Global Commons:

Is Definition Possible?

By

Paul B. Hartzog

Department of Political Science

The University of Utah

April 2003

There is much talk and activity about "global commons," but there is exceedingly little consensus on its definition. Different disciplines approach the discussion with widely varying assumptions, axioms, and goals, producing a body of writing that is inconsistent, if not incoherent. Clearly, however, the issue itself touches on some deep human concern, as is evidenced by the intense interest from many fields.

Across these various fields, it is useful to examine what is meant by the term "global commons." How does each discipline determine that the issue is "global?" What is meant by a "commons?" Upon further examination, what are the similarities and differences between the disciplines, and what are the implications of each approach to defining "global commons?" For progress to be made in environmental politics, being forced to draw as it does from such widely diverse analyses, a broad synthesis is needed if we are to derive anything useful out of the current literature.

The discussion of global commons draws from legal and political theory to anthropological and environmental studies. Across these disciplines it is possible to analyze the different ways in which scholars discuss global commons, and to draw some conclusions about an operational definition of global commons from these analyses. We will use four categories:

1. Legally/Politically
2. Economically
3. Epistemically
4. Scientifically

Like the commons themselves, there is overlap between these categories but it can be illuminating to consider them separately. Within each realm we will address two fundamental questions:

1. First we will question the term "global." What makes an issue global in this context?
2. Second, we will inspect the term "commons." What constitutes "commons-ness" in this context?

The following table illustrates this approach:

	Political/Legal	**Economic**	**Epistemic**	**Scientific**
Globality	International Opinion	World Economy	World Community	Ecosphere
Commons	Legal Definition	Rivalrousness / Excludability	Tribal Commons / Communitarianism	Interrelatedness

From these categories, we should be able to analyze various disciplines' discussions of global commons and to attempt to synthesize them into an integrated approach.

The Political/Legal Quandary

In the political discussion, the globality of an issue tends to refer to any topic that is of global "concern." Such issues are not global in any empirical sense, but rather, become global by virtue of a general consensus among the actors in the international arena, i.e. nation-states. Globality, then, is not something "out there" that is recognized at last, but is instead "declared" after the accretion of sufficient nation-state willpower around a particular issue area. Global issues certainly include some environmental problems, but just as often they are socio-economic problems such as poverty or even unemployment. Thus, the globality of global commons is merely that international attention has been mobilized, and not that there exist any empirical criteria for globality. Because, in politics, the state enters into the international arena by choice, even globality can be revoked. Antarctica was *declared* a commons not because of any scientific reasoning but because it was in the interests of the declarers, and it could be undeclared in the future (Antarctic Treaty, 1959). Politicians and international relations scholars discuss globality without recognizing the hidden underlying assumption that precedes the conversation.

There is a second unfortunate problem with political globality, namely that of sincerity. Claims of globality are often received poorly when the claimants motives are suspect. For example, at the Earth Summit, by giving priority to "an environmental agenda the North has once more concentrated on its own interests and has called them 'globalism'" (Middleton, et al, 1993, 5). As political agendas increasingly color the

debate, notions of what is a global environmental issue vary widely. For the South, it includes poverty, for the North, population control. On a pessimistic note, one writer concludes "since politicians and policy-makers appear unable to agree about what is properly an environmental problem, it seems unrealistic to believe that they will come to find agreement over humanity's supposed common environmental interests" (Yearley 2000, 383).

Regarding commons, the political approach is also lacking. A search through hundreds of international records reveals usage of the terms "global commons" in diplomatic rhetoric but not in any operational context. Interestingly, in Japan in 1999, the "World Conference on Global Commons" was "held to seek new directions for proper management of the 'Global Commons' from the perspective of sustainable development and through the strengthening of international momentum" without any attempt to actually define them (Tokyo Declaration on Global Commons, 1999). The U.N's Report of the Commission on Global Governance lists the following as commons:

- The atmosphere
- Outer space
- The oceans beyond national jurisdiction
- The related environment and life-support systems that contribute to the support of human life.

However, it makes no attempt to explain *why* they are commons (U.N. Commission on Global Governance 1995, 251).

In its simplest definition, a commons in traditional political language is a property not subject to private ownership, regardless of the type of management employed over that commons. Historically there have been many different kinds of commons. The Romans had four property types: *res publica, res communes, res nullius, and res privatae* (Buck 1998, 4). *Res publica* was state owned; *res nullius* was owned by no one; *res privatae* was owned by someone; and *res communes* was owned by all. *Res communes* referred to air, water, etc. and was the most analogous to global commons. The main difference is that since the Roman state existed and was able to declare *res communes* as well as to some extent manage them, *res communes* had real status under Roman law in a way that global commons as yet do not.

Since there exists no supranational world state, international politics occurs within the context of anarchy, wherein states cannot be forced into anything, i.e. they have sovereignty. Since all property falls under the jurisdiction of some state's sovereignty, the inevitable conclusion of declaring a commons is that it absolutely must be accompanied by some or all states' giving up "their" property through some process of "denationalization" into a *res communes* (although outer space is an interesting *res nullius* kind of exception). States seem to be becoming more willing to treat certain systems as global commons as noted above, however, as with globality, they are careful not to articulate too specific criteria for their choices. The reason for this has to do with the nature of international law.

International law is a system of voluntary compliance by states who willingly accept its jurisdiction when it is in their interests to do so. What we find is that states, when they choose to enter into binding agreements or relinquish their sovereignty to

international law, are often compelled to obfuscate the actual wording of international laws. "Getting consensus on a principle frequently requires reduction of the principle to vacuity – the less you say, the less there is to disagree with" (Daly 1996, 12). International law thus ranges from the merely vague to the ludicrously incoherent. Consider that the outcome of the U.N.'s Intergovernmental Forum on Forests was to

> "consider with a view to recommending the parameters of a mandate for developing a legal framework on all types of forests" within five years (IFF 2000).

This does not illegitimize international law, however. Quite to the contrary, despite "its indeterminacy, inconsistency and lack of coherence, international law has a distinct existence of its own" (Malanczuk 1997, 33). Ambiguous international rhetoric provides states with a wide margin of interpretation and lattitude in their adherence to international law, and in many cases, actually increases compliance.

Oran Young, one of the foremost scholars of environmental governance suggests a possible taxonomy of political/legal jurisdictions of environmental issues. He breaks up environmental issues into the following categories (Young 1997, 8):

- International commons – "physical or biological systems that lie wholly or largely outside the jurisdiction of any individual member of international society but that are of interest to two or more of them"
- Shared natural resources – "physical or biological systems that extend into or across the jurisdictions of two or more members of international society"

- Transboundary externalities – "when activities occurring wholly within the jurisdiction of one state nevertheless produce (normally unintended) consequences that affect the welfare of those located in other jurisdictions"

In his definition of international commons we can alter "of interest to two or more of them" to "of interest to all of them" to arrive at a possible definition of global commons. In his definition of shared natural resources, we could perform a similar alteration to define globally shared resources. And last, transboundary externalities could be modified to address consequences that affect all other jurisdictions. These three changes are slight but significant. Young's taxonomy can be used to support regional and local governance initiatives but only the modified version can be used to justify full-scale global governance negotiations, and even in these cases, negotiation is possible only if all member states agree on the definitions.

Ultimately, the political debate over global commons is not as interested in *defining* global commons as in *agreeing* on them. While this approach may provide flexibility and consensus in the short-term, in the long-term this *ad hoc* approach completely fails to give us a heuristic for evaluating new issue areas *vis a vis* whether or not they should be classified under the rubric of global commons.

The Economic Attempt

In the economic world, the discussion focuses on various criteria which have in some cases spilled over into the political discussion via international political economy and development rhetoric. Our second look at global commons examines how economics scholars treat issues of globality and commons.

The economic understanding of globality is not only *a priori*, but also ideologically desirable. The global capitalist system exists, and normatively we should strive to improve its efficiency. As a result, the general approach to globality in economics manifests itself through the constant focus on world trade *vis a vis* World Trade Organization. Reducing tariffs, subsidies, and other barriers to an efficient world market is one of the key issues, as is stabilizing world money markets and providing for the ease of capital mobility as a means of stimulating investment worldwide.

Interestingly, the most influential economist of the twentieth century, John Maynard Keynes, and perhaps the most influential of the twenty-first century, Herman Daly, both questioned the sensibility of unrestrained world trade. In 1933, Keynes remarked "let goods be homespun whenever it is reasonably and conveniently possible; and, above all, let finance be primarily national" (Keynes 1933). More recently, Daly devotes a substantial portion of Beyond Growth to presenting the argument "against the overall policy of global economic integration by free trade and free capital mobility" (Daly 1996, 145).

Regardless of the arguments for or against certain kinds of behaviors within the world economy, one thing is clear: there is but one world economy. The organization of the world economy does not promote alternative kinds of economies (communism, et al) and vigorously advocates a single homogenous global capitalist system. Therefore, what constitutes globality in this context is anything that would impact that global system for better or for worse, such as regulation of global trade or environmental policy.

The economic approach to commons centers around the properties of rivalrousness and excludability. When an individual's consumption of a good results in less of that good for others, i.e. depletion, then the good is said to be rivalrous, or subtractable. A clear example would be any natural resource like oil. The principle of excludability refers to the ease with which the beneficiaries, i.e. users, of a good can be prevented from "free-riding," or of getting the good for free. Television broadcasts are a case where once the broadcast exists, additional users can gain the benefits from the broadcast without paying for it.

The standard matrix of rivalrousness and excludability is:

	Excludable	**Non-Excludable**
Rivalrous	Private Goods	Common Pool Resources
Non-Rivalrous	Toll Goods	Public Goods

The category of goods commensurate with global commons is common pool resources, which Buck defines as follows (Buck 1998, 5):

"Common pool resources are subtractable resources managed under a property regime in which a legally defined user pool cannot be efficiently excluded from the resource domain"

The key problem herein lies in the concept of efficient excludability of a given user pool. Young points out "In most situations, excludability is a human artifact rather than an unalterable natural condition" (Young 2002, 142). In a merely anthropocentric analysis of global commons, the user pool is assumed to be humans. As a point of fact, however, numerous baleen whale populations are valid user pools of the large krill fields in the southern oceans. While human user pools may be excluded from these resources by using laws, fishing licenses, and such, there is no applicable analogy for animal populations. Moreover, efficient excludability on land is treated as if it were fundamentally different than oceanic or atmospheric excludability. Unfortunately, however effective a fence may be in excluding the human user pool from a parcel of a land, this fragmentation approach fails to take into account migratory birds, transboundary pollution, water table contamination, as well as a whole host of other factors. In addition, the "efficiency" of excludability is never defined. Efficient in what regard? A *reducto ad absurdum* makes the point best: one can imagine a world where all humans wear masks that allow the wearer to breathe, perhaps based on his/her credit rating, thus efficiently excluding the anthropocentric user pool from the common pool resource. There is nothing technologically unsound about this option, nor is it economically outrageous. Its real-world feasibility however is somewhat lacking. So again, is efficient excludability an issue of technology, cost-effectiveness, political

willpower, or some other hazy notion that perhaps enables the discussion to advance some concepts at the expense of others?

Herman Daly has provided us with an alternative economic framework in the idea of "natural capital." Paralleling the concept of financial capital as that which generates interest income, Daly offers the following:

> "Natural capital is the stock that yields the flow of natural resources – the population of fish in the ocean that regenerates the flow of caught fish that go to market; the standing forest that regenerates the flow of cut timber; the petroleum deposits in the ground whose liquidation yields the flow of pumped crude oil" (Daly 1996, 80).

Herein, a global commons would be likened to the principal of an investment, and the service/resources provided by that global commons would be equivalent to the interest income generated by the invested capital.

The Community Understanding

The third approach to understanding global commons lies with the notion of community. Insofar as government is expected to reflect the prevailing norms of civilization, perhaps it is not the *political* regime that we should examine for a definition of global commons, but the *social*. Is global community possible? If so, is it evolving?

Also, what traditions of "commons" lie deep at the roots of human communities, and can they be extended to help us define global commons?

Peter Haas, the primary author of the body of work about epistemic communities, defines them thusly:

> "Epistemic communities are transnational networks of knowledge based communities that are both politicaly empowered through their claims to exercise authoritative knowledge and motivated by shared causal and principled beliefs" (Haas 1992, 39).

Global epistemic communities can have a significant impact on shaping the boundaries of international conversations about various issues. Norman Vig notes "concepts of ecology and sustainability deriving from the biological sciences now affect our understanding of national security as well as economic development" (Vig 1999, 4). While Haas speaks of epistemic communities consisting primarily of ecologists, there is no barrier to the existence of other kinds of epistemic communities: technological, religious, etc. Although his unitary analysis of epistemic communities is useful, it is also fragmented. When viewed holistically, the aggregate effect of an increasing number of discipline-specific epistemic communities would be to yield a "global community" possessing a significant array of shared values and norms. So "globality" in an epistemic way, is not so much an analysis of how the world's communities think about globality, but rather, how global is the world community, and does it provide an epistemological framework for global commons discussions?

Anthony Smith superbly tackles the question of an evolving global community in "Towards a Global Culture." "Today's emerging global culture is tied to no place or period. It is context-less, a true melange of disparate components drawn from everywhere and nowhere, borne upon the modern chariots of global telecommunications systems" (Smith 2000, 240). Echoing the main thrust of globalization literature, he calls into question that a global community (or identity) is possible without three fundamentals (Smith 2000, 241):

- A sense of continuity between the experiences of succeeding generations of the unit of population
- Shared memories of specific events and personages which have been turning-points of a collective history
- A sense of common destiny on the part of the collectivity sharing those experiences

Chris Brown calls this "the moral impulse which creates a sense of common interests and identity" (Brown 2000, 454). However, the environmental crisis, *specifically expressed through the semiotic power of global commons* provides precisely the potential basis for a global community. That a global community is emerging is not at issue, but whether or not it can solidify and persist *is*. Global commons can:

- Provide continuity between generations by their value to the world, reiterated through global telecommunications interactions
- Provide historical 'turning-points' as they are established for a collective history of cooperation

- Provide a sense of common destiny for the collective in combination with other political cooperative initiatives in international relations

Smith's claim that global culture "answers to no living needs, no identity-in-the-making" completely misses our need for a healthy environment and the worldwide concern for it as demonstrated by the impact of Arne Naess' Deep Ecology movement and Leopold's land ethic (in the developed world), as well as the Chipko movement's spread from India to other developing countries. Furthermore, he finds "no 'world memories' that can be used to *unite* humanity" either because he is looking in the wrong place, i.e. modern history, or because he has already decided they are not there to be found. (Smith 2000, 243). Our 'world memories' lay deep in the roots of human community, and it is to them that we must turn.

It is no accident that much of the global commons literature, as well as commons management literature, draws explicitly from traditional tribal cultural behaviors. For example, Douglas Noonan compares European Community and South Pacific fishing regimes, noting how the South Pacific's more tribal mechanisms are more effective (Noonan 1998, 165–177). In addition, Elinor Ostrom's work Governing the Commons, now central to commons theory, is essentially framed within the context of analyzing successful small-scale communitarian commons regimes and extending them to discussions of global commons, *vis a vis* "self-governed common-property arrangement[s] in which the rules have been devised and modified by the participants themselves and also are monitored and enforced by them" (Ostrum 1990, 20).

Most significantly, perhaps, is Harvard anthropologist David Maybury-Lewis' Millennium: Tribal Wisdom and the Modern World in which he asks, in more general

terms, the question of what we can learn from traditional tribal societies. The insights he finds are directly relevant to the question of what we mean when we speak about global commons. What does a commons mean to those who share it?

Interestingly, for most traditional societies, the "commons" is never really defined or declared, it just *is*. The importance of these commons is evident in the pervasiveness with which it emerges in their everyday beliefs and actions:

> "The Gabra philosophy of life is summed up in their idea of *finn*, meaning fertility and plenty. Human beings contribute to *finn* as they care for the earth and their animals, as they exchange livestock, nourish friendships, tell tales, or sing songs. *Finn* is the earth and the cycle of life that takes place upon it" (Maybury-Lewis 1992, 326).

In traditional societies, recognition of the global commons is commonplace; indeed, there is no need to recognize man's place in nature for he has not ever been separated from it. Modern civilization's consistent separation and fragmentation of culture and nature effectively robs humanity of its *connection to the commons which has always existed*, but finally the discussion of global commons gives us a chance to reestablish that connection through a global epistemic community that exists in balance not only with the ecosphere but also with its own needs for consumption and waste.

So far, the primary discourse at the international level that roughly parallels these concepts is that of radical communitarianism. Instead of focusing on *reform* of existing structures, radical communitarianism stresses the creation of *alternative* forms of organization based on principles which *emerge* "from the life and conditions of particular

communities" (McGrew 2000, 410). Although radical communitarianism is reluctant to prescribe blueprints, rejecting the typical 'top-down' approach, the primary theory that does have a normative component is Burnheim's concept of "demarchy." Demarchy can be summed up in "the principle that democratic governance should be organized along functional (e.g. trade, environment, health), as opposed to territorial lines, and that such functional authorities should be directly accountable to the communities and citizens whose interests are directly affected by their actions" (McGrew 2000, 411). "The point is that… [governance systems] can come into existence, grow and die along with the importance of particular issues" (Dryzek 1995 in McGrew 2000, 411). The very nature of demarchy parallels the organization and functioning of nature itself. Without going into too much detail here, suffice it to say that this kind of attempt to "tribalize" governance, i.e. establish functional governance regimes instead of state-centric hierarchies, not only suggests that governance is a global commons in and of itself, but because it also parallels the actual scientific and physical dynamics of the ecosphere, it may offer the best hope for governing global commons effectively.

The Scientific Criteria

The final approach is to look at contemporary biological and environmental theories and examine the empirical criteria that they use that may lead us toward a technical definition of global commons. The globality of certain environmental issues is

not a matter of public debate, but rather, one of scientific uncertainty or general acceptance, for example, the recent debate over global climate change. The term "ecosphere" is used to refer to the global system as a whole, but does it really provide us with an empirical framework for globality? Regarding commons, environmental studies stress that since all things are inter-related, conceptualizations based on boundary analysis are flawed. There is only one commons, and it is the earth. So, among the scientific community the discussion is not broken up into "globality" and "commons-ness" but instead approaches the dilemma holistically, and therefore reaches substantially different conclusions than political and economic discourses.

"A central tenet of modern ecology is the proposition that everything is related to everything else….Under the circumstances, specification of boundaries may emerge as a barrier to addressing important issues" (Commoner 1972 in Young 2002, 59). "We are accustomed to drawing relatively sharp distinctions among terrestrial, marine, and atmospheric ecosystems. Yet it is apparent that these distinctions are, in the final analysis, arbitrary and that it is necessary to drop them" (Young 2002, 82). Within the scientific community, although regional biospheres and even local biomes are acknowledged, ultimately, the earth as a whole is the unit of analysis. James Lovelock's Gaia theory pointed out like no other theory before it, the interconnectedness of all of the earth's components, living and non-living, to comprise a single global system that manages climate and balances the interactions among billions of organisms (Lovelock 1979). Capra illuminates this approach in The Web of Life, "systems are integrated wholes whose properties cannot be reduced to those of smaller parts…. They arise from the 'organizing relations' of the parts – that is, from a configuration of ordered

relationships that is characteristic of that particular class of organisms or systems" (Capra 1996, 36) "The real commons is not a place or a space but a system" (Strong 1990 in Cleveland 1990, 29).

At first glance, it might seem that a holistic approach reduces the likelihood of manageable outcomes by increasing the number of participants and expanding the extent and complexity of the problem by widening the scope of negotiations. However, "[this approach] may not necessarily increase the difficulties encountered. The 'ecosystem' approach of the CCAMLR which recognizes that individual fishery stocks cannot be considered in isolation represents an increase in scope and complexity as compared with existing fisheries regimes but is widely regarded as being potentially effective in terms of the conservation of Southern Ocean resources…. There has been very widespread criticism of the FCCC because of its initially narrow approach to the problem of climate change" (Vogler 2000, 178).

The absolutely crucial factor in this approach is that the ecosphere existed *before* any attempt to formalize its political properties. Antarctica is a commons because we declared it to be, but the global environment is a commons whether we declare it to be or not. The scientific discourse, in dealing with the facts of the system, focuses not on *declaration* of globality and commons but on *recognition* of them as already evident. Thus, global commons are *not* merely social constructs, they are facts of life. Moreover, as civilization has expanded to fill the globe, the distinction between global commons and local commons has vanished *vis a vis* the reduction of the difference in scale between civilization and its context, the ecosphere. This collapse of scale equates to the diminishing of wildlands. The global environment *is* the local environment, and global

commons *are* local commons, insofar as our impacts on them demonstrate their "nearness" to the horizon of civilization. In contrast to the international arena where a nation-state can choose not to participate in an agreement or treaty, nation-states *cannot* choose not to participate in the ecosphere simply by not signing a treaty. Treaty participation cannot be used as a method of accepting binding obligations. Nation-states must be obligated to behave with ecological responsibility whether they sign a treaty or not. This underscores why international politics has such a difficult time coping with international environmental governance, namely because *it is unprecedented in the history of international politics that nation-states would/should/could be bound without their consent.* Global commons put the final nail in the coffin of sovereignty. If it were known that the outcome of a particular round of global commons negotiations were going to be binding on all states regardless of signatures, nation-states would rush to the table in effect to insure that they had some kind of voice in the outcome. Science provides us with the facts necessary to produce effective global participation.

Thus we find in the scientific discourse that what is global is common and what is common is global. Moreover, scientists have verifiable criteria with which to anchor their analysis of systems *without the baggage of leveraging a bargaining position* which is so often the case in political negotiations. As Yearley puts it, "If the sea level rises, it will rise everywhere" (Yearley 2000, 381). Although science won't help us to implement appropriate *political* solutions to the global commons, it gives us the best place to start the discussion, as Young suggests:

> "[we should] found environmental governance systems on the best available scientific understanding of the problem to be solved and build in

> as much flexibility as possible to allow for adjustments in response to changing information, insights, and conceptualizations of the problem" (Young 1996, 237).

Unfortunately, this approach is rarely found in international agreements. A survey of UNCLOS I, II, and III, shows that its language deals with the oceans consistently as a resource for exploitation and *not* a biome, or biotic community. No mention is made of disrupting large-scale systems *or* of the non-human members of those systems (UNCLOS I-III, 1958, 1960, 1982).

An Integral Synthesis

Each of these ways of looking at global commons provides us with some key insights into the problem. For politicians, used to the inherent flexibility of international law, the linguistic ambiguity of global commons stems from the fact that the environmental crisis is fundamentally different from all previous political issues. In international politics an issue has no *a priori* existence until it is declared, i.e. all issues and negotiations occur *within* the context of international politics. For the environmental crisis however the reverse is true: human civilization, and thus politics, occurs *within* the context of the ecosphere. As we have seen, tribal societies already recognize this, viewing themselves and their actions as not "apart from" the environment but "a part of."

From the economic discourse, we take a useful if imperfect framework of rivalrousness and excludability, which can be corrected simply by transforming the excludability axis into a continuum of choices made by society on moral grounds. Once this is done, the moral grounds for such decision-making can be determined by adopting the extension of self that we find in the deep ecology movement which is already becoming a significant factor in a worldwide epistemic community. The four approaches can be made to complement each other instead of talking past each other as they currently do. An effective synthesis would look something like this:

- The Ecosphere contains and bounds
- the world epistemic community (human civilization) which determines
- the world political initiatives which manage
- the world economy for sustainable development.

At each level in this framework the *context* contains the *content*, shaping it, defining its boundaries, and informing its operational parameters. Science allows us to discover the boundaries of human civilization *vis a vis* the environment. The world epistemic community can influence politicians in their decision-making, and the politicians by acting as moral agents on behalf of their constituents can coordinate economic policy to bring about economic behavior that does not threaten the very survival of human civilization. If an understanding of global commons is the turning point for human civilization, then what kind of definition have we arrived at?

The global commons are not "global commons" but "*a* global commons" which operates as a single self-sustaining life-giving system

> within which human civilization is constituted, nurtured, and reified over time. Sometimes referred to as the "common heritage of mankind" the global commons is anything that requires a fair and equitable distribution and without which human civilization would collapse.

As Maurice Strong says, "The biggest bundle we can change (by changing human behavior, human policies, and human institutions) is the complex supersystem throughout which human activity interacts with the physical and biological and ecological systems" (Strong 1990 in Cleveland 1990, 29).

This kind of broad definition presents us with some unique challenges. We have seen from the scientific perspective that the ecosphere operates as a single system, although we are accustomed to viewing it as separate systems. This is nowhere more evident than our attitude towards land. Land as private property suffers from numerous assumptions about the excludability of that land as we noted earlier. The current international gathering of nation-states cannot afford to recognize the atmosphere and the oceans as global commons (using scientific criteria) because to do so would *immediately and irrevocably* destroy land as private property, since land would qualify as a global commons. There is no escaping this conclusion; either the global commons are all interrelated in a single system or they are not. We cannot change our thinking about some of the parts and not others. Furthermore, since the entire paradigm of nation-states is predicated on the acceptance of bounded excludable *territories*, it is likely that we cannot construct global commons without *de*-constructing the nation-state system.

Similarly, we must ask what kinds of global commons might exist that we are failing to recognize besides land. Here are some possible commons:

- rights to food, shelter, clothing, and basic necessities
- outer space, the moon
- telecommunications frequencies, geostationary satellite orbits
- information and information age technologies, Internet addresses
- green technologies
- education

All of these things could be considered part of the global commons insofar as they make it possible for human civilization to remain sustainable over time on a planet of finite resources. "These problems are systemic not in the sense that they focus on global systems... but rather in the sense that they involve large-scale processes occurring all over the world" (Young 1997, 291).

"Internet technology is a part of the global commons" claims the Tokyo Declaration on Global Commons (Tokyo Declaration on Global Commons 1999). At the 40th Anniversary Symposium convened by The Aspen Institute, "The Global Commons: Policy for the Planet," Walter Orr Roberts declared "It is time to renew, revitalize, and refine the concept of the commons, not only the physical/biological commons of air and sea and space… but also the idea of an Information Commons" (Roberts 1990 in Cleveland 1990, 58). Within this framework, an oil company could not patent a hydrogen-powered car and then sequester it from humanity, for that knowledge would be part of the global commons (not to mention, it would contribute greatly to sustainability). In addition, rights to basic necessities, if handled under the rubric of global commons, would have to be made available to everyone worldwide. Internet addresses,

telecommunications frequencies, and geostationary satellite orbits would have to be managed equitably and not merely granted to the first nations who develop the technologies to exploit them (this argument has already been used in the International Telecommunications Union (Buck 1998, 153-157), and the Outer Space Treaty (Outer Space Treaty, 1969), as well as UNCLOS's deep sea-bed mining regime (Buck 1998, 88-91)). It is precisely this causal link between what *is* a commons and the implications for commons management that makes it so critical that we find a way of *defining* global commons. The definition makes clear how the commons is to be treated, as the Roman categories demonstrate.

So, at the end we find that global commons are regimes whose systemic characteristics are such that the are in essence the "common heritage of mankind." The questions surrounding global commons occupy so many thinkers and disciplines in our world today precisely because it is the defining moment in our history where we determine what kind of path we will take into the future as a whole world civilization. Defining the global commons means simultaneously defining, or redefining, ourselves and what it means to *be* in the world.

Bibliography

Antarctic Treaty (1959).

Brown, Chris (2000), "The Idea of World Community," The Global Transformations Reader, eds. David Held and Anthony McGrew. Malden: Polity Press.

Buck, Susan J. (1998), The Global Commons. Washington D.C.: Island Press.

Capra, Fritjof (1996), The Web of Life. New York: Bantam Doubleday Dell.

Cleveland, Harland (1990), The Global Commons: Policy for the Planet, based on the 40th Anniversary Symposium convened by The Aspen Institute, 1989. Lanham: University Press of America,

Commoner, Barry (1972), The Closing Circle. New York: Bantam Books

Daly, Herman E. (1996), Beyond Growth. Boston: Beacon Press.

Haas, Peter (1992), "Obtaining International Environmental Protection Through Epistemic Consensus," Global Environmental Change and International Relations, eds. Ian H. Rowlands, and Malory Greene. MacMillan Press.

Intergovernmental Forum on Forests (2000)

Keynes, J.M. (1933), "National Self-Sufficiency," in *The Collected Writings of John Maynard Keynes*, vol. 21 ed. Donald Moggeridge. London: Macmillan and Cambridge University Press.

Lovelock, James, (1979), Gaia. New York: Oxford University Press.

Malanczuk, Peter (1997), Akehursts's Modern Introduction to International Law. New York: Routledge.

Maybury-Lewis, David (1992), Millennium: Tribal Wisdom and the Modern World. New York: Viking Press.

McGrew, Anthony (2000), "Democracy Beyond Borders?," The Global Transformations Reader, eds. David Held and Anthony McGrew. Malden: Polity Press.

Middleton, Neil, O'Keefe, Phil and Moyo, Sam (1991) *Tears of a Crocodile: From Rio to Reality in the Developing World*. London: Pluto.

Noonan, Douglas S. (1998), "International Fisheries Management Institutions: Europe and the South Pacific," Managing the Commons. Indianapolis: Indiana University Press.

Ostrom, Elinor (1990), Governing the Commons: The Evolution of Institutions for Collective Action. New York: Cambridge University Press.

Outer Space Treaty (1969).

Smith, Anthony (2000), "Towards a Global Culture," The Global Transformations Reader, eds. David Held and Anthony McGrew. Malden: Polity Press.

Tokyo Declaration of Global Commons (1999), in Environmental Policy and Law. IOS Press.

UNCLOS I (1958)

UNCLOS II (1960)

UNCLOS III (1982)

Vig, Norman J. (1999), "Introduction: Governing the International Environment," The Global Environment: Institutions Law and Policy, eds. Norman J. Vig and Regina S. Axelrod. Washington D.C.: Congressional Quarterly Press.

Vogler, John (2000), The Global Commons: Environmental and Technological Governance. New York: John Wiley & Sons.

Yearley, Steven (2000), "Environmental Issues and the Compression of the Globe," The Global Transformations Reader, eds. David Held and Anthony McGrew. Malden: Polity Press.

Young, Oran (1997), "Rights, Rules, and Resources in World Affairs," Global Governance. Cambridge: MIT Press.

Young, Oran (1997), "Global Governance: Toward a Theory of Decentralized World-Order," Global Governance. Cambridge: MIT Press.

Young, Oran (2002), "The Institutional Dimensions of Environmental Change," Cambridge: MIT Press.

Young, Oran (1982), Resource Regimes. London: University of California Press.

Young, Oran (1996), Global Environmental Change and International Governance. Hanover: University Press of New England.