PLACE, TIME, AND AFFECT: Changing Landscapes around a New Guinea Mining Area

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RECIPROCITY'S DEMISE

In this article, I examine the interconnections among place, time, and affect and how these have changed for the people of the Porgera Valley in Papua New Guinea (PNG). A large-scale gold mine, the Porgera Mine, opened in the valley in 1990 and has subsequently altered the fortunes and social relations of Porgerans. One prominent concern voiced by many has been the demise of reciprocity that mining development has brought to the region. As for many highlanders of PNG (Meggitt 1965; Glasse 1968; Strathern 1988), exchange and its resulting relations of reciprocity constitute a dominant modality of life. Reciprocity's demise is not just a much discussed topic in Porgera. It also influences the ways that Porgerans connect to one another, to non-human spirits, and to the landscape. In fact, Sarah Osterhoudt (2020, 251) argues that "times of accelerated market changes can be examined as times of profound affective changes in a particular place and time, that is, changes across its structures of feeling." To this end, I am interested in how the oscillations between day and night have an affective dimension to them and, in turn, how these can inform our understanding of changes in the landscape over time.

Why is it that certain places undergo a transformation of the banal by day to the phantasmagorical by night (see also Galinier et al. 2010; Handleman 2005; Heijnen 2005; Schnepel and Ben-Ari 2005; Steger and Brunt 2003)? My first introduction to this question came in 1998, a few days after I first arrived to begin my dissertation fieldwork in Porgera. Having never before visited the southern hemisphere, I remember my amazement at the night sky with the Southern Cross and the Magellanic Clouds. Enchanted by the stellar display, I stepped out of my house and lay in the grass watching the stars. My research assistant at the time, Peter, originally joined me, but after about five minutes, he started to shift uncomfortably on the ground. He then said, "We need to go in now." I pointed out that my eyes were just starting to adjust to the darkness, but he insisted we go in. "It's not good to be out at night. There are bad things about at night [ol samting no gut stap long nait]." Reluctantly, but also recognizing an ethnographic moment, I acquiesced and back in our house started to learn about the dangers of the night in Porgera.

As the months of my dissertation research passed, I encountered more and more instances of innocuous places by day that evoked fear when traversed at night. Mostly, the fear resulted from the fact that malevolent spirits roamed about the landscape in Porgera during nighttime. Some spirits (*yama*) send out owls to help them find their next human victim—their screech is evidence of the *yama*'s nearness to one's house. The loud splitting of a tree at night means that a deadly earth mother woman spirit (*yu angini wanda*) is approaching. These spirits make men into successful hunters who must reciprocate the gifts of game with the lives of kin. Passing by a grave site, locals fear the spirit (*tandini*) of a recently deceased person who may attempt to "pull" someone if they pass by with food in their possession. The sudden appearance of mist and rain accompanied by the buzzing of a cicada indicates the proximity of a *tombeama* spirit who attacks and kills people bringing pigs back from exchanges. As Porgerans related these stories about spirits to me, they would show me the goosebumps on their arms as they depicted the terrors of the night.

In subsequent visits to Porgera over the years, I have heard far fewer stories about spirits. It is not so much that the landscape has become disenchanted, but that other specters of the night—warriors armed with high-powered guns—have become more prevalent. Between 2004 and 2012, the eastern Porgera Valley saw an on-and-off eight-year tribal war that destroyed hundreds of homes, displaced thousands of people, and resulted in dozens of deaths. As Porgeran warfare occurs almost exclusively in the pre-dawn hours, the night now produces new terrors. In

a recent special journal issue on "Ethnographic Approaches to the Study of Fear," Tania Li (2009, 353; emphasis in original) asks: "How do we link the *contours* of fear, that is, the political economic conditions that produce and shape it, to the *experience* of fear?" This constitutes a critically important question, one that at least in the Porgera case is linked to relations of reciprocity and their demise.

After eight years of tribal fighting ended in 2012, after the homes were burnt, the people had scattered, and new graves lined the roads (Jacka 2016), the eastern part of the valley was barely recognizable to me in 2016. The conflict had kept me away for a decade. Schools, aid posts, churches, trade stores, homes, and other buildings that had served as anchors in a densely forested, tropical landscape had disappeared (Figure 1). Cleared public spaces (*ama*), which had formerly hosted playing children, women selling bits of cooked mutton (*sipsip*) or used clothing, and men sitting in small groups discussing the politics of local life or playing cards, were overgrown and deserted. Not everyone had left, though. There were a few new houses being built, and a core of homes in the hamlets of Kolatika and Kiya remained standing. The hamlets of Lese and Yomondaka were now ghost towns. Along the highway into the valley, the hamlet of Kukulama, which saw nearly all of its buildings burnt down in one night of fighting in 2007, now had about forty homes and a few recently built trade stores. Despite this, the eastern Porgera Valley had changed. The place was muddier, darker, and more overgrown by forest.

Figure 1. Photos of the Tipinini Primary School, picture on the left is from 1999, picture on the right is from 2016. Photos by Jerry K. Jacka.

The western Porgera Valley, by contrast, remained much the same. This largely resulted from the impact of the Porgera Gold Mine, which produces about 900,000 ounces of gold per year and has brought hundreds of millions of dollars into the local economy through wages, royalty payments, and other benefits. Whereas mining has brought electricity, paved roads (built in 2004 but since deteriorated), and development to the western half of the valley, eastern Porgera lacks

all of these. As such, many people who fled the fighting in eastern Porgera ended up in the western part of the valley. When I returned in 2016, most of my friends and former research assistants now lived in the town of Paiam, built to service the Porgera mine (Jacka 2007, 2015). Walking around Paiam one day, I ran into my friend Epea Des, once a leader in Kolatika, who replied to my question of whether he would be returning to eastern Porgera: *Tumas bus, tumas fait* (too much forest/bush, too much fighting). Then he slowly shook his head no.

My first month back in Porgera in 2016, I lived at the house of my friend Ben Penale in Paiam. When we first met in 1998, Ben lived in Kolatika, as I did, but now with a job with the local-level government council, he needed to be near the government headquarters in the town of Porgera, which was located between the Porgera Mine and Paiam. One day, Ben's "little father" (his father's younger brother), Mara, came by the house to talk about an upcoming warfare compensation that their kin group (*lain* in Tok Pisin) was soon to sponsor to pay back the death of someone that their *lain* had killed in the fighting. Given Ben's job (in a place where 95 percent of the population engages in subsistence farming), Mara was sure that Ben would provide money for pigs for the compensation. Their discussion quickly turned to a rapid-fire, heated argument, with Mara screaming obscenities at Ben and storming off. "I told him that I wouldn't help out with the compensation," Ben said. "That's their [his *lain*'s] problem, I live in Paiam now." Ben's matter-of-fact statement about his unwillingness to assist his *lain* underpins the tensions around contemporary life in highlands PNG. As many people turn from collective activities to individualistic pursuits, people lament such changes and read these changes in the social landscape as a dimension of the physical landscape as well (for other examples from Melanesia, see Rodman 1992; Demian 2021).

Even after fighting ends in the PNG highlands, there is always the possibility for new conflicts to break out until all compensations have been completed (Glasse 1959). This is certainly the case in Porgera. As of 2016, less than half of the people killed in the conflict had been compensated with payments of pigs and money. Even today, the compensations remain underway, and the uncertainty of whether they will be paid back in time before fresh fighting shapes people's understandings of place in Porgera.

In what follows, I examine some theoretical articulations of space, place, and affect to argue that a theory of affect helps explain the ways that Porgerans understand the oscillations between day and night. Next, I detail in more depth the conditions of the night in Porgera and what causes such fear that many Porgerans

rarely travel after sunset. It might seem obvious that people would fear the night in a place where armed assassins lurk in the dark. Yet gunmen are but a recent addition to the structures of feeling that provoke nocturnal fear in the PNG highlands. In the ethnographic sections that follow, I explore the particularities of the affect of day and night in PNG, while also making a broader point that at certain times and in certain places—especially nighttime spaces—our affective intuitions are open to the things we sense in the night. After the ethnographic descriptions of the night, I discuss the breakdown of reciprocity in the era of large-scale mining development in Porgera and reflect on the moral/immoral valences that define affect and the oscillation between diurnal and nocturnal places. I continue with an examination of the role of warfare, inequality, and immorality in Porgeran conflict resolution, to conclude with my main concerns with place, time, affect, and morality.

PLACE AND AFFECT

The concept of place offers critical insights into human-environmental relations. The philosopher Edward Casey (1996, 19) writes, "Human beings—along with other entities on earth—are ineluctably place-bound. More even than earthlings, we are placelings, and our very perceptual apparatus, our sensing body, reflects the kinds of places we inhabit." His focus on the sensing body makes the interaction of place and affect important for researching how people and places reflexively create one another. As Steven Feld (1996, 91) argues, "as place is sensed, senses are placed; as places make sense, senses make place." Affects resemble Raymond Williams's (1977, 2001) concept of "structures of feeling" (Stewart 2007; Flatley 2008). Williams's main point is that culture and society are often expressed in the "past tense" (1977, 128). Rather than capturing the nowness of social and personal experience, we often rely on already fixed forms to depict the emerging social experiences that affect and structures of feeling attempt to replicate. Williams likens this to changes in the history of a language. It is not just that people delete some words and add others, but that in each generation the language changes in a wider sense. In Kathleen Stewart's (2007, 2) perspective, affects "give everyday life the quality of a continual motion of relations, scenes, contingencies and emergences. . . . Akin to Raymond Williams's structures of feeling, they are 'social experiences in solution.'" Moreover, "affects are more directly compelling than ideologies, and more fractious, multiplicitous, and unpredictable than symbolic meanings" (Stewart 2007, 3). These frameworks guide my attempt to link structures of feeling to affect and place. I argue that the place of Porgera—due to

a number of different forces described below—is fundamentally different from the way it was before mining impacted people's social and personal experiences.

Structures of feeling describe the ways social forces structure our affective lives in the present and now. The term proves useful "because it enables us to describe those structures that mediate between the social and the personal that are more ephemeral and transitory than set ideologies or institutions" (Flatley 2008, 25). Jonathan Flatley (2008, 27) argues that structures of feeling allow us to "orient one toward a specific social class or context. For example, depression is a mood, not a structure of feeling; however, we might describe the particular depression of the Russian peasant in the steppe in the 1920s as a structure of feeling, or the depression of the residents of a decimated New Orleans after Katrina as a structure of feeling."

Affect, then, is "a domain of intensity, indeterminacy, and above all potentiality" (Mazzarella 2009, 292), as well as "an openness to being affected by other objects and bodies" (Shaw 2015, 586). In this sense, it is relational and transformative (Flatley 2008, 12). Applying affect to the analysis of day and night focuses attention on the relationality of people to place, as well as to the ways this relationality shifts between diurnal and nocturnal modes of living and experiencing these radically different "time-spaces." Walter Benjamin argues that "affect travels along the material paths of sensation to find a dwelling place. . . . In fact, Benjamin contended that because affects come into being through attachment, and because they actually occur in the materiality of the world, affective experience can provide us with a link—unmediated by concepts—to that material world" (Flatley 2008, 18).

Where I see a forest of trees when I walk around the Porgera Valley, Porgerans see the actions of humans made manifest in the environment. There is the line of trees that Injera planted after his father died. Here is the creek where Tuele always stops and washes the mud off of her feet after coming back from the garden. Keith Basso (1996, 7; emphasis in original) describes place-making as a "widespread form of imaginative activity . . . [that] is also a form of *cultural* activity . . . [that] can be grasped only in relation to the ideas and practices with which it is accomplished." Since these ideas and practices vary from locale to locale, sustained ethnography offers the surest way to get at place-making, he argues. Place imbues space with cultural meaning. Writing about the Wamira of coastal PNG, Miriam Kahn (1996, 167–68) notes, "What looks like a river, a hill, or a group of stones may, in fact, resonate meaningfully to Wamirans as a type of moral landscape conveying messages about human frailties, foibles, and responsibilities . . . such as

reminders of social obligations that have gone unfulfilled or of moral responsibilities to feed and care for kin."

In my book *Alchemy in the Rain Forest* (Jacka 2015), I argue that a full understanding of place in the Porgera context requires three relational components: land, people, and spirits or non-humans. Similarly, discussing Indigenous creation stories from Native America, Vanessa Watts (2013, 21) stresses how these stories "speak to the common intersections of the female, animals, the spirit world, and the mineral and plant world. What constitutes 'society' from these perspectives revolves around interactions between these worlds rather than solely interactions amongst human beings." To address this theoretical understanding of the world, she introduces the concept of *Place-Thought*. "Place-Thought is the non-distinctive space where place and thought were never separated because they never could or can be separated. Place-Thought is based upon the premise that land is alive and thinking and that humans and non-humans derive agency through the extensions of these thoughts" (Watts 2013, 21). Euro-Western frames of thought and perception often deny this agency to the land and to non-humans. I argue that affect, as a relational, contingent attachment to place, preexists the "rational" denial of the agency of non-humans and lands. I now turn to examining this claim in the Porgeran context.

PLACE AND THE CREATURES OF THE NIGHT

The Porgera Valley is a beautiful, rugged place. With no electricity in the eastern half of the valley, on the rare nights without pouring rain, the Milky Way glows luminously overhead. On the other nights, the constant thrumming of the rain on the tin roof provides a soothing white noise that lulls one to sleep. Much of the mountainous land is covered in dense rain forest (Figure 2). The black, volcanic soils are lush and fertile. Greenness abounds. There is one highway that cuts through the forest to supply the mine, and a few side roads. Elsewhere, travel occurs along muddy foot trails shadowed by the perpetual semi-gloom of the forest canopy. Within this steep, verdant landscape, Porgerans conceptualize a middle zone of habitation (*andakama*; literally "the place of houses and clearings") from an upper rain forest (*aiyandaka*; "the place of beauty") and a lower rain forest (*wapi*) densely inhabited by spirits. In the *aiyandaka* at the southern end of the valley stands an unbroken line of thousand-meter-plus high limestone cliffs; numerous waterfalls cascade down their faces and even emanate directly from the porous cliffsides. In the grasslands behind the southern cliffs, 3,800 meters above sea level, rivers meander across the landscape, some disappearing into sinkholes and reap-

pearing miles away, as the entire region is composed of cave-pocked karst (severely eroded, highly porous limestone), with patches of rain forest and tree ferns dotting the grasslands. For Porgerans, the place also teems with spirits, mostly *tombeamas* (border spirits) who live in the caves of this region and kill and eat people en route to trade and interact with the Huli and Enga people who live to the south and east of Porgera. *Tombeamas* are heralded by the onset of darkness (even in midday) and the buzz of cicadas. They represent the asocial in Porgeran exchange compensations, composed of pigs and cash money. When Porgerans conduct compensations with Enga and Huli—for marriage, warfare, and other important social events— *tombeamas* wait in the high mountain regions, hiding in caves and stealing the pigs into which so much social labor has gone through gardening, feeding, and care.

Figure 2. The rain forest of the Porgera Valley. Photo by Jerry K. Jacka.

Between about 2,500 meters and 1,500 meters above sea level lies the *andakama*, the zone of habitation in Porgera. The land is covered in secondary forest and some patches of primary rain forest. The occasional clearing demarcates homesteads, sweet potato gardens, and the *ama* where people from a hamlet come to hang out, sell a few things, and exchange pigs and money during the numerous reciprocal interactions that punctuate Porgeran life. There is no dry season, and everywhere the sound of water can be heard echoing through the forest—the

roar of the incipient rainstorm thundering off the tree leaves, the dripping of the rain after the daily storms, waterfalls, raging streams (see Feld 1996). The erosive power of the water cuts deep valleys and fissures across the landscape, and a journey of any distance entails constant ascending and descending along mud-filled tracks through the dark green forest. Every few hundred meters the forest is broken by a single homestead, occupied by a single family, though occasionally a group of brothers and their families will have a few houses built in a common clearing. For the most part, though, hamlets contain about thirty to forty homesteads, most separated by some distance, out of sight of one another, but always within calling distance, for which Porgerans use a form of yodeling to send messages back and forth (Figure 3).

Figure 3. A homestead in the Porgera Valley. Photo by Jerry K. Jacka.

Below 1,500 meters above sea level we find the fecund, lower rain forest (*wapi*) densely populated with large, buttressed trees, wild pigs, cassowaries, megapodes (turkey-like birds that lay large clutches of eggs), fruit pandanus, multiple species of marsupials, and the deadly *yu angini wanda* (earth mother woman) spirits (see Jacka 2015, 99–103). Humans do not live in this region as it is a zone of sickness and malaria, but it does contain numerous species of flora and fauna that are highly sought after. *Yu angini wanda* are beautiful, light-skinned female spirits that entice hunters to have sex with them, and in exchange make them extremely

successful in procuring game. Ultimately, though, they ask their lovers in dreams to give them the life of one of their close kin, and if the lover refuses to name a kinsperson to sacrifice, the *yu angini wanda* will kill him instead.

Each morning, Nai, the Sun, places his fiery head on his shoulders after a night's slumber, throws open the door to his house far to the east of Porgera, and begins to stride across the sky. On his daily perambulations, his gaze is omnipotent and omniscient (Biersack 1991; Jacka 2015). You don't do immoral things during the day that Nai might see, lest he take offense and punish your transgressions by sending a fog or mist that obscures your path in the rain forest and sends you plunging off a cliff to your death. Moreover, entities that move freely about at night must wait for Nai to finish his trip across the sky before showing themselves, as the day is a time of safety from spirits, enemies, and other-than-human beings.

In Porgera, the night is overseen by Ana, the female personification of the Moon. She has no powers of retribution or punishment over humans or non-humans. Thus, once Nai has snugly settled into his home at the end of the day, dark forces can move about with will over the land. The two most common of these are (1) beings called *yama* in Ipili (the predominant language in Porgera) or *tambaran* in Tok Pisin (Melanesian Pidgin); and (2) the spirits of living and deceased people called *tandini* in Ipili or *devel* in Tok Pisin. *Yama* is a general term to refer to the spirits mentioned above, but it also has a more common, restricted usage referring to spirits of the night. The *tandini*, for instance, of a sleeping person who is harboring negative thoughts about someone in the hamlet can become a *yama* (called *wanda yama*, "woman spirit") attacking that person in the night and making them ill or even killing them.

This situation holds special significance for the house at nighttime as the bastion of defense against *yama*. A Porgeran homestead in the middle of the day gives a desolate scene, as only the sick and infirm occupy houses during the day. Daytime is spent in the garden or the forest, and most houses stand empty and padlocked, only becoming populated late in the day when the rains come and it is time to cook sweet potatoes and other vegetables. Then, the homestead transforms—doors are thrown open, smoke curls up through the thatched roof, children run about screaming and laughing, and people go from homestead to homestead to visit and gossip. Then, as the sun sets, everyone comes back inside and the heavy-planked doors are securely bolted from within to prevent the *yamas* from coming inside.

Anxieties about night spirits exemplify a concern with breaches in reciprocity and the consequences of undermining reciprocal exchanges. A common defense

of someone who is accused of sending *wanda yama* is that the person they sent it to had not shared some item of food with them. Widows and widowers who are living alone in a house, and may be coveting choice food items, are commonly accused of sending these spirits. Hunters also use powerful magic to ward off *wanda yama*, as even their wives may inadvertently send it while they are out hunting at night. In the case of *yu angini wanda*, the hunter gives the earth mother woman a baby by which she makes him a successful hunter of game. Not reciprocating when she then asks for the life of a kinsperson poses a serious bodily threat to the hunter. Receiving pigs and food at a distant exchange held by a neighboring group also exposes one to claims of not being willing to share with one's kin. Hence, the fear of the *tombeama*, border spirits, who steal the food and pigs a person brings back from these exchanges. Similarly, most Porgerans fear carrying food at night through the hamlet due to *yamayope* ("whistling spirits"), trickster spirits who will attack a person carrying food at night. Night is a time when people are suspected of trying to avoid obligations to share, and this exposes them to jealousy and the dangers of both humans and non-human spirits.

There also exists a temporality to morality and immorality that oscillates with Henri Lefebvre's (1991, 320) notion of sexuality not being "normal" and confined to the night (see also Shaw 2015; Williams 2008). In contrast, in Porgera, sex between spouses occurs during the day, and usually in an open-sided garden house, not in their usual house. "Illicit" sex, which would be between men and women without any exchange of bride wealth, takes place at night and in regular houses (see example below). Largely, daylight sex follows from men's consternation about the supposedly polluting qualities of women's menstrual blood. Porgerans say that accepting food from or having sex with a menstruating woman will cause a man's urethra to become blocked—in effect, ruining his ability to participate in the exchanges of sexual reciprocity. It requires elaborate ritual procedures to effect a cure; in some cases, rituals do not suffice and the man will die. In fact, older men tell younger men to not have sex with their wives at night or when it is cloudy, as Nai will not be able to protect them from potential contamination from menstrual blood. (While no one has specifically mentioned the relationships between menstruation and sex work, from my casual conversations with men, my sense is that it is of much less concern than a menstruating wife.) For women, the night poses dangers when outside of their clan's hamlet. Sexual assaults and rape are far too common, especially in the context of intergroup violence and new social mores around large-scale development projects like the Porgera Gold Mine (Wardlow 2019).

Porgeran places have very different valences depending upon whether it is day or night. The home at night provides both shelter and safety from the creatures of the night. Affective responses to the night and nighttime attacks are understood as a violation of the qualities of protection that a home should offer. The difference between the day and the night also concerns reciprocity and daylight; significantly, daylight provides a way of legitimizing reciprocity by making it visible to all. Yet to also capture the "nowness" that Williams's "structures of feeling" posit, there are novel forces at play in Porgera that build from and articulate with affective reactions to non-humans, spirits and the night. In the next section, I examine the escalation of warfare and violence associated with mining development.

WARFARE, TANDINIS, AND THE NIGHT

The *tandini* represents a person's inner essence, roughly equivalent to a spirit or soul. It is the form of one's body that also exists in the nocturnal dream world. To wit: after several months of observing that my research assistant, Peter, slept fully clothed, I asked him why he didn't at least strip down to his underwear to feel more comfortable. He replied that he couldn't, as his *tandini* would then be similarly attired in the dream world, causing him immense shame if he were to encounter anyone from the hamlet. The *tandini* also lives on after a person dies. As such, most of the discussions about *tandinis* I have had with people concern homicides in warfare. Unlike the daytime, open field battles popularized in the film *Dead Birds* (Gardner 1963), Porgeran warfare is almost exclusively a stealth nocturnal undertaking. Teams of men set out under the cover of darkness to a neighboring enemy's land, sneak up to a house where a group of men are sleeping, barricade the house, and then set it on fire, shooting the men who manage to break through the roof or walls (cf. Chris Phillips' *The Lost Rambos of Papua New Guinea*). Usually, they engage in these tactics with the aid of a *tandini* of a kinsman who has recently been killed in fighting. In the following, I offer an example from my research assistant Tom:

> A clansman of ours, a man named Kina, had just been killed in a revenge homicide, and a group of us men were sitting around talking about how Kina used to say that his *tandini* would come help his clan brothers revenge his death if anyone ever killed him. We decided to go and pay back Kina's death the following night. That next night we started up the mountain to where we knew Kina's killer, Andalu, was sleeping in a house with one of his clan brothers. I stopped and made a spear on the way and was carrying it on my

shoulder when a big bird flew down and landed on the spear. Since this was at night, we knew it was Kina's *tandini* coming to help us. We came up to the house and heard that everything was quiet. They had left the outside padlock on the door unlocked, so we very carefully locked the door, so that the two men were locked inside. Then we started burning the house on all sides and the roof with torches. Ambua went and stood by the door with his axe cocked and ready to chop anyone who made it out the door. The men started screaming, and Andalu burst through the door trying to escape. Ambua chopped him right in the throat, killing him and knocking him back into the house. The other man also tried to run out through the door but got a spear right in the neck, forcing him back into the fire. We waited a while to make sure that both men in the house had died. Then we broke into Andalu's trade store and took a bunch of stuff. Before the sun rose, we came back down to the funeral house where Kina's body was. I uncovered his body and laid my axe across his chest. We started sing-singing to wake everyone up. They came outside and we were singing that we went up the mountain, got hungry, and broke into Andalu's trade store and ate two cans of tinned fish. Everyone knew that we meant we had killed Andalu and his brother. Whereas everyone had been sad and crying the day before because of Kina's murder, now they were laughing and happy and joined us in the singing.

The story above mirrors other stories of *tandinis* coming to help their clan brothers. In all cases, the *tandini* is either called or comes of their own accord to enter a weapon of one of his clan brothers, upon which the weapon becomes incredibly heavy (see Jacka 2019 for an example with an M-16).

The *tandinis* of deceased enemies can also influence the outcome of warfare. Prior to engaging in a fight, all the men of the clan must come together and confess their sins (called *aiyapu mina*) against the group. Men frequently admit to stealing and adultery during these sessions. Men who don't confess are killed in fighting and are believed to have been holding "sins" inside of them. The idea, as it was explained to me, is that just as a clan's deceased *tandinis* roam around the nocturnal landscape helping that clan in warfare, so are the enemy clan's *tandinis* helping them. To be immoral in action opens a person up to attack by an enemy *tandini*, which almost always results in death. Warfare requires fighters to be in a morally pure state. Porgerans say that "war is wealth" (*yanda takame*), by which they mean that compensation exchanges will follow from fighting. It is as if the

reciprocity that follows conflict requires morally pure fighters to initiate the reciprocal relations between groups.

Nighttime thus holds two concerns for Porgerans—attack by a spirit or attack by an enemy. This situation has been on my mind over the past twenty years of research in Porgera. In 1999, I complained to Peter about all the tea we were drinking in the evening, as it necessitated several trips outside during the night to relieve myself. He commented, "That's actually good. You'll be able to see if anyone is sneaking up on our house to kill us." I now realize that this time in Porgera constituted one of peace, one periodically punctuated by conflict. Largely responsible for this calm were development promises brought on by the recent opening of a large-scale gold mine. As I discuss in the next section, these development benefits proved largely illusory and led to a breakdown of reciprocity. However, the inequalities of development exemplified by mining in Porgera have constituted new experiences. Largely, this stems from the massive increase in warfare associated with uneven development. In fact, stories of the night, previously centered around *yama* spirits, now increasingly concern themselves with warfare, enemies, and the *tandinis* of deceased fighters. Whereas a "big war" (*yanda andane*) in the 1980s that people told me about in 1999 involved the death of three men on each side of the conflict, by the mid-2010s warfare in Porgera was claiming the lives of dozens of men. I examine these new circumstances below.

MINING AND THE DEMISE OF RECIPROCITY

The exploitation of alluvial goldfields in the 1950s and 1960s started to challenge the reciprocal ties that bound Porgerans together. Wealth inequalities stemming from access to the alluvial gold beds intensified during the 1950s as senior men restricted access to panning and sluicing for gold. In 1960, the Australian colonial government expanded and more widely distributed the number of claims, resulting in reports of nearly 75 percent of the men in the Porgera Valley having access to the goldfields by the 1970s. These conditions largely held until the development of large-scale mining, which culminated in the opening of the Porgera Gold Mine in 1990. By 1992, the Porgera Mine was producing more than 1 million ounces of gold annually (Figure 4). The benefits flowing to official landowners (a number far fewer than the alluvial miners)—compensation for lost lands, royalties, preferential hiring and contracts, and relocation houses—brought perceptions of widespread wealth that still mostly resonated throughout the valley in the late 1990s. By the early 2000s, however, fissures of discontent over the failure of mining to benefit everyone in Porgera began to snake through the social system.

Figure 4. The Porgera Gold Mine. Photo by Jerry K. Jacka.

One of the ways that non-landholding Porgerans expressed their agency in the wake of mining was to obtain land along the Enga Highway—the only transportation route into and out of Porgera. By doing so, people could pursue entrepreneurial opportunities and hope to partake in some of the wealth generated by mining. Just before leaving Porgera during my dissertation research in early 2000, I attended a series of land courts over a piece of land with several hundred feet of frontage along the highway that one clan was attempting to lay claim to. I left in the midst of negotiations, but eventually conflicts over the land broke out in 2003, resulting in the death of one of the key leaders in the eastern Porgera Valley. Large-scale fighting broke out in 2004, to last until 2012 (see Jacka 2019). During this time, dozens of men were killed, hundreds of buildings burned to the ground, and entire hamlets abandoned as people fled the fighting. In one hamlet alone, ninety-seven houses burned down during two back-to-back nights of guerilla fighting in 2007.

In 2006, I returned to Porgera in the midst of this conflict. Since my last visit, a few new developments had arisen in warfare. The first was the full-scale use of guns. Before 2003, Porgerans had agreed to fight "like their ancestors" (*olsem tumbuna*), using only spears, bows and arrows, axes, and bush knives. By 2006, AR-15s and M-16s were common, as were a number of high-powered rifles and homemade shotguns (Figure 5). Since guns and bullets proved expensive, young men from the clan were trained as so-called Rambos, giving them full ownership

Figure 5. Rambo with gun. Photo by Jerry K. Jacka.

of the weapons and leaving them in a position to be hired out as mercenaries to other clans (Wiessner 2010). Additionally, young men began using the phrase "working in the life market" (*wok long laip maket*) to describe the ways in which warfare linked to commodification—again, in contrast to reciprocity. Research over these months in 2006 was punctuated by reports of gunfire echoing through the mountains, and some of the young men I lived with and interviewed were killed during this time. Eventually, a young man was killed about fifty meters from my house in the middle of the night. Flustered, scared, and bewildered, I left Porgera, not to return for almost a decade (cf. Kulick 2019).

Throughout my experiences in Porgera up to this point, I would ask my friends if I was ever in danger of being killed. They would scoff and point out that I had no clan—what would be the point of killing me with no one to engage in compensation payments over my death and to partake in any revenge killings? Here, too, a sense of the moral obligations of reciprocity remained—even with "industrialized" death, it is motivated by compensation and revenge. My outsiderness left me with me a sense of security that I now realize was naive. The central thing about killing in Porgera is that everyone knows everyone else. Sitting with a group of Porgerans, I could always ask "who's that?" of some person I'd never seen

before—it always elicited a response involving the complex, overlapping networks of kin relations that all Porgerans are a part of. Revenge killings and reciprocity (especially in terms of failing to reciprocate) form aspects of relationality that put people in danger. My own sense of marginality I assumed kept me safe. This notion would soon change.

By 2015, my research assistants contacted me on Facebook, encouraging me to return, as Porgera was now safe. I came to Porgera for three months in 2016, one month in January and two months in May and June. During my January visit, my host clan was regaling me with tales about the M-16 they had purchased in 2004 when one of their leaders was murdered in a revenge killing (see Jacka 2019). I left Papua New Guinea later that month, and in March two young men took the M-16 to an alluvial gold mining area on the lower Porgera River to rob some of the alluvial miners. Their plans went awry, the two young men were killed, and the M-16 was seized by the clan who owned land in the alluvial mining area.

Unaware of all of these events, I returned in May and attended a funeral of one of my host clan members (Figure 6). I gave away two cases of Coca-Cola and publicly thanked my host clan for taking care of me over the years. Word soon went around that the clan with the M-16 was discussing making a revenge killing on someone in my host clan. It was noted that the anthropologist who occasionally lived among them would make a fine target, especially as in making the funeral speech, I was publicly aligning myself as a member of that clan. The very marginality that had kept me safe all these years had now evaporated. My relationality within the kinship system now proved more central. Of course, no one told me this until a few weeks after I had made the speech. At that point, each snap of a twig in the night outside my house froze my heart with dread. Stepping out of the house each night to answer the call of nature, I would peer searchingly into the dark rain forest, wondering if this was the night that they were coming to shoot me. Morbidly, I wondered what it would feel like to have an M-16 bullet rip through my chest or head. With a projectile velocity of 990 meters per second, an M-16 bullet travels almost three times the speed of sound; I at least knew I wouldn't be startled by the crack of gunfire before I was hit. A few more weeks went by, and I stopped fearing the night so intensely. Toward the end of June, though, one night my research assistant, Gibson, and I were awoken by the sound of shouting. Gibson burst out of his room. saying, "Birua i kam [The enemy is coming]." I hurriedly threw on some clothes, grabbed my headlamp, and started crawling toward the door. Gibson grabbed his axe and ran out the door, telling me to stay inside the house. Fully aware of Porgeran warfare tactics, I decided that

Figure 6. A funeral gathering in eastern Porgera. Photo by Jerry K. Jacka.

this was not the best course of action. I crawled out the front door into a torrential rainstorm, ran into the nearby forest, and lay in the mud at the base of a tree, my heart pounding and my mouth dry despite my drenched body. The light of numerous headlamps flashed through the foliage of the trees as men ran and shouted chasing after the enemy. It was cacophony and everyone seemed to be running in all different directions. After about an hour, which seemed like an eternity, things calmed down and Gibson returned to our house. I joined him, anxious to find out what was going on.

Gibson explained that a neighbor of ours, a man named Tipolo, had stepped out of his house to pee and saw a man sneaking up the forest path toward his house. Tipolo cried out, warning everyone that we were under attack by the enemy clan. As the men mustered their forces and took off down the path, they soon realized the absence of new footprints in the mud. Where had the enemy gone? They returned to Tipolo's house to discuss the events that had transpired and noted that Tipolo's recently deceased clan brother's widow was in the house. Apparently, she and Tipolo had been having an illicit affair before the clan brother had died, and they were now resuming their activities. While a number of spells existed to prevent a deceased clan brother from becoming angry at his kin who would eventually marry his widow, Tipolo had not done any of these—causing a

major breach of reciprocity between the living and the dead. As a consequence, the *tandini* of his clan brother had come up to the house to attack Tipolo. Instead of chasing an enemy, the men realized that they had all been chasing a ghost through the rain forest. Gibson was laughing so hard during the story he was almost crying. I did not share in the sense of humor that he and others felt as they joked with me the next morning about the enemies whom everyone thought were coming to kill me.

Following this event, I finally wholeheartedly absorbed the terror of the night that my friends and research assistants had been relating to me for the past couple of decades (cf. Rosaldo 1993). To some extent, I had imagined myself in a world apart from theirs. Prior to this I could not fully accept *tombeamas*, *yu angini wandas*, and *tandinis* roaming the nocturnal landscape, or if I could, I imagined I had no part in their endeavors. Even in 2000, shortly before I left Porgera for the first time, Peter and I were walking by the banana tree growing next to our house. He told me that on several nights over the past year he had heard *yu angini wandas* in the tree, coming near our house to investigate me because of my white skin. Even though it was daytime during this recounting of these spirit visits, I felt my hair raise on the back of my neck, surely an affective response if there is one. Yet I still didn't have the depth of affective responses of my friends and interlocutors when they described these same events and their fears around them. E. E. Evans-Pritchard (1976, 244) writing in the 1930s about his own understandings of Azande witches, noted,

> I have often been asked whether . . . I got to accept their ideas of witchcraft. This is a difficult question to answer. . . . In their culture, in the set of ideas I then lived in, I accepted them; in a kind of way I believed them. Azande were talking about witchcraft daily, both among themselves and to me; any communication was well-nigh impossible unless one took witchcraft for granted. You cannot have a remunerative, even intelligent, conversation with people about something they take as self-evident if you give them the impression that you regard their belief as an illusion or a delusion. Mutual understanding, and with it sympathy, would be ended, if it ever got started.

Returning to Li's and Osterhoudt's quotes about linking contours of fear with experiences of fear, and the ways that market changes resonate across structures of feeling, I want to stress both the continuities and discontinuities of the linkages between morality and fear. In conversations and in people's actions, Porgerans

perceive the current situation of the mining sector as immoral when compared to obligations of reciprocity. A continuity exists between the nighttime context of fear of violent attacks by men with guns pursuing grievances based in inequality and the fear of spirit attacks in the past. Each constitutes a structure of feeling rooted in obligations of reciprocity. The circumstances differ, but the idea of the night as a place and time where one may be attacked for failure to share resources remains present today.

CONCLUSION

Linking affect to place allows us to examine the ways in which fear as a social condition can emanate from political economic conditions that shape and structure everyday life. As Robert Glasse (1959) pointed out more than half a century ago, reciprocity in the PNG highlands, especially failed or unrequited reciprocity, has always carried with it an element of redress, often in the form of revenge killings. In Porgera, the failure to reciprocate, particularly in an era of mining development, opens people to attack by enemies in the night. Initially, these fears were told in customary stories about deadly *yama* spirits, but after the rise of the mining economy, they shifted to discussing the fears of enemies and their deceased souls. Tracking the shifts in the terrors of the night allows for an interpretation that sees political and economic changes as an aspect of this situation as well. In many ways, my own transformations in approaching the fear of the night paralleled the fears that traced a political economy of the changes in the landscape. Mining, like warfare, destroys the land and social fabric of Porgeran society. The fear associated with this destruction lends support to aspects of fear not easily articulated, ones that come to the fore as affect rooted in wider structures of feeling. For Porgerans, this manifests in the terrors associated with the night.

ABSTRACT

In this article, I examine the interconnections about place, time, and affect and how these have changed due to transformations in the political economy of the Porgera Valley, the site of a world-class gold mine. In particular, I am interested in the oscillations between night and day, and how each is perceived along different affective dimensions, and how the terrors of the night parallel concerns with the demise of reciprocity. In the early years of mining, fears of the night were shaped by concerns about the inability to form reciprocal relations with non-human spirits. With the uneven development wrought by mining inequalities, fear of the night has been replaced by concerns over warfare with enemy groups. The article highlights the interconnected

aspects of capitalist development, landscape, and affect. [place; affect; warfare; morality; reciprocity; non-human spirits; Papua New Guinea]

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