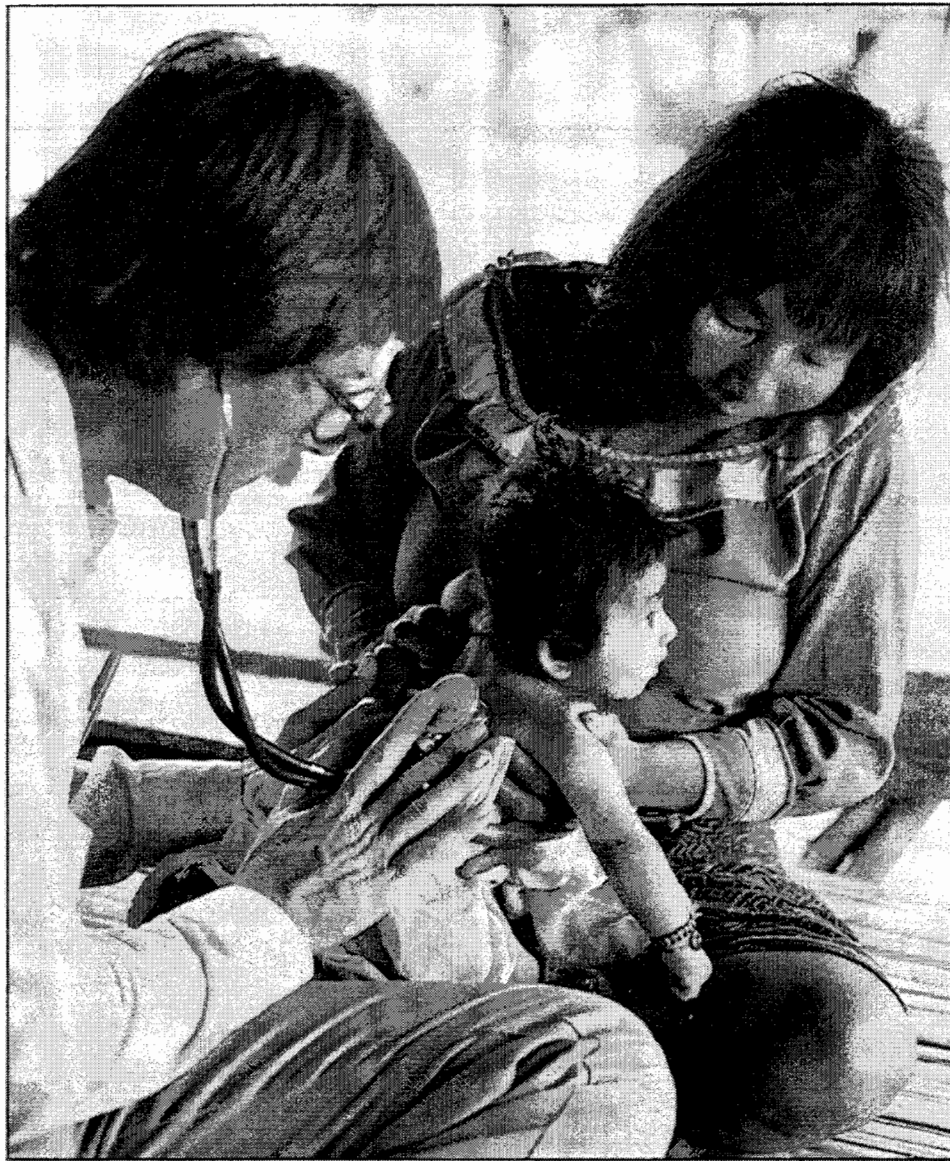


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The **LATIN AMERICAN ANTHROPOLOGY REVIEW**
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Cover: Anthropologist and physician Warren M. Hern examines a Shipibo infant with pneumonia in Paococho, a village in the Amazon Basin. Photography by Warren M. Hern (University of Colorado–Boulder), 1984, taken in Peru.

WARREN M. HERN
University of Colorado–Boulder

THE IMPACT OF CULTURAL CHANGE AND POPULATION GROWTH ON THE SHIPIBO OF THE PERUVIAN AMAZON

INTRODUCTION

The Shipibo of the Peruvian Amazon have been in contact with Western culture for over three hundred years, yet they maintain their own distinctive identity, and they have permanently stamped the character of the region. The principal regional town on the Ucayali River, Pucallpa, is known among the Shipibo by their name, "Mai-joshin" (red earth), after the lateritic red soil exposed by the river and deforestation. It was once a Shipibo village.

The traveler of the 1950s and 1960s, along with adventurers and scientists like Peter Matthieson and Robert L. Carneiro, would sit at the corner bar in the Grand Hotel Mercedes with its diagonal corner door looking out onto Jiron Raimondi. (The bar plays a role in Matthieson's novel, *At Play in the Fields of the Lord*.) A barefoot Shipibo woman laden with handmade necklaces and other trade goods would walk through the open door and offer them to the thirsty customer. The woman was an urban peddler, but she was clearly Shipibo, and those who gently approach the Mercedes customer are still clearly Shipibo. Many members of her tribe now live in or around Pucallpa, having left their villages along the Ucayali with the intention of returning soon. But many have not.

The trend to urbanization is seen even in the larger Shipibo villages such as Paoyhän, my "home town" among the Shipibo. Paococha, its predecessor, had a population of about 300 when I first went there as a medical student in 1964. At the time, Paococha was located on the banks of a lake by that name, but the location has now disappeared with a change in the river channel. With a new name that is all Shipibo, but less traditional in its appearance and outlook, Pao is now populated by well over 1,000. Some of the increase is from immigration, while many young members of the community have left to live elsewhere. A surprising number are living and working on the Pacific coast of Peru in cities such as Lima and Chimbote.

Young Shipibo living in urban areas now wear Western clothes, do not (intentionally) speak Shipibo, except to each other, and practice few of the tribal or community customs. Until recently, many have not wanted others to know that they are Shipibo. The famous Shipibo custom of skull deformation has been abandoned, partly because it made the Shipibo with



Figure 1. A Shipibo father carries his child to an open-air "clinic" with the author and village health worker set up to treat head lice and scalp infections for children.

their flattened foreheads readily identifiable in urban settings and easy targets for ridicule and discrimination by mestizo Peruvians.

In the Peruvian Amazon, the Shipibo have in the past been regarded by other Peruvians as subhumans, and the Shipibo have been treated that way. Murders of Shipibo by local mestizos have not been taken seriously by the Peruvian authorities. The foreigner who goes to live among the Shipibo, especially someone who is not a missionary, is considered by many Peruvians to be risking physical danger and may be thought of by them to be a little deranged. In Lima, it is widely believed that the Shipibo are cannibals.

While the Shipibo may have earned a fearsome reputation in colonial times from their massacres of missionaries and explorers, they are now pacific to the point of docility unless seriously provoked. Their basic gregariousness and congeniality is most evident to



Figure 2. A Shipibo woman gathers several of her great-grandchildren for a portrait.

someone they trust, of course, but the Ucayali Shipibo are clearly more cosmopolitan and accustomed to foreigners than some of their brethren living on the tributaries such as the Rio Pisqui, where I have done much of my research since 1983. Shipibo living in settlements on remote *cochas* (ox-bow lakes) have also been insulated to a high degree from Western cultural influences. But contact has increased enormously during the past thirty to forty years with the entrance of oil exploration crews, timber companies, Protestant missionaries, and the influx of migrating mestizo populations from the Peruvian coast and highlands.

FERTILITY AND POPULATION GROWTH

Resilient as they have been since their earliest contact with Europeans, the Shipibo are now beset by several extrinsic and intrinsic forces. Absolute growth of the surrounding population in the Peruvian montaña diminishes their options for resource exploitation and settlement patterns. Destruction of the regional ecosystem is rapidly changing Shipibo subsistence patterns and diminishing their ability to sustain themselves. Cultural change of all kinds has contributed powerfully to a new problem for the Shipibo, the development of catastrophically high fertility in their own group. This new problem compounds all their other problems.

When I went to study the Shipibo in 1964, after working as a physician-in-training at the Hospital Amazonico "Albert Schweitzer" near Pucallpa, I intended to study Shipibo belief systems concerning the causes, treatment, and control of disease. I collected information

concerning the use of medicinal plants for remedies and healing ceremonies. In the process, I conducted a primitive community health study that attempted to document vital rates and disease patterns. The experience was so fascinating that I did not want to leave on schedule to finish medical school, but I did, vowing to return as soon as possible. As it turned out, as soon as possible was to be five years later, when I was in the midst of my Master of Public Health program. For my thesis, I returned to Pao to study the health effects of cultural change. This time, I did a formal census, among other things, and recorded reproductive histories of all the women in the village. I also performed physical examinations on everyone (550) in the village (Hern 1971).

The astounding thing was that the village population had nearly doubled, and only a small portion of this growth was due to immigration. In analyzing the data, I found that the Shipibo of this village had the highest fertility documented for any human group (Hern 1977). This was in spite of the fact that the women had an extensive knowledge and use of herbal contraceptives designed to limit fertility (Hern 1976).

I first learned of herbal contraceptives among the Shipibo in 1964. At that time, one of my Shipibo friends (and principal informant) was a man named Ambrosio, who came to me one day requesting help for his wife. His wife was still hemorrhaging two days after childbirth. I saw Ambrosio's wife, determined that she had retained tissue and uterine atony (relaxation of the uterus), and treated her. She recovered. Ambrosio asked me what he could do for me. I told him that I would like to learn about medicines that the women used to control pregnancy. He arranged for me to talk to a woman whom he claimed was his "aunt" (as I learned later, she was one of his lovers).

Julia, the "aunt," turned out to be a walking library of Shipibo lore. She and her cousin taught me of the women's fertility remedies. The herb used to increase chances of pregnancy was known as "*toôtihuaste!*" (*toôti* = pregnancy; *huaste* = herb). The principal herb used to prevent pregnancy was known as "*toôtimahuaste!*" (*ma* = negative). The latter herb appeared to be a sedge growing along the edge of the lake. It was macerated in a bowl and boiled in water to form a tea which was drunk on the first two days of several successive menstrual periods.

Almost all Shipibo remedies are accompanied by food or other taboos. I asked Julia what other things were done while taking *toôtimahuaste!*. The woman taking the remedy, she said, could not eat ripe plantains, could not eat sweet substances such as honey or sugar,

could not eat several other things, and she could not have sex. Right away, I suspected what epidemiologists call a "secondary noncausal association" between the use of herbal contraceptives and nonpregnancy.

When I returned to the village in 1969, I found that a large new extended family had moved into the village from a distant and much more isolated Shipibo settlement. The new family was obviously much more traditional than most of the modern-looking families in Pao. In the extended family, for example, were several nuclear families that practiced polygyny. Such polygyny was present but unusual in the rest of the Pao population. The new family was described as "*salvajes*" (savages) by the "downtown" Shipibo in Pao, who considered themselves "*civilizado*" (civilized) by comparison. The traditional Shipibo customs of skull deformation, face painting, healing rituals, weaving, and pottery were much more evident in the new family. The kinship / subsistence patterns were also much more traditional.

When I asked whether polygyny was more often practiced elsewhere or previously, I was assured that it was an example of an old custom previously practiced by "*salvajes*" and still practiced among country bumpkins, such as the new family. An old man, who was another of my principal informants and who had been chief of the village in his younger days, stated that, at one time, he had three wives. This was confirmed by his family.

In reviewing the literature concerning polygyny, I found that it is often if not uniformly associated with

postpartum abstinence (see, for example, Stott 1962; Nag 1962; Whiting 1964; Ford 1964; Polgar 1968). I began to suspect that the extremely high fertility that I documented might be associated with a decline in the prevalence of polygyny. Women in monogamous unions might be less able to observe the postpartum abstinence taboo. They might be more likely to become pregnant in spite of their use of herbal contraceptives. In fact, my analysis of the use of herbal contraceptives showed that women who had used the herbal contraceptives had higher mean parities (number of term births) than women who had not used them! This apparent paradox disappeared with the evidence that women who had used the herbal contraceptive were more likely to be older than women who had not used them. The net effect was a wash. In fact, there was evidence that some women had used a variety of highly dangerous but unsuccessful attempts to limit fertility (Hern 1976).

After returning twice more to document the continued high fertility rate at five-year intervals, I started my Ph.D. program in Epidemiology and determined to study the role of polygyny in limiting fertility among the Shipibo. To this end, I studied eight villages in various stages of cultural transition in 1983-84. Two of the villages were on the Ucayali (Paoyhän and what was left of Paococha), and six villages were on the Rio Pisqui, a tributary of the Ucayali.

The Pisqui has been known in the region for a long time as a dangerous place for gringos and other non-

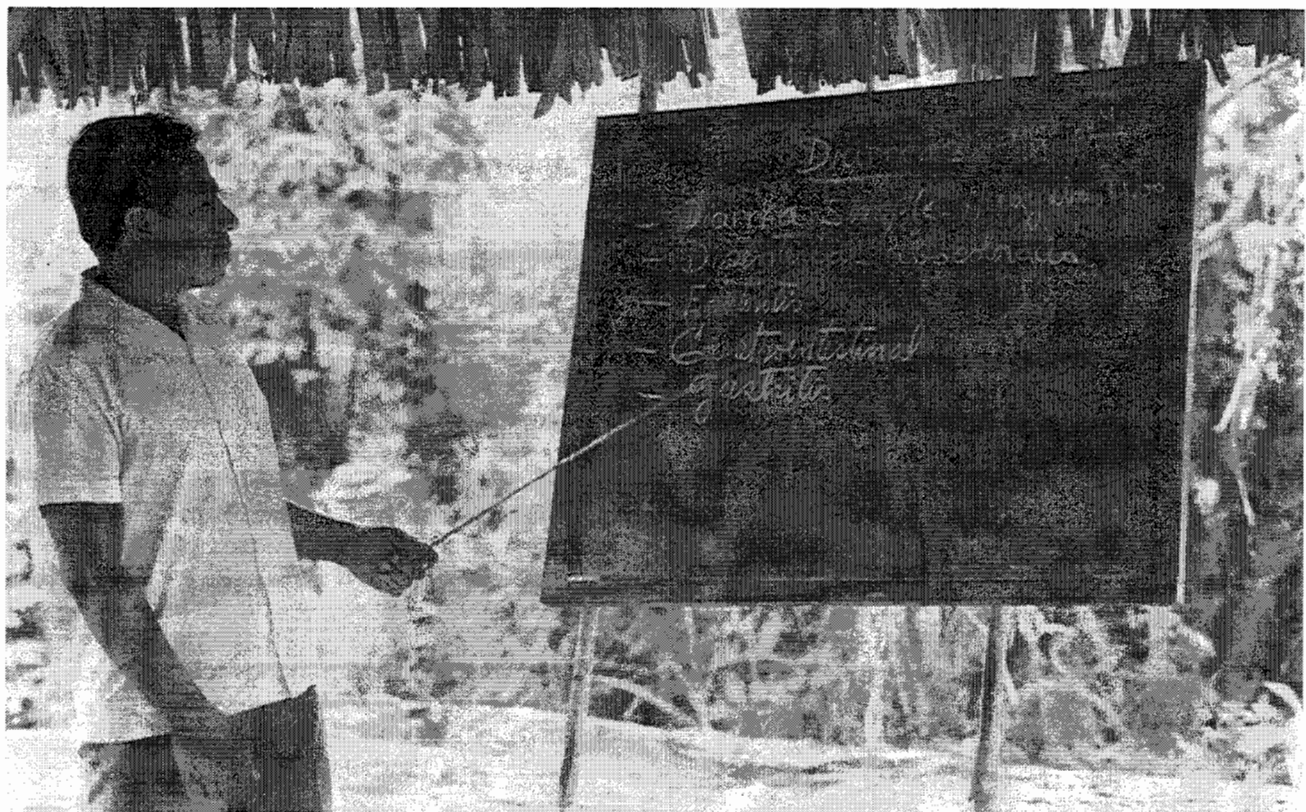


Figure 3. A Shipibo health worker, Miguel Rojas Tutucima, explains gastrointestinal diseases to Shipibo women gathered in the author's house (1984).



Figure 4. Shipibo women gathered with their children in the author's house as they listen to a lecture on health problems and hygiene by Miguel Rojas Tutucima, a highly trained health worker from their village.

Shipibo. The Shipibo have had a history of violent and bloody conflict with other Panoan tribes in the area. By 1983, however, it appeared that it would be safe to try. The prevalence of polygyny, which I most wanted to study, was reputed to be higher in Shipibo villages on the Pisqui.

The Pisqui is a much smaller river than the Ucayali, and the combination of population pressure from the Shipibo and mestizo groups along with commercial exploitation by outsiders has resulted in a drastic diminution of food resources throughout most of the river region during the past several decades. The Pisqui villages were obviously more conservative in their outlook and cultural patterns.

The general hypothesis under which I was working was that traditional societies have methods of fertility limitation that are disrupted by cultural change (Dumond 1965, 1975; Saucier 1972; Polgar 1971, 1972, 1975; Nag 1965, 1975, 1980). Specifically, I set out to test the hypothesis that a declining prevalence of polygyny is associated with higher individual and community fertility.

During the field research, I came to doubt the validity of the hypothesis, but I resolved to complete the study as planned. My view is that scientific insight proceeds by refutation at least as much, if not more, than by proof or supporting evidence (Popper 1968).

One of the principal results of my study was the

finding that the prevalence of polygyny was much higher in most Pisqui villages than it was in Paoyhän, the newest Ucayali village. Cutting across all communities was the observation that polygynous women had longer birth intervals and lower fertility than women in monogamous unions. Additionally, community fertility was inversely related to the community prevalence of polygyny (see Hern 1992a, 1992b). The negative correlation was astoundingly strong at approximately -0.9. All statistical tests reflected this relationship.

For the Shipibo, who are experiencing a current population growth rate of between 3.5 and 4.0 percent per year, with a doubling time of less than twenty years, this spells disaster, even without the additional problem of population pressure from other groups. It means that the highest fertility is still ahead for most of the communities in the study, and it means that resources will become increasingly scarce. There is already widespread evidence of malnutrition in both Shipibo and mestizo villages along the Pisqui.

THE DEGRADED ENVIRONMENT

The Shipibo on both the Pisqui and Ucayali tell me that the number of different fish species, especially

those on whom the Shipibo depend for most of their protein, has diminished dramatically in the last few years. One of the obvious reasons is that mestizo fishermen from Pucallpa, using refrigerated boats and long drift nets, are now traveling to points as much as 200 kilometers downstream from Pucallpa to fish. The commercial operators take all fish down to a few centimeters in length, leaving nothing for the local Shipibo or mestizo populations, and nothing for the river wildlife such as alligators (caimans), fresh-water porpoises, and wading birds. The crash in the Ucayali wildlife population has been extremely obvious since the early 1980s.

Twenty to thirty years ago, the traveler camping on the Ucayali found difficulty sleeping on the beaches at night because of the constant noise of fish and their predators such as alligators (actually white caimans). Now, the traveler's sleep is not disturbed by the fish, since there are few in most places. Sleep is disturbed by the whine of the fishermen's outboard motors.

Pucallpa, which had a population of around 2,500 in the early 1940s, reached some 25,000 in the early 1960s, and its population is now thought to be in the neighborhood of 250,000. That is a hundredfold growth in fifty years.

In 1983, during canoe trips through the canal between Lake Yarinacocha to its outlet onto the Ucayali a few kilometers downstream from Pucallpa, I would always identify between fifty to sixty species of birds, with multiple observations of each species. The canal was lined by canopy forest in most places. The forest is gone now and I seldom identify more than a few individuals of four or five species. The banks of the canal are lined by settlers and farms.

The area around Yarinacocha, which was occupied principally by canopy rain forest in 1964, now looks like Oklahoma. It is comprised of cattle ranches and scrub vegetation. The bush area between Pucallpa and Yarinacocha that contained seasonally flooded forest and swamps in 1964 is now filled with causeways, roads, and houses. The Shipibo living around Pucallpa can no longer derive most of their subsistence from fishing in Yarinacocha. They buy their fish in the market.

CONCLUSIONS

The sequence of events in the Peruvian Amazon is not unusual in the Amazon Basin or in other parts of Latin America. Indigenous groups once overwhelmed by European diseases are now experiencing the



Figure 5. Victorino Rojas, of Paoyhan village, with his latest kill, a small *paiche* (*Aripaima gigas*), taken from a nearby oxbow lake formed by the Ucayali River.

deleterious consequences of cultural change without the associated benefits of modern industrial society, and their local environments are being degraded by massive population pressure, some of it from growth of their own numbers. Their own cultures, once adapted to intricate local ecosystems, are being swept away along with the environments to which they are inextricably linked. With such culture change goes the loss of a kind of intimate knowledge that could be critical in preserving the ecosystem.

On a larger canvas, my study of the Shipibo casts doubt on the conventional view, reflected in traditional demographic transition theory, that modernization results in declining fertility as well as declining mortality. The expectation is that, while mortality declines more rapidly than fertility for a while, resulting in short-term rapid population growth, the result will be a new plateau in which population growth stops and population levels stabilize. In the Shipibo case, cultural change (and modernization, however defined) appears to result in higher fertility, not lower, with sustained high fertility and rapid population growth. Since much of the developing

world is composed of tribal and peasant societies experiencing rapid cultural change, it follows that population growth rates may increase, not decrease, in the near future. This observation, combined with high national population growth rates in countries like Peru, indicates the likelihood of increasing conflict over diminishing resources and increasingly complex economic problems associated with collapsing regional ecosystems.

The Shipibo I know are aware of some of these problems but also feel baffled by the immensity of what is happening to them. Their immediate problems are finding enough food, which was once plentiful (Bergman, 1980), and staving off diseases such as epidemic tuberculosis, parasitism, and anemia. The institutional support which they once received from the Hospital Amazonico and the Ministry of Health has collapsed. The terrifying cholera epidemic of 1991 made them feel all the more vulnerable to externally driven disaster (Hern 1991).

As a response to these pressures, I have helped the Shipibo of Paoyhän set up a nonprofit village health foundation (Paoyhämäna Raometi Shobo, or Medicine-giving House of Paoyhän) in order to organize and fund a village health program. I am organizing a nonprofit Shipibo Health Foundation in the United States through which to support this activity. The Shipibo and I hope to inaugurate a small clinic in the village within the next year and to develop a comprehensive health program. These are small steps but better than waiting to be *aplastado* (crushed) by impending circumstances.

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