

The Myth of Wilderness in the Brazilian Rainforest  
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The creation of protected areas<sup>1</sup> 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 Centre, 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, totalling 31,294,911 hectares, or almost four percent of the territory. About 28,302,572 hectares of this area are 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 Atlantica; 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 development projects 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. It is interesting that 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. It seems that the idea of national parks is deemed more appropriate for the Third World than it is for industrialized countries. And this in spite of the fact that many Third World countries are experiencing crises of food shortage, which are in part due to insufficient agricultural land and inequitable land distribution.

The North American model of conservationism that 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" of extractivists, fishermen, and native populations. This model was transposed from industrialized countries with temperate climates to the Third World, whose remaining forests were, and continue to be, largely 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 J. 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.<sup>2</sup> It is most often these ecosystems that are labeled as "natural" and transformed into protected areas, from which the residents 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 of the creation of parks on the local inhabitants, whose land-use practices often have been responsible for the preservation of these natural areas. Traditional populations are transferred from the 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 population, who, if encouraged, could make a positive contribution. When they have organized and become vocal about defending their historical right to remain on their ancestral land, they are accused of being against conservation. In most cases, these "traditional populations" are illiterate, without political power or legal ownership of the land, and are therefore not compensated for the expropriation of their land. But, as has occurred in the Mata Atlântica (Atlantic rain forest) in Brazil, because the large landowners, who have often obtained their land by usurping the rights of the traditional residents, can prove legal ownership, they are royally compensated.

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." J. 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 point of view – such as forests, large rivers, and canyons – and discriminates against natural areas that are considered less noble – such as swamps, bogs, and marshes.<sup>3</sup> More recently, Gomez-Pompa and Kaus have also criticized this notion of a "natural world" that privileges an urban perspective:

The natural environment and the urban world are viewed as a dichotomy and the concern is usually focused on those human actions that negatively affect the quality of life by urban standards. . . . People see in the wilderness a window to the past, to the remote beginnings of humankind long before the comforts of modern life.<sup>4</sup>

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 social movements that fight for the continued access of peasants, fishermen, and forest people to land and natural resources and Third World environmentalists who see the environmental crisis in their countries as being linked to the existing model of development. This movement, which Viola and Leis have called "peasant ecology,"<sup>5</sup> 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 Thoreau and 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. His ideas strongly influenced the establishment of a national commission of forestry experts.

At the beginning of the 19th century, artist George Catlin traveled through 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."<sup>6</sup> 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 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.

This neo-myth was exploited by the Brazilian military group in power in the sixties and seventies in order to occupy the region and led to the rapid transformation of vast rainforest areas into large cattle-raising and agricultural farms. It is not a 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 the non-Indian local inhabitants were resettled outside the borders of the newly created national parks and other strictly protected reserves.

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, by visiting them, 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 granted by the Instituto Brasileiro de Desenvolvimento Florestal (Brazilian Institute of Forestry Development) 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 – which Morin has called "bio-anthropomorphic" – were ignored. These bio-anthropomorphic myths are not exclusive to the indigenous populations in North America but 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, inhabiting tropical forests and other ecosystems.

For these peoples, the world referred to as "wild" by whites did not exist. 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.<sup>7</sup> 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 and returns in regenerative ceremonies.<sup>8</sup>

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. In many communities, these activities are ordered by signs – such as a particular phase of the moon, the appearance of rain, etc – and are often 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.<sup>9</sup>

Ideas and practices regarding nature conservation are changing in many countries around the world, including Brazil. The underlying ideas that have guided the creation of protected areas have undergone a profound rethinking. There have been frequent failures in the implementation of protected areas, 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 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 as "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.

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, 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 travellers and visitors interested in the attractions of nature in the area.<sup>10</sup>

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, fishermen, riverine populations, and gatherers 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 regarding the presence of traditional communities in conservation areas vary among the environmental movements in Brazil. 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 (???) 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. They often attribute the failure of this model to the lack of appropriate funding and enforcement of legislation, rather than to its inadequacy.

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 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 grew 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, however, masked by the ideology of the so-called "economic miracle," in which the objective of the Brazilian government wanted 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 Lutzenberg, 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 that of their traditional inhabitants. The final declaration of this 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."<sup>11</sup>



In the state of São Paulo, about 37.5 percent of the existing parks are occupied by traditional and nontraditional inhabitants. These populations are heterogeneous with respect to geographic origin, historical ties to the region, land ownership, and use of natural resources. Some of the people who moved into park areas at or after the time they were established do not have the knowledge of traditional management systems of the local communities (*Caiçaras*). And there are traditional populations who have lived in the area for many generations, with historical links to the land, who have a vast knowledge of the renewable natural resources in the area on which they depend for their survival. A great number of traditional communities, with distinctive ways of life and corresponding systems of communal appropriation of resources, have been irreversibly disrupted by the invasions of real-estate speculators and by the expulsion of community members from protected natural areas. However, more recently, especially after the return to democracy in 1984, local populations have organized social movements to oppose their expulsion from ancestral territories.

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 have been made into parks have for decades been ignored by the state authorities. 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 and was fortunately 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 Ecological Station (EEM), administered by the Mamirauá Civil Society and supported by several international environmental NGOs, among them the WWF. The EEM 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. Contrary to the expulsion that is required by legislation, the project administrators decided to allow the *vargeiros* 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, however, is different from the management plans established and imposed by scientists and bureaucrats. It 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 has 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, biologically and socio-economically – the communities decided to define six categories of lakes, including totally preserved areas: 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, in one of the centers of 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 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).

The community members of extractivist reserves are aware, through their representative organizations, that a legal guarantee against aggression by large

economic interests is not enough. It is fundamental that their extractivist production be economically viable, since they currently depend primarily on only a few products, such as rubber, nuts, or *babassu* palm trees. Rubber production is precarious because of the high cost of production, an external market that is unfavorable to primary products, and the lower price of latex produced by monoculture plantations in the south of the country. The rubber-tappers solicit government subsidies to maintain prices for rubber on the internal market, while they look for alternative markets for products of Amazonia on the international market. To this end, a few cooperatives have been organized to eliminate middle men and to facilitate marketing. The National Council of Rubber-Tappers also created a center for training and research that, together with Brazilian universities, looks for ways to diversify production.

Despite the organized opposition of large landowners through UDR (Democratic Rural Union), 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, including 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 that respects both biological diversity and traditional ways of life. Official and public recognition of these reserves was only made possible through the collaboration and solidarity of the strong social movement with the National Council of Rubber-Tappers, seeking national as well as international legitimacy, especially in their struggle against other forms of ownership, in particular the large land holdings. The frequent meetings of the leaders of the National Council with the rubber-tappers in many regions of Amazonia helped them to organize associations that will propose new reserves.

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

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 regenerative system of rain forests appears to be very well adapted to the activities of preindustrial 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."<sup>12</sup> 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.

Traditional management systems exist in places other than tropical forests. I have observed many traditional forms of management of estuarine and coastal waters by artisanal fishermen, among them the *caiçara*, the *viveiro*, and the *cerco*. The *caiçara* is a kind of trap made of branches, arranged on the floors of estuaries and lagoons, such as in Mundaú and Manguaba. Many species of fish gather around these branches during various stages of their reproductive life and are captured by fishermen, who keep the adults. The *caiçara* is a type of artificial reef, of which there are several models, depending on the distance from the shore. The round *caiçaras* or *camarinha* contain complex communities and multispecies stocks. The fishermen have extensive empirical knowledge of the species that live in the *caiçara*. The *viveiro* is another technique of coastal management, employed mainly in the Northeast of Brazil, which involves the enclosure of the deepest part of an estuary, letting fish pass only at high tide and retaining them for growing, using only the nutrients of the water itself.

The diverse management practices used in "virgin" forests as well as those used in coastal environments have contributed and continue to contribute to the maintenance of biological diversity – of species as well as ecosystems. These are extremely important cultural practices that reveal the tremendous knowledge and "savoir-faire" of the traditional populations, which must be considered in the process of establishing conservation areas in tropical forests and coastal environments.

Protected areas, especially those that involve very restricted use, are more than a government strategy of conservation – they are emblematic of a particular relation between humans and nature. The expansion 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 . 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.<sup>13</sup>

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 that have largely lost the 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.

The historical realization of this myth of a nature that is untouched in the creation of national parks and reserves continues unabated in tropical countries. 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 recognition of their existence and their importance to the conservation and maintenance of biological diversity is a recent phenomenon, resulting from an ecologism in Third World countries that differs from that of industrialized 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. The increased visibility of park inhabitants was brought about by the conflicts generated by the occupation, by landless populations, of park areas that were often not effectively administered by the government. Traditional populations and newcomers have recently begun to organize against enforcement actions of the State that, in most cases, impede the social and cultural reproduction of these human communities.

In Brazil, 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 – at the federal level as well as in some nongovernmental organizations – 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 have been in large part responsible for 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."<sup>14</sup> 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.

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## Notes

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<sup>1</sup>. In this paper, the term "protected areas" refers to all categories of areas from which human populations are excluded. In Brazil this includes mainly national and state parks, ecological stations, and biological reserves. However, in the text, the terms parks, reserves, protected natural areas, natural reserves, and conservation reserves are also used to refer to protected areas as defined above.

<sup>2</sup>. J. 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.

<sup>3</sup>. Rodman, J. 1973. "What Is Living and What Is Dead in the Political Philosophy of T. H. Green". The Western Political Quarterly 26: 566-86.

<sup>4</sup>. Gomez-Pompa and Kaus, A. 1992. "Taming the Wilderness Myth". Bioscience 42(4): 271-72.

<sup>5</sup>. E. Viola and H. Leis. "Desordem global da biosfera e a nova ordem internacional: o papel das organizações do ecologismo". In Leis, H. (org.). Ecologia e política mundial (Rio de Janeiro: Vozes/Fase, 1991).

<sup>6</sup>. J. Mc Cormick. Rumo ao paraíso (Rio de Janeiro: Ed. Relume-Dumará. 1992).

<sup>7</sup>. E. Morin. La Méthode 4. Les idées, leur habitat, leur vie, leurs moeurs, leur organization (Paris: Seuil, 1991).

<sup>8</sup>. Mircea Eliade. Imagens e símbolos (São Paulo: Martins Fontes, 1991).

<sup>9</sup>. P. Thuillier. "Les mythes de l'eau". La Recherche, Numero Spécial, 221, May 1990.

<sup>10</sup>. In M. Pádua and A.F.C. Filho. Os parques nacionais do Brasil (São Paulo: Edit. José Olympio, 1979), p. 122.

<sup>11</sup>. M. Waldman. Ecologia e lutas sociais no Brasil (São Paulo: Contexto, 1992), p. 90.

<sup>12</sup>. A. Gomez-Pompa, A.; Vasquez-Yanes and C. Guevara. 1972. "The Tropical Rainforest: A Non-Renewable Resource". Science 177: 762-5.

<sup>13</sup>. S. Moscovici. Hommes domestiques, hommes sauvages (Paris: Unión Générale d'Éditions, 1974).

<sup>14</sup>. K. Redford. 1990. "The Ecologically Noble Savage." Orion 9(3) 25-29.