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RECYCLED RAIN FOREST MYTHS

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The creation of protected areas has been one of the principal strategies adopted for the conservation of nature, in particular in the countries of the Third World. The establishment of these areas increased substantially in the 1970s and 1980s, when 2,098 federal protected areas were created around the world, encompassing more than 3,100,000 square kilometers. According to a 1996 report of the World Conservation Center, today about five percent of the earth's surface is legally protected under 20,000 different categories, not only at federal levels but also at provincial, state, and municipal levels, covering an area the size of Canada and spread throughout 130 countries.

In 1990, Brazil had 34 national parks, 23 biological reserves, 21 ecological stations, 38 national forests, 14 environmentally protected areas, and 4 extractive reserves, totaling 31,294,911 hectares, or almost four percent of the territory. Ninety percent of this area is located in the Amazon region. The increased interest in creating protected areas in Brazil could be explained by a combination of factors: the rapid devastation of the Amazonian rain forests and the Mata Atlântica; the loss of biodiversity; the availability of international funding for conservation efforts; the possibility of revenue generation from tourism in parks; and, above all, the pressure on the World Bank to create new protected areas to counterbalance the development projects it is funding in fragile areas such as the Amazon. The establishment of protected areas is also a powerful political weapon for the dominant elite of many countries of the Third World, who continue to obtain external financing for large projects that impact on fragile ecosystems.

Already, there is more protected area in Brazil than in many European countries. If the proposal of the United Nations Environment Programme (UNEP) is achieved, in which approximately ten percent of national territory would be put under some form of protection, around 800,000 square kilometers of Brazilian territory will become parks and reserves, a surface area equivalent to France and Germany combined. Apparently, most environmental agencies maintain that the greater the area that is put under some form of protection, the better it is for conservation. Today about eighteen percent of the Amazonian region is protected. UNEP's goal has in fact already been achieved in seven countries in Asia, fourteen countries in Africa, and six countries in Latin America. But in the USA, one of the proponents of this idea, less than two percent of the protected territory is designated as national parks, and in Europe it is less than seven percent. Judging from this, it would seem that UNEP deems the idea of national parks to be more appropriate for the Third World than for industrialized countries. And this in spite of the fact that many Third World countries are experiencing food shortage crises, which are in part due to insufficient agricultural land and inequitable land distribution.

A North American model of conservationism, which dichotomizes "people" and "parks," has spread rapidly throughout the world. Because this approach has been adopted rather uncritically by the countries of the Third World, its effects have been devastating for the traditional populations—extractivists, fisherfolk, and indigenous peoples. This model was transposed from industrialized countries with temperate climates to the Third World, whose remaining forests have been, and continue to be, inhabited by traditional populations.

The United Nations has estimated indigenous populations at three hundred million, in seventy countries and throughout various ecosystems, ranging from savannahs and forests to Polar Regions. According to Jeffrey McNeely, the people known as tribals, natives, traditionals, or other cultural minorities occupy about nineteen percent of the land surface, living in isolated regions with fragile ecosystems.¹ It is most often these ecosystems that are labeled as "natural" and transformed into protected areas, from which the residents are expelled. With this authoritarian action, the state contributes to the loss of a wide range of ethnoknowledge and ethnoscience—of ingenious systems for managing natural resources—and of cultural diversity itself. The expulsion of inhabitants has

contributed to even more degradation of park areas because, due to insufficient monitoring—despite the fact that the majority of the budget for these protected areas is allocated for monitoring and enforcement—they are invaded by logging industries and miners who illegally exploit the natural resources. Inhabitants also illegally extract their means of subsistence from these protected areas.

Governments rarely assess the environmental and social impact that the creation of parks will have on the local inhabitants, whose land-use practices often have preserved these natural areas over the years. They are transferred from regions where their ancestors lived to regions that are ecologically and culturally different. The hunters, fisherfolk, and other resource users who have developed a symbiosis with the forests, rivers, and coastal areas, once relocated to other areas, have great difficulty surviving due to the accompanying prohibition of their traditional activities.

These populations have difficulty comprehending how their traditional activities could be considered detrimental to nature, when hotels and tourism infrastructure are created for the use of people from outside the area. Very little of the budget for protected areas is allocated for improving the living conditions of the traditional populations, who, if encouraged, could make a positive contribution. When they have organized and become vocal about defending their historical right to remain on ancestral land, they are accused of being against conservation. In most cases, these are people who are illiterate, without political power or legal ownership of the land, and are therefore not compensated when their land is expropriated. But, as has occurred in the Mata Atlântica (Atlantic rain forest) in Brazil, when land is expropriated from the large landowners, who often have obtained their land by usurping the rights of the traditional residents, they are royally compensated because they can prove legal ownership.

The authorities who are responsible for the preserved areas perceive the traditional inhabitants as destroyers of wildlife, which eliminates any real opportunity for their inclusion in the conservation project. In many cases, and especially in the Amazon, the so-called participation of traditional populations in the establishment of parks and reserves does not go beyond well-intentioned words that are offered to assuage international demands from such large institutions as the World Bank, the IUCN, and the World Wildlife Fund.

This model of preserving wilderness has been criticized both inside and outside the USA, and part of this opposition has come from the American "pure preservationists." John Rodman holds that the idea of parks subscribes to an anthropocentric view, that the creation of parks principally values the aesthetic, religious, and cultural motivations of humans, demonstrating that it isn't wilderness in and of itself that is considered valuable and worthy of being protected. Yet Rodman considers this mode of preservation based on the model of parks and natural reserves to be unjustly selective because it privileges natural areas that appeal to a Western aesthetic—such as forests, large rivers, and canyons—and discriminates against natural areas that are considered less noble—swamps, bogs, and marshes.² Arturo Gomez-Pompa and Andrea Kaus have also criticized this notion of a "natural world" that privileges an urban perspective:

The concept of wilderness as untouched or domesticated is fundamentally an urban perception, a view of people who live far from the natural environment on which they depend for raw material. The inhabitants of rural areas have different perceptions of the areas that the urbanites designate as wilderness, and base their use of the land on alternate views.³

More recently, a socio-environmental focus has been adopted in the critique of "the Yellowstone model." This new approach to conservation arose out of the collaboration between the social movements that fight for the continued access of peasants, fisherfolk, and forest people to land and natural resources and the Third World environmentalists who see the environmental crisis in their countries as being linked to the existing model of development. This movement, which Eduardo Viola and Hector Leis have called "peasant ecology,"⁴ critiques the imported environmentalism for its lack of consideration of the traditional communities who depend on the forests for their livelihood.

In North America, the myth of "wilderness" as an uninhabited space has fueled the move to create protected restricted-use areas. By the end of the 19th century, after the conquest and widespread massacre of the native peoples, and the westward expansion of the frontier by European settlers, the land was perceived to be uninhabited. With the movement of human settlements to the west, the mid-19th century saw natural areas being degraded by mining and forestry companies. This raised protests from the nature lovers who had been influenced by the ideas of Henry David Thoreau and George Perkins Marsh. In 1864, in his widely read book *Man and Nature*, Marsh argued that the preservation of virgin areas was justified as much for artistic and poetic reasons as it was for economic reasons and held that the destruction of the natural world threatened the very existence of humans on Earth.

In the early 19th century, artist George Catlin traveled throughout the American West. He cautioned that the Indians as well as the bison were threatened with extinction and suggested that the native people, the bison, and the virgin areas could be equally protected if the government were to establish a national park that incorporated humans and animals "in all their primitive and natural beauty."⁵ This idea was not implemented, however, and the notion of wilderness as a virgin, uninhabited area prevailed. On March 1, 1872, when the decision was made to create Yellowstone National Park, the U.S. Congress decided that the region could not be colonized, occupied, or sold, but would be separated as a public park or recreation area for the benefit and enjoyment of the people. Any person who occupied any part of this park would be breaking the law and would be removed.

In the 1960s, after much of the "wilderness" had been "tamed" and even destroyed in most of the northern countries, environmental preservationists, in search of this lost, untouched nature, turned their attention to the vast rain forests and savannahs in tropical countries, particularly in Africa and South America. In Brazil, the Amazonian rain forest became the focus for the construction of a new myth. Called the "lungs of the earth," this tropical forest was considered to be "empty space," only sparsely inhabited by the remaining indigenous tribes—although it is now estimated that at the beginning of the 16th century, five to seven million Amerindians were living in the region, largely concentrated in the river floodplains (*várzeas*), an even higher density than today.

The Brazilian military group in power in the sixties and seventies exploited this neo-myth in order to occupy the region, which led to the rapid transformation of vast rain forest areas into large cattle-raising and agricultural farms. It is no coincidence that most of the protected areas also began to be established during this period, in order to counterbalance the widespread forest destruction. Neither the preservationists nor the military acknowledged the presence of the people living in those areas. Indians were confined in special reserves, and non-Indian local inhabitants were resettled outside the borders of the newly created national parks and other strictly protected reserves.

Due mainly to a lack of support for this type of conservation within southern countries—particularly among the communities who live inside and adjacent to protected areas—there have been frequent failures in the implementation of protected areas. Consequently, nature conservation practices and the underlying ideas that have guided the creation of protected areas are changing in many countries around the world, including Brazil. There is a growing awareness that the reason for this lack of social support is the unsuitability of this conservation model to local realities rather than, as some preservationists argue, the lack of appreciation for the importance of protected areas. National parks and other strictly protected areas cannot simply be considered "islands" created to conserve biodiversity, since biological diversity also lies beyond the parks.

In southern countries, environmental movements are emerging that are different from those in northern countries in that they are attempting to harmonize nature conservation with the need to improve the living conditions of inhabitants of national parks and adjacent regions. These new social-environmental movements recognize the importance of the knowledge and management practices of traditional populations. In many of these countries the process of decolonization and democratization has also led to the challenging of the imported model of nature conservation. People living inside protected areas have mounted spontaneous and increasingly organized resistance against resettlement.

There are basically two representations of nature—and particularly of forests and woodlands—that coexist in modern mythology. By mythology, I mean the symbolic representations of the natural world that are a cultural and historical product of the various forms and moments of the relations between diverse societies and their physical surroundings.

On the one hand is the naturalist myth of an untouched nature or wilderness in a "pure" state, prior to the appearance of humans. This myth presupposes the incompatibility between the actions of any human group and the conservation of nature. Regardless of their culture, humans are, in this equation, destroyers of the natural world. The idea of a "paradise lost" informed the creation of the first North American national parks in the second half of the 19th century, where portions of territories that were considered "untouched" were closed off to human habitation. These "wild" areas were created for the benefit of urban North Americans who could visit them and appreciate their "natural beauty." This "modern" model of conservation and its underlying ideology have spread to the rest of the world in cultural contexts distinct from those in which it was created, generating serious consequences.

On the other hand is the representation of forests as a natural resource to be traded. According to this view, nature only has value when it is transformed into commodities for human use. The ideal would be to transform the tropical forest, with its great variety of tree species, into a homogeneous forest, like those of the temperate climates, which would be more easily managed (cut) and used industrially. This view has fueled the extensive transformation of the rich Atlantic forest of Brazil into plantations of pines and eucalyptus through the fiscal incentives that the Instituto Brasileiro de Desenvolvimento Florestal (Brazilian Institute of Forestry Development) granted to the timber companies since the 1960s.

Paradoxically, both of these approaches see the forest as uninhabited, negating the existence of innumerable societies who live in the forest and make use of it within a socio-cultural framework very different from urban-industrial societies. The human communities who live in the forests would at most be identified as a "species of fauna" or "threatened species"—one more component of the natural world—the local culture and its myths and complex relationships with nature deemed "savage" and "uncivilized."

While the myth of a "pure" nature was being re-created by preservationists from North America and other countries, the myths that guided and interpreted the relations between the North American indigenous populations and nature. For these peoples, the world referred to as "wild" by whites did not exist. But these myths—which Edgar Morin has called "bio-anthropomorphic"—are not exclusive to the indigenous populations in North America. They also exist among populations of hunters, extractivists, fisherfolk, and peasants in the Third World, who still live somewhat apart from the market economy of the urban-industrial world.

In many traditional societies, "wilderness" and the "natural world" are understood contextually, in terms of myths in which humans might assume natural features and plants and animals might present humanized characteristics and behavior. According to Morin, in this mythological universe, the fundamental features of animate beings are encountered in inanimate things. This unity/duality of humans is also reflected in the ways that reality is perceived. One is empirical, technical, and rational, by which complex botanical, zoological, ecological, and technological knowledge is accumulated (today the subject of ethnoscience); the other is symbolic, mythological, and magical.⁶ However, these forms of knowledge, although quite distinct, do not live in two separate universes; they are practiced in the same (although dual) universe. According to Mircea Eliade, in this dual universe, space and time are both the same and different—mythic time, the time past, is also always present, returning in regenerative ceremonies.⁷

This symbolic representation of the cycles in which all of creation is born, dies, and is reborn is strong among the indigenous societies of Brazil, but it is also present in the communities of peasants, fisherfolk, and gatherers, who continue to live according to nature's cycles and a complex

agricultural or fishing calendar. There is a time for coivara (burning of vegetation that has grown after the first burning), to prepare the land, to sow, to weed, and to harvest; and there is also a time to wait for species of migratory fish, such as mullet (tainha). Upon completing one cycle, the next cycle is begun. These activities are often ordered by signs—such as a particular phase of the moon, the appearance of rain, etc—which are celebrated in festivities that mark the planting or harvesting of a specific crop.

According to Morin, contemporary history, while dissolving old mythologies, creates others, regenerating symbolic/mythological thought in a modern form. He holds that mythological thought persists not only in remote rural regions, but that there is also a resurgence of myths in the urban world. And Eliade suggests that myths related to nature endure and resist the incursions of science, surviving as "pseudo-religions" or "degraded mythologies." He goes on to say that in modern societies that declare themselves atheist, religion and myths are buried in the unconscious, periodically returning to the surface as new mythologies. Thuillier states that in hundreds of texts inspired by ecological concerns, the old myths reappear with an almost religious enthusiasm and apocalyptic vigor.⁸

In Brazil, the first inspiration for the creation of national parks came from the abolitionist André Rebouças, in 1876, and was based on the model of North American parks. In defending the creation of the National Park of Itatiaia, [FIRST NAME] Hubmayer, as early as 1911, stated that this national park was

... without equal in the world, it will be at the doorstep of our beautiful Capital [at that time Rio de Janeiro] offering scientists and researchers immeasurable potential for the most diverse research, as well as offering the ideal retreat for physical and psychological renewal after the exhausting work in the cities. Also, it will provide a source of satisfaction for travelers and visitors interested in the attractions of nature in the area.⁹

The first national park was created in Itatiaia, in 1937, upon an initial proposal by the botanist Alfredo Loftgren, in 1913, with the objective of encouraging scientific research and offering leisure to urban populations. Little thought was given to the indigenous populations and the fishing and gathering populations who were already there.

The concern for traditional populations who live in conservation areas is relatively recent in Brazil, and until a short time ago (and still today for classical preservationists) this was considered "a police matter," since they were to be expelled from their traditional lands to make way for the creation of parks and reserves. The positions of the environmental movements in Brazil vary regarding the presence of traditional communities in conservation areas. The "preservationists" dominate the older and classical conservation groups—such as the FBCN (Brazilian Foundation for the Conservation of Nature), created in 1958; and the more recent ones, such as the Fundação Biodiversitas, Funatura, and Pronatura, which are more linked to international preservation organizations. Their influence continues to prevail in many of the institutions that have been responsible for the creation and administration of parks, such as IBAMA (Brazilian Institute for the Environment) and the Forest Institute of São Paulo. These groups have generally been formed by professionals in the natural sciences who consider any human interference in nature to be negative. Ideologically they were, and continue to be, influenced by the American preservationist view—they consider wild nature to be untouched and untouchable.

Working in difficult circumstances, these preservationists very often have dedicated their lives to protecting endangered flora and fauna, and probably, without their devotion, many unique habitats and species would have disappeared. In some cases, the protected areas they helped to create prevented the expulsion and resettlement of the traditional populations by outside logging and tourist industries. However, despite their accomplishments and goodwill, their approach to conservation has led to conflicts with local populations, and they have contributed less and less to finding a real solution to existing problems. Many of these preservationists are still very influential in Brazilian government conservation institutions, and they resist any attempt to change their imported model of

environmental protection. Rather than attributing the failure of this model to its inappropriateness, they have usually blamed its failure on inadequate funding and enforcement.

Beginning in the 1970s, an ecologism of denunciation emerged in Brazil, represented by AGAPAN (Gaúcha Association for the Protection of the Natural Environment), Ecological Resistance, Catarinian Association for the Preservation of Nature, and APPN (São Paulo Association for the Protection of Nature). The military regime in power at that time was more tolerant of non-leftist movements, such as environmental nongovernmental organizations (NGOs), and repressed social protest movements. The seventies was a time of rapid growth for the Brazilian economy, particularly through mega-projects that resulted in serious impacts on nature. Most of these, such as chemical and petrochemical plants, were established or expanded in coastal zones, the most populous areas of the country, and brought levels of degradation never before seen in Brazil. At the same time, the agricultural industry was growing considerably, resulting in a massive increase in the use of biocides and insecticides. Millions of rural workers were forced to move to the cities, which led to the growth of favelas (slums).

This extensive environmental degradation and social pauperization was masked by the ideology of the so-called "economic miracle," in which the Brazilian government's objective was to attract industries of the industrialized countries. It is in this context that the Brazilian Ecological Manifesto: The End of the Future emerged in 1976, headed by ecologist José Lutzenberger, and representing ten ecological organizations. Written at the height of the repressive military regime, the document was indeed a courageous act. The manifesto advocated the human-nature relations of traditional societies—the indigenous people and small-scale subsistence farmers—as an alternative to the predatory use of natural resources. The Ecological Manifesto played an important role in the ecological struggles of the seventies and eighties, denouncing environmental degradation, construction of nuclear power plants, and militarism.

In the mid-eighties, another type of environmentalism, more linked to social questions, began to emerge. This new movement developed along with the beginnings of redemocratization after decades of military dictatorship, and constituted a critique of the model of economic development whose inequitable concentration of wealth and destruction of nature had had its apogee during that period. The widespread destruction of the Amazon and Atlantic forests led to the beginning of what has been called "social ecologism," a movement that struggles to maintain access to territories with natural resources and places a high value on systems of production that are based on traditional technologies. The National Council of Rubber-Tappers, the Movement of People Affected by Dams, the Movement of Artisanal Fishermen, and the Indigenous Movement are all part of this movement, which reached one of its highest points in 1989 in Altamira, with the Meeting of the Indigenous People of Xingu. These movements acknowledge the necessity to rethink the role of national parks and reserves as well as the role of the traditional inhabitants within the parks. The final declaration of the Altamira meeting counseled: "Do not destroy the forests, the rivers, that are our brothers, since these territories are sacred sites of our people, Home of the Creator, that cannot be violated."¹⁰

Some of the local movements, which have no direct links to national movements, fight against the curtailment of their traditional activities in conservation areas. Other local organizations have pressured park administrations to begin negotiating alternative uses of natural resources. But they are incipient and fragile and are still subordinate to the local movements that are under state control. More spontaneous local resistance movements—the small-scale local extractivist producers defending their traditional territory against outsiders—are struggling to gain control over access to natural resources. For example, in response to their reduced access to local fishing sites because of fences that were erected by large landowners and to the threat posed by incoming commercial fishers who use predatory fishing equipment, one such action was the "closing of the lakes" in the Amazon region and the establishment of lake reserves by many *vargeiros* (riverine communities) of Amazonia, who themselves assumed control over the territories they have traditionally occupied.

The traditional populations who lived in the areas that were made into parks have been ignored by the state authorities for decades. When the State Park of Ilha do Cardoso was created in

1962 on the land along the south coast of São Paulo, a sophisticated and detailed management plan was developed for the flora and fauna and for support structures for tourism and research. This "top-down" plan, developed by the Forest Institute with the assistance of two "specialists" from the Food and Agriculture Organization (FAO), did not even mention the existence of the hundreds of families who lived there. Fortunately, it was shelved. Nevertheless, many of the families left their birthplace because of persecution by the park wardens.

Some local movements in isolated regions—such as the Movement of the Riverine Population (*vargeiros*) of Mamirauá, Amazonas—are supported by NGOs and research institutes, although they are not linked to any major social movement at the national level. The incorporation of traditional populations in restricted conservation areas is a project of the Mamirauá Sustainable Development Reserve, administered by the Mamirauá Civil Society and supported by several international environmental NGOs. The Reserve was created to protect a large part of the floodplain between the Japurá and Solimões rivers. Forty-five hundred *vargeiros* live in this huge area, spread over fifty small communities, with an average of fourteen households in each. They live from fishing and from hunting and gathering forest products. However, logging takes place along with these traditional activities, and the wood is sold to the sawmills in the cities. Rather than expelling the *vargeiros*, as was legislatively mandated, the project administrators decided to allow them to remain in the territory.

During the floods, water covers millions of hectares, making law enforcement, carried out exclusively by government officials, an impossible task. The management team, belonging to a local NGO, believed that the biodiversity and culture of the region could only be protected through community participation. This type of management, which differs substantially from the management plans established and imposed by scientists and bureaucrats, takes longer to develop since it depends on constant dialogue and consultation with local populations, inclusion of social research teams, and more flexibility in planning. It places more value on the process of decision making than on the establishment of rigid conservation objectives. This project demonstrated that once a decision is made by the local population, it has a much greater chance of being followed. In the consensus that was reached by the local population regarding the conservation and sustainable use of lakes—which was extremely important, both biologically and socio-economically—the communities decided to define six categories of lakes: lakes for reproduction of fish (untouchable, with the shoreline included in the area of total preservation); "subsistence lakes" (for exclusive use of the community for subsistence fishing); "market-oriented lakes" (for exclusive use of the community, with the fish to be sold); and "lakes for use of the nearby urban centres" (where fishing is permitted to satisfy the needs of municipalities).

The rubber-tappers' extractive reserves are one of the outcomes of the rubber-tappers movement that was created in the 1970s during the height of conflict over land in Acre. This movement organized the first *empate* (blockade), in which the organized rubber-tappers confronted the machines that were cutting down the forest and threatening their way of life. In 1975, when the first rural union was created in Basiléia in Acre—an area with a high density of rubber trees—the reaction of the landowners was violent, and in many cases the houses of the rubber-tappers were burned and the leaders were assassinated.

The National Council of Rubber-Tappers, established in 1985, pursued the creation of "extractive reserves." The extractive reserves gained international notoriety in 1988 when the rubber-tappers' leader Chico Mendes was assassinated. The first official extractive reserve was created in 1988, and in 1990 the extractive reserves became part of the protected areas system. The extractive reserves are administered communally. Although not allocated in individual lots, families have the right to exploit the resources along their traditional extractivist *colocações* (tapping routes). The land cannot be sold or transformed into nonforest uses, except for small areas that are allowed to be cleared for subsistence agriculture (approximately one to two percent of the area of the reserve).

Despite the organized opposition through UDR (Democratic Rural Union) of large landowners, the rubber-tappers movement expanded not only into Acre, where already by 1980

around sixty percent of the municipalities had rubber-tapper organizations, but also into other states such as Amapá, Rondônia, and Amazonas, which include ten extractivist settlements and four extractivist reserves, covering 3,052,527 hectares and benefiting about 9,000 families. In 1992, IBAMA created the National Council of Traditional Populations (CNPT), to lend technical support for the reserves in Amazonia and to disseminate the idea to other regions of the country. There are also extractivist reserves outside of the region, based on babassu found in the cerrado (savannah vegetation in semi-arid areas), and on fishing resources in the state of Santa Catarina.

The movement to establish extractivist reserves is an effort to defend, reinforce, and re-create threatened ways of life. Furthermore, in Amazonia it is an alternative that can enable a sustainable use of natural resources which respects both biological diversity and traditional ways of life. Official and public recognition of these reserves was made possible only through the collaboration and solidarity that grew between the strong social movement and the National Council of Rubber-Tappers. Together they seek national as well as international legitimacy, especially in their struggle against other forms of ownership, especially large land holdings. The frequent meetings of the leaders of the National Council with the rubber-tappers in many regions of Amazonia have helped them to organize additional associations that will propose new reserves.

One of the preservationists' arguments against the existence of traditional populations in "restrictive" protected natural areas is the assumed incompatibility between their presence and the protection of biodiversity. The establishment of protected areas for the preservation of biodiversity is, however, a relatively recent objective, promoted by international environmental organizations in response to the disappearance of species and ecosystems. The earlier parks were created primarily for environmental education, research, and the recreation and enchantment of urbanites.

Recent studies have shown that the maintenance and even the enhancement of biological diversity in tropical forests is intimately related to the shifting agriculture practiced by traditional communities. The use of small areas of land for agriculture and their abandonment after the decline of agricultural production (shifting agriculture) has an effect similar to that produced by the occasional destruction of the forests by natural causes. Shifting agriculture has been a natural means of using the regenerative properties of the rain forest for the benefit of humans. Gomez-Pompa suggests that tropical ecologists have recognized that "a large part of the primary vegetation of many zones, seen as virgin, actually contain vestiges of human disturbances, and there is more and more difficulty in finding zones that are totally virgin."¹¹ Many dominant species of the primary forests of Mexico and Central America were actually protected by humans in the past, and their current abundance is related to this fact. In the case of tropical forests, it is very difficult to distinguish "virgin" forests from "disturbed" forests, especially in areas where itinerant agriculture is practiced. The establishment of protected natural areas that respect these traditional practices can contribute to socio-cultural diversity as well as to conservation of the natural world, whether it be "virgin" or already altered by traditional populations.

Protected areas, especially those with very restricted use, are more than a government strategy of conservation—they are emblematic of a particular relation between humans and nature. The spread of the U.S. mid-19th-century idea of uninhabited national parks is based, first, on the myth of an untouched natural paradise, an image of Eden from which Adam and Eve were expelled, and, second, on what Serge Moscovici has called "reactive conservationism." This reactive conservationism of the 19th century, in which the natural world is attributed all the virtues and society all the vices, was a reaction to "culturalism," which sees in nature the infirmity of man, a threat of return to savagery to which culture must be opposed.¹²

Even when urban-industrial society and the advance of science has desacralized the world and weakened the power of myths, the image of national parks and other protected areas as a paradise in which "virgin nature" is expressed in all its beauty—transformed into an object of reverence by urban humanity—confirms the idea that mythologies continue and can be reborn under the shadow of rationality. This myth of an untouched and untouchable nature not only reshapes old creeds, but also

incorporates elements of modern science—such as the notion of biodiversity and ecosystem function—in a symbiosis expressed by the alliance between particular currents of natural science and preservationist ecology. The persistence of the idea of a wild and untouched natural world has considerable force, especially with urban and industrial populations who no longer have daily contact with the rural environment. This occurs despite growing scientific evidence that for thousands of years, humans have, in one way or another, interfered with many terrestrial ecosystems, so that today very little untouched virgin nature remains.

In tropical countries, the historical realization of the myth of an untouched nature in the creation of national parks and reserves continues unabated. The conflict between the views of the so-called traditional populations and the preservationist and state conservationist institutions cannot be analyzed simply in terms of the oppositions between different mythologies and symbolisms. The conflict also revolves around a political ecology, to the extent that the State imposes new spaces that are "modern and public" upon territories where traditional populations live—the parks and reserves from which, by law, inhabitants must be expelled. To those with power, these social actors are invisible. The acknowledgment of their existence and their importance to the conservation and maintenance of biological diversity is a recent phenomenon, which is the result of the socio-environmental ecologism that has developed in Third World countries.

This new ecologism has been translated into social movements that propose a new alliance between humans and nature, the need for democratic participation in nature conservation, and a respect for cultural diversity as the basis for the maintenance of biological diversity. Park inhabitants became more visible as a result of the conflicts that arose when landless populations occupied park areas that were not effectively administered by the government. Traditional populations and newcomers have recently begun to organize against the enforcement actions of the State, which, in most cases, impede the social and cultural reproduction of these human communities.

In Brazil, at the federal level as well as in some NGOs, the question of the presence of traditional inhabitants in national parks and other conservation areas has been dealt with from a conservative point of view, one that is still influenced by urban perceptions of the natural world and wilderness. In underdeveloped countries, conservation could be better achieved through the real integration and participation of the traditional populations who to a great extent have been responsible for maintaining the biological diversity that today we are trying to rescue.

However, there is also a need to guard against a simplistic view of the "ecologically noble savage."¹³ Not all inhabitants are "born conservationists," but among them there exist traditional populations with a vast store of empirical knowledge of the workings of the natural world in which they live. We need to better understand the relations between the maintenance of biological diversity and the conservation of cultural diversity. An interdisciplinary view is urgently needed, whereby biologists, forestry engineers, sociologists, anthropologists, and political scientists, among others, work in an integrated way in cooperation with traditional populations. As Gomez-Pompa and Kaus have said, we are discussing and establishing policies on a subject that we know little about; and traditional populations, who know their environment better than us, rarely participate in debates and decisions about conservation management.

Notes

1. Jeffrey McNeely. "Afterword to people and protected areas; partners in prosperity." In E. Kemf, *The Law of the Mother* (San Francisco: Sierra Club Books, 1993), p. 90.

2. John Rodman, "What Is Living and What Is Dead in the Political Philosophy of T. H. Green". *The Western Political Quarterly* 26 (1973): 566-86.

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The word "rainforest" was coined in 1898 by a German botanist to describe forests that grow in constantly wet conditions, with an average annual rainfall of 80 inches per year or more. "This fast and continual recycling of nutrients is what keeps rainforest systems working so efficiently, despite their shallow, relatively infertile soil." (NWF-Educator's Guide). According to one study, 75% of the nutrients found in rain forests is located in the plants, 17% is in decomposing matter, and only 8% is in the soil itself. When you toss your plastic trash into a recycle bin, you think it gets whisked away and transformed back into more useful plastic items. But this little recycling saga mostly isn't true and trusting it is a mistake. Shedding light on recycling will help you make better decisions.