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A Global Health Perspective on the Shipibo-Conibo in Eastern Peru

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INTRODUCTION

This study offers an interdisciplinary human-ecological view of the relationship between human beings, environment and society, in particular how interaction between human groups and their environments affects the health of populations. The geographical region concerned is Amazonia, and the focus is on the societies that have populated the basin for thousands of years— the Amerindians, also referred to as indigenous or ethnic groups. The disruption taking place between one such local population and its environment is interpreted in a global context taking into account ideas of the compression or shrinking of the world, and the intensification of consciousness of the worlds as a whole (Robertson, 1992).

To better understand what happens in the process of globalization, examples taking from my own field work and experience among the Shipibo-Conibo, an ethno-linguistic group living in the tropical rain forest of Eastern Peru, are given (Follér, 1990, 1995; Follér and Garrett, 1996). Their interaction with other ethnic groups, especially in Peru, and with the people of European origin, who have been moving into the area since the sixteenth century, will be examined, to elucidate how their lives and especially their health situation have been influenced by today's social and cultural changes.

Peru's roughly nine million Amerindians make up about forty percent of the total population of the country. The boundaries between indigenous groups and European-based ones are, however, no longer easy to draw, in part because the cultures have mingled with each other through constant migratory movements and intertribal relations.

Although most Peruvian Amerindians live in the Andean mountains, more than fifty ethno-linguistic groups inhabit the Amazonian region of the country. The Shipibo-Conibo, who belong to the Pano linguistic group, are located primarily along the Ucayali river and its tributaries. They inhabit 100-120 villages of between 100 and 1000 inhabitants each.

THE HUMAN-ECOLOGICAL APPROACH

A human-ecological study differs from conventional sociological discussion of ethnic groups in that it considers the relation between human beings and both natural and societal structures, and the link to individuals through their actions and reciprocity. Within anthropology, however, there is a long tradition of ecological and biological studies that comes very close to what I call a human-ecological approach (Moran, 1979, 1993; Netting, 1993; Roosevelt, 1980 and Santos et al. 1996).

The theoretical approach applied in this study is mainly inspired by Human Ecology; Fragments of anti-fragmentary views of the world edited by Dieter Steiner and Markus Nauser (1993). According to their basic theory, a human-ecological study should include all three corners of a "human-being/environment/society triangle." The question of how to integrate these three dimensions and define the relations between them is, of course, not an easy one, since we are dealing with an extremely complex web of causes and effects, and interactions at different levels of aggregation.

One way to analyze some of these relations is to conduct empirical studies in various social and cultural settings in different parts of the world. Several such attempts have been undertaken in the tropical lowlands of South America, seeking an explanation of the contrasts between highland,

desert coast and lowland. In prehistoric times, the most prominent feature distinguishing the tropical lowlands from the high country was the absence of urban civilization in the former (Roosevelt, 1980). The controversies between investigators such as Julian Steward, Betty Meggers, Daniel Gross, Donald Lathrap and Robert Carneiro show the complexity of the problem, and after more than twenty years of an intense dialogue, the problem of the degree to which environmental limitations hampered lowland cultural development has not been resolved, despite widespread interest in the question (Roosevelt, 1980).

One concept, the meaning and importance of which is often disputed in studies analyzing humans' survival strategies and relations to the environment, is that of 'adaptation.' In general terms, this refers to the interaction between man and his natural environment— in particular, those practices and activities that influence the survival of the population, and which can involve cultural as well as biological components. A major theme is how human beings, as biological creatures, adapt to their physical environments through their cultures, including their behaviors and lifestyles.

Alongside human adaptation, the tropical rain forest also has its own evolution. The river changes its course; new plant and animal species develop; others disappear from a region or become extinct. Human-ecologists and anthropologists are involved in an ongoing discussion of different aspects of adaptation (Boyden, 1987; Hames and Vickers, 1983; Moran 1979, 1993 and Sponsel, 1986). The concept will be further discussed under the heading 'An ecological perspective.'

In the social sciences, Nature is mainly conceived as a resource/commodity, subject to human alteration by, for instance, agriculture, but not, as in the ecological sense, something existing outside and independent of human beings. Steiner and Nauser have created a model designed to include ecological structures, asserting that ecosystems are composed of abiotic and biotic components which interact through the flow of energy, matter, and information, all of which vary in space and time. According to them, fluctuating social and ecological structures constitute the framework within which individuals or groups act, while it is this very action that creates or helps to re-establish those structures. This means that one must consider the reciprocal and dynamic relations between the actions of people (here ethnic groups), and surrounding structures such as the economic-political-cultural system, the management of the resource base, and the self-regulating natural environment.

The human-ecological view of the process of globalization among ethnic groups will be presented as follows:

- An introduction to three dimensions in the human ecological triangle:

1. An ecological perspective
2. A global context; Social and cultural change and the impact of modernization and globalization on the ethnic groups.
3. The human being, variously seen as a social actor or group, and as a part of a system of social structures and cultural values, capable of acting both as anindividual and as a group

- A summary with some thoughts about the future

AN ECOLOGICAL PERSPECTIVE

From an ecological perspective, what we call "traditional human societies" have, throughout history, been quite well adapted to their ecosystems. They have used natural resources from those systems at rates that did not disrupt natural flows and cycles, and in cases where their use of resources might have endangered the natural system, adaptation such as a nomadic lifestyle has often facilitated ecosystem recovery and maintenance. The populations have been small, at least in part due to the factors that naturally limit other animal species, including infectious and parasitic diseases and a high mortality rate among newborn and small children.

This picture is undergoing rapid change today. Many indigenous groups in the Amazon lowlands are confronted with modernization. In this process, productive activity is no longer only directed toward the meeting of basic needs. Amazonian groups who were previously rather isolated are becoming integrated into the market economy through goods, products, tourism, etc. From an ecological point of view, the ecosystems are threatened and sometimes destroyed

resulting in the disappearance of animal and plant species. A comprehensive review article on Amazon Ecology and Adaptation with bibliographies on the topic elucidates these issues (Sponsel, 1986).

One approach to human interaction with the environment is in Western Civilization in Biological Perspective, written by the human ecologist Stephen Boyden. He examines adaptation in four phases of what he calls biohistory, which is defined in terms of the culture-nature interaction (1987).

The four phases (hunter-gatherer, early farming, early urban, and modern high-energy) differ from each other especially concerning resource management and energy consumption. Although there has been a shift toward the later phases, societies representing all four coexist today in, for example, the Amazonian region. When people from different biohistorical phases, with different consumption patterns of non-renewable resources and different world views, come together, change of some kind is inevitable. Biohistory is especially concerned with the impacts of societal activities on the biophysical variables of the biosphere, and on human beings. It pays attention to the processes of cultural adaptation that may be brought into action in response to socially and culturally induced threats to human survival and well-being (Boyden, 1993).

The process of adaptation may be regarded as a set of changes and modifications of varying rapidity that enable a group to survive in a given environment. Biological and cultural adaptation by human beings is essential for obtaining food, protection from the stress of the climate through dwellings and clothing, socialization of children, and care of the newborn, the sick and the aged within the group. Health and disease may be taken as positive and negative indicators of the skill with which human groups, combining biological and cultural resources, interact with their environments.

Resources affecting health are both internal and external. Internal resources are a mix of genetically inherited traits, physiological mechanisms, and behavioral adaptations. External resources include sources of caloric energy and nutrients; material used for tools, clothing and shelter, knowledge about the environment; abiotic elements essential for life; and so on (McElroy, 1996:74).

Pathogens can only flourish above certain critical demographic densities, which indicate basic shifts in the man-nature equation. A combination of demographic and cultural changes, as well as changes in land-use patterns and other human activities in the region, have led to outbreaks of various infectious diseases (McMichael, 1995). The connection between mobility and the incidence of disease and epidemics has also been observed in the context of isolated groups (Crosby, 1986 and McNeill, 1976). An example concerning the Shipibo-Conibo and the cholera epidemic of 1991 will elucidate these connections later on in this paper.

From an ecological perspective, health problems can be seen as arising from the divergence between the environment to which human beings are genetically adapted and new disease patterns due to changes such as de-territorialization and urbanization. There is an ongoing adaptation to new conditions, but, as indicated by Boyden, the biological nature of human beings is limited, and the discrepancies between the social and cultural changes and human biology creates what he calls the principle of evodeviation, which is maladaptation (Boyden, 1987).

In a local or regional perspective, the environment imposes certain limitations on the survival of a group. These include the size of the group that has to access arable land, food resources and water. The earlier-mentioned researchers on native Amazonian populations from Steward's publication of the Handbook of South American Indians (Steward, 1939-1959) study demography and social and political organization, from different viewpoints, focusing on the influence of environmental 'limiting' factors (Roosevelt, 1980 and Santos et al., 1996). Of course, the influential theory of Ester Boserup that agricultural growth should be seen as a response to population growth in the discussion of the interaction of population, technology and environment should be mentioned as a significant contribution to our understanding of human interactions and social changes, even if

her empirical data mainly stems from Africa (Boserup, 1965).

The environment of the people living in the Amazon region is affected by the subjective lifestyles of people living far away, with the result that their habitat and home is destroyed. This entails a threat to their survival as ethnic groups, since they are forced to expand beyond their natural physical limits and the constituent resources. The people living in the Amazon are facing the following problems:

- Scarcity of arable land for food production
- The exploitation of non-renewable resources such as minerals and energy within the region
- The exploitation of the forest for timber logging
- Increasing population and expanding urban settlements, due in part to migration from the Peruvian Andes as a result of erosion on the mountain slopes and in the case of Brazil, to a government policy encouraging landless peasants to homestead in Amazonia (Moran, 1993:148ff).
- The injurious effects of water and air pollution

Biological diversity has declined as a result of both floral and faunal species becoming extinct. The land and groundwater have been poisoned by pesticides and by mercury and other heavy metals (Bioschio and Henshel, 1996; Gray, 1986). The rate of deforestation is spectacular during the 1980s and 1990s about 1.3 percent of the forest has been destroyed annually, the highest rate of loss in the developing world (World Resources Institute, 1990). Furthermore, soil erosion caused by deforestation has been extensive and has led to river pollution, mudflows, and flooding. In the Human Development Report (1995) from the United Nations Development Program, balance sheets of human development in Latin America and the Caribbean show both 'progress' and 'deprivation' within various areas (UNDP, 1995:26). Under the heading of Environment, an example of progress is that the deforestation rate has fallen in many countries including Brazil, and that there exists an awareness of sustainable development among the governments. On the deprivation side, the pesticide consumption per thousand people is the highest among developing regions, with adverse implications for the environment and the population.

Security and Local Knowledge

The disruption that occurs between a local population and its environment once again must be seen in the context of globalization. Questions that might be raised are: What does the territory mean to the Amazonian groups? What happens when the land, their resource and subsistence base, is threatened? A new concept emerging in the discussion is 'security.' Individual/human security and ecological security are especially relevant here.

In the UNDP report from 1994 the concept of human security is put into focus. Two aspects in particular are emphasized: first, safety from such chronic threats as hunger, disease and repression; and second, protection from sudden and hurtful disruptions in the patterns of daily life whether in homes, at jobs or in communities (UNDP, 1994:23). An increasing source of health insecurity is the spread of HIV and AIDS, and new infectious diseases. These are located in the interface between human ecological security. Disturbances in ecosystems could be conducive to the emergence of new diseases caused by viruses and microbes multiplying among humans and animals.

The environmental threat to the planet is a combination of the degradation of local ecosystems and that of the global system. Environmental security concerns the maintenance of both of these aspects of the planetary biosphere as the essential support systems on which all other human enterprises depend (Buzan, 1991:19). A challenging new literature, in both International Studies and, in particular, Human Ecology, is throwing light on the relationships between gender, identity, aspects of power, nation/state, ecological security and the right to land for marginalized ethnic groups (Buzan, 1991; Langlais, 1995 and Stern-Pettersson, 1993). The domestic security of the ethnic groups in the Peruvian part of Amazonia has been threatened during the 1980s and later by state policy, transnational timber and oil companies, and substantial guerrilla movements such as Sendero Luminoso.

Another discussion connected to human security concerns the concept of community security. Ethnic groups provide cultural identity and reinforcement of common values to their members (UNDP, 1994:31). One part of this security consists in the individual's relation to the resource base, which involves participation in local or traditional ecological knowledge— a sort of collective memory. This knowledge is expressed in survival strategies demonstrating familiarity with biodiversity, environmental assessment and information systems, and unquestionably plays a role in human well-being and survival (Follér and Garrett, 1996). Ethnobo-tanical studies of the Amazon with far-reaching categorization of soil, plants and animals help us understand the complexity of other knowledge systems than the scientific ones (Arevalo, 1994 and Tournon, 1994a, b).

During the 1990s, certain changes have been seen amongst international and national organizations, NGO's, and indigenous and women's groups, in favor of recognizing the existence of traditional knowledge and technological systems outside the high-technological Western sphere. This appreciation also recognizes the value of these systems as better adapted to, and appropriate for, a sustainable future (IDRC, 1992; Shiva, 1993 and UNESCO, 1994a, b).

As far as the ethnic groups of the Amazon Basin are concerned, the responsibility for their health situation and survival may be ascribed both to their own actions and to those of distant organizations. New diseases emerge that can be seen as arising from the divergence between the natural systems to which they are genetically adapted and the actual global context of which they are a part. Although biological species can constantly adapt to new conditions, changes in the biology of human beings are limited to the gradual process of genetic evolution, whereas social and cultural transitions are now occurring within the space of a few generations (Follér, Garrett and Hansson, 1996).

MODERNIZATION, GLOBALIZATION AND OTHER CHANGES

Although Human Ecology has a strong ecological viewpoint and pays significant attention to global biological and physical trends affecting the survival of human life, it also emphasizes social and cultural factors. The social and cultural changes occurring in today's world comprise one field of interest. The speed of change in a Western urban population might differ from that in an ethnic group living in Amazonia, but it is important to realize that even within relatively isolated indigenous societies, such change is going on constantly. The dynamic nature of culture can be seen in the way perceptions and strategies gradually evolve in indigenous societies as part of the process of adaptation to the resource-base. When social groups come into contact with other cultures, as they have done throughout history, the changes become both more profound and more rapid.

The changes facing today's societies are unprecedented in their magnitude, scope and diversity. Those that will be outlined here are modernization, globalization and growing inequality.

One of the major forces of change shaping human societies is modernization. It originated in Western Europe, but spread to all parts of the world during the nineteenth and twentieth centuries, often in conjunction with economic development, and brought about worldwide cultural transformations. Some aspects of modernization are clearly beneficial to the survival of human beings, such as advances in health care, hygiene, new crops and technological and scientific knowledge. These have led to an increased average life-span. It is more difficult, however, to measure changes in quality of life due to modernization. Several consequences of modernization are both solutions to some of today's problems and problems in their own right. Without modernization the world population would not have risen to nearly six billion, and many of today's epidemics, infectious diseases and diseases of 'civilization' would not have existed without the present demographic structure. The present ecological problems, global and local, are also caused by humans, and can be seen as consequences of the rationalization and modernization process.

To the indigenous groups, modernization means that they are suddenly catapulted from their traditional ways of life into tension and

conflict, both within their own groups and in their interactions with other cultures. Some caution is, however, advisable when using the notion "traditional." These societies may have experienced many changes due to interethnic contacts, natural disasters, etc., even before the European contact. Some tendencies seen today which may be truly new are the breakdown of the support system of the group, and the splitting up of the extended family. Deterritorialization and urbanization are two more.

These abrupt and rapid changes need a theoretical approach that includes the diverse components of the process. Santos et al. emphasizes, in a review article, that the rapid transformation taking place among the indigenous groups in Brazil is not following a uniform path, rather it varies from region to region and from one population to another.

...investigators studying present day societies must consider a wide range of topics, including introduction of new technologies, involvement in market economy and health change (Santos et al., 1996:96).

Within the context of globalization, the world is shrinking, and the dominant cultures, those of Europe and the United States, are penetrating the local world of urban and rural areas in Africa, Asia and Latin America, even reaching as far as the scattered and isolated Amazonian population. An important aspect of globalization is that it connects the local with the general and can be defined as: "social process in which the constraints of geography on social and cultural arrangements receding, and in which people become increasingly aware that they are receding" (Waters, 1995:3).

The ethnic groups are thus becoming caught up in the process of globalization. What we can see is that time-space distanciation, disembedding and reflexivity enable complex relationships to develop between local activities and interaction across distances.

In Amazonia, timber logging and oil drilling, by national and international companies, and the global network of narcotics traffic are some examples of how shrinking distances allow the modern world to penetrate the local one.

Several writers, among them the Norwegian anthropologist Thomas Hylland Eriksen, see globalization in a positive light. Eriksen emphasizes the vitality and originality occurring in the cultural encounter, named "creolization" (1994). The process implies a coming together of all humankind, a recognition of common values and goals, and an acceptance of cultural differences. This image of the world as one is inherent in references to the global village. International tourism, new broadcasting systems, computer networks and transnational industrial companies are one aspect of it.

Bjorn Hettne argues that globalization can be seen as the deconstruction of the relationship between the local and the modern, and that this is not only a uni-directional trend of Western homogenization, but also the emergence of something new. Strategies of local persistence are expressed in the articulation of ethnic differentiation which is shaping present-day world politics (Hettne, 1992).

The serious inequality found in current socièties is another side of globalization, which could also be largely attributed to the spread of capitalism and market economy. Nevertheless, globalization from a world economic and trade point of view is mainly a one-way transmission of Western ideas, products and interests to other parts of the world. Between 1965 and 1990, world merchandise trade tripled, and trade in services increased more than fourteenfold. But the poorest twenty per cent of the world people, among them the Amerindians and other ethnic groups, have benefited little from the increased globalization of economies. In world trade, the share of the economically poor countries is only one percent (UNDP, 1995:14). In this process, the knowledge and practices of local cultures are inevitably devalued and their security as individuals and as groups is threatened.

The implications of globalization for the lives of the ethnic groups in Amazonia include, besides the loss of local knowledge, deterritorialization, new diseases spread through tourism, and modern high-mobility lifestyles. Andean flute music, indigenous handicrafts, exotic food and 'native' clothes are, of course, examples of transmission in the opposite direction. But what we see is a fragmented piece of what can be called folklorization and exoticization (Urban and Sherzer, 1991:11). We thus construct the role of

"the other" as a source of importable indigenous customs and as an exotic image to attract the tourist industry.

Using Boyden's biohistorical perspective, we see a cultural encounter taking place between two different perceptions of the world. One of these cultures is in a position of dominance due to its technological, military and economic power. This leads to a widening of the gap between rich and poor, and reinforces the marginalization and poverty of the indigenous populations. This marginalization is both physical, in that the ethnic groups are pushed into less desirable lands, and social and cultural, in that they live in the periphery of the prevailing economy— outside the power structure.

One question that has been raised is whether globalization implies homogenization or integration. According to Waters, globalization merely implies greater connected-ness and deterritorialization (Waters, 1995:136). Confronted by this one has to ask how it is possible for ethnic identification to survive without a relation to a specific territory or a place?

Among the Amazonian groups the place is often strongly connected with identity. Identity cannot be moved out of context. It is a complex phenomenon, a process of formation that continues and changes depending on external and internal factors. Various academic disciplines distinguish different aspects of identity examples, and various identities may exist in one and the same person. The sense of identity of the groups considered here, such as the Shipibo-Conibo, Ashaninka and Masigenka in the Peruvian lowland, is strongly connected with language, cosmology, concepts of health and illness, and territoriality, that is, the inhabitation of the land their ancestors have lived on for thousands of years (Bear, 1992 and Follér, 1990).

One component of the process of displacement of deterritorialization is the increasing attraction of centers of population density. Whenever a traditional culture comes into contact with a modernized society, a push-and-pull effect takes place. Some individuals want to improve their material standard by moving to the cities. The long-term trend of moving from scattered villages and small towns to cities and megacities is continuing all over the world. Urbanization is a major force in Latin America; in the Peruvian part of Amazonia, for instance, urban growth is about six percent per year according to regional statistics (INEI, 1993). This urbanization is increasing the marginalization of the ethnic groups. The "transition" from a rural, agricultural, self-sufficient, and "traditional" way of life to one that is urban, and possibly supported by wage labor, involves a significant breakdown of the social support system and cultural identity that they had in their villages. The groups are having to face new environmental problems and health hazards, while dealing with these losses.

As has been proposed by Hettne and Hylland-Eriksen, something new will emerge from such a state of transition (Hettne, 1992 and Hylland-Eriksen 1993, 1994). Their approaches emphasize the vitality and originality of the cultural "creolization" that we see in the world today, with its mixture of influences from near and far. This diverges from the more gloomy outlook of the "traditionalists" in ethnology, with their romanticization of indigenous groups ("Robinson Crusoe's Friday syndrome"). The split is just one sign of the different viewpoints existing within today's social sciences.

Various aspects of identity and culture are vital to the ethnic discussion. I would just like to add, without further elaboration, that consideration of the aspects of power and hierarchy is necessary if the future role of the ethnic groups is not to be without context and toothless.

I very much believe in a pluralistic society with an acceptance of cultural differences and recognition of common values and goals for all. My immediate concern, however, is the fate of migrants ending up in slums and shantytowns, where their health and well-being are threatened by violence, poor housing, unsanitary conditions, air and water pollution, toxic materials and the potential for epidemic disease.

CHOLERA AMONG THE SHIPIBO-CONIBO

The present health situation in South America has historical roots. Alfred Crosby made us aware of the scale of the biological disaster caused by the encounter between the Europeans and the indigenous population. The Amerindians had no immunity against disease agents brought from Europe, a fact which nearly led to

their extermination. According to Crosby, the background for understanding and explaining the present situation can be located in the specific historical effects of both the Europeans' actions and the things they brought with them: biological agents such as plants, crops, animals, and microbes on the one hand, and ideological agents such as economic, political and religious ideas on the other (Crosby, 1986).

Tzvetan Todorov's perspective complements that of Crosby. In The Conquest of America: the Question of the Other, Todorov tries to understand the encounter between two very separate world views by showing how Columbus and Hernando Cortes, on the one hand, and the Native Americans, on the other, were enmeshed in their social contexts, unable to think beyond their own cultural limits. Columbus, as a Christian, perceived the Native Americans simply as pagans, without law and religion. He could only interpret what he saw with the categories of his own cultural context in which clothes, wealth, and the expulsion of humans from Paradise stood for civilization. He lacked the reasoning ability, imagination or creativity to interpret a culture based on other values. He admittedly found them beautiful, good-hearted and peaceful, but with a sense of superiority that engenders patronizing behavior. These components of the perception of "the other" are grounded in ethnocentrism—in the elevation of our own values to absolutes (Todorov, 1982:42-43). Such attitudes have survived to the present day in the relations between the colonist and the colonized, today between the mestis society, and the indigenous people and poor peasants. They have led to the marginalization, deterritorialization and cultural impoverishment of the ethnic groups, and the destruction of the tropical rain forest, their home.

Against the background of these historical perspectives I would like to describe the present-day incorporation of foreign biological and cultural elements into the Shipibo-Conibo's own framework of social life. In this process, a geographically unbounded "global" setting is emerging. The cholera epidemic of 1991 was just one more dagger-thrust in this process, with both biological (lack of immunity to bacteria) and social (poverty) causes.

A Case History

In April 1991, cholera spread to the Amazonian region inhabited by the Shipibo-Conibo people. By August of the same year, about 250 individuals had died out of the population of 30,000. In 1993 and 1994, I carried out field research on the group's first encounter with cholera. I worked in Yarinacocha, with its sizable urbanized Shipibo-Conibo population, in the vicinity of Pucallpa, the second largest urban area in the Peruvian jungle. I also conducted interviews in several Shipibo-Conibo small villages (Communidades Nativas) along the rivers and lakes. A more comprehensive article from the field investigation can be read in Follér and Garrett (1996). Here I will focus on the question: How were human-ecological factors related to mobility, changes in sustenance patterns and education involved in the epidemic?

The spread of cholera among the Shipibo-Conibo was facilitated by various human-ecological factors arising out of globalization with its increasing global interconnectedness and accompanying social and cultural changes, such as mobility, modernization of the economy and Western education.

A somewhat restless, almost semi-nomadic life has traditionally characterized the Shipibo-Conibo and other Amazonian groups. Historically, the Shipibo-Conibo have always traveled a lot, visiting families and friends in other villages and staying for various lengths of time. Such travel was always done by canoe. There was also a periodic moving of families and villages to new sites due to the river changing course. This phenomenon is generally interpreted as being an adaptation to the jungle environment, since regular shifting of the population helped them avoid the heavy load of parasitic and vector-borne disease they would have encountered after long term habitation of one jungle area.

Modern mobility is of a very different sort because it is brought about by dependence on the urban centers. Most travel is not among villages, but between a village and the nearest city. An increase in the cultivation of cash-crops such as rice and peanuts has made it necessary to go into Pucallpa to purchase supplies and sell

the harvest. Domesticated animals can be sold for a better price to a city buyer than to the itinerant peddlers who regularly pass through the Shipibo-Conibo villages. Women sell their handicraft in Pucallpa, Iquitos and Lima. Village authorities visit regional organizations to apply for loans and support for agriculture and reforestation projects. More young Shipibo-Conibo are studying in Pucallpa-Yarina than ever before. And, finally, people in general enjoy visits to urban settings.

A great part of the travel is by public transport, a kind of ferry boat called "colectivo." When a colectivo leaves a village for Pucallpa, it is always overcrowded. Shipibo-Conibo who take the ferry often live on it during their time in the city or, alternatively, stay on a raft in the harbor, without any kind of sanitation. The ferries are floating time-bombs of disease. Sanitary standards are abysmal, food is prepared in an extremely unhygienic way, and excrement goes directly into the river. Many cholera deaths occurred among ferry passengers, and the ferries spread the epidemic everywhere they went.

The change in the Shipibo-Conibo's mobility is clearly linked to the rapid shift they have made from self-subsistence to a cash crop economy. Today, money is needed to buy commodities from outside, including petrol and oil for boats, clothes and schoolbooks for the children and hygienic articles such as soap and shampoo. To earn this money, the male population works with timber or collecting coca leaves. When I visited Caimito in 1987, a Shipibo-Conibo village, no coca cultivation existed in the neighborhood of Lake Imiria. By 1994, most of the men in the village were working or had worked in the coca harvest. Like other indigenous people and peasants, they hired out their labor to small private landowners, for a minimal wage. The presence of coca commerce, together with associated terrorism and military vigilance, has changed the social structure in the area. Threats, violence, rape and murder have increased, and life has become more insecure. In this context, cholera can be seen as one of the many threats to the Shipibo-Conibo's well-being arising out of their growing interconnectedness with the rest of the world.

Education has also played a major role in changing Shipibo-Conibo life. More than fifty percent of the Shipibo-Conibo alive today are under fifteen years of age, and an increasing portion of the new generation study outside the villages until they are nearly twenty years old. This situation has resulted from the lack of an adequate local educational system. In most Shipibo-Conibo villages there is a bilingual school, but some fundamental ingredients for appropriate education at the local level are missing. The educational infrastructure and supply of properly trained teachers are still wanting, and there is a lack of pedagogical material and teaching methods adapted to community life and tradition. As a result, many young people leave their villages for nearby urban areas, where they are taught according to Western educational systems.

When a society shifts from a culture based on "wisdom" and practical experience to one based on formal, theoretical school-knowledge, there are sure to be significant consequences for values and thought-systems. Traditional knowledge and skills, previously transmitted from generation to generation, are likely to be lost. The implications are serious, since indigenous knowledge regarding agricultural and fishing techniques, nutrition, housing, hygiene and health is a prerequisite for survival in the harsh tropical environment.

The impact that Western education has had on young people's attitudes was reflected in their view of health and illness, and how to treat the latter. They continued to trust and respect the knowledge of their parents and other adults, and they did not demonstrate any negative opinions regarding the therapies of the medicine men. They were well aware of cholera, since they had friends and relatives who died during the epidemic, and they knew about and accepted the therapeutic treatments adopted by the group, but none of the young men I talked to wanted to become a medicine man.

The future risk to the Shipibo-Conibo from cholera is largely determined by their overall social conditions. The chance that a group will be afflicted by cholera and the likelihood of receiving appropriate treatment are socially predestined matters. It is correct to say that cholera is caused by a certain bacterium. It is equally true that cholera is caused by poverty, since it is most prevalent in environments where clean

water is scarce and the sewage system inadequate. People who live in such environments typically suffer from other diseases, reducing their resistance to a virulent bacterium such as the Cholera vibrion. In the long run, therefore, the eradication of epidemics like cholera must be based on the extinction of poverty.

THE FUTURE OF HEALTH IN A GLOBAL CONTEXT

In the State of the World series, Lester Brown and his colleagues at the Worldwatch Institute have treated the planet earth like a patient going through an annual physical exam (Brown et al., 1993). The reports summarize the patient's current state in terms of the health of the environment, the natural resource base, and other critical systems. It is possible to twist this device a bit and look at human health as a reflection of the state of the world. Health provides an integrated measure of how well, or how badly, we are doing as a people and a species. It is not the result of healthcare delivery systems or health-financing schemes; it is a phenomenon that arises from individual well-being, from the well-being of society and the environment. Any policy or program that protects environmental quality and agricultural productivity, that promotes responsibility in reproduction, that encourages rural development and a slowdown in urbanization, or that empowers marginalized peoples and fosters equality is a step towards health.

Awareness of the connection between human health and well-being, and the environment has grown tremendously during the past several decades. Global changes and the impact of the these changes on human society have become important topics of academic research, and have found their way into political agendas. Attention is being given to the future of people in different parts of the world, and to the consequences that any postulated global change might have on their well-being. Potential threats to human survival and health, including global environmental change, the thinning of the ozone layer, desertification and the loss of species diversity, have been and continue to be debated from both scientific and ethical perspectives. The big international summits- in Stockholm on the environment, in Rio on the environment and development, and in Cairo on population, Copenhagen on social development, and in Istanbul on habitat- have been the most obvious symbols of the massive amount of analysis, discussion, and action being directed worldwide to the question of the future of the world.

This renewed awareness of the integration of human well-being and the environment has largely been a phenomenon of Western culture. Among indigenous populations it has not been so apparent for the simple reason that such knowledge has never been lost. This is an essential point. Indigenous peoples must be included in partnerships for a sustainable society and a true mutual dialogue. It means realizing that no part of human society has a monopoly on knowledge and wisdom, and ensuring that every culture, including the indigenous ones, participates in the creation of a sustainable and healthy future.

REFERENCES

Arevalo, V.G. 1994. *Medicina Indigena, Las Plantas Medicinales y su Beneficio en la Salud, Shipibo Conibo Lima* : Edicion AIDESEP .

Baer, B. 1992. "The One Intoxicated by Tobacco, Matsigenka Shamanism," in E. Jean Matteson Langdon and Gerhard Baer (eds.), *Portals of Power, Shamanism in South America*, Albuquerque : University of New Mexico Press, pp. 79-100.

Boischio, A. and D. Henshel. 1996. "Methylmercury Exposure and Fish Lore among an Indigenous Population along the Madeira River, Amazon," in M. Follér and L.O. Hansson (eds.), *Human Ecology and Health: Adaptation to a Changing World*. Goteborg: Goteborg University, pp.118-134.

Boserup, E. 1965. *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure*. Chicago: Aldine.

Boyden, S. 1987. *Western Civilization in Biological Perspective*. Oxford: Clarendon Press,

Boyden, S. 1993. "Human Ecology and Biohistory: Conceptual Approaches to Understanding Human Situations in the Biosphere," in D. Steiner and M. Nauser (eds.), *Human Ecology, Fragments of Anti-Fragmentary views of the World*. London: Routledge, pp.31-46.

Brown, M.L. et al. 1993. *State of the World*. New York: W.W. Norton and Company.

Buzan, B. 1991. *People, States and Fear, An Agenda for International Security Studies in the Post-Cold War Era*. New York: Harvester Wheatsheaf.

Cameiro, R.L. 1960. Slash and Burn Agriculture: A Closer Look at its Implications for Settlements Patterns. In A. Wallace (ed.), *Man and Cultures: Selected Papers of the Fifth International Congress of Anthropological and*

Ethnological Sciences. Philadelphia: University of Pennsylvania Press, pp. 229-234.

Crosby, A.W. 1986. *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*. Cambridge: Cambridge University Press.

Follér, M. 1990. *Environmental Changes and Human Health: A Study of the Shipibo-Conibo in Eastern Peru* (Humanekologiska Skrifter 8) Goteborg: Goteborg University.

—. 1995. "Future Health of Indigenous Peoples, A Human Ecology View and the Case of the Amazonian Shipibo-Conibo," *Futures*, 27 (9/10): 1005-1023.

Follér, M. and M.J. Garrett. 1996. "Modernization, Health and Local Knowledge: The Case of the Cholera Epidemic Among the Shipibo-Conibo," in M. Follér and L.O. Hansson (eds.), *Human Ecology and Health: Adaptation to a Changing World*. Goteborg: Goteborg University, Department of Interdisciplinary Studies of the Human Condition, pp. 135-166.

Follér, M. and M.J. Garrett, L.O. Hansson. 1996. "Human Ecology and Health: Its Development and Central Themes," in M. Follér and L.O. Hansson (eds.), *op cit.*, pp. 7-44.

Gray, A. 1986. *And After the Gold Rush...? Human Rights and Self-Development Among the Amarakaeri of Southeastern Peru*. IWGIA Document 55.

Gray, A. 1994. Territorial Defense as the Basis for Indigenous Self-Development (editorial) *Indigenous Affairs/International Work Group for Indigenous Affairs* 4:2-3.

Gross, D.R. 1975. "Protein Capture and Cultural Development in the Amazon Basin," *American Anthropologist*, 77(3):526-549.

Hames, R.B. and W.T. Vickers (eds.). 1983. *Adaptive Responses of Native Amazonians, Studies in Anthropology*. New York: Academic Press.

Hettne, B. 1992. *Etniska Konflikter och Internationella relationer* Lund. Studentlitteratur.

Hylland Eriksen, T. 1993. *Ethnicity and Nationalism, Anthropological Perspectives*. London: Pluto Press.

Hylland Eriksen, T. 1994. *Kulturelle Veikryss, Essays om kreolisering*. Oslo: Universitets forlaget.

IDRC, Commission on Developing Countries and Global Change. 1992. *For Earth's Sake*, Ottawa.

INEI. 1992-93. *Region Ucayali Compendio Estadistico*, table 2.6.

Langlais, R. 1995. *Reformulating Security, A Case Study from Arctic Canada* (Humanekologiska Skrifter 13). Goteborg: Goteborg University.

Lathrap, D.W. 1977. "Our Father the Cayman, Our Mother the Gourd: Sprinden revisited, or a Unitary Model for the Emergence of Agriculture in the New World," In C.A. Reed (ed.), *Origins of Agriculture*. The Hague: Mouton, pp.713-751.

McElroy, A. 1996. "Modernization, Social Change, and Health in the Eastern Arctic," in M. Follér and L.O. Hansson. (eds.), *op cit.*, pp. 73-93.

McMichael, A.J. (1993) 1995. *Planetary Overload, Global Environmental Change and the Health of the Human Species*. Cambridge: Cambridge University Press.

McNeill, W. 1976. *Plagues and Peoples*, Middlesex: Penguin.

Meggers, B.J. 1983. *Amazonia: Man and Culture in a Counterfeit Paradise*. Chicago: Aldine-Atherton.

Moran, E.F. 1979. *Human Adaptability, An Introduction to Ecological Anthropology*. North Scituate, MA: Duxbury Press.

— 1993. *Through Amazonian Eyes, The Human Ecology of Amazonian Populations*. Iowa City: University of Iowa Press.

Netting, R. McC. 1993. *Smallholders, Householders: Farming Families and the Ecology of Intensive, Sustainable Agriculture*. Stanford: Stanford University Press.

Robertson, R. 1992. *Globalization, Social Theory and Global Culture*. London: Sage Publications

Roosevelt, A.C. 1980. *Parmana: Prehistoric Maize and Manioc Subsistence along the Amazonia and Orinoco*. New York: Academic Press.

Santos, R., C. Coimbra, N. Flowers, S. Gugelmin. 1996. "Human Ecology and Health in the Context of Change: the Xavante Indians of Mato Grosso, Brazil," M. Follér, and L.O. Hansson, (eds.), *op cit.*, pp.94-117.

Shiva, V. 1993. *Monocultures of the Mind, Perspectives on Biodiversity and Biotechnology*. London: Zed Books.

Sponsel, L. 1986. "Amazon Ecology and Adaptation," *Annual Review of Anthropology*, 15:.67-97.

Steiner, D., M. Nauser, eds. 1993. *Human Ecology: Fragments of Anti-fragmentary Views of the World*. London: Routledge.

Stern-Pettersson, M. 1993. "Reading the Project, 'Global Civilization: Challenges for Sovereignty, Democracy, and Security," *Futures*, 25:2.

Steward, J. (ed.). *Handbook of South American Indians*. 7 vols. Washington D.C. Bureau of American Ethnology, 1939-1959.

Todorov, T. 1982. *The Conquest of America : The Question of the Other*. New York: Harper Colophon.

Tournon, J. 1994a. "Como los Shipibo-Conibo Nombran y Clasifican los Animales," *Anthropologica*, 12:29-61.

Tournon, J. 1994b. "Los Shipibo-Conibo y la Fauna Acuatica," *Anthropologica*, 12:29-61.

UNDP. 1994. *Human Development Report 1994*. New York : Oxford University Press.

UNDP. 1995. *Human Development Report 1995*. New York : Oxford University Press.

Urban, G., J. Sherzer, (eds.), 1991. *Nation-States and Indians in Latin America*. Austin : University of Texas Press.

UNESCO, *Nature & Resources*, 1994. 30 (1 & 2).

Waters, M. 1995. *Globalization*. London: Routledge.

World Resources Institute with UNEP and UNDP. 1990. *World Resources 1990-91*. Oxford :Oxford University Press.