction that is not only considered important, but which the term "community" functions specifically to mark out—that between benefitting someone who you care about and respect and benefitting someone for egoistic reasons through unrestrained pursuit of self-interest.

That is, when the term "community" does work in social or political discussions, as with "strengthening communities," "destroying our communities," "a lack of real community," etc., it often functions to *contrast* community with mere "society," with *Gesellschaft* or "aggregate clusters of like-minded individuals who engage in collective activities

only insofar as those activities further the individual self interests of each member" (Frasz, forthcoming, 9). The polar opposite of a "community" would be a lawless region where nobody can be trusted, everyone walks armed, and anyone displaying a moment of weakness or naivety is likely to be robbed if not killed—albeit where enormously powerful works of art are produced, black markets run prosperously, and people grow and develop in novel and interesting ways.

Yet that contrast-case is analogous to ecological systems, where individual organisms must struggle to survive, because the rest of the ecosystem does not remotely care about them, and often actively seeks to kill them. It seems unhelpful to apply the word "community" to mean X in one case, and to actively mark out a contrast with X in another.

The second reason against such an expression is that it subconsciously invites us to indulge pre-Darwinian habits of thought. Suppose we see one animal perform a function that results in another animal being able to live a full and healthy life. It is easy and tempting to suppose that this somehow reflects a plan or desire to benefit the second animal, a systematic benevolent purpose. For much of human history this idea has been taken as literal fact: these beneficial acts are explained by the benevolence of a divine mind. As we now know, the acts can be more efficiently explained by evolutionary theory, with no appeal to benevolence or any other sort of deliberate purpose.

But if we now describe this beneficial action as representing "community," a word that in its other uses we strongly associate with the idea of direct or indirect benevolence, of benefitting others for the sake of doing so, we may unintentionally re-introduce into our thoughts the idea that there is some real benevolent purpose at work, especially if we use the term "community" without specifying its meaning. That is not to accuse people who use the term in this way of covertly supporting such a metaphysics, but simply to offer what seems to me a strong pragmatic reason to avoid a use of words that can validate a tempting but false way of thinking.

My third reason for thinking this use inappropriate is that the mutual concern in a true community is not only an add-on to the mutual benefits, but plays a crucial role in determining how we think about them. These benefits always in practice come with associated costs, even if only in time and energy. In a true community, we do not generally find it natural to "keep track" of these costs and benefits, "adding them up" to see whether our membership is still "worth it." Indeed, such an attitude would normally be considered to show a "lack of community spirit." Part of what explains this, I think, is that we do not see both costs and benefits as having the same meaning. The costs, we presume, are accidental and unintended, while the benefits are deliberate, and convey "the real meaning" of our association. We presume that, because

the other community members care about us, they will be motivated to remove the costs they can, or regret those they cannot. The resultant tendency to ignore or explain away the negative effects of a community may sometimes be pernicious, but it is crucial to the maintenance of the community and its self-image.

If as a matter of fact the benefits that organisms in an ecological system bring each other are just as accidental as the harms they impose, then this privileging of the one over the other will be inappropriate. But this is just what the language of "biotic community" tends to do: to suggest that if we are both pleased by a tree's fruit and displeased by the parasitic flies that swarm around it, we should put aside the displeasure and elevate the pleasure. It suggests that the beneficial nature that nurtures us is the "real" nature, and it merely appears horrifying and murderous from our limited and partial perspective. But if neither the happiness nor the suffering of any particular being is intended, and both are equally accidental, should we not take both as equally valid?

For these reasons I conclude that "members of ecological systems often benefit each other" is not well expressed by the claim "members of ecological systems form communities." Nor are "we ought to act as if they did," or "we ought to bring them to." By contrast, the sorts of claims that would be well expressed by that claim, such as "members of ecological systems care for each other" or " . . . should care for each other" or " . . . will tend to come to care for each other," are simply false. Meanwhile, various simple ecological facts are both true and are well expressed by speaking of "biological communities," but in a distinct, technical sense.

Given this, I think we should reject the claim altogether, and affirm that members of ecological systems do not form communities.

One final note: perhaps it might make sense to use "community" with some new criteria if the normal criteria, mutual benefit and mutual concern, were somehow *inapplicable* in a particular domain—if outside human societies there simply could never be communities in *that* sense. But the normal criteria for communities are *not* inapplicable outside human societies. There are many non-human communities, and while full ecological systems are not communities, they might be one day.

It is perfectly plausible, for instance, to suppose that insofar as members of a wolf pack can be said to value anything, they value each other. And insofar as their co-operation in hunting is beneficial to all of them, the pack may be reasonably called a "community." We might even distinguish different packs as having stronger or weaker "bonds of community," looking at things like how long the members have known each other, how often conflict arises, how often they display altruistic behaviors or seek out each other's company. There might be dispute about the relevant sense of "valuing," and about the extent to which

animals can perceive other animals as having interests or experiences, but the idea is certainly not incoherent.

There is also, therefore, nothing incoherent about the idea of an ecological system, perhaps the result of some gargantuan effort of genetic engineering, all members of which are creatures of such a nature that they can and do display active concern for many other members, to such an extent that the system as a whole can be called a community in the primary sense.

Somewhat more modestly, consider Dworkin's point that we might count a group as a community when its members express their concern for each other through institutionalizing certain rules that serve the common good. This appears to be consistent with some members of the group not only not following the rules, but being incapable of understanding them (e.g., small children), as long as those with the power to direct common affairs do. If this makes sense, then an ecological system might be a community if each step of its functioning was pervasively organized and controlled by humans who understood and followed rules they had drawn up for the benefit of the whole system. Whether or not this is in practice feasible or desirable, it illustrates that ecological systems might meet the normal criteria for community, and hence that their present failure to meet those criteria is a significant fact.

The same goes for the fact that they are not designed by a benevolent planner, or otherwise to be explained in terms of benign purposes: this is a significant fact, and it is appropriate that we have words available to express this. One natural way to express both of these facts would be to say, as I suggest, that there is no biotic community.

The Significance of the Question

Does it matter that the word "community" does not apply to the biosphere or other ecological systems? That depends on whether the claim that it *does*, the appeal to "biotic communities" in environmental ethics, fulfills any significant rhetorical or intellectual function. It seems to me that it performs three:

- Firstly, it harnesses a certain "emotional resource," i.e., whatever intuitive value we place in "our communities," and makes it support environmentalism.
- Secondly, it directs that support towards one sort of environmental ethic rather than another, namely towards holistic theories like the Land Ethic, in which wholes (such as ecosystems) are accorded intrinsic value independent of the value of their parts (such as organisms).
- Thirdly, it gives environmentalism a particular sort of emotional "tone": it makes "the environment is important" remind us

> of homey, sentimental claims like "family is important," rather than contentious, politicized claims like "the free market is important" or calculating, pragmatic claims like "the economy is important."

If ecosystems are not communities, then all three functions are impaired. In the first two cases, this means that environmentalism in general, and holistic theories in particular, lose one avenue of support. This obviously does not mean that either position ends up unsupported: many people have robust intuitions or arguments for them that do not depend on references to "community."

A word in particular about the connection between holism and community. It might be said that our intuitions about true communities can still provide a *precedent* for eco-holism: they at least show that attributing intrinsic value to wholes is not a bizarre or exceptional step. This may be true; but it should be noted that according to the analysis here attempted, true communities are constituted not only by people (who have intrinsic value), but also by relations in which their intrinsic value is recognized and acted upon. This might suggest that the value of true communities, if not reducible to the value of their members, might be reducible to the value of these relationships. If so, then they are a precedent for valuing ecosystems only if the relationships composing ecosystems—such as "X eats Y," or "Y fertilizes Z"—also have intrinsic value. However, the question of holism versus individualism is complex and much-debated, so I will say no more about it here.

I have a little more to say about the third function of appeals to community. The fact that the biosphere is not a community suggests that the emotional tone appropriate to communities may be inappropriate to ecosystems, and may mislead us or obscure alternative ways to think about them. To illustrate this, I want to consider in the remainder of this section one alternative model that conflicts with the "communal" one: thinking about ecosystems the way that we think about markets.

Now, it is not novel to draw analogies between the functioning of ecosystems and of markets, especially under the more general headings of "systems theory" or "cybernetics." But it is usually not mentioned that this conflicts sharply with the idea that we should transfer our attitudes towards communities to them, since our attitudes—affective, ethical—towards communities and towards markets are characteristically very different.

A metaphor which to some extent combines the two is the historically significant idea of the "divine oeconomy" (explored at length in Worster 1994). Here God's expertness in the putting together of natural systems is like the skill of an expert household-manager, who directs the labor of servants and the distribution of resources to maximize efficiency and

productivity. But much of the ethical significance of a "community" is still present, because obedience to this organizing patriarch and His benevolent wisdom runs through the whole system as a unifying value.

But it is harder to use this metaphor today than the eighteenth century, both because we are now used to seeing economic co-ordination as an amoral product of self-interest, not of obedience or concern for the "common wealth," and also because we cannot continue to see nature as arranged and composed by any single author.

So we must clarify the sort of "market" we have in mind. There are several respects in which a typical market is somewhat "communal." Firstly, participants might be thought to "value" each other in the sense of recognizing each other as deserving of moral respect—and hence as not to be cheated, or robbed, or intimidated. Secondly, participants might as a matter of fact know and like each other, as a side-effect of their economic interactions. Thirdly, participants might act according to a set of rules which they all regard as expressing concern for their common good. Fourthly, participants might be united in their concern to obey and please some organizing figure, such as a political sovereign or, in the sort of "household-management" which is the original meaning of the term "oeconomy," a "paterfamilias."

But we can easily imagine markets where none of these things is true: where participants share no fellow-feeling, and display respect for each other's property out of fear of a law that they regard as merely an expression of naked power. We might find the clearest such examples in black markets where the threat of violence is ever-present, or perhaps in today's global market in contrast to many more regulated national markets. If we were to analogize ecological systems to markets, it might seem that we should have these kinds of markets in mind.

These kind of "pure" markets are highly ambivalent from a moral perspective. On the one hand, they are a successful mechanism for organizing and coordinating economies. But they achieve this good outcome through encouraging certain behaviors and dispositions widely regarded as vices—self-interest, manipulation, exploitation, etc. Moreover, this "predatory" character manifests itself in many very negative practical results: instability, poverty, inequality, social dislocation, and so on.

Consequently, people disagree enormously on their moral status, even while completely agreeing that their *participants* are morally significant (members of our "moral community"). Simplifying tremendously, people may be "economic conservatives," primarily concerned to minimize disruptive "interference" with markets; they may be "socialists," seeking to largely or wholly do away with them in favor of institutions with a more communal character; or they may be "social democrats," wishing to retain markets (and the good things

they generate) but with substantial and far-reaching intervention and management to minimize their ill-effects. These disagreements may be partly moral (e.g., Is self-interested competition morally vicious? Do markets give people what they deserve?) but are often primarily factual—can the benefits of markets be secured through non-market economic systems, and if not, can their negative aspects be significantly curtailed without destroying them?

If ecosystems are more morally similar to markets than to communities, we could imagine ecological analogues of these three positions. On the one hand, we have the benefits produced by ecosystems—all existing life—and, on the other, we have the appalling methods by which they are produced—famine, predation, parasitism, disease, infanticide, cannibalism, etc.

The analogue to an economic conservative might believe that we should accept the negative and destructive aspects of nature, either because they are the regrettable but necessary price of its productive aspects, or (analogously to those who see the market as intrinsically moral, rewarding the deserving and maximizing liberty) because they are not really bad: animals suffer and die, but that is the natural order, and it shows confusion or weak-mindedness even to call it unfortunate.

The analogue to a socialist might believe that existing ecosystems, far from deserving to be preserved because of their "communal" nature, deserve to be abolished because of their rapacious and violent nature, and the animals, plants, and other organisms composing them re-integrated into genuine eco-communities, where different populations maintain and enrich each other without conflict.

Finally, the analogue to a social democrat might believe that while we cannot abolish or replace ecosystems, except at the cost of starving the entire world to death, we can and should manage them in deliberately interventionist ways, altering and manipulating their dynamics to amplify the positive and ameliorate the negative.

Obviously, our practical situations with ecosystems and markets are very different, and so taking a certain stance in one case need not imply taking the analogous stance in the other. In particular, it would seem that the accusation of utopianism often directed against socialism has much more weight against its ecological analogue: the project of redesigning the biosphere along new lines might appear to be well beyond our present abilities, whatever one thinks about economics.

But immediate practical implications are not really at issue here. My goal in distinguishing these imagined positions is simply to illustrate how the question of valuing the biosphere and its component ecosystems looks very different when we replace the image of a "biotic community" with that of a highly predatory marketplace. Different questions suggest themselves, and values with a different texture are

encountered. Writers like Leopold often suggest that the images we use to think about the environment are important: "we abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect" (1949, x). But of course there are more things in heaven and earth than just commodities and communities. We have a range of images and metaphors available to us, and we should be both rigorous and open-minded about applying them to the environment.

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