

Introduction

This ethnography examines indigenous modes of analysis. It follows Marilyn Strathern's (1991) insight into Melanesian exchange, that transactions make visible the respective capacities of the participants by showing how they are composed of other persons or social relations. This permits exchange to operate as a form of social analysis. Strathern (1992a) has also shown how the strategy of decomposition, or the analysis of an image to reveal what it contains, was responsible for the interpretation of the events of first contact in the highlands of New Guinea. She argued that "the revelation that the strangers were human was not the slow dawning of the reality of the situation to the Hagen mind, but the result of their own analytic work" (Strathern 1992a:45). On the basis of long-term anthropological research in Papua New Guinea, I examine how indigenous analysis of social and environmental relations continues to shape contemporary interactions with the state and the global economy.

The book focuses on two political struggles. The first case involves the

political campaign and legal action of the communities affected by the environmental impact of the Ok Tedi copper and gold mine in Papua New Guinea, which produces a significant percentage of the country's revenue. Pollution from the mine has devastated the rivers and forests downstream where the Yonggom people live, notwithstanding a US\$500 million legal settlement that was intended to compensate the affected communities and limit the environmental impact of the mine, but which did neither adequately. How have Yonggom analyses of social and environmental relations helped them to interpret and respond to the challenges that they have experienced living downstream from the mine? Have these analyses formed the basis for political action?

The second case involves the movement of 6,000 Yonggom or Muyu (as they are also called) refugees from the Indonesian territory of West Papua into Papua New Guinea in 1984. Despite facing many hardships in exile, including the threat of political violence, they remain committed to their pursuit of political independence. How have their analyses of social relations helped them to interpret and respond to their experiences as political refugees? To what extent have these analyses formed the basis for political action? In answering these questions, I draw on 22 months of ethnographic fieldwork in 1986 and 1987–1989, based primarily in Dome village on the Ok Tedi River in Western Province, Papua New Guinea, and seven additional visits to the region between 1992 and 2005.

This account also examines the relationship between anthropology and indigenous analysis. When indigenous modes of analysis are ignored, the application of sociological categories that are naturalized in the West can lead to artificial problems, as earlier debates about groups and persons in Melanesia revealed (Strathern 1988; Wagner 1991). When anthropological analysis takes the same form as indigenous analysis, however, it may result in other gaps or blind spots. For example, anthropologists working in Melanesia have followed the interests of their informants in studying the performative contexts of exchange (Strathern 1991), although this has diverted their attention from the equally significant problem of failed exchange. Consequently, throughout this book I explicitly compare Yonggom modes of analysis with more familiar forms of analysis from the social sciences.

The concept of *reverse anthropology* was first used by Roy Wagner (1981:31)

to describe how Melanesian cargo cults engaged with capitalist notions of profit, wage labor, and production. Wagner argued that cargo cults were the interpretative counterpart to the study of culture, and consequently a kind of reverse anthropology. I expand on this analogy by examining how the Yonggom deploy indigenous analysis in their political struggles with the mining company and the state. I also show how insights derived from indigenous analysis can contribute to contemporary political and theoretical debates on these issues.

The emphasis on reverse anthropology, including Yonggom understandings and interpretations of their political struggles, represents a novel approach to the study of indigenous movements, which usually addresses events and debates that are already in the public domain. I developed these ideas in response to the requests for political assistance I received while conducting ethnographic research, which led me to take an active role in the campaign against the Ok Tedi mine by working with Yonggom activists, advising their lawyers, and collaborating with nongovernmental organizations on environmental issues. These experiences afforded me the opportunity to observe how indigenous analyses provided alternative interpretations of political relationships and historical events that proved valuable in a variety of contexts, from the formulation of challenges to the mining company's abdication of responsibility for its actions, to the composition of legal briefs. Attention to reverse anthropology can facilitate the recognition of indigenous critique and the articulation of political alternatives, temporarily aligning ethnography with the objectives of social movements.

The focus on reverse anthropology is not intended as a universal prescription for ethnography, however, as other research projects have their own rationales and politics. The narrative decisions that I make here reflect my desire to avoid textual strategies that restrict indigenous understandings and interpretations to a subsidiary role in relation to information that is available to the anthropologist but not to the subjects of the ethnography. Therefore the background information that I present on these two political struggles is limited primarily to this introduction. This enables me to foreground indigenous interpretations of events in the remainder of the monograph and thereby avoid privileging other frames of reference. The

resulting discussion only addresses a subset of the legitimate and interesting questions about the state, modernity, and globalization that are raised by the events described here; interpretation and analysis of the interests and actions of the mining company, the deliberations of the state, the interventions of multilateral organizations, legal discussion of culture and difference, media representation of these events and its influence, and the role played by nongovernmental organizations in the Yonggom campaign against the mine must be deferred to future publications. In addition, the desire to make this ethnography relevant to the political struggles of the Yonggom people living downstream from the mine and the Muyu refugees living in the border camps has made me less attentive to the limitations or shortcomings of indigenous analysis than to the explanation of the difficulties that external observers have had in understanding their rationale, or in acknowledging the resulting insights, a distinction that has political significance because the outcome of these struggles depends in part on whose narrative structures prevail.

This work is positioned between the two ethnographic traditions that dominate the anthropology of Melanesia. The first category includes the classic ethnographies of the region, which focus on kinship, ritual, and exchange. These works have been praised for their “progressively more nuanced and constrained—and therefore less transparent, more difficult—translations” (Lederman 1998:442). The second category includes a more recent generation of studies that examines contemporary issues of class, citizenship, commodification, and Christianity. The first ethnographic tradition has been criticized for its neglect of history, especially colonial transformations (Thomas 1991; Carrier 1992; Foster 1995), and for its lack of engagement with the political concerns of its subjects. The second set of texts seeks to update a body of regional ethnography that has fallen out of step with broader disciplinary interests in the state, modernization, and globalization; critics of these ethnographies have questioned their reliance on the underlying metanarratives of modernity (Englund and Leach 2000), and for emphasizing change at the expense of continuity.

My objective is to show how these two ethnographic trajectories intersect by demonstrating the continued significance of indigenous modes of analysis for contemporary political struggles.¹ Rather than treat indigenous analy-

sis and modernity as though they were opposed or mutually exclusive, I seek to make explicit the contribution of Yonggom modes of analysis to their ability to comprehend and learn from their engagements with capital, the state, and global forces that might have been expected to overwhelm them. This work seeks to challenge forms of representation that inadvertently collapse the lives of others “within a global vision of domination [that] in subtle intellectual and ideological ways makes the conquest complete” (Sahlins 1993:7). The commitment to writing ethnography that is politically relevant without losing sight of indigenous modes of analysis also motivates my focus on reverse anthropology: my intention is not simply to demonstrate that the Yonggom are actors in world history, but to recognize the value of their analyses of the political and economic forces that connect our lives.

For readers who are unfamiliar with contemporary Papua New Guinea, the following events take place within a modernizing nation-state that received its independence from Australia in 1975. Like the majority of people living in Papua New Guinea, the Yonggom reside primarily in rural areas with economies that remain dependent on subsistence production. Their children attend primary school in the village and may continue their education at the regional high school or in vocational training programs. Everyone participates in the cash economy in some fashion, albeit to varying degrees. Most have converted to Christianity, although the impact that this makes on their lives also varies. Like other Papua New Guineans, the Yonggom are increasingly informed about international events; they know more about American electoral politics, for example, than most Americans know about Papua New Guinea. Many of the Yonggom also aspire to what they call a “modern” or Euro-American lifestyle in contrast to life in the village, although conversely people working in urban areas often dream of returning to a simpler life “back home” in the village.

In the following sections of this introductory chapter, I present a brief sketch of the Yonggom or Muyu people who are the subjects of this ethnography and describe the lowland rain forests that they call home. I then turn my attention to the two political struggles that are the focus of this ethnography: the Yonggom campaign against the environmental impact of the Ok Tedi mine, and the exodus of Muyu political refugees to Papua New Guinea. Finally, I present an overview of the book by chapter.

THE PEOPLE

Nup ku karup mimo, weng mimo, inamen mimo, deme mimo.

We are one people, with one language, the same thoughts, and the same work.

— DOME VILLAGE COUNCILLOR ADDRESSING A
GROUP OF MUYU REFUGEES, 1988

The subjects of this ethnography are the Yonggom or Muyu people who live in the lowland rain forests of south-central New Guinea. In Papua New Guinea, they are known as the Yonggom, whereas in the western, or Indonesian, half of the island, they are called the Muyu.² However, this distinction is an artifact of the colonial division of the island along the 141st Parallel, and identification with one or the other name is a matter of historical relationships to colonial power rather than differences based on language, culture, or kinship. I will use the term *Yonggom* to refer to the populations on both sides of the border and reserve the term *Muyu* to refer exclusively to the people from the western half of the island.

Most of the Yonggom villages in Papua New Guinea are located on the west bank of the Ok Tedi River, a tributary of the Fly River, and to the east along the Fly River as far as Kiunga. This territory extends north to south from the low foothills that rise into the Star Mountains to the shores of Lake Murray, although historically the distribution of Yonggom settlements was more circumscribed. In West Papua, there are Muyu villages on both sides of the Muyu River, a tributary of the Digul River, and as far west as the Kao River.

Census data from Netherlands New Guinea in 1956 indicated a population of 12,223 Muyu (Schoorl 1993:9).³ The 1980 Papua New Guinea Census reported that there were 2,823 Yonggom residing in 18 villages (Papua New Guinea 1980), with an additional 288 migrants in the town of Kiunga (Student Research 1980:40). Assuming a stable population size, the combined population on both sides of the border would be approximately 15,500 persons. Although anecdotal evidence suggests that there has been

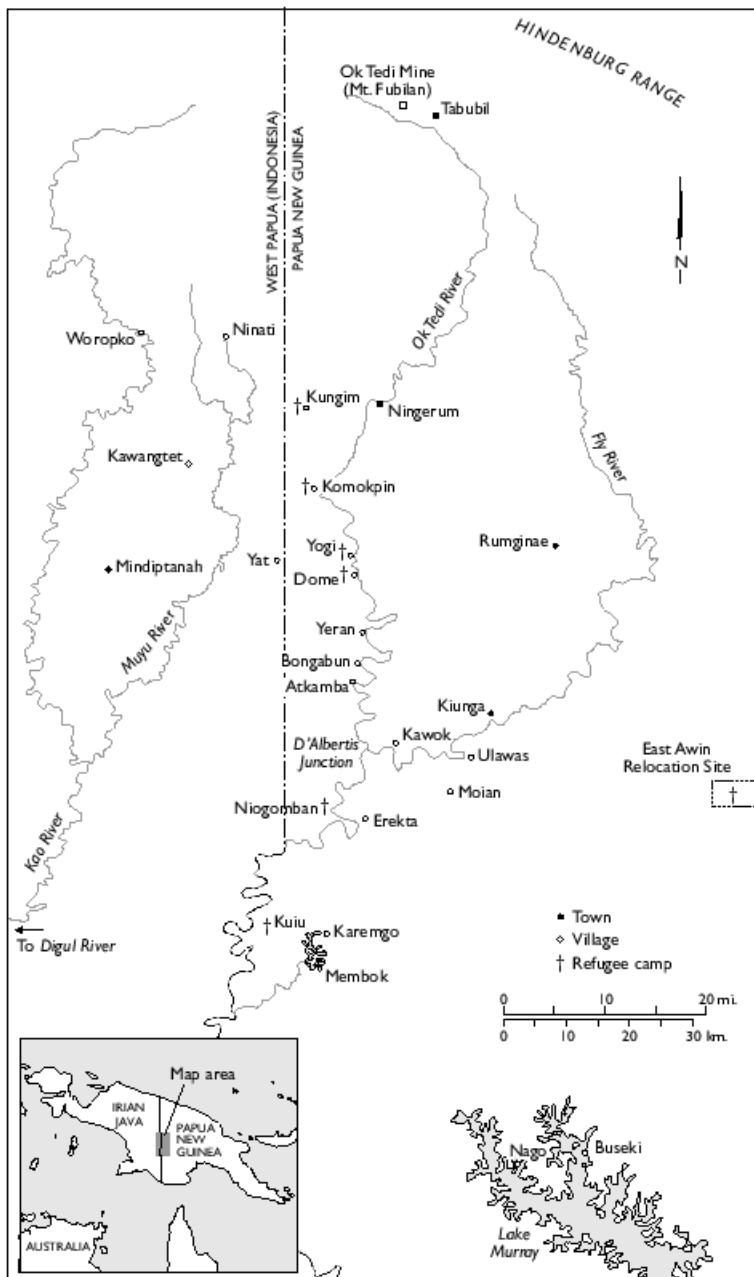


Figure 0.1. Yonggom villages and refugee camps in Papua New Guinea. After Kirsch (1995) and Preston (1988).

little or no population growth among the Muyu (Broek et al. 1999:3), recent demographic data from Papua New Guinea (Flew 1999:50) indicates that the combined population is probably now closer to 17,500.

SENSES OF PLACE

The region inhabited by the Yonggom is divided by the watersheds of two of New Guinea's largest rivers, the Fly and the Digul. These broad, slow-moving rivers have carved deep channels into the alluvial plateau. Frequent course changes over the centuries have scarred the surrounding terrain with oxbows, blocked lakes, and swamps. Rising slowly from the south coast, the plateau reaches an elevation of only 50 meters above sea level in the town of Kiunga, 737 kilometers upstream along the Fly River (Paijmans et al. 1971:44). The annual rainfall averages between 4 to 6 meters in the vicinity of Kiunga, increasing with proximity to the mountains (McAlpine and Keig 1983:65). Heavy rainfall in the Star Mountains, which can exceed 10 meters a year, causes frequent flooding downstream. This has gradually eroded the plateau, producing a pattern of ridges and valleys with a consistent but gentle southern slope (Loffler 1997:18–19).

The rain forest canopy averages between 27 and 30 meters in height, with emergent trees reaching 45 meters (Paijmans 1971:103–4). Sago palms (*Metroxylon* sp.) that grow in the swampy valleys provide the Yonggom with the starch that is the mainstay of their diet. The production of sago flour requires several days of intensive labor every fortnight: men fell the palms and split open their hard, outer bark, and women process the soft interior pith of the trees with wooden sago pounders. The starch-bearing pith is carried to a sluice, where it is washed with water and beaten with a stick to separate the edible starch from the fibers. The starch then settles into a trough below, which is left to dry. The starch accumulates into solid blocks with the consistency of damp plaster. Fresh sago congeals into a more palatable texture when baked and has a slight fermented tang like apple cider or sourdough bread. Older sago has a dry, crumbly texture and a flat, metallic taste.

Bananas are the other major staple of the Yonggom, who cultivate more than a dozen named varieties, some the length of a forearm and others small



Figure 0.2. Yonggom women making sago. Photo credit: Stuart Kirsch.

enough to hold in the palm of one's hand. Some bananas possess a distinctly nutlike flavor; others are starchy or sweet. Most varieties are cooked before eating. They are grown using shifting horticulture in mixed gardens that are also planted with yams, taro, sugarcane, and pitpit (or "bush asparagus"). A variety of other crops, including sweet potatoes, cassava, peanuts, and greens, have been introduced in recent decades. The Yonggam also plant

valuable tree species in their gardens, including breadfruit and okari, which bears nuts that resemble almonds in size and taste. These trees do not yield fruit until after the gardens stop producing, but the Yonggom return to their old gardens when it is time for their harvest. Other useful tree species are planted along the paths that they make through the forest. They also raise small numbers of pigs for consumption and exchange.

A wide variety of foods is available in the forest, many of which have strong and sometimes overpowering flavors, including acrid nuts, astringent figs, and fruits that are sour like unripe apples. Some are masticated but not swallowed, like the starchy heart of palm. Other forest products are rich in oil like the fruit of the lowland or *marita* pandanus, which smells like paraffin. Men hunt wild boar and cassowary using black palm bows strung with bamboo and by making snare and deadfall traps. Smaller game animals include marsupials, birds, fruit bats, and lizards. They catch fish with traps, weirs, derris root poison, and lines with metal hooks.

Food from the forest is often consumed immediately, although meat from larger game animals is smoked in the bush and carried back to the village, where it is distributed. When people grow tired of the limited range of foods that are available in the village, they may temporarily retreat to secondary dwellings in the forest, where game animals and other wild resources are more readily available.

Gardens, planted trees, hunting grounds, streams, and certain useful tree species are protected by ownership rights within a territory that shares its name with the lineage. Land and lineage are both known as *ambip kin*, making place and identity coincident. When a lineage divides in two, the new groups are distinguished by their place of residence, so that Miripki lineage may become Miripki-Kubunun, or Miripki-by-the-Waterfall, and Miripki-Yumkap, or Miripki-by-the-Bananas. The owner of a particular plot of land is its *yariman*, a term that implies kinship, sponsorship, and responsibility. Inheritance is patrilineal, although land rights may be transferred to non-agnates. A daughter retains use rights to her father's land, which she may cultivate with her husband. A man without children may allocate use rights to his sister's sons. Under special circumstances, a man may also inherit land through his mother (Schoorl 1993:82–83). Refugees from internal conflicts were often incorporated into lineages that possessed surplus land, and their descendants could acquire lineage membership and full land rights.

In the course of their subsistence activities, the Yonggom acquire inti-

mate knowledge of their land. They learn the location of useful trees and plants and of fruit stands where the birds come to feed, and they learn how to find pig and cassowary tracks. They identify the best places to catch fish, crayfish, and turtles. They actively engage with the landscape, transforming it through its use. They maintain a network of trails, camping places, and catchments for drinking water. They manage their sago stands through selective thinning, harvesting, and replanting. They clear and burn forest plots when making gardens and leave former garden sites fallow for 12 to 15 years. They fell mature trees to make canoes and build houses. Over time, their life histories are inscribed onto the landscape.

When traveling through the forest, the Yonggom recognize the traces of other persons in the landscape. They identify the hunting party that camped at the junction between two paths, the woman who worked an abandoned garden, or the man who planted a tree that matured after his death. Individual lives are represented as a series of movements across the landscape, which Steven Feld (1996:113) has characterized as “biography as itinerary.” Aspects of the past are revealed by movement across the landscape, whether a physical journey or a narrative account of travel between places.

A person’s impact on the landscape is remembered beyond his or her own lifetime. After a death, feelings of *mimyop* (sorrow and loss) may lead to the avoidance of the places associated with the deceased (see Weiner 1994:599). The rain forest resonates with their activities, such as the clearing where the deceased once made sago, the pandanus tree planted beside a trail, or the place where the deceased shot a flying fox. People mourning the loss of a relative or a close friend may refuse to leave the village for several weeks in order to avoid confronting the memories of the deceased that continue to echo through the forest.

THE REFUGEES

The OPM [Free Papua Movement] came in 1984
and told us that it was time to move.
It was a plan that we had been discussing for a long time.
We crossed the border and came to set up the refugee camps . . .
We didn’t want to stay there with the Indonesians in our land.
That is why we came . . .

We came with nothing . . .
We ran away and left our belongings . . .
We even left our shoes . . .
We want to ask the people of Papua New Guinea, Australia, England,
Germany, Holland, and America to help us gain Independence.
First, we want food for the hungry people in the camps,
then we want Independence.
Will they help us?
People are dying in Papua New Guinea and must be buried here,
instead of on their own land.
We don't want to wait any longer;
we want Independence now.
We want to remove the border between
Papua New Guinea and West Papua.
We [Muyu and Yonggom] are all the same people:
one skin, one hair, and one language;
we want one country.
—Muyu refugee, Dome Refugee camp, 1988

The western half of the island of New Guinea has had numerous political designations over the last 50 years. Under Dutch colonial control until 1963, it was known as West New Guinea or Netherlands New Guinea (Anderson 1995:176–78). During the period of United Nations supervision from 1963 to 1969, the territory was called West Irian or Irian Barat (Osborne 1985:30). It was renamed Irian Jaya in 1973 after the contested annexation by Indonesia in 1969. The provincial government adopted the designation Papua in 2000, two years after Suharto was forced to resign. An Indonesian government proposal to subdivide the province, fragmenting its political opposition, has been temporarily deferred. Following the long-standing preference of the local population, I will use the designation *West Papua* throughout this book except when referring to the Dutch colonial period.

The physical location of the border between Netherlands New Guinea and the Australian Trust Territory of Papua at the 141st Parallel was not fixed until the 1960s (Veur 1966). The Dutch retained control over West New Guinea after Indonesian independence in 1949, but they faced international pressure to withdraw and transfer the territory to Indonesia. The Dutch administration responded by fostering an elite group of Melanesian civil servants and accelerating the process of decolonization (Penders 2002:402–4).

However, the U.S. government convinced the Netherlands to cede the territory to Indonesia under United Nations supervision in 1963. Opposition to the Indonesian takeover gave rise to the Organisasi Papua Merdeka (OPM), or Free Papua Movement (Osborne 1985). In 1969, the territory was incorporated into the Indonesian state following the widely criticized U.N. "Act of Free Choice."

Indonesia controls West Papua through force, including acts of violence, terror, and the repression of its indigenous population. The Indonesian military has committed numerous human rights violations, including physical assault and torture, sexual violence, and extrajudicial killings (Budiardjo and Liong 1988; Anti-Slavery Society 1990; Ondawame 2000). A recent study by the International Human Rights Clinic at Yale Law School described these human rights violations as genocide (Brundige 2004:75). Control over West Papua provides Indonesia with access to its valuable resources, which include copper, gold, and nickel deposits, petroleum and natural gas, timber and other forest products, and vast areas of arable land. Mining and logging projects operate throughout the province, paying little or no attention to their environmental impacts or their infringement on traditional land use (Lucas and Warren 2003:85). Only a small percentage of the economic returns from these projects has been reinvested in the province.⁴ Transmigration programs have also moved thousands of peasant farmers and their families from Indonesia's densely populated inner islands to West Papua, including an estimated 85,000 to 145,000 official transmigrants by 1990 (Elmslie 2002:75). Another 216,000 spontaneous migrants from other Indonesian provinces settled in West Papua during the same period (Elmslie 2002:76). Large areas of land have been alienated from indigenous ownership and use by these unwelcome settlers. Indonesian transmigrants dominate urban areas and control commerce, while indigenous West Papuans are subject to pervasive racism, resulting in substantial political and economic inequality.

In the wake of political protests calling for independence, including a symbolic flag-raising sponsored by the OPM in the provincial capital of Jayapura in February 1984, military reprisals by the Indonesian armed forces spread to the border area (Osborne 1985:100; Smith and Hewison 1986:202; Glazebrook 2001:178–79). In the midst of these military actions, approxi-

mately 11,000 men, women, and children crossed the border to Papua New Guinea on foot, including 6,000 Muyu (ASICJ 1984; see also May 1986). Coordinated by the OPM, they sought international attention and support for their struggle for self-determination and independence from Indonesia (Bell et al. 1986:540–41).⁵

Nearly half of the Muyu left their villages between April 1984 and September 1985, abandoning some villages entirely and depopulating the districts closest to the border. They hoped to be able to return home to claim their independence from Indonesia in a matter of months. The Muyu refugees established a series of makeshift camps in Papua New Guinea, most of which were located adjacent to existing Yonggom and Ningerum villages where many of them have close relatives.

Yonggom villages located on the Papua New Guinean side of the border were quickly overwhelmed by the new arrivals. They were unable to feed refugee populations that outnumbered their hosts by as many as five to one. The resulting food shortage failed to attract significant national or international attention until a visiting pastor discovered a number of malnourished children and a series of newly dug graves at the Komokpin refugee camp in August 1984 (Smith and Hewison 1986:213). Save the Children and the United Nations High Commissioner for Refugees (UNHCR) were subsequently invited by the government of Papua New Guinea to provide food and medical care to the refugees living in the border camps.

Despite their failure to bring about political change or even substantive reforms in West Papua, only several hundred Muyu refugees have returned home in the intervening years. Even though they have had to endure considerable hardship, they remain committed to their political objectives. UNHCR and the other international aid agencies withdrew their support from the border area in 1987, although the Montfort Catholic Mission of Kiunga continues to provide humanitarian and educational assistance. Most of the Muyu refugees still live in crowded settlements within walking distance of the border, although others have moved to the resettlement center in East Awin (Sands 1991; Glazebrook 2001).

THE MINE

Nandun was one of the first to work with Kennecott when they explored for ore.
 At first I didn't understand what they were doing . . .
 Nandun was working near Tabubil [in the mountains].
 He came down and told the people:
 "In the future, when they open up the mine,
 the Ok Tedi River will become bad."
 We knew that something bad was going to happen,
 but we weren't sure what it would be.
 When the mine opened up, we thought:
 "Oh, it is a fact that this will happen."
 We heard that the river would change,
 but we didn't do anything about it.
 When it became true, we were frustrated.
 At first, we didn't say anything to the company or to the government.
 We were worried about our gardens and the river,
 but we had no idea how to fight against the mine,
 because we are not educated people.
 —Andok Yang, Dome village, 1996

The Ok Tedi mine, located in the Star Mountains near the border, began producing gold in 1984 and copper three years later.⁶ Although the original Environmental Impact Study for the project called for a tailings dam in the mountains, Ok Tedi Mining Ltd. (OTML) sought permission to delay its construction when a landslide occurred at the initial site (Townsend 1988:114).⁷ The government of Papua New Guinea temporarily granted the mining company permission for riverine tailings disposal, in which tailings (finely ground particles that remain after the valuable ore has been extracted) and waste rock are released into local rivers. When the Panguna copper mine in the Papua New Guinea province of Bougainville was forced to close in 1989 by local landowners, the resulting economic pressure led the state to permit OTML to continue operating without tailings containment (Filer 1997c:59–61).⁸ This decision reflected the state's financial interests in OTML as a minority shareholder and tax collector, rather than its responsibility to protect its citizens and the environment by regulating corporate behavior.⁹ Consequently, more than 1 billion tonnes of tailings and waste rock have

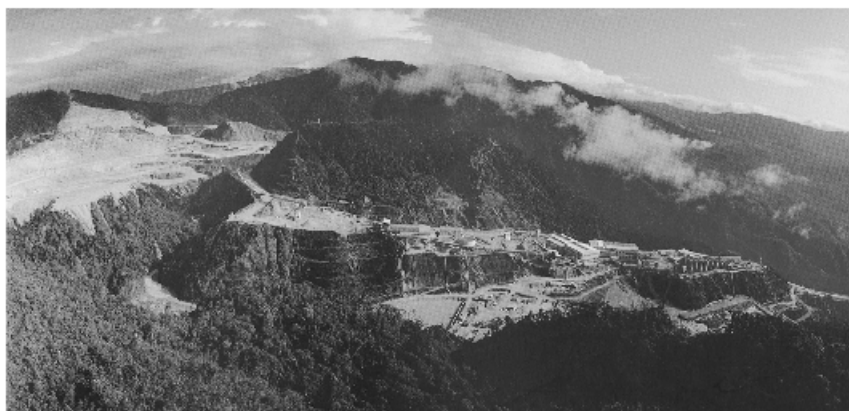


Figure 0.3. The Ok Tedi mine, 1988. Photo credit: Rocky Roe Photographics.

been released into the Ok Tedi River by the mine during its two decades of operation, causing riverbed aggradation, overbank flooding, and the spread of tailings and other mine wastes into the adjacent lowland forests.¹⁰

Early cost overruns and declining metal prices forced the original investors in the Ok Tedi mine to write off much of their initial US\$1.4 billion investment (Jackson 1993:47). However, aided by its lack of expenditure on tailings containment, the mine has become a low-cost copper producer. The Ok Tedi mine is currently the world's sixth-largest copper producer; its primary markets are located in Asia and Europe.¹¹ The mine continues to produce significant quantities of gold as well. Its export sales in 2002 were K1,241.9 million, which represented 20.6% of Papua New Guinea's export earnings and 11% of its gross domestic product (OTML 2002:4).¹² In the same year, the mining company paid K17.39 million in royalties to the government of Western Province and an additional K66.5 million in taxes and royalties to the state (OTML 2002:4).

The people living downstream from the mining project along the Ok Tedi River first noticed the mine's environmental impacts after a cyanide spill at the mine site on 19 June 1984 (Hyndman 1988:94).¹³ A bypass valve was left open for several hours, releasing approximately 100 cubic meters of highly concentrated cyanide waste into the Ok Tedi River, killing fish,

prawns, turtles, crocodiles, and other riverine life for more than 100 kilometers downstream. The Yonggom people living along the lower Ok Tedi River recall gathering up and eating the dead fish and animals. By the end of my primary fieldwork on the Ok Tedi River in 1989, these communities had begun to experience the impact of the river's increased sediment load, including the deposition of tailings and other mine wastes onto their gardens, sago stands, and forests fringing the river, leaving these areas barren.

Yonggom leaders petitioned the local government and the mining company to address these problems with stricter environmental controls and compensation for their losses, but they were largely ignored (Burton 1997:44–46). In an editorial published by the *Times of Papua New Guinea* in 1989, I warned that the entire Fly River was at risk from the environmental impact of the Ok Tedi mine (Kirsch 1989:3). With support from international environmental organizations, representatives from the affected communities traveled to the 1992 Earth Summit in Rio de Janeiro to meet with other indigenous peoples affected by mining projects. They went to New York and Washington, D.C. for meetings with environmental organizations to discuss Amoco's minority share in the mine. Other representatives from the affected area traveled to Bonn for meetings with the Lutheran Church and members of the German Federal Parliament about applying domestic environmental standards to overseas German investments, including German shareholders of OTML (Schoell 1994:13–14). The Wau Ecology Institute of Papua New Guinea helped several Yonggom representatives present their grievances against the mine at the second International Water Tribunal in Amsterdam in 1992, which found the mine guilty of violating the rights of the people living downstream (International Water Tribunal 1994:49–85).¹⁴ The tribunal concluded that Broken Hill Proprietary Ltd. (BHP), the majority shareholder and managing partner of the mine, had used its foreign earning power to coerce the Papua New Guinea government into violating its own environmental standards by permitting riverine tailings disposal. It criticized the state for allowing the mining company to monitor its own impacts. It also recommended early closure of the mine if a safe alternative to riverine tailings disposal could not be identified. Lacking powers of enforcement, however, the International Water Tribunal was unable to implement its recommendations. Nonetheless, the findings of the tribunal provided international credibility for local environmental concerns.

International criticism and growing local concerns prompted OTML to sponsor a three-year research project to document the social impact of the mine on the affected communities downriver (Filer 2001). As a member of this project, I carried out interviews in the Yonggom and Awin villages on the lower Ok Tedi River in 1992, including the village of Dome, where I had lived while conducting dissertation research several years earlier. This area is vulnerable to flooding and has sustained extensive damage from material deposited outside of the river channel. Tailings and other mine wastes have accumulated in the forest and gardens located along the river, in the adjacent wetlands areas, and even upstream along the creeks that feed into the Ok Tedi River, which reverse course and flow upstream, away from the main river channel, after heavy rainfall in the mountains. These materials have adverse effects wherever they are deposited, killing plants and trees and destroying gardens. By the time I returned to the area in 1992, the damage from the mine was visible for approximately 40 kilometers along the lower Ok Tedi River, including large areas of dead trees up to 3 kilometers away from the river. This land had been particularly valuable to the people living along the river because it offered resources that were not readily available in the rain forest interior. At the time of the 1992 social impact study, little formal assessment of the environmental damage along the river had been undertaken by the mine warden of Papua New Guinea, who had legal responsibility for this task, and almost no compensation had been paid by the mining company to residents in the affected communities (Filer 1997c:68). Given their unsuccessful efforts to halt riverine tailings disposal and obtain compensation for the damages they had incurred, the people living in the communities downstream from the mine were frustrated and angry.

There were approximately 2,000 people living in the eight villages along the lower Ok Tedi River in 1992, plus another 5,000 persons living in the adjacent refugee camps, all of whom were directly dependent on the same resources for the majority of their subsistence needs. The destructive synergy of the pollution from the mine and refugee consumption of resources significantly compromised the ability of these communities to produce sufficient quantities of food. The loss of productive garden land along the river increased competition for land in the interior rain forest, which yields fewer productive harvests. Fish populations in the river declined precipitously, and people were often reluctant to consume their catch.¹⁵ Turtles ceased their an-



Figure 0.4. Deforestation along the Ok Tedi River, 1996. Photo credit: Stuart Kirsch.

nual migration upriver along the Ok Tedi to lay their eggs, once a valuable seasonal resource. Local streams became choked with mine wastes, making it difficult to catch prawns, formerly an important source of protein, especially for children. Large stands of sago palms were killed by the deposition of mine tailings.

The people whom I interviewed for the 1992 study insisted that the mine should not have begun production before it established a viable method for safely managing the tailings. They said that pollution had “spoiled” their land. They wanted the mine to continue operating, however, so that they could receive compensation for the damages that it had already caused, but they insisted that the mine stop polluting their river. Rather than resorting to violence, which was the cause of so much hardship and suffering during the civil war that followed the closure of the Panguna mine in Bougainville, they began to coordinate political action across the different communities and language groups affected by the mine.

Local concerns about the mine’s environmental impacts were validated by a series of audits and evaluations carried out by international nongov-

ernmental organizations, including the Starnberg Report commissioned by the German Lutheran Church (Starnberg Institute 1991), a review by the Australian Conservation Foundation that described the Ok Tedi River as “almost biologically dead” (Rosenbaum and Krockenberger 1993:9), and a report issued by the International Union for the Conservation of Nature and Natural Resources, which expressed concerns about the magnitude of future environmental impacts (IUCN 1995:50–51). Even though the mining company routinely criticized these external reviews for their methods, their small sample sizes, and other perceived inadequacies, in retrospect, their assessment of the mine’s environmental impacts have proven far more accurate than the voluminous studies produced by the mine.

The findings of the International Water Tribunal encouraged activists from the affected communities to seek legal redress for the problems caused by the mine. In 1994, the Australian solicitors Slater & Gordon filed a writ on behalf of 30,000 indigenous plaintiffs from Papua New Guinea against Ok Tedi Mining Ltd. and Broken Hill Proprietary Ltd. The case was filed both in Port Moresby, the capital of Papua New Guinea, and at the Victorian Supreme Court in Melbourne, where BHP is incorporated. *Rex Dagi v. Broken Hill Proprietary Company Limited* was one of the largest tort claims in Australian history. It received extensive media attention, and the popular response to the mining company was overwhelmingly critical.

The legal case against BHP and the Ok Tedi mine did not directly address damage to property, because the Court concluded that it was unable to determine issues concerning land in another country (Gordon 1997:153). Nor did the case address the mine’s liability for environmental degradation, because of the absence of relevant statutes or laws deemed to rise to the level of an enforceable international norm (see Popović 1996). Instead, the case focused on “negligence resulting in a loss of amenity” (Gordon 1997:154), which embraced the subsistence economy of the plaintiffs. This was a novel concept for the court, given that it did not involve a claim for economic loss in monetary terms, which is the foundation for damages in western legal systems (Victorian Supreme Court 1995:59). The court’s recognition of subsistence rights under common law represents a valuable precedent for other indigenous peoples whose resources are threatened by development.

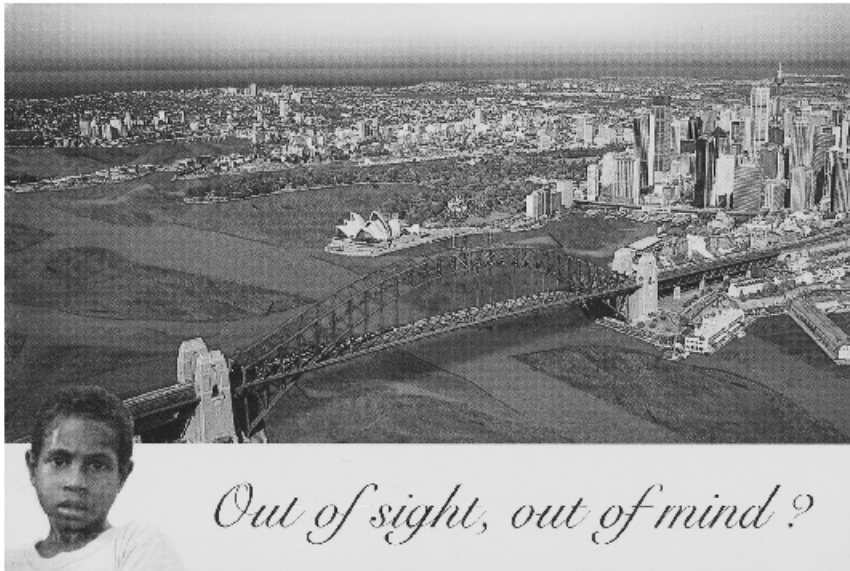


Figure 0.5. Ok Tedi campaign postcard (front view), 1999. Sydney harbor with the Ok Tedi River superimposed. Photo credit: Mineral Policy Institute.


The lawsuit against BHP and the Ok Tedi mine was settled out of court in 1996. The settlement included a K110 million compensation package for the 34,000 people living along the Ok Tedi and Fly Rivers to be distributed over the remaining years of production at the mine, which is scheduled for closure in 2012.¹⁶ A second trust fund of K40 million was established on behalf of the landowners and residents of the lower Ok Tedi River, where the impact of the mine was the most pronounced. The state also acquired a 10 percent equity share in the mine on behalf of the people of Western Province. The central component of the settlement, however, was a commitment by BHP to implement the most practicable form of tailings containment following a government review of the available options. At the time of the settlement, the most likely option was thought to be a tailings pipeline from the mine site in the mountains along the east bank of the Ok Tedi River to a lowland storage area, with an estimated cost of US\$180–250 million. In the interim, the mine installed a dredge in the lower Ok Tedi River, which lowers the riverbed and reduces flooding into the adjacent forests. However,

The Ok Tedi River is dying

Its fish and the forest surrounding the river are dying. The river is bloated with milky grey sediment and won't recover for generations. Local people depend on the river for water, food and transport.

BHP, the major shareholder in the Ok Tedi mine, will spend thousands on public relations activities as an Olympic sponsor. It will cost many more millions to restore the environment and create sustainable livelihoods for all the people of the Ok Tedi and Fly Rivers affected by the mine. Will BHP accept responsibility by agreeing to pay proper compensation?

In Australia a mining company would not be allowed to dump 80,000 tonnes of waste each day into a river or harbour. With your support we can make sure that Papua New Guinea is not out of sight, out of mind.



You can help!

For more information, or to make a donation, please call 1800 005 540.
Or visit our web site at <http://www.mpi.org.au/support>

Mining Watch - a project of the Mineral Policy Institute - monitoring the mining industry, campaigning for better social and environmental practice, working for environmental justice with local communities.
PO Box 21, Bondi Junction, NSW, 2022, Australia
ph: 61 2 9387 5540 fax: 61 2 9385 1497

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 PO BOX 21, BONDI JUNCTION, NSW, 2022, AUSTRALIA
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Picture: Sydney with the Ok Tedi River, PNG superimposed. The mine dumps 80,000 tonnes of waste into the river every day.

Figure 0.6. Ok Tedi campaign postcard (reverse view), 1999. Photo credit: Mineral Policy Institute.

the dredge removes only half of the tailings that the mine releases into the river, and only one-fifth of the total volume of waste material that enters the river system.¹⁷

The mining company completed its review of the mine's environmental impacts and tailings containment options in 1999, three years after the lawsuit was settled.¹⁸ The managing director admitted that the mine's impacts were "far greater and more damaging than predicted," contradicting long-standing denials that there were serious problems downstream from the mine (OTML 1999). The review pointed out that even if mining were to stop immediately, the environmental problems downstream will continue to increase given the sheer volume of tailings already in the river and ongoing erosion from waste rock dumps in the mountains (Parametrix Inc. and URS Greiner Woodward Clyde 1999). Pollution from the mine is expected to have a cascading effect as it gradually migrates downstream toward the Gulf of Papua, leaving deforestation in its wake. The mining company now acknowledges that the heavy accumulation of sediment in the lower Ok

Tedi will last for another 60 years, while the impact on the Middle Fly will continue for several hundred years (OTML 2004:12). Although 1,554 square kilometers of rain forest along the river has already died or is under severe stress, this damage is expected to increase to 3,000 square kilometers (OTML 2005:4). It may eventually cover the entire floodplain of the river, or 4,200 square kilometers (OTML 2005:4). Local species composition is not expected to return to premine conditions, with grasslands and wetlands replacing much of the affected rain forest (Chapman et al. 2000:17).

Questions about the toxicity of heavy metals at both ends of the food chain remain unanswered (Parametrix Inc. and URS Greiner Woodward Clyde 1999). Copper levels may be inhibiting the growth of algae in the river. Although the health risks to the populations living along the river are expected to be minor, consultants for the mine have recommended that these populations be monitored for their exposure to lead and cadmium, both highly toxic substances (Parametrix Inc. and URS Greiner Woodward Clyde 1999:14). Finally, continued operation of the mine without effective tailings containment increases the possibility of acid rock drainage, in which sulfur dioxide leaches heavy metals into the river (Chapman et al. 2000:8–9, 19). The consequences of acid rock drainage would be “catastrophic,” leading to the “loss of all ecosystem functions over affected areas for prolonged periods” (Parametrix Inc. and URS Greiner Woodward Clyde 1999:8). The most recent environmental reports indicate that acid formation is already occurring at low levels in the Ok Tedi River and the Middle Fly (OTML 2005:1–2).

The 1999 corporate review asserted that none of the proposed strategies for tailings containment will substantially mitigate the environmental processes already in train. However, subsequent evaluation of these reports by the peer review group appointed by the mine (Chapman et al. 2000) and the World Bank (2000) raised questions about these findings. The World Bank recommended the early closure of the mine after the establishment of programs to facilitate the social and economic transition to life after mining (World Bank 2000). The failure of the mining company to implement tailings containment despite its commitment to do so in the 1996 settlement agreement forced the plaintiffs in the original case to return to the Victorian Supreme Court in Melbourne in April 2000, charging BHP with breach of contract.

BHP subsequently indicated its intention to withdraw from the Ok Tedi mine. In the Mining Act of 2000 (Ok Tedi Mine Continuation [Ninth Supplemental Agreement]), the Papua New Guinea Parliament endorsed BHP's transfer of its 52% share in OTML to a trust fund that will support development projects in Papua New Guinea. In return, the company and the government were indemnified against future claims relating to losses from pollution or damage to the environment resulting from the operation of the mine. Although the trust fund will benefit communities throughout the country, it has been described as a "poisoned chalice" because it relies on the continued operation of the mine, including the disposal of more than 80,000 tonnes of mine tailings and waste rock per day into the river system, to underwrite development (Evans 2001). The Mining Act limited BHP's economic liability to the value of the trust, even though it is uncertain whether the returns from its shares in the mine are sufficient to offset the cost of the damages. The Mining Act also provides OTML with unprecedented power and authority to set its own environmental standards as well as the procedures for monitoring and compliance. Even given the pervasive influence of neoliberal ideologies that promote corporate self-regulation, the agreement represents an extraordinary transfer of rights from the state and ordinary citizens to a private company (Divecha 2001). In 2001, BHP merged with the South African mining company Billiton to become BHP Billiton, one of the five largest mining companies in the world. The legal action against BHP Billiton and the Ok Tedi mine was settled out of court in January 2004, without reducing the mine's environmental impact (Kirsch 2004; Munro 2004).¹⁹

OVERVIEW

Chapter 1 describes Yonggom history in terms of their encounters with others. Following the insight from gift exchange that objects embody social relations, it focuses on the social life of three artifacts. The chapter draws on Yonggom ideas about social relations to challenge representations of New Guinea that emphasize its isolation and difference rather than its historical connections to the rest of the world. It also builds on Yonggom recogni-

tion of the agency of the animals with whom they share the landscape by showing how the particular characteristics of natural species can influence history.

Chapter 2 examines Yonggom modes of environmental analysis, including animism that takes the form of communication with birds and other animals. The Yonggom respond to these other beings through their magic spells. Totemic relationships and other naming practices also connect the Yonggom to animals; knowledge of the magic names of these animals confers power over their referents. Another form of magic allows people to temporarily assume animal form, providing them with new perspectives on the world. These practices challenge the assumptions of capitalism, modernity, and science about human-environmental relations.

Chapters 3 and 4 are concerned with exchange as a form of social analysis. Chapter 3 considers the performative contexts of Yonggom exchange and how social relations are composed or decomposed in regional pig feasts, bridewealth transactions, and mortuary exchange. The chapter focuses on the problems caused by failed exchange. The experience of unrequited reciprocity can be dehumanizing and is explicitly linked to the problem of mortality by providing the motivation for acts of sorcery. Colonial-era threats to Muyu exchange practices and perceived opportunities to overcome the challenge of unrequited reciprocity resulted in a series of cargo cults in the 1950s that I also describe and analyze in Chapter 3.

Chapter 4 shows how sorcery discourse influences Yonggom interpretation of their own emotions, motivations, and intentions. The Yonggom have also used the discourse of sorcery to examine their relations with the Ok Tedi mine. The resulting compensation claims are also a form of political action. Rather than treat the impact of the mine as a purely environmental problem that can only be solved by technical means, their compensation claims show how pollution is a kind of social relation.

Chapter 5 begins with a first-person account of my participation in Yonggom male cult ritual. Like the cargo cults described in Chapter 3, the accompanying myths focus on overcoming the problem of unrequited reciprocity. The myths are organized episodically, and the more recent episodes of the myth provide interpretations of colonial history. Their analysis of history focuses on social relations, challenging explanations of inequality that

are based on separation and difference. The Muyu also invoke these myths in trying to convince living persons to adopt the role of key mythological figures.

Chapter 6 examines the concerns of the Muyu refugees. It explains how Yonggom sorcery discourse analyzes social relations, including the production of regional histories that account for sorcery killings across time and space. The chapter shows how the Muyu refugees evaluate the actions and intentions of the Indonesian state in their sorcery divinations, revealing the personal risks that they face as political refugees.

In Chapter 7, I examine the Yonggom response to pollution from the Ok Tedi mine. The chapter considers Yonggom narratives about place and loss, including their concerns about the environmental risks posed by the mine. But the Yonggom have devised new ways of relating to place, which include experimental forms of mapmaking and their participation in the international campaign against the mine. I also consider their debates about change and the fate of the *aman dana*, the children of the future.

In the Conclusion, I focus on the contributions of Yonggom modes of analysis to contemporary theoretical and political debates.