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THE YANOMAMO

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**Ethnographic Images and Anthropological Responsibilities**

The Yanomamo (also referred to as the Yanoama, Shiriana, Xiriana, Guaharinbo, and Waika) are the largest unacculturated Indian tribe in South America. Since 1964, Napoleon Chagnon, Professor of Anthropology at Pennsylvania State University, has been carrying out intensive ethnographic studies among the Venezuelan section of the Yanomamo tribe. As a result of Prof. Chagnon's research, the Yanomamo are one of the best-documented Indian tribes in the Amazon Basin. Thousands of college students have read about the Yanomamo in introductory anthropology courses. Several films about these people have appeared on national television programs in the United States. In his preface to Prof. Chagnon's most recent book, Studying the Yanomamo (1974), Prof. Morton Fried of Columbia University noted that the combination of cinematic and written materials on the Yanomamo has placed these people "virtually in a class by themselves in the didactic literature of ethnography."<sup>1</sup>

The obvious reason for the popularity of the Yanomamo lies in the unique pattern of warfare and male aggression which Prof. Chagnon has chosen to highlight in his various ethnographic studies of this tribe. Prof. Chagnon's first book on these people was called Yanomamo: The Fierce People (1968). On the first page of this book, Prof. Chagnon told his reader that the Yanomamo have a significance apart from their tribal size (over 10,000 people) and their cultural purity. He wrote:

The Yanomamo are still actively conducting warfare. It is in the nature of man to fight, according to one of their myths, because the blood of 'Moon' spilled on this layer of the cosmos, causing men to become fierce. I describe the Yanomamo as 'the fierce people' because that is the most accurate single phrase that describes them. That is how they conceive themselves to be, and that is how they would like others to think of them.<sup>2</sup>

In this book, Prof. Chagnon tried to isolate several social, cultural, and demographic factors in order to explain Yanomamo warfare. More recently, he has aligned himself with the so-called "sociobiologists," a group of social and natural scientists who seek to find the causes of human social behavior in certain immutable natural or Darwinian laws.

On May 10, 1976, Time Magazine carried a short article titled, "Beastly or Manly?", which described the growing affinity between Prof. Chagnon's findings and those of a "loose collection of zoologists, geneticists, and social scientists" who associate themselves with "sociobiological" explanations of human behavior. "Implied in Chagnon's findings so far," the Time article claimed, "is a notion startling to traditional anthropology: the rather horrifying Yanomamo culture makes sense in terms of animal behavior."<sup>3</sup>

The Time article went on to note that close parallels existed between patterns of breeding, competition for females, and recognition of relatives among the Yanomamo and similar patterns among primates other than man. After comparing the Yanomamo to "baboon troops," this article quoted Prof. Chagnon as saying, "In primates and all mammals, internal social organization results from the breeding system, and there's no reason to believe it's not true of humans. It's possible that war and marriage make sense in zoological terms and Darwinian theory is applicable to human behavior."<sup>4</sup>

The recent Time article concluded on the following note:

However tentative and guarded, Chagnon's work is significant because it aligns him with the socio-biologists... who argue that evolutionary animal behavior can explain human behavior today. In extending the earlier findings of the ethologists, whose ideas a generation ago became popular with Konrad Lorenz, the socio-biologists assert that despite man's centuries-long effort to insist that he is distinctively different from his fellow animals, one proper study of mankind is beast.

### Images and Counter Images

Given the theoretical importance and popularity of Prof. Chagnon's research, it is reasonable to raise questions about the validity of his interpretation of the Yanomamo tribe. In general terms, three points are important to make about this research.

First, although warfare does exist among the Yanomamo, it is entirely arbitrary on Prof. Chagnon's part to choose this theme as the central organizing principle of Yanomamo culture. Since the days of Ruth Benedict, American anthropologists have been choosing certain "cultural patterns" or "cultural themes" in order to organize their ethnographic materials. In most cases, these themes are personally biased, and they often tend to tell us more about the ethnographer (or his or her culture) than they do about the culture of the people under investigation.<sup>5</sup>

Prof. Claude Levi-Strauss of the Institute d'Ethnologie in Paris, for example, has invented a whole new field of anthropology (structuralism) through his discovery that Brazilian Indians were the world's first "logicians." Dr. Betty Meggers of the Smithsonian Institution in Washington has brought environmental interpretations of culture out of the historic dustbin by discovering that Amazonian Indians were the

world's original "ecologists." Dr. Michael Harner of the New School for Social Research in New York has discovered a group of "mystic warriors" in the jungles of eastern Ecuador by focusing his attention on the drug-induced spiritual experiences of Indian shamans. And now, Prof. Napoleon Chagnon of Pennsylvania State University has rediscovered the "monkey in man" by highlighting such themes as Yanomamo warfare, aggression, and mating behavior.

The personal and cultural biases contained in Prof. Chagnon's interpretations of Yanomamo culture cannot be overstressed. It is hardly surprising, for example, that Prof. Chagnon's early theories of Yanomamo "brinkmanship" were first espoused at the highpoint of United States military involvement in Vietnam. Nor, is it surprising that Prof. Chagnon's more recent theories of Yanomamo "aggression" and "breeding patterns" appeared during a period of great popular interest in primate studies and animal-behavior research.

Anthropologists, like so many other social scientists, often try to satisfy the psychological needs and cultural expectations of the publics for whom they write. Unfortunately, the notion of "cultural relativism" has led many people outside of the discipline to assume that the ethnographic interpretations of anthropologists are personally unbiased and value free. In the case of most ethnographic interpretations, this is a dangerous assumption and blatantly untrue. Ethnographic interpretations are often merely arbitrary reifications of the dominant cultural patterns in the societies where anthropologists live. In the long run, Prof. Chagnon's research may well tell us more about some of the intellectual values of one group of social scientists in the United States than it does about the patterns of cultural behavior and values among the Yanomamo tribe.<sup>6</sup>

Second, the entire truth or falsity of Prof. Chagnon's ethnographic interpretation of Yanomamo culture rests upon his contention that the Yanomamo fight over women and that there is a high incidence of female infanticide among the tribe. In almost all of his books and articles, Prof. Chagnon has repeated this theory of Yanomamo warfare and has focused attention upon the critical role which female infanticide plays in the demographic structure and cultural practices of the tribe. It is not surprising, in fact, that the recent Time article highlighted exactly this aspect of Prof. Chagnon's work. The Time article stated:

What makes the Yanomamo anthropologically interesting is that all their wars are waged to capture women or in retaliation for such abductions...Like many primitive peoples, the Yanomamo practice female infanticide-- on the grounds that males are more valuable to a people always at war. Yet infanticide sets up fierce competition for marriageable females, both within and among villages, and this in turn produces chronic warfare.

What is surprising is how little information Prof. Chagnon himself has supplied on the actual incidence and frequency of female infanticide in order to support his theory about Yanomamo warfare. In a reading of almost all of Prof. Chagnon's published writings, we have found only one source which provided statistical data on the frequency of infanticide among the Yanomamo tribe. This article, co-authored with Dr. James V. Neel of the University of Michigan, reported data supplied by two missionaries of the Unevangelized Field Mission. The data indicated that in one village of Brazilian Yanomamo, out of 76 live births, 17 children failed to survive the first year of life, and 4 children were killed by infanticide. According to these meager and questionable statistics, about 22 percent of Yanomamo children die before the first year of life and about 5 percent are killed by infanticide.<sup>7</sup>

Further, in this same article, Neel and Chagnon provided data which showed that the high sex-ratio of males to females in the 0-to-14-year age-interval among the Yanomamo is about the same as that of the Xavante tribe of Central Brazil, who are not reported to practice female infanticide. Infanticide, in other words, may exist among the Yanomamo, but its statistical frequency seems too insignificant to explain Yanomamo demographic patterns or warfare. The issue at stake here is that Prof. Chagnon, like so many other anthropologists, has built a grandiose social theory on the basis of a very limited body of facts.<sup>8</sup>

Finally, throughout Prof. Chagnon's writings, there is a systematic lack of materials on the actual historical conditions of the Yanomamo tribe. In the first paragraph of his book, for instance, Prof. Chagnon stated that "many of the villages have not yet been contacted by outsiders." At the same time, however, he told us that he was first introduced to the Yanomamo by a North American evangelical missionary who had been working in the area for nearly fifteen years. Further, he acknowledged that he and his equipment were transported into the Yanomamo area by the Brazilian and Venezuelan Air Forces and that he received assistance from the Venezuelan Malarial Service.<sup>9</sup>

From the small amount of historical commentary which does exist, it appears that the Yanomamo are not so isolated from "outside contacts" as Prof. Chagnon would have us believe. For nearly a century, it appears as if the Yanomamo were forced to retreat defensively into their present territory between the Orinoco and Marauia Rivers. To the south, they were attacked by Brazilian rubber collectors and settlers. To the north, they fought off the expanding cattle frontier in Venezuela, and the more acculturated and rifle-bearing Makiritare tribe.

For at least two decades, metal tools and shotguns were introduced on the frontiers of Yanomamo territory, and passed inward, through exchange, to more isolated groups. North American evangelical missionaries and Italian Catholic priests began to enter the Yanomamo area in the early 1950s. By the early 1960s, the first reports began to appear about malaria and measles epidemics among the Yanomamo tribe.

In Prof. Chagnon's own work, he has told us that "two percent of all adult deaths (among the Yanomamo) are due to snake bite; 54 percent are due to malaria and other epidemic diseases; and 24 percent of adult males die in warfare."<sup>10</sup> These facts alone could have led Prof. Chagnon to write a very different account of the Yanomamo than he actually did. Prof. Chagnon could have traced out the causes for such widespread mortality from epidemic diseases among the Yanomamo. He could have asked from where these diseases had come, and what their consequences were for Yanomamo demography, marriage patterns, social organization, and warfare. Instead, Prof. Chagnon chose to write about the Yanomamo as if they were free from "outside contacts" and hence as if their patterns of warfare and feuding could be explained in naturalistic rather than historical terms.

Prof. Chagnon has presented an image of Yanomamo society which highlights the supposed ways in which the equilibrating forces of warfare, male dominance, and marriage counteract the equally disequilibrating forces of female infanticide and a scarcity of women. This image, we would contend, fits the teleological premises of "functional" and "socio-biological" anthropology, but is meaningless when seen from the vantage point of the actual historical conditions under which the Yanomamo live.

A more realistic interpretation of Yanomamo warfare and social structure would begin with the fact that this is a society in a state of crisis-- a society which has been dislocated by introduced diseases and inter-ethnic contacts and which is desperately struggling to survive.

In 1970, Prof. Chagnon and a group of collaborators published an article in the American Journal of Physical Anthropology titled, "The Influence of Cultural Factors on the Demography and Pattern of Gene Flow from the Makiritare to the Yanomama Indians." Although in this article, Prof. Chagnon argued that there are cultural reasons for Yanomamo demographic and genetic patterns, there are just as compelling reasons to believe that these patterns have been historically created and produced. In this article, for instance, Prof. Chagnon stated that for more than a century, certain Yanomamo villages have had contact with the neighboring Makiritare tribe, who in turn have served as a chief intermediary in the provision of European-produced glass beads and steel tools. Prof. Chagnon wrote:

Until the advent of missionary activity in this area, 1955-1960, the Yanomama relied exclusively on the Makiritare for their supply of steel tools. It is for this reason that groups of Yanomama periodically take up temporary residence with the Makiritare: they work for them in order to obtain the necessary and extremely desirable steel tools that make their agricultural economy more efficient.<sup>11</sup>

In addition, Prof. Chagnon mentioned two important consequences that have resulted from these economic exchanges between the Makiritare and the Yanomamo. First, the Makiritare are at a definite advantage, and typically demand and obtain sexual access to Yanomamo women in exchange for European goods. In this regard, Chagnon wrote:

Although both the Yanomama and Makiritare have very low opinions of each other, the fact that the Makiritare have a monopoly on steel tools, which they jealously guard, has given them the advantage in various social relation-



ships that emerge in mixed villages. One way in which this advantage is expressed is that Makiritare men (in mixed villages) demand and usually obtain sexual access to Yanomama women. If intermarriage or semi-permanent co-residence does take place, it invariably involves a Makiritare man with a Yanomama woman.<sup>12</sup>

Second, on their return home from these trading expeditions with the Makiritare, Yanomamo men are often stricken with disease and die from fatal epidemics. Without ever assessing the importance of these facts, Prof. Chagnon wrote:

Yanomama men frequently take long trips to visit or trade with distant groups and occasionally are exposed to disease long before it reaches their natal village. We have informants' accounts of such groups becoming seriously ill and their members dying in large numbers before they return home.<sup>13</sup>

#### Ethnocide in Venezuela and Brazil

Recently, a French ethnographer named Jacques Lizot published a report titled, The Yanomami in the Face of Ethnocide, which described the actual situation of the Yanomamo who live on the Venezuelan side of the border. Lizot provided convincing evidence that over the past two decades, several important economic changes have taken place among the Yanomamo as a result of missionary activities and white contacts. According to Lizot, at present there are two types of Yanomamo communities: those who have acquired metal tools and shotguns directly from their sources, and those who are more isolated and deprived of manufactured goods. Lizot wrote:

The entire map of economic and matrimonial circuits, along with political alliances, was transformed and flagrant imbalances appeared. Gradually, though scarcely within twenty years, the absolute isolation within which the Yanomamo had safely lived, was broken. The economy was disrupted, the society menaced at its roots, and dysfunctional attitudes developed.<sup>14</sup>

Since the early 1960s, Lizot also noted, there have been serious demographic disruptions among the Yanomamo tribe. In 1963, his report stated, an epidemic of malaria ravaged the tribe. In 1968, between 15 to 20 percent of the Yanomamo population was killed by a measles epidemic. More recently, he claimed, there have been severe health problems created in the Yanomamo area by the introduction of infectious hepatitis, influenza, and the dangers of contamination by tuberculosis.

Several reports have indicated that similar conditions face the Yanomamo who live on the other side of the frontier in the Brazilian Territory of Roraima. Over the past few years, three events have occurred which have broken down the former isolation of the Brazilian Yanomamo and which pose a critical threat to the continuing integrity and existence of the tribe.

First, in 1972, the Brazilian Government announced that it was planning to build a 2,500-mile highway along its northern frontier. This road is called the Northern Perimeter Highway, and according to government plans, it will be completed in 1976 (see following map).<sup>15</sup>

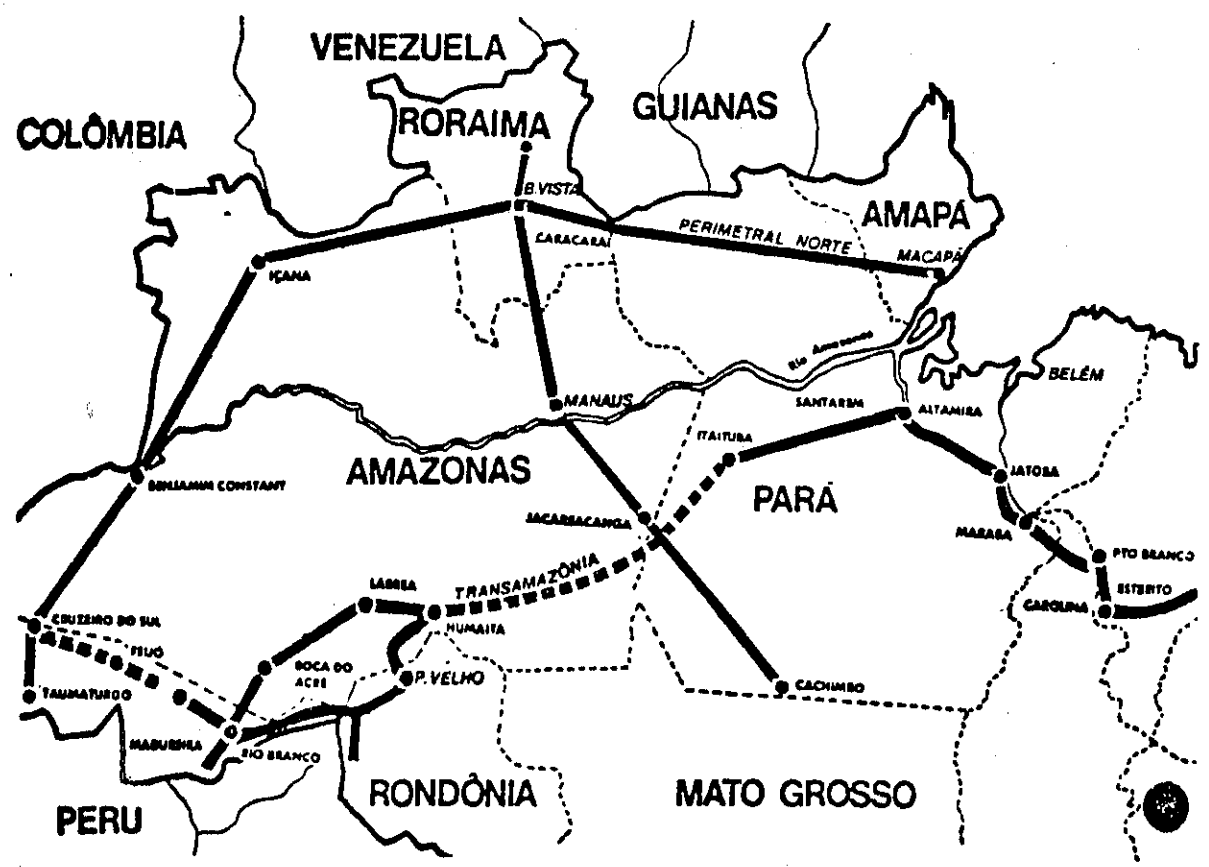
Unlike the Trans-Amazonic Highway, which was built for purposes of peasant colonization to the south, the new Northern Perimeter Highway is of strategic military and economic significance in Brazil. Aerial photographic surveys have indicated that large reserves of iron ore, manganese, tin, bauxite, and coal exist in this region. Geological surveys have also uncovered large deposits of columbium, tantalum, zirconium, gold and diamonds. In addition, large reserves of petroleum are thought to exist along the Peruvian and Colombian frontiers.

In May 1974, Dr. Edwin Brooks, a British geographer, published an article, "The Brazilian Road to Ethnocide," which indicated how this new

highway would affect the Yanomamo tribe. Brooks's article contained a series of recent Brazilian Government maps which showed that two highways are being planned to pass through a proposed Yanomamo Reserve. One of these highways, along the southern border of the Reserve, is the Northern Perimeter Highway. The other is a smaller territorial road, which will cut across the northern part of the Reserve and which will connect the mission stations at Catrimani and Surucucus. Both of these highways, Dr. Brooks claimed, will jeopardize the territorial integrity of the Yanomamo tribe.<sup>16</sup>

Second, in February 1975, the Brazilian Minister of Mines and Energy, Mr. Shigeaki Ueki, announced that an immense uranium field had been discovered in the Surucucus region of Roraima Territory. This area is one of the major locations of the Yanomamo tribe. According to one report, there are 16 Yanomamo villages in the Surucucus region with a population of over 2,000 people. Until recently, the major agency providing assistance to these Indians was the Evangelical Mission Society of Amazonia (MEVA), staffed by two missionaries, one from Brazil and the other from the United States.

Actually, the existence of radioactive materials in this region was known as far back as 1951, but real uranium exploration did not begin until 1970, when the Brazilian Government allocated large amounts of money for the mineral and nuclear sectors in Brazil. By 1974, over 150 technicians were working in the Surucucus region of Roraima alone, including members of the Brazilian military, Project Radam (the huge aerial photographic and mineral reconnaissance survey of the Amazon), the Mineral Resources Research Company (CPRM), and Nuclebras, the new state-owned company created to promote nuclear research in Brazil.<sup>17</sup>



Map showing Northern Perimeter and Trans-Amazonic Highways in Brazil. The Yanomamo are located in the northwestern part of Roraima Territory. Deposits of uranium and cassiterite have recently been discovered in the Surucucus area of Roraima.

Finally, throughout 1974 and 1975, a number of reports appeared which described the discovery of several new foci of the dreaded disease onchocerciasis (African River Blindness) throughout the northwestern part of the Amazon Basin. Onchocerciasis is carried by a tiny blackfly of the Simuliid family, and is usually found close to riverine communities where the dangerous blackfly populations lay their eggs. To date, the most serious incidence of onchocerciasis has occurred in the seven countries along the Volta River basin in West Africa. About one million people have the disease in this area. Of these, about 70,000 are blind and over 30,000 people see only poorly.

In 1974, two American scientists, Drs. Robert J.A. Goodland and Howard S. Irwin, reported on the growing incidence of onchocerciasis in the Amazon Basin and cautioned the Brazilian Government against plans for the building of the Northern Perimeter Highway. According to these scientists, a close relationship exists between deforestation activities associated with the Amazon highway construction program and the rapid spread of the dangerous blackfly population. Onchocerciasis, Goodland and Irwin claimed, is possibly the most serious health threat in the Amazon and is actively spreading along the margins of the Northern Perimeter Highway. "If the road planned to pierce the main focus is not realigned," they wrote, "disaster as rife as in Africa must be expected."<sup>18</sup>

Unfortunately, a Brazilian National Indian Foundation (FUNAI) medical report of February 1975, confirmed these predictions. According to this report, onchocerciasis, which was previously localized in the area surrounding the Venezuelan frontier, has now spread beyond Roraima and is moving as far south as Para, Acre, and the Centre-West of Brazil. In the

State of Amazonas alone, of a sample of 310 people investigated by the FUNAI medical team, 94 people, or nearly 30 percent, were found to be infected with the disease.

The most serious incidence of onchocerciasis has occurred among the Indian tribes of the northwestern part of the Amazon Basin. Along the Marauia River, one band of Yanomamo Indians was found to have a 100 percent index of the disease. In the Upper Solimoes region, the Tikuna tribe had a positive index of 87.5 percent. Along the Damini and Mapalau Rivers, five Indian tribes were all reported to have been infected. Lower indices of onchocerciasis were found among the Tucano and Maku tribes on the Uaupes River, and among the Baniwa tribe of the Icana River region.

In revealing these statistics to the Brazilian press, the President of FUNAI, General Ismarth de Araujo Oliveira, claimed that the control of onchocerciasis is extremely difficult. He asserted that it would involve the intervention of several ministries and necessitate the expensive movement of people engaged in development projects along the Northern Perimeter Highway. The General described the onchocerciasis epidemic as virtually "flying on the wings of the fly." The only combatant, he said, is an expensive French remedy which, when applied to Indians, supposedly kills them because of lack of physical resistance.<sup>19</sup>

#### The Social Responsibility of Anthropology

In August 1976, Prof. Napoleon Chagnon published another popular article in National Geographic Magazine titled, "Yanomamo: The True People." For the first time, in this article Prof. Chagnon briefly described some of the modern social forces which are uprooting the Yanomamo tribe. "The subtle

and intricate inter-relationships that make Yanomamo warfare and politics scientifically important," he wrote, "are rapidly disappearing. Each year new mission posts are built, and in their wake come airstrips, metal tools, and weapons. Diseases-- measles and influenza-- have already struck with devastating effects."<sup>20</sup>

Despite this revealing statement, Prof. Chagnon continued to describe the Yanomamo as being naturally "warlike" and "fierce." The main purpose of the recent National Geographic article, in fact, was not to describe the new conditions faced by the Yanomamo, but to repeat Prof. Chagnon's theory about the role which women play in warfare among the tribe. Prof. Chagnon wrote:

I have gradually come to realize that a chronic shortage of women determines much of these Indians' social structure. One theory in anthropology is that warfare among primitive peoples can be usually traced to conflicts over land or water or some other strategic resource. Another view holds that blood relatives do not war against each other. The Yanomamo refute both theses by their actions.<sup>21</sup>

What is missing in all of Prof. Chagnon's writings is any serious consideration of an alternative theory which would explain the present frequency of warfare among the Yanomamo as resulting from historical factors which have been imposed upon the tribe. Among these factors would be: (a) the constant encroachment of outsiders upon Yanomamo territory in the past twenty years; (b) the catastrophic effects of introduced diseases such as malaria, measles, hepatitis, tuberculosis, and onchocerciasis on the demographic structure of the tribe; (c) the psychological, cultural, and political effects of foreign missionaries in the area; (d) the recent opening up of southern Venezuela and northern Brazil to aerial photographic reconnaissance surveys, mineral explorations, and airplane and

helicopter transportation; and (e) the changes in Yanomamo social structure brought about by the introduction of shotguns, machetes, and metal tools.

It is interesting to note in this regard that in his recent National Geographic article, Prof. Chagnon did mention the role which shotguns are playing in patterns of Yanomamo warfare. "The appearance of shotguns in a few villages," he wrote, "has had a drastic impact on the scale and seriousness of wars. Fighting between villages has broken out where it did not exist before."<sup>22</sup>

Again, though, Prof. Chagnon refused to analyze the implications of these facts for his own interpretation of Yanomamo culture. "Give a fierce man a shotgun," he quoted a Yanomamo as saying, "and he becomes fiercer-- the gun makes him want to kill without cause."

Prof. Chagnon's recent National Geographic article also contained a photograph of a Yanomamo man staring into the window of a Venezuelan Government helicopter which had written on its side, "La Conquista del Sur" ("The Conquest of the South"). After telling us that he could not adequately explain the meaning of "The Conquest of the South" to the Yanomamo, Prof. Chagnon went on to write: "We will soon witness the end of a rich tribal culture that represents a type of adaptation that has endured 10,000 years. It will never be duplicated again in the history of humanity." This type of humanism which laments the passing of tribal cultures, while at the same time never analyzing the agents who are responsible for such ethnic destruction, is typical of a great deal of anthropological writing on native peoples throughout the world.

Napoleon Chagnon is one of the great popularizers of anthropology in the contemporary United States. His recent books, articles, and films are known by thousands of people outside of the discipline, and they are playing



a similar role in modern American culture to Margaret Mead's writings in the past. Many anthropologists have assumed a cynical attitude toward Prof. Chagnon's popular writings on the Yanomamo and have not publicly responded to them in a way which they deserve. Under normal conditions of science, this silence on the part of anthropologists may be justified. When a people studied by an anthropologist is being exterminated, however, the normal conditions of science no longer exist.

When a people is being exterminated, it is more than an academic question whether an anthropologist chooses to describe that people as "harmless" or "fierce." The images which anthropologists present of other peoples and cultures are often determinant elements in the course of human events. Some of these images touch the roots of human sentiments and lead people to struggle for the national and international protection of aboriginal peoples' rights. Other images reinforce popular prejudices and, in the hands of more powerful elements, become convenient rationalizations for wiping native peoples off the face of the earth. In the 19th century, ideas of "savagery" provided a national ideology for the slaughter and extermination of scores of North American Indian tribes. It would be an affront to the humanistic concerns of anthropology if, in the last quarter of the 20th century, more sophisticated theories of "savagery," enshrouded in the language of science, served a similar purpose in the hands of the government of Venezuela or Brazil.

-- Shelton H. Davis