LOOPING EFFECTS AND EXTRACTIVE INDUSTRIES
A history of affiliation and identity in the Wafi-Golpu region, Papua New Guinea[*]

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ABSTRACT. It is now well-established in anthropology that resource extraction in Papua New Guinea goes hand-in-hand with reshaping group affiliations and boundaries. This article makes an empirical and theoretical contribution to this widely documented process by recounting and analysing the history of the populations affected by the prospective Wafi-Golpu copper and gold mine in Morobe Province. Empirically, I synthesise existing ethnography, grey literature and oral histories to recount how a history of pre-colonial migration, missionary resettlement, colonial-era census-taking and legal competition resulted in the residence patterns and affiliations that characterize the area today. Theoretically, I build on recent applications of Ian Hacking's notion of 'looping effects' as a fruitful means of analysing these identity-related feedback dynamics near extractive industries in Papua New Guinea. Looping effects involve two intertwined processes: the institutional matrix constructing and acting on bureaucratic categories, and the changes in individuals within categories influenced by the former, but not solely determined by them. This study suggests the existence of sociological factors on both sides of this equation, such as the pace of change in classifications and classifiers, and examines how these factors shape the consequent looping dynamic.

Resource extraction in Papua New Guinea (PNG) routinely reshapes social identities, residences and affiliations. In a region of the world that has become anthropologically famous for its porous social boundaries and fluid affiliations (Barnes 1962, Langness 1964, Wagner 1974), state demands for clearly demarcated customary groupings are less acts of 'uncovering' such groupings as incentivizing local peoples to reorganize their affiliations to

meet the legal requirements for 'customary representation' and the expectations of extractive companies in being able to negotiate with spokespeople from clearly identifiable groups.[1] This article makes an empirical and theoretical contribution to this well-studied phenomenon.

First, I provide a historical account of the changing identities and residence patterns in the area impacted by the prospective Wafi-Golpu copper and gold mine in Morobe Province, PNG. As with other extractive projects, the anticipated presence of the Wafi-Golpu project has prompted changes in affiliation in the region, which itself changed previously under the impact of colonial-era resettlements and classifications. This article outlines how this history has unfolded from the late nineteenth century to the present day by synthesizing previous ethnographies (Fischer 1963), court documents (Engabu vs Babwaf 1982, Yanta Clan vs Hengabu Clan 1985), company reports (Ballard 1992; 1993a, b; Tovue 1989), missionary documents (Bayer, Lechner and Nêdeclabu 1955) and oral histories collected during fifteen months of fieldwork in the region between 2016 and 2017. Most of my time was spent with Wampar-speaking claimants, supplemented by multiple interviews with representatives (both incumbent and contesting) of all the other parties mentioned in this article.

More generally, I seek to contribute to discussions around Ian Hacking's notion of 'looping effects'[2] where, when a group of people are classified as a certain 'kind' of person, the very act of classification may bring about changes in members of that classification, altering what it is to be a member of that classification and, in some cases, making the original identification obsolete (Hacking 1986; 1995a, b). I argue that changes in identity and affiliation in response to the requirements of colonial administrators and extractive projects are clear examples of what Tuomas Vesterinen (2020) calls 'congruent looping'. In this picture, whatever the merits of a given classification, the classification-salient features of the classified become increasingly congruent with the classification. In a somewhat pat example, a group of

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[1]   See, for example, Bainton (2009), Ernst (1999), Filer (1990), Goddard (2020), Golub (2007, 2014), Jorgensen (1997, 2007), Skrzypek (2020), Weiner (2013) and Weiner and Glaskin (2007).

[2]   The preponderance of applied cases of looping effects concerns psychiatric conditions (see, for example, Nadesan 2005, Silverman 2011, Tsou 2007), although Hacking's ideas have been applied in New Guinea previously (Hirsch 2001, Skrzypek 2020). More generally, Hacking's proposals have spawned substantial philosophical debate: see Allen (2018), Cooper (2004), Hauswald (2016), Khalidi (2010, 2015), Laimann (2020), and Vesterinen (2020).

individuals might be described as 'criminals', are subsequently marginal-
ised, resulting in them undertaking criminal activity. Using the case study
at hand, I postulate three factors that plausibly drive such congruence: (1)
the rate of change in classification versus change in the salient features of
the classified; (2) how classificatory features change when there is no such
classification and (3) independent incentives, like monetary compensation or
stigma, for belonging to a classification. The validity of such forces outside
this case study remains to be established by future research.

Looping effects and the drivers of congruence

The notion of an identity-based feedback loop has intuitive appeal and has
been applied to the Papuan colonial administration (Hirsch 2001) and the
anthropology of mining in PNG (Skrzypek 2020:165). The concept of loop-
ing also seems fruitful for legal classification in New Guinea insofar as it is
broadly on target; as Dan Jorgensen stresses, landowner identification is:

> […] an exercise in the creation of legal fictions fulfilling the state's need to
> delineate landowners to conclude mining agreements, and a solution hinges
> upon formulated identities in a way that satisfies the state's interests in leg-
> ibility by making clans that the state can 'find' (Jorgensen 2007:66;
> original emphasis).

Nevertheless, looping as a concept must deliver more than a redescription
of an otherwise well-documented empirical phenomenon; it must provide
insights into how such processes unfold.

Hacking's depiction of looping effects unfolds as follows. There is a
range of classifications of human populations where the classified individu-
als or groups interact, as a member of that classification, with a
broader matrix of actors that include institutions, opponents, lawyers,
courts, corporations, and scientists. These interactions change how those
classified individuals or groups behave, potentially affecting the validity of
the original classification. As Hacking stresses, this means that, when a clas-
sification occurs, (for example, identifying that a set of people are customary
landowners) or when such interactive matrices are set up or changed (for
instance, founding a community affairs department that deals with custom-
ary landowners) these processes create new ways of being a person, new ways
of interacting, and being interacted with (Hacking 1999:10). The process of

'making up people' results in what Hacking calls 'interactive kinds' that are the subject of such looping effects,[3] with examples including people with dissociative identity disorder, problem drinkers, failed states, senior citizens, child abusers, refugees, and terrorists (Hacking 1986, 1995b, 1999).

Importantly, Hacking's claims are stronger than the observation that people react to being classified. Instead, he grants that there are 'kinds of people' defined by some shared attribute such as behaviour, actions, emotion, or experience that might be discovered or (mis)described by the human sciences. However, Hacking stresses that classification does not merely pick out these pre-existing kinds. Crucially, classification is part of the world's causal structure and can, in certain cases, generate such shared behaviours and experiences through the act of classification. This contrasts sharply with natural scientists identifying a prototypical natural kind such as 'gold', which exists invariant of and is indifferent to being classified as such. Instead, human kinds are potentially unstable, with the very attributes that define them (potentially) changing or emerging due to (mis)identification. In this way, Hacking leverages the notion of looping effects to identify a concrete mechanism of social construction while simultaneously arguing that the human sciences cannot support the same explanatory projects as the natural sciences due to the dynamic nature of their subject matter.

There has been significant discussion in the wake of Hacking's proposal over how warranted his conclusions are for the human sciences.[4] My interests here are more parochial, as they concern the concrete sociological processes that constitute the human kind-cum-classification complex in the case of the bureaucratic recognition of nominally customary groupings in New Guinea. To do so, some finer distinctions are required.

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[3]   Hacking later distanced himself from the notion of 'interactive kinds' due to his uneasiness with the notion of natural kinds, although he maintains the role of looping effects in the human sciences. See Hacking (2007a, b).

[4]   Hacking's sharp distinction between interactive kinds and natural kinds have been criticised on various grounds, and authors have proposed several ways of allowing realism to encompass interactive effects. See Allen (2018), Cooper (2004), Hauswald (2016), Khalidi (2010, 2015), Laimann (2020), and Vesterinen (2020). Complicating matters further, Hacking is not particularly precise when he talks about classification; the term classification may refer to mere linguistic classification or the identification of actual kinds themselves (as indicated by the term 'interactive kind' and his invocation of the nominalism versus realism debate). This means that Hacking tends to slip between different effects, lumping together (1) changes in the persons that constitute a category, (2) changes in the usage or application of a classification, and (3) changes in the properties that constitute the kind as a result of the classification (Hauswald 2016).

Toumas Vesterinen (2020) helpfully proposes a four-fold distinction of looping, arguing that looping is either congruent or incongruent, to the degree that it reinforces or undermines a given classification; and intentional or structural, to the degree that the subjects are aware of classification. Congruent mechanisms generate over time convergence between classifications and interactive kinds, eventually stabilising their relationship. By contrast, incongruence drives increasing mismatches between classifications and their subjects. It is important to stress that (in)congruence concerns the trajectory of change, not the accuracy of the initial classification.

Both congruence and incongruence have many different proximate mechanisms. Incongruence may result from inappropriate or inaccurate classification that prompts rejection, or because classification undermines the practices that drive a behaviour in the first place. Likewise, congruence may be a consequence of people crafting a self-image through labels, as described in labelling theory (Becker 1963, Goffman 1963, Scheff 1966), or simply because the classification is well-suited or affirming.

Legal recognition of customary landowners is a clear example of such a looping process. Being a legally recognized customary landowner, especially of a mining prospect as in the present case, constitutes a new way of being, changing such individuals' experiences and how they see themselves and others. Consequently, these very individuals may alter how they act – such as by forming political associations to lobby on behalf of the classified – potentially changing the broader interactional matrix or, in some cases, making the original classification invalid. Further, as I shall demonstrate throughout the article, looping in the Wafi-Golpu region is clearly intentional – far from being indifferent, actors are very much cognisant of classification. It is also congruent. Initial classifications did not correspond with local patterns of identity and affiliation and, in many ways, were incorrect. Nevertheless, they became more congruent over time, as they either constructed the entities they were representing (in the case of census units) or people changed their affiliative practices (in the case of court rulings).

This general pattern of initial misidentification gradually becoming congruent holds for many extractive projects in New Guinea. What I hope to identify is the forces that generate this pattern of congruence, proposing three pertinent factors. The first concerns the rate of change in classification itself versus changes in the features that ground that classification in the classified. For example, suppose classification is based on the ethnic identity of a population. In that case, the rate of change in how ethnic groups are classi-

fied can be juxtaposed to the change in the practices and self-identifications that ground ethnic affiliation. The second factor concerns how the features that classifications aim to pick out change when there is no such classification. Continuing the example, ethnic groupings change independently of exogenous classificatory processes through changes in, say, residence and association. Thirdly, and most straightforwardly, incentives, such as mining-related benefits and identity classification, can shape congruence. How these factors apply to affiliation and bureaucratic categories in PNG will clarify my argument.

Hacking's analytic interests are the archetypical Foucauldian institutions created by the nineteenth-century state: medical officials, bureaucrats, and census takers. The somewhat later figures of missionaries, colonial patrol officers, and court officials very much fit this mould. However, these actors are hardly the only ones to bring forth 'new kinds of people' on the island; arguably, much of the classical concerns in the New Guinea literature about the making and unmaking of groups (e.g. Watson 1970), innovations in initiation (e.g. Barth 1987), and the constant weaving of relationships with the idioms of kinship, descent, and siblingship (e.g. LiPuma 2009) are intimately concerned with classification and the actions of the classified. For example, when recently adopted refugees are newly classified as clan members, this classification may change how they act. It also, crucially, changes the constitution of that category (the clan in question), which in due time potentially changes how that classification is applied; for example, by becoming employed more or less flexibly. New Guineans, to this end, have had a long-standing preoccupation with making up new kinds of people – the arrival of capitalism, colonialism, and Christianity simply introduced new actors and new means of doing so.

The critical difference between Hacking's examples and those given above concerns (1) various configurations in the division of labour and the centrality of 'making up' particular kinds of people, and (2) the degree of classification, at least in the minds of the classifiers, concerns 'carving the social world at its joints' by identifying what are perceived to be classification-invariant kinds in the world – that is, when a government official sets out to document 'clan members' they assume they are identifying a human grouping that is independent of their actions, and do not believe they are, in part, creating or modifying that category. Critically, these diverse ways of 'making new kinds of people' have distinct underlying generative schemas and, once

melded together, have varying capacities for flexibility and responsiveness in how they respond to one another.

Accordingly, when it comes to identity construction near extractive industries, two processes are unfolding: creating various bureaucratically anchored categories, such as census categories and court decisions on the one hand; and the endogenous fission and fusion of populations on the other. The three factors proposed above are all present in this dialogue. First, ethnogenesis and the modification of affiliative categories, at least in the region of Papua New Guinea with which this article is concerned, operate at a comparably rapid rate compared to the modification of new 'customary' legal categories. Second, the dynamics of identity was a l w a y s grounded in changes of residence and practical association. So, with their associated changes in both residence and association, colonial-era classification and resource extraction shape precisely the local aspects that would otherwise co-vary with changes in identity and affiliation. Finally, mining-related identities have a significant material incentive coupled with them. These elements make it likely that people begin to resemble constructed classifications, rather than classifications becoming more accurate over time by adjusting to fit more closely with the 'customary groupings' they purport to represent. Having laid out the broad theoretical terrain, I can now turn to the proper case study to set out how all these features are played out in more detail.

The Wafi-Golpu project and claimants

Like most mining projects, the Wafi-Golpu prospect has a history of sale and resale between multiple companies, starting with Conzinc Rio Tinto of Australia Exploration Limited (CRA) during the late 1970s and early 1980s, before becoming a joint venture between Newcrest Mining of Australia and Harmony Gold of South Africa after 2008. At the time of writing, the commercial project operates as Wafi-Golpu Joint Ventures (WGJV). The prospect is still technically under exploration, and WGJV submitted its application for a Special Mining Lease in late 2016.

Numerous groups claim customary ownership of the land that will host the project. The histories of three broad claimant populations concern me here: (1) Central Watut-speakers to the west of the prospect,[5] notably in

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5   Contemporary Central Watut-speakers include Babuaf, Mararena and Bentseng, as well as some of the population of Wampan. Note that this refers to the Central Watut d i a -

Babuaf village (marked by the star in Figure 1; (2) Bano-dialect Mumeng-speakers, broadly to the south and east, today including the Yanta and Hengambu people; and (3) Wampar-speakers, to the more distant northeast.[6] From these three populations, the state currently recognizes three groups as customary landowners of the Wafi-Golpu project: Babuaf, Hengambu and Yanta.
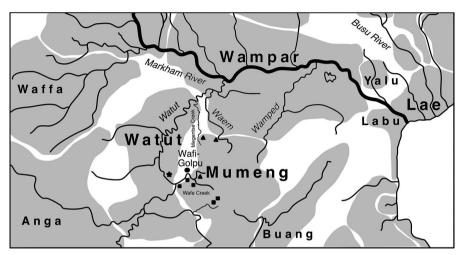

Figure 1: Approximate language areas and settlements in the immediate proximity of the Wafi-Golpu prospect (modified from Beer 2006:108).

Presently, people who identify as Babuaf are residents or descendants of residents of the village of Babuaf, which had a population of 274 in 2011 (National Statistics Office 2011). Those identifying as Hengambu are Mumeng-language, Bano-dialect speakers living in the villages of Heking, Bavaga and Zindanga (marked by triangles in Figure 1), collectively comprising 1441 people and 262 households in 2011 (National Statistics Office 2011). Finally, those who identify as Yanta are also Mumeng-speaking, Bano-dialect speakers who live in the villages of Pekumbe, Pokwana, Pokwaluma, Venembeli and Zilani (marked by squares in Figure 1), with populations in 2011 of 241,

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l e c t . As the Watut river flows from the south to join the Markham River in the north, the Central Watut dialect grouping should not be confused with the g e o g r a p h i c a l region of the Middle Watut (which is largely populated by the South Watut-speakers). Thus, when I refer to the 'Central Watut', I am referring to the population of Central Watut-speakers, not the Middle Watut region.

6   See Figure 1 for general linguistic areas. Individual names and place names follow Hans Fischer's spellings of Wampar words to ensure continuity with prior publications.

175, 180, 242 and 259 respectively (National Statistics Office 2011). The salience of these identities is a product of a pre-colonial and colonial history of migration and resettlement, several court cases in the 1980s and the communities' connection with the Wafi-Golpu prospect.

PRE-COLONIAL MIGRATION AND RESIDENCE

Reconstructing pre-colonial migration, residence and affiliation patterns is necessarily fraught, given the contested nature of all three. Histories of migration and occupation are always highly debated.[7] However, based on missionary accounts, early German expeditions and oral histories collected from different populations before the arrival of the mine, it is possible to form a tentative picture of movements in the region in the late nineteenth century. In my reading, the immediate Watut-Wafe river region in the late nineteenth and early twentieth centuries was a border zone between populations either entering the area (Watut- and Mumeng-speakers) or leaving it (Wampar-speakers).

This is not to say that the Wafi-Golpu region is exceptional in this regard. PNG is famous for its unstable social territories and rapidly changing affiliations (Watson 1970). The wider Morobe region saw extensive changes in the late nineteenth to early twentieth centuries,[8] and the nearby Hidden Valley exhibits a qualitatively familiar history of fluctuations (Burton 2003). This article seeks to provide a necessarily curtailed idiographic account of

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[7]   In writing about histories of migration and territory in PNG, one concern is always that one's own work may end up embroiled in land-dispute cases. This has already occurred for the histories I present here; all the material I draw on – Ballard's reports (1993a, b), colonial patrol reports and Hans Andexer's expedition summary (1912) – are already part of a land court case over Wafi-Golpu, with various parties submitting the documents cited in this text (see Church 2022 for a detailed legal history). Given these concerns, I should also stress that settlement location and language areas in Figure 1 are provided for illustrative purposes only and should not be construed as corresponding to landownership or control.

[8]   Joel Bradshaw (1997) provides an extensive account of fission-fusion, trade and migratory relationships in nearby coastal Huon Gulf populations over a similar pre-contact period to that discussed in this article. As Bradshaw briefly mentions (1997:223–237), the changes he details were likely influenced by the migration of Wampar-speakers into the Markham Valley and subsequent coastal raids, which arguably displaced and pushed many contemporary coastal populations into their current locations. See Sack (1976) and Willis (1974). To embark on a detailed description of the plausible timings and locations of pre-colonial Wampar movements would mean going beyond the scope of this article.

this region's linguistic and residential turnover during a limited pre-colonial period from around the mid-nineteenth century until mission contact in the early twentieth century.

Wampar-speakers have long claimed that an ancestral population living in a village known as Babur, near the confluence of the Watut and Wafe rivers, not far from the site of the Wafi-Golpu deposit (Fischer 1992). Numerous sources prior to the discovery of the mineral deposits recount that the Wampar raided their way across the Markham Valley, having travelled down the Watut Valley sometime in the nineteenth century, while the Wampar and Hengambu corroborate stories of violent confrontation near the Waem in the late nineteenth century (Figure 1).

By contrast, Bano-speakers are relative newcomers to the region who gradually established a presence in the Middle Watut tributary area during the late nineteenth and early twentieth centuries. Based on oral traditions and the location of old village sites, Chris Ballard (1993b:14, 17) found widespread agreement on the Mumeng Valley as a common site of residence for the ancestral populations that came to constitute the Yanta and Hengambu (near the label 'Buang' in Figure 1). Precise dates are unclear, but Ballard argues that these populations migrated to the Middle Watut tributary area, fleeing conflict from Buang and other Mumeng groups.

Finally, there is reason to believe, albeit contested, that Watut-speakers gradually moved into the region from the west when they retreated from conflict with Änga-speakers (or Angu or 'Kukukuku', southwest of Watut in Figure 1) over a similarly 'late' period. While Wampar, Hengambu and Yanta representatives agree with the outlines of the above movements, contemporary Babuaf representatives claim long-term, autochthonous occupation of the Wafi-Golpu area. However, there is evidence that current sites of Watut-speaking villages, including Babuaf, are a recent product of mission resettlement (like the rest of the region), although the sequencing and timing of these resettlements are open to interpretation. The earliest map of the area, from a German expedition led by Hans Andexer between 1910 and 1912 (Andexer 1912), notes the presence of 'Papuaf-Leute' (probably 'Babuaf people') in the hills to the west of the Watut River. Similarly, Hans Fischer, drawing on mission archives, indicates that the new settlement of 'Madzim' (contemporary Babuaf) resulted from mission relocations, probably taking its eventual name from an earlier settlement since, as Fischer emphasizes (1963:235), new village sites closely matched earlier village names.

This makes it likely, although hardly certain, that Andexer's 'Papuaf-Leute' corresponds to this earlier settlement area.[9]

Evidence shows that groups from all these populations periodically hunted, patrolled and fished from settlements around the region. There is no reason to doubt that members of these populations ventured into the area periodically, as evidenced by the history of violent conflict between Wampar-, Watut- and Bano-speakers (Tovue 1989). Critically, however, none of these factors constitutes uncontested control, and it is impossible to know how much practical power select groups from each population had. Instead, the land that hosts the Wafi-Golpu prospect is eminently disputable, owing to the affordances of the Watut River and Mount Golpu and recent migrations converging in the vicinity of the prospect. Minimally, however, one can confidently state that the immediate Wafi-Golpu area did not constitute a sustained settlement site for any of the linguistic populations at the turn of the nineteenth century, although some were more proximate. Over the twentieth century, all three incoming populations gradually moved closer to the Wafi-Golpu site to form the settlement distribution shown in Figure 1.

AFFILIATION

Even if the above picture of residence and migration is correct, linguistic populations do not neatly correspond to local forms of affiliation or land ownership. Historically, Wampar-speakers divided themselves into the wider Wampar-speaking population and patrilineal, landowning clans

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[9]   Andexer (1912) also identifies an 'Eingeborenen-Pflanzung' ('native plantation') on his map near the current location of Babuaf village. In his review of the historical evidence for migrations in the Middle Watut, Ballard (1993b:6) takes this to indicate a Watut 'settlement' to the east of the Watut river before World War I, contrary to the Hengambu, Yanta, and Wampar claims recounted below. Ballard argues that the Babuaf were moved west of the Watut river by missionaries before later returning east to the original site of the plantation. My interpretation differs from Ballard's account, given the evidence considered above. To my mind, an 'Eingeborenen-Pflanzung' is itself unclear evidence of residential occupation because 'Pflanzung' usually refers to a plantation rather than a settlement. It seems unlikely that Andexer would use this word to describe a resident population when elsewhere on his map he uses 'Dörfer', the plural form of 'Dorf' and a more familiar term for villages (1912). Given the less ambiguous 'Papuaf-Leute' to the west, Fischer's notes about mission resettlement, and the recycling of old village names, a single, eastward movement across the Watut river seems more parsimonious as an explanation. That said, plantations indicate land use to the east of the Watut, although by whom and for how long is unclear.

known as 'sagaseg'. There is good evidence that *sagaseg* have always fissioned and fused as demographic fortunes rose and fell, with various unions between *sagaseg* being historically verifiable, even if the prominence of *sagaseg* has waxed and waned as a critical mode of collective organization

The Bano-speaking ancestral populations that came to constitute Hengambu and Yanta were part of two wider, self-identified groupings,[10] 'keYanta' and 'Hahiv' (the latter including the Hengambu), which encompassed networks of affiliation, intermarriage and conflict (Ballard 1993b:17). Yanta appears to be a modified version of 'keYanta', while Hengambu was an ancestral village once inhabited by a sub-section of a broader population that self-identified as Hahiv. Notably, in addition to Hengambu, Hahiv includes the villages of Tuwangola, Omalai and Bupu, parties that would increasingly be seen as distinct and separate from Hengambu after the three villages were parties on opposing sides of the 1980s court decisions, as I shall recount below (Ballard 1992). Before the cessation of conflict, settlements of Hahiv and keYanta populations would shift between dispersed 'hunting camps at lower altitude[s] […] [serving] as fixed bases from which male hunters would journey for periods of several weeks, on wider foraging trips' to, during times of conflict, 'major, heavily fortified villages, situated on defensive ridges […] from which large gardens at short distances from the village were maintained by communal work parties with guards' (Ballard 1993b:13).

Within keYanta and Hahiv, there are also named groups, which Ballard glosses as clans, though no generic term exists for these groups. These 'clans' share names linked by common descent, and they claim territory, a charter myth and, at least in oral history, a distinct historical settlement (Ballard 1992:18). Affiliation with a Hahiv and keYanta clan is grounded in cognatic descent, marriage and invitation, as well as sustained co-residence and cooperation in collective labour. For this reason, 'most individuals tend to identify with one or, at most, two clans because they cannot fulfil their obligations to any more than one or two groups' (Ballard 1992:18). Like the named groups among Central Watut-speakers, these clans did not map on to settlements since:

> in the immediate pre-colonial period continued warfare and then contact with the colonial administration followed so rapidly on the heels of this migration that different clans were still co-residing when they were amalgamated by kiaps [Australian patrol officers] for census purposes (Ballard 1992:17).

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[10]   Ballard calls these 'major clans'.

Historical affiliations among Central Watut-speakers are more challenging to reconstruct. While the Central Watut dialect did not have a self-identified name akin to Hahiv, Fischer argues that the population was endogamous, did not undertake internal warfare, and shared a common mythical origin with villages alternating in performing initiation ceremonies (1963:74). Within this dialect group, there were 'patrilineal clans', each of around one to two hundred people, which 'were and are non-exogamous' (1963:74). While the pre-colonial role of these clans is unclear, based on oral histories, Fischer argues that they were previously spread across multiple villages, many in areas occupied today by Änga-speakers (1963:17, 73–74).

MISSIONARIES AND PATROL OFFICERS

The cessation of warfare and the introduction of Christianity fundamentally changed this social geography. With the founding of the mission station in Gabmadzung in 1910/11, the Markham Valley became ever more central to Wampar settlement, while the keYanta, Hahiv and Watut populations began to push further into the Wafi-Golpu region. Meanwhile, pacification enabled the founding of smaller, undefended settlements with better access to water. Conversely, missionaries, evangelists and *kiaps* all pressured people to cluster into larger, more accessible settlements (Fischer 1963, 1992).

Based on contemporaneous accounts, there is reason to believe that Central Watut-speakers' current locations are the product of mission relocations. Watut-speakers were converted by Wampar, who not only pacified and converted their charges but also drove village relocations, 'burning down old village sites in the Middle and Lower Watut areas and forcing people to congregate in larger, more accessible settlements' (Ballard 1993a:8, cf. Fischer 1963). By the time the Lutheran missionary Karl Panzer travelled to the Watut from Gabmadzung in 1921, some seven mission stations along the Watut were already being staffed by Wampar assistants (Fischer 1963:15). As discussed above, this included the present-day site of Babuaf village.

In a similar process, in 1925, Lutheran missionaries founded a mission station in Guroko and began missionizing the Mumeng area. Subsequently, the missionary 'Simundala' (possibly Gottfried Schmutter) persuaded the villages of Sapluma, Lepapu and Biangeva to amalgamate into a single site called Hengambu sometime in the 1930s (Ballard 1993b:30). Five decades

later, this village split into Heking, Bavaga and Zindanga, the three villages that constitute Hengambu today.

During the 1930s, the first Australian patrol officers held a census of the region, dividing the population into census units. The first *kiap* of Mumeng and the Watut was Murray Edwards in 1936, although none of his reports survived World War II. Ian Downs replaced Edwards, and his reports provide the earliest census of Babuaf from 1936 (143 people), further listing Hengambu as having a population of 280 in 1937 and Yanta as one of 293 in 1936 (Ballard 1993b).

In this regard, the clear separation of 'Babuaf' from the other Central Watut-speaking villages and Hengambu from the other Hahiv villages was a product of *kiap* census-taking. As Ballard stresses: 'The names "Hengambu" and "Yanta" refer to the major villages into which related families and clans were gathered after contact. In effect, they are kiap census names, under which certain individuals were censused' (1993b:17; emphasis removed). Similarly, the founding of Babuaf involved collecting together two clans, 'Tsafa, Wafes', as the 'first communal village [during missionisation]' (Fischer 1963:18; all translations from German W.Ch.).

As the cessation of warfare, *kiap* census-taking, and evangelism changed such continuities, the resulting forms of affiliation also drifted. From his fieldwork in the 1950s, Fischer notes a rising sense of belonging, in Babuaf and other Central Watut villages, under the common name of 'the Watut' (1963:16). Further, 'today, the land belongs to the village community. In the area of his village, everyone can lay out his field where he wants. These are undoubtedly not the original conditions which, however, can be hardly reconstructed' (1963:45). Ballard similarly observes that, according to Downs' patrol reports, Mumeng-speaking villages were 'developing a sense of communal village land ownership' (1993b:21).

1980s litigation

In the context of these changes, land disputes resulted in a chain of pivotal litigation for the future ownership of the Wafi-Golpu. This is not the place for a fine-grained account of the 1980s court cases.[11] It is sufficient for my purposes here to emphasize that the courts, through ignorance of local affiliations and judicial fiat, attached legally recognized land ownership to these

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11   See Church (2022).

emerging identities that prompted further changes in practice and, there-
fore, affiliation in the region.

The first 'Megentse cases' – named after a creek in the disputed area –
were motivated by fights between men from Babuaf village and Hengambu
settlers migrating to the contemporary sites of Bavaga and Zindaga (Babwaf
vs Engabu 1981), the two triangles shown to the north of Wafi-Golpu in
Figure 1. Notably, the parties registered the *kiap* census units of 'Babwaf'
and 'Engabu' as 'clans' to legally represent them. As should be clear, neither
Babuaf nor Hengambu constitutes a 'clan'. Complicating matters further,
Wampar- and Watut-speakers were collected under 'Babwaf', while individ-
uals from across the Bano-speaking area testified under 'Engabu' (Church
2022). The Local Land Court awarded the case to the 'Babwaf clan' owing
to the lack of Hengambu witnesses. Hengambu representatives promptly
appealed to the Provincial Land Court, which upheld the earlier decision
(Engabu vs Babwaf 1982).

While the Megentse case was moving through the lower courts in 1984,
CRA damaged some local gardens while prospecting for minerals. Compen-
sation disputes prompted litigation between Yanta, Hengambu and the oc-
cupants of various non-Hengambu Hahiv villages, resulting in the so-called
'50/50' decision. While the case started over compensation, after a series of
decisions, on appeal the Court of Appeal awarded the Hengambu and Yanta
clans fifty per cent ownership of the 'Wafi River Prospect' area, even though
the judge only vaguely attempted to resolve discrepancies with the earlier
Megentse cases (Yanta vs Engambu *et al.* 1984, Yanta Clan vs Hengabu Clan
1985).

The two sets of court cases – Megentse and 50/50 – established an argu-
ably contradictory precedent. Read against the pre-Wafi history of changing
affiliations and residence, it becomes clearer how the courts demarcated dif-
ferent affiliations. Babuaf was a settlement composed of several clans and
part of a broader Central Watut-speaking region. Hengambu consisted of
three settlements that had recently fissioned from the village bearing the
eponymous name consisting of several clans, and part of the wider Hahiv
grouping. Finally, Yanta constituted a census unit broken into five settle-
ments.

However, it would be a mistake to see the Hengambu clan and Babuaf
clan to whom the courts awarded ownership as mere misrepresentations.
Instead, the court c r e a t e d a new legal property called 'ownership of Wafi-
Golpu land' in various capacities, attached to entities with ambiguous mem-

bership criteria. It was unclear whether 'Hengambu' referred to the descend-
ants of the occupants of Hengambu village, those who trace descent from
those occupants, or members of clans in Hengambu, which notably extend
across the Hahiv region. The courts, on the presumption that they were re-
ferring to self-evident customary categories, provided no insight into these
questions, leaving local populations to negotiate how exactly people were
associated with the registered party names. As a result, these court cases
prompted changes in affiliative practices.

CHANGING CLANS, REGISTERING ASSOCIATIONS

As stressed above, keYanta and Hahiv clan membership cut across different
regional settlements. When Ballard studied the area in the 1990s, Hengam-
bu representatives listed Heambe, Demago[12] and Mapelu as clans. However,
some of these clans had members from other Bano-speaking villages, includ-
ing Yanta and Hahiv. At the time of Ballard's study, the notion that Mapelu,
for example, was the same clan in Yanta as in Hengambu was

> strenuously denied by most members of both Yanta and Hengambu, but there
> is considerable vested interest at present in maintaining barriers between the
> two communities. Privately, some individuals have suggested that various
> Mapelu clans are indeed related (Ballard 1993b:18).

By the time I undertook fieldwork in 2016 and 2017, this 'problem' had been
addressed. When I spoke to Hengambu representatives, they dismissed
Mapelu as a Yanta clan. As before, Hengambu had three clans, but now their
names were different (Elmun, Demago and Gwagof). When I inquired about
the historical names, representatives were disarmingly nonchalant: Heambe
had members in other Bano-speaking villages, so 'when the company started
working in the area, they [the clan members] changed it. Other villages were
disputing and contesting with us, so they changed their name. They changed
because of the project and land disputes.'[13] Mapelu changed to Gwagof for
similar reasons. Now clan membership is neatly confined within the contem-
porary Hengambu census unit.

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12   'Vemago' in Ballard (1993b)
13   Conversation in Lae, 15 December 2017 (translation from Tok Pisin, the lingua franca of
      PNG, W.Ch.)

In addition to these explicit changes, the 1980s' cases changed how people interacted with one another, undertook collective action, and engaged with other groups and the state. By the time the government appointed the Special Land Titles Commission (SLTC) in 2008 to resolve the tangled legal precedents of the 1980s, each claimant had one or more registered landowner associations, each with complementary landowner businesses. Unlike the ambiguously referenced clans of the 1980s, these associations are legal entities with constitutionally explicit membership criteria.

Conclusions

The history I have recounted here can be broken into five periods:

1.) Late nineteenth-century pre-colonial migration
2.) Early twentieth-century amalgamations due to the ending of warfare and missionary amalgamations
3.) Mid-twentieth-century censusing of these amalgamations by patrol officers
4.) Registration and awarding of these categories with landownership in the 1980s litigation
5.) Post-1980s reorganization and competition.

In the first period, affiliation and identification were based on, and changed in response to, local residence and collective action. As Wampar migrated into the Markham, *sagaseg* fractured and fused as demographic fortunes rose and fell. Among the Hahiv, repeated actions were required to sustain membership with multiple clans. Crucially, changing residence and its concordant patterns of everyday cooperation resulted in new ways for people to understand themselves and one another. These changes in practice defined different kinds of people. In this way, in the early twentieth century, it is unclear whether 'Babuaf' or 'Hengambu', for example, was a way of interacting with people and thinking of oneself.

With the arrival of the colonial state in the early twentieth century, these landscapes of practice took a marked turn. Mission resettlement, *kiap* census-taking and the end of warfare drastically changed residential incentives, resulting in novel residential arrangements, new patterns of practice and, therefore, new clusters of practice that defined new ways of being. This process is most starkly illustrated by Fischer's observation regarding emerging 'Watut' and village-centric identities. One finds similar patterns in cre-

ating the Hengambu and Yanta villages and pan-Wampar identity in the Markham Valley. At the same time, *kiap* bureaucratic action constructed new categories. Due to the cessation of warfare and increasing interaction within these villages, Babuaf and Hengambu began to be an identity, a mode of affiliation, for the constituent populations. Subsequent court cases fed into these understandings, informing new identities.

In the third period, these processes were elaborated further. The 1980s' courts created a series of novel legal entities by registering the 'Babwaf Clan', 'Yanta Clan' and 'Hengambu Clan' with the court. Curiously, these parties were arguably emerging 'landowning units', given the novel village-centric ideology recounted above, even if not clans or 'customary' landholding groups. Instead, the courts interpreted these novel identities as 'traditional clans'. Consequently, judicial action assigned these entities the new property of state-recognized customary ownership.

In the fourth period, this flurry of legislative activity fed back into local organization and affiliation. In the case at hand, people in the Wafi-Golpu region began explicitly organizing and engaging with one another in line with the divisions set out in the 1980s' cases, as vividly illustrated by the changing clan names. This reorganization was a case of selectively motivated reaffiliation and a widespread change in how people thought of themselves and one another. Accordingly, affiliations shifted as different clusters of practice emerged. However, unlike earlier periods, these shifts took place in the context of the systematic incentives offered by the projected mine and the legal categories of the 1980s. People began to create legal entities in the form of the proliferating landowner associations that characterize the region currently.

Critically, government agencies and the mine developer today selectively interact with associations and communities such as Hengambu, Yanta and Babuaf. This is not merely an ideational process, although people certainly did change how they thought of themselves and identified. More foundationally, the landscape of mining changed how people interacted with others, struggling, litigating, and organizing as 'customary landowners'.

In tracing this account, I have also sought to contribute to the understanding of how looping takes place in the extractive context. The example here is that of congruent looping; whatever the flaws with the original rulings, the social landscape has increasingly come to resemble the categories that were introduced by *kiap* and 'seen' by the courts (Scott 1999). I have proposed three factors that seem to drive such congruence: (1) the rate of change in classification versus that of the salient features of the classified;

(2) how classificatory features change when there is no classification; and (3) independent incentives for belonging or not belonging to the classified. In the first instance, it is clear that people's affiliations have changed, and could change, more rapidly than the court system: while the original cases have been intensely litigated, the identity categories *per se* have remained notably untouched. Second, the prior periods of social reconfiguration underscore how co-residence and collective action were key drivers of local identities and affiliations – precisely those features most shaped by the subsequent ending of warfare and the arrival of the mine prospect. Finally, the prospect of mining-related benefits makes being of the classified category highly valuable.

It is possible to imagine a counter-factual world in which a nimbler court system, or more reflective and embedded set of identities keyed to landownership, led to a different looping dynamic. Rather than census categories shaping the subsequent lines of residence, cooperation and conflict, other processes of social reproduction might have meant that local affiliations were largely unresponsive to bureaucratic classification, which instead became increasingly congruent over time. In reality the opposite movement occurred, resulting in today's landscape of identity, cooperation and conflict.

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