The Strange Case of the Tasaday

Were they primitive hunter-gatherers or rain-forest phonies?

Second in a two-part series

By BRUCE BOWER

A small tribe of hunter-gatherers known as the Tasaday (pronounced ta-SAH-dye), who dwell in densely forested mountains on the island of Mindanao in the Philippines, rocketed to international prominence in 1972. Media reports dubbed them the most primitive people on Earth, remarkably peaceful remnants of Stone Age life.

But in 1986, the Tasaday's pristine reputation was pummeled. Journalists reported the group was a carefully orchestrated hoax devised for political purposes, and several anthropologists agreed, arguing that devious government officials recruited the Tasaday from neighboring rain-forest communities.

The ensuing controversy begat two scientific symposia — mainly featuring the arguments of those charging that the Tasaday are bogus — at anthropological conferences in the Philippines and Yugoslavia. A special "invited session" with scientists on both sides of the debate is planned for the annual meeting of the American Anthropological Association this November.

One thing on which everyone agrees is that the scientific data at hand are preliminary, and often interpreted quite differently. As frequently happens in studies of modern human groups or the remains of their ancestors, scientists know enough to generate plenty of heat and precious few rays of light.

Manuel Elizalde Jr. first steered the Tasaday into the spotlight in the early 1970s, when he served Philippine President Ferdinand Marcos as head of a government agency charged with protecting the rights of minority groups. In June 1971, Elizalde says, he visited the Blit Manobo, a tribe of Mindanao farmers. One of the Blit, named Dafal, told Elizalde he had run across a primitive tribe living in caves about a three-hour walk into the nearby rain forest. Over several years of periodic contacts, Dafal supposedly introduced the Tasaday to spears, bows and arrows, traps and hunting techniques.

Dafal arranged a meeting between Elizalde and several Tasaday, who decided he was the "great bringer of good fortune" described in tribal legend. Soon after, Elizalde brought them unprecedented attention from outsiders. In early 1972, he arranged for several journalists and 11 social scientists to helicopter into the rain forest and meet the primitive group.

Cameras recorded the 26 Tasaday individuals crouching in caves, wearing clothes made of orchid leaves, using tools of stone and bamboo, and eating wild roots, bananas, berries, grubs gathered from rotted logs, and crabs and frogs fished by hand from small streams. They had no pottery, no woven cloth, no metal, no art, no weapons, no domestic plants or animals and apparently no knowledge of the outside world.

Later that year, NATIONAL GEOGRAPHIC ran a cover story on the Tasaday. NBC Television paid Elizalde $50,000 to film the tribe. In 1975, Portland, Ore., journalist John Nance, one of the first people Elizalde escorted to the mountain caves, published *The Gentle Tasaday: A Stone Age People in the Philippine Rain Forest* (Harcourt Brace Jovanovich, New York).

The Marcos government, citing the need to protect Tasaday land from logging companies hungry for timber, established in 1973 a tribal preserve of 46,300 acres of rain forest.

Media and scientific contacts with the world-famous Tasaday suddenly stopped in 1974 with the imposition of martial law in the Philippines, and did not resume until the Marcos government toppled early in 1986.

In March 1986, a Swiss journalist made his way to the tribe's mountain caves. He saw Tasaday wearing colored T-shirts, sleeping on wooden beds and using metal knives. He pronounced them a hoax, merely members of two nearby tribes, the Tboli and Blit Manobo, whom Elizalde had paid to act like Stone Age primitives. The entire scheme, he wrote in a Zurich newspaper, was intended to make Marcos look like a friend of Philippine tribes while he arranged to exploit valuable mahogany stands on their preserves.

Once again, the international press took up the story, this time proclaiming the Tasaday, in the words of a 1986 ABC Television documentary, "The Tribe That

John Nance

A Tasaday family in 1972. In the cover photo, the man at the top appears playing a radio 16 years later.

Never Was."

Yet all the surviving scientists who studied the Tasaday in the early 1970s (two had since died) said they remained convinced the cave dwellers constituted a distinct tribe, although none claimed the group was a Stone Age relic. The Tasaday's physical features clearly mark them as members of the Malay race, as are most Filipinos, says linguist Carol Molony of Stanford University, who visited the tribe for 14 days on two occasions in 1972. The Tasaday must have settled in the rain forest sometime after the Malays migrated to the Philippines around 2,000 years ago.

The best way to settle the debate over the Tasaday's authenticity is to examine the admittedly incomplete anthropological and linguistic data gathered in 1972, Molony says. The much-publicized group has had plenty of time since then to adopt new habits and ways of speaking from neighboring tribes, she notes, contending the recent observations of the Swiss journalist and other visitors establish only what the Tasaday have become in the wake of their fame, not what they were like beforehand.

For instance, intermarriage with the nearby Blit Manobo raised the tribe's membership from 26 in 1971 to 61 in 1986, according to anthropologist Jesus T. Peralta of the National Museum of the Philippines in Manila. Peralta, who studied the Tasaday in 1972 and spent three days with them soon after the Swiss journalist's visit, says the Tasaday culture is rapidly converging with that of the Blit Manobo and much of its distinctiveness will soon disappear.

In the meantime, opposing sides in the scientific dispute show no signs of reaching a consensus.

Anthropologist Zeus Salazar of the University of the Philippines in Manila contends the linguistic evidence collected by Molony and several others is unreliable because they used interpreters from nearby tribes who were not fluent in the Tasaday tongue.

Salazar also charges that the language spoken by the Tasaday contains agricultural terms referring to planting and harvesting, activities they supposedly did not practice. Furthermore, Judith Moses, producer of the ABC program contending the tribe is phony, says in the January/February THE SCIENCES that Tasaday informants told her they spoke only the languages of the neighboring Tboli and Blit Manobo tribes. Tasaday is the name of their holy mountain, not a group of people, Moses asserts.

"There is no doubt in my mind that the Tasaday speak a distinctive language," responds Molony, who tape-recorded conversations with the Tasaday and developed an 800-word vocabulary list from their language. About 80 percent of Tasaday and Blit Manobo vocabulary shares a common origin, Molony says, but important deviations exist. Blit Manobo, as well as Tboli, contains words of Sanskrit, Chinese, Spanish and English ancestry. No similar linguistic influences turn up in Tasaday.

Tboli and Blit Manobo actors could not sweep these telltale terms so cleanly from their speech, Molony argues.

Furthermore, she says, the words cited by Salazar do not spring from organized agricultural practices. The only significant exception is a term translated as "to plant," which the Tasaday use to designate their custom of tossing pieces of wild yams into the ground from which they were dug, in hopes that other yams will sprout there later.

Publicity-minded officials may well have encouraged the Tasaday to display their most primitive behaviors to outsiders, Molony acknowledges. But the virtual absence both of agricultural terms and words borrowed from non-Philippine languages "strongly suggests the Tasaday have indeed been effectively isolated for centuries," she contends.

"There are some significant linguistic differences between Tasaday and Blit Manobo," says linguist Clay Johnston of the Summer Institute of Linguistics in Dallas, "but it's still unclear whether Tasaday is a separate language."

Johnston, who has spent 10 years studying the Blit Manobo language, listened to one of Molony's tapes and in January played it for several linguists in the Philippines. Much of what they heard was understood as Blit Manobo, Johnston says, but several differences turned up in vocabulary and grammatical markers (such as prepositions and words indicating tense or plurality).

"The big question is: What do language differences prove?" Johnston says. "This is controversial among linguists, and because of the Tasaday debate, there's pressure to make more from their language data than can reasonably be done."

Another important question, notes anthropologist Thomas N. Headland, also of the Summer Institute, involves what the Tasaday ate. Based on his own fieldwork with the Agta, a hunter-gatherer group on the Philippine island of Luzon, and reports from other investigators, Headland concludes that a rain forest would not contain enough wild starch foods, such as yams, to sustain human life. The Tasaday live at 4,000 feet above sea level, an elevation where these foods are especially scarce, he adds.

The Tasaday, like the Agta, probably traded forest products for starch foods cultivated by nearby farmers, Headland says. The Tasaday live only a three-hour walk from the Blit Manobo farmers, so periodic trading seems plausible.

Headland does not question Molony's linguistic findings, but calls her contention the Tasaday have remained isolated for hundreds of years premature.

Ethnobotanist Douglas E. Yen of Australia National University in Canberra, who in 1972 spent 38 days with the Tasaday studying their diet, says Headland's "wild yam hypothesis" is off the mark; the forest provided them with enough food of sufficient variety to subsist on. Their daily menu consisted of numerous foods, including roots, nuts, yams, wild bananas, ferns, figs, ginger fruit, crabs and tadpoles. Some Tasaday went on hunting and gathering expeditions for a week or more, Yen says. They returned with small portions of meat, probably consuming larger quantities at kill sites or during the trip, as observers have seen hunter-gatherers do elsewhere.

Even if some Tasaday visited nearby farms as Headland suggests, Yen says they had nothing of value to the farmers to trade.

He notes, however, that by December 1972 the Tasaday were receiving government rice supplements, another indication of the rapid changes in their lives. "We may have seen the last of the original Tasaday in 1972," he says.

Yen suspects the Tasaday were farmers sometime in their ancestry and fled to the mountains to escape one of the many political upheavals in the Philippines during the last few centuries.

If Yen's suspicion is correct, the Tasaday would have developed far more sophisticated stone tools than those observed in the early 1970s, counters archaeologist Robert L. Carneiro of the American Museum of Natural History in New York City. At Judith Moses' request, Carneiro, an authority on South American stone tools, studied photographs of Tasaday stone axes last fall.

"They are coarse, crude, amateurish jobs, unlike other stone tools from the same region of the Philippines," Carneiro says. "The evidence points more to their being a hoax." Particularly telling, he says, is the loose rattan hafting poorly designed for wielding a stone tool.

In a letter to Carneiro dated Dec. 27, 1988, journalist John Nance, who took the photographs of the stone axes, calls the archaeologist's conclusion "inappropriately judgmental." The Tasaday usually use the loose hafts to hook the axes onto pieces of clothing for easy carrying, Nance says.

He also notes that *The Gentle Tasaday* describes two sets of stone tools: cruder implements made at a stream to demonstrate tool-making techniques to visitors, and ancestral heirlooms made from a harder stone and periodically rehafted with finer rattan lacings.

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says, should turn out biodegradable plastics with up to 50 percent starch at costs comparable to currently available plastics containing only 6 percent starch.

While potentially more expensive, graft-copolymer technology such as that used at Purdue offers better custom-tailoring of desired features. That's why Gould expects this technology ultimately to yield the biodegradable competitors to purely petrochemical plastics. In fact, ARS has already begun developing its own graft-copolymer plastics. One of them has the unique ability to shrink-wrap objects at room temperature, provided the humidity is high enough.

One nagging concern of the biodegradable-research community has been whether degradation products of these new plastics will themselves present an environmental hazard. Preliminary data now suggest the answer is no.

In a six-month study, chemist Michael S. Tempesta at the University of Missouri in Columbia exposed polyethylene films – with or without 6 percent starch – to conditions simulating a landfill, a compost heap, an anaerobic waste-treatment plant and surface litter. His "surprising" data, also described at last month's meeting, show "the starch is removed from the polyethylene under all environments," he says. Its microbial breakdown and removal was quickest in the oxygen-free waste-treatment sludges and slowest in air.

"Even more surprising, the polyethylene degraded to smaller molecules," he reports. Particularly under the anaerobic conditions, where decomposition was greatest, up to 15 percent of the 1,200-carbon-long molecules gradually decayed into natural, nontoxic 25-carbon waxes – like those that form naturally on apples, Tempesta notes.

To optimize plastic breakdown, Gould is identifying the most efficient decay microbes, because plastic-wastes managers will likely have to seed their landfills with decay-fostering organisms, much as backyard gardeners today add soil bacteria and fungi to compost their garden wastes.

Unfortunately, Gould says, today's landfills "are designed by law to be areas where degradation does not occur." Moisture, essential for microbial decay, is the bane of landfill managers; it threatens to leach buried toxic substances into the environment. But if one designs landfills properly, Narayan believes, moisture can be managed to limit toxic-materials migration and foster microbial degradation. It requires a new vision, he says, in which landfills are no longer tombs but renewable compost heaps. □

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In the early 1970s, Robert Fox, a now-deceased archaeologist who lived in the Philippines, studied the stone tools and concluded they were used for simple types of scraping or sawing, such as breaking open nuts or extracting the edible pith from slender palms.

Anthropologist Gerald Berreman of the University of California, Berkeley, a critic of Tasaday research, sides with Carneiro's analysis. "These tools are clearly fakes," he asserts.

In addition, Berreman says, observers at the Tasaday caves have found no floor middens – the anthropological term for the inevitable mounds of garbage at human occupation sites. While he argues that this suggests the tribe has been fabricated, researchers who visited the site, such as Molony, maintain that further fieldwork would undoubtedly locate middens.

Berreman views the Tasaday as rain-forest clock punchers, reporting for work as primitive hunter-gatherers in the morning and sneaking back to their home villages at night after journalists and researchers had left by helicopter.

Both critics and defenders of the Tasaday wonder how the tribe survived, given its population of only 26 individuals in 1972.

"It would be impossible for a group of that size to sustain its population, unless it were able to obtain spouses from neighboring tribes," Headland says. Demographers generally concur that a group requires at least 400 members to continue reproducing new generations as large as the old one, he notes.

All the scientists who originally visited the Tasaday agree the tribe would have disappeared without some kind of contact with outsiders, Molony says. Perhaps an illness, introduced through brief encounters with people from other tribes, devastated the original population. In 1972, Molony points out, the Tasaday spoke of a plague that killed many of their people a few generations back.

In addition, Nance says, the Tasaday initially spoke of two neighboring bands of rain-forest people with whom they intermarried – the Tasafeng and the Sanduka. Investigators have located neither band.

Questions about the tribe's size, tools and middens do not alter Nance's opinion that "there is no good evidence that the Tasaday are not real."

Nance says he has visited the Tasaday five times in the last few years and knows of several expeditions to the mountain caves turned back by gunmen in the area. The Philippines' political situation remains volatile, Nance notes, with Marxist guerrillas, disaffected soldiers from the Marcos regime and armed tribal groups all operating out of the Mindanao rain forest.

"I don't see how scientific work can go on in that atmosphere," he says.

Nance maintains that political pressures fuel the hoax charges. If the Philippine government comes to regard the Tasaday as impostors, the tribe will be stripped of its land preserve, opening the rain forest up to logging companies and other groups desperate for land amid a burgeoning population crunch on the islands.

For now, the land is off limits to loggers and the "gentle Tasaday" continue to fuel a rancorous scientific debate. "The session at the anthropological meeting this November should bring together the major insights on the Tasaday," remarks Johnston. "But I doubt it will resolve the issue." □

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Kelheim: A prehistoric Pittsburgh?

In "Iron and Industry: Ancient Links" (SN: 3/18/89, p.170), I think Blair is closer to the track. Kelheim, like early Pittsburgh, was an iron center – but for fabrication and shipping. The early iron business in the Pittsburgh area was slash and burn. A furnace was built, ore and lime dug, charcoal made and the lot turned into iron. When it became unprofitable to haul in the charcoal, you abandoned the furnace, moved on to another place with lots of trees nearby and put up another smelter.

When coal/coke smelting and steam transport became the rule, Pittsburgh became "steel town" – smelting and working could profitably be done all in one spot. In the Kelheim area, one should look for furnaces in the middle of nowhere (but with ore, lime and trees all about), then roads or paths for bringing in charcoal and taking the iron to a river for shipping. Deep-green slag in streams is a good indicator of an upstream smelter, at least in western Pennsylvania.

James O. Porter
Mars, Pa.

Diver's defect

Either your reporter or the researchers studying decompression sickness ("Heart defect may lie behind 'bends,'" SN: 3/25/89, p.188) are being overly conservative in hypothesis formation. The key facts in the article are that patent foramen ovale, a heart defect, occurs more frequently among divers (37 percent) than among the general population (5 percent) and that a high percentage (61 percent) of divers with the most serious decompression symptoms have the defect. The main conclusion is that the defect may explain many cases of the bends.

What I think needs further investigation is the origin of the defect, which is implied to be congenital ("left over from early development in the womb") in all cases. It would be more plausible to explain the defect among only 5 percent of the divers (as among the general population) as a congenital abnormality, and among the remaining 32 percent by the activity of diving itself.

Denis F. Harney
Seattle, Wash.