Introduction

In 1985, Akii Tumu and I set out to record the oral historical traditions of some 110 tribes of Enga. I was a researcher at the Max Planck Institute for Human Ethology in Germany and Akii was the director of the Enga Cultural Center in Wabag, Papua New Guinea (PNG). Akii knew it was the eleventh hour to record the rich body of historical traditions that were no longer passed down in men's houses. We thought we would complete the work in two or three years; nearly forty years later, we are still learning. If we had known just how much work would be involved, we probably would not have had the heart to start, but the engaging puzzle of Enga precolonial history kept us going over the many steep and slippery ridges of the Enga landscape to reach knowledgeable elders from all tribes. When we returned many times to try to further our understanding, some asked, "Haven't you two been at this for a long time (and still not figured it out)?" Some arduous trips yielded little; others opened new horizons. We were joined by Nitze Pupu, the first blind lawyer in PNG; Pesone Jarwe Munini, who covered religion in the past; and Alome Kyakas, who researched women's lives.

It is hard to know where to begin with the distribution of thanks. First of all, we would like to thank the hundreds of elders who generously gave us their time and expertise, realizing the importance of passing on knowledge of Enga culture. The contributions of some are cited in this Element and many more in the acknowledgments in *Historical Vines* (Wiessner and Tumu 1998). Nitze Pupu and Akii Tumu carried out the majority of translations, though others assisted. Many thanks go to researchers and missionaries who gave us photos of Enga life shortly after contact, which bring much of the text to life, and to Dawn Farkas for producing the maps. The better part of this work was funded by the Max Planck Institute for Human Ethology with the understanding of the late Professor Eibl-Elbesfeldt concerning how long such research takes. The Enga Provincial Government has worked with us and assisted with essential advice, infrastructure and staffing over the past nearly forty years. We are extremely grateful to the hundreds of elders, colleagues and institutions who helped us. Many of the testimonies in this Element are abreviated from those in *Historical Vines*.

1 The Enga: Their Economy and Historical Traditions

> The great Pendaine was dressed to perfection from head to toe with his skin glistening under the mid-day sun . . . Because of his tall stature, his plumes seemed to reach the sky. It was a dazzling, spectacular sight . . . All eyes were fixed upon him, and as the expression goes, even the frogs down by the Lai river stopped croaking . . . Pendaine's line of stakes was the longest of all.
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> (Kopio Toea Lambu, Timali Clan, Lenge, 1987, on the life of Pendaine, the renowned Tee Cycle organizer)

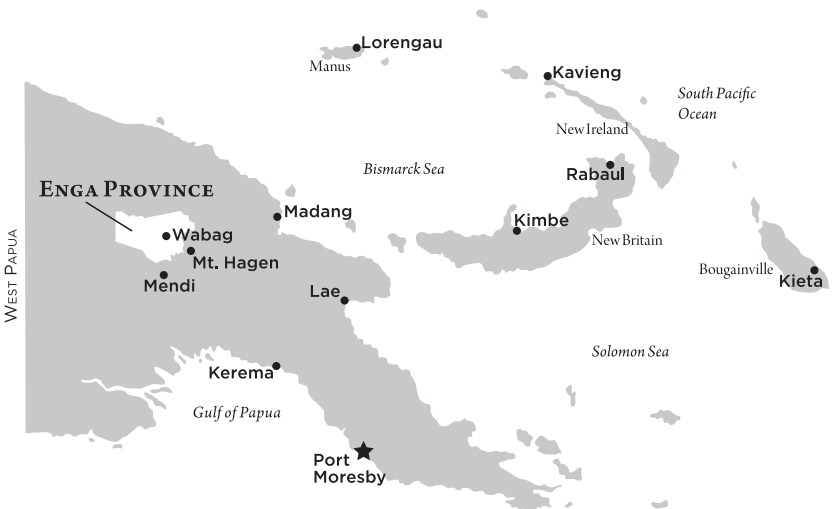
> Every person has something of value and must be treated with respect. Even a person who brings fleas into the house may be of value one day because the flea bites might wake you when your life is in danger. (Kekeo Yapao, Sikini Wapai Clan, Lakopena 1988, quoting his mother Takime, one of the few prominent female Tee Cycle organizers)

1.1 The Questions

What happens when people in a small-scale society with strong principles of equality are first able to produce a storable surplus has engaged archaeologists, anthropologists and economists for decades. For the majority of human history, people lived as hunter-gatherers, developing the wide array of cognitive capacities and motivations we possess today. However, climate, environmental conditions and corresponding social dependencies to cover risks exerted limits on production and the expression of many human motivations. The stabilization of climate during the Holocene over the past 10,000 years (Richerson et al. 2001) allowed for surplus agricultural production that in turn released many economic constraints.

Archaeologists have carried out extensive and insightful research providing evidence that storable surpluses transformed economic production, retention and distribution; increased population growth; fueled the expansion of larger political units; and accentuated social inequalities and economic specialization (Boone 1992; Clark and Blake 1994; Earle 1997; Flannery and Marcus 2012; Graeber 2011; Hayden 2001; Johnson and Earle 2000; Price 2021). Paths to building social, political and economic advantage have been shown to be highly variable with actors deploying different combinations of strategies involving wealth in people, wealth in knowledge and wealth in things (Guyer 1995; Guyer and Belinga 1995). However, there is only so much that can be deduced from material remains alone. Missing is an understanding of the institutions necessary for social transformation (Brumfiel 1992; Furholt et al. 2020). These include how collective action was organized for larger sociopolitical enterprises (Wiessner 2019), and how internal conflicts were resolved, emotions coordinated, new motivations evoked, goods valued, emerging social inequalities masked and differential governance orchestrated from both the bottom up and top down.

Enga oral history provides an unusual opportunity to understand the dynamics of the economic, social and political changes that arose with the potential for surplus production (Map 1). Some 400 years ago, before European contact, the sweet potato was arguably brought from South America to Indonesia by European explorers (Ballard et al. 2005). It spread through the local trade to arrive among the Enga of highland PNG during a period of famine (Wiessner 2005). Sweet potatoes released constraints on production, allowing Enga to



Map 1 Location of Enga province in Papua New Guinea

gradually settle more permanently, practice more intensive agriculture, expand into higher-altitude areas and produce a substantial surplus "on the hoof" in the form of pigs (Watson 1965, 1977). Far-reaching networks of social, economic and ritual interaction developed. So great was the flow of wealth and information within and among these networks that they were restructured with each generation (Wiessner and Tumu 1998). One outcome of economic growth was the Tee Ceremonial Exchange Cycle, which incorporated some 40,000 people in 355 clans and tens of thousands of pigs by the time of first contact with Europeans (Meggitt 1974).

Fortunately, elders still remembered a factual body of oral traditions recording the history of each Enga tribe and its constituent clans, ordered by genealogies and extending back at least nine to twelve generations. These oral histories were systematically transmitted in men's houses, covering almost all aspects of life, including individual experiences (Lacey 1975; Wiessner and Tumu 1998). The course of events Enga historical traditions describe presents an unusual state of affairs: the sweet potato was introduced within the span of historical traditions some 350 to 450 years ago, but the arrival of the first Europeans occurred only within living memory, briefly in the 1930s, but largely after World War II. The Enga oral record thus allows us to work with questions that usually lie beyond the reach of ethnohistorians and evade archaeological analysis of material remains. What happens to a society when, in the absence of influence from foreign populations, production possibilities are released by a new crop and significant surplus production becomes possible?

Our intent in this Element is to use two perspectives to address these processes of surplus production and increasing economic and political complexity: a historical ethnography and an anthropological history. We begin by identifying some of the historical forces behind economic and demographic change that were originally set off by the arrival of the sweet potato (Brookfield and White 1968): population growth, altered subsistence strategies, new potential for wealth production and resulting warfare and migration. However, understanding the forces that generated change is not sufficient to understand how these forces were structured through new cultural institutions to bring about complexity rather than chaos. The perspective from anthropological history addresses how new integrative institutions emerged from former ones as Enga drew on rituals of the spirit world, feasting and ceremonial exchange to reset values, preferences and motivations and to resolve internal social contradictions. These innovations provided the infrastructures for new forms of cooperation, promoting economic growth and developing economic inequalities.

The starting point is a subsistence-based economy with a big-man or transegalitarian political system in which position is attained and maintained by attracting supporters (Hayden 1995; Sahlins 1963). Big men have the influence to bring about changes but neither power over others nor the ability to transmit position. Motivations and initiatives coming from those on top are evaluated and approved or rejected in clan meetings to create a current of change from above and effective governance from below (Ostrom 1990). The central thesis is that the forces of social selection (Hrdy 2016; Nesse 2010) in a big-man society required leaders to develop new institutions that would provide benefits and engage large segments of the population, setting off rapid growth in the surplus economy and increasing social complexity. The resulting economic competition and growth eventually caused the vast institutions governing warfare, ritual and exchange to be constantly modified so as not to collapse under their own weight. The discussion starts around the time of the arrival of the sweet potato, circa 350–400 years before the present, when the Enga relied on basic horticulture and hunting and gathering. Our end point is the establishment of Australian colonial administration and missions throughout Enga in the 1950s and 1960s, launching a fascinating but entirely different trajectory of change.

1.2 Background

When we began our research in 1985, the roads and paths of Enga led us on a journey through diverse terrains, each challenging the foot or wheel in a different way. Traveling from the east to the west, the road led down the steep, narrow valley following the Minamb river into the lush rolling valley of the Lai (ca. 1,700 m altitude). There the landscape was a patchwork of houses, small trade stores,

flourishing gardens, casuarina forests, grasslands and ceremonial grounds with their ancient trees (Figure 1). After passing Wabag (1,850 m) in central Enga, the valley narrowed and the road climbed into the high, open and starkly beautiful grassland of Sirunki (2,600 m) that separated the valleys of the Lai and Lagaip. It descended rapidly to Laiagam (2,200 m), where the headwaters of the Lagaip converged to form a basin that seemed to contain a whole world within its mountain walls. The characteristic Enga gardens, houses and ceremonial grounds were similar in many respects throughout Enga, but there was not the same feeling of abundance in these high, steep valley settlements of the Lagaip. The road continued down the Lagaip valley for some forty kilometers to ascend Mt. Maip and then descended steeply into the Porgera valley (2,200 m). Porgera was a melting pot of Enga, Ipili and Huli communities now transformed by one of the world's largest gold mines. The north–south road from Laiagam to Kandep (2,200+ m) climbed out of the valley, over a mountain pass and down into the Kandep area with its vast, high-altitude grasslands and swamps. Signs of prosperity were evident only in the longhouses constructed for pig exchanges and the monstrously large pigs that emerged from the swamp grasses. It was hard to imagine that such a diversity of landscapes could be the home of some 500,000 people who share a single language and cultural institutions.

The Enga who inhabit this country are a highland agricultural population settled between approximately 1,200 and 2,600 meters. Fleeting contact with gold prospectors in the major valleys occurred around 1934 and was followed by

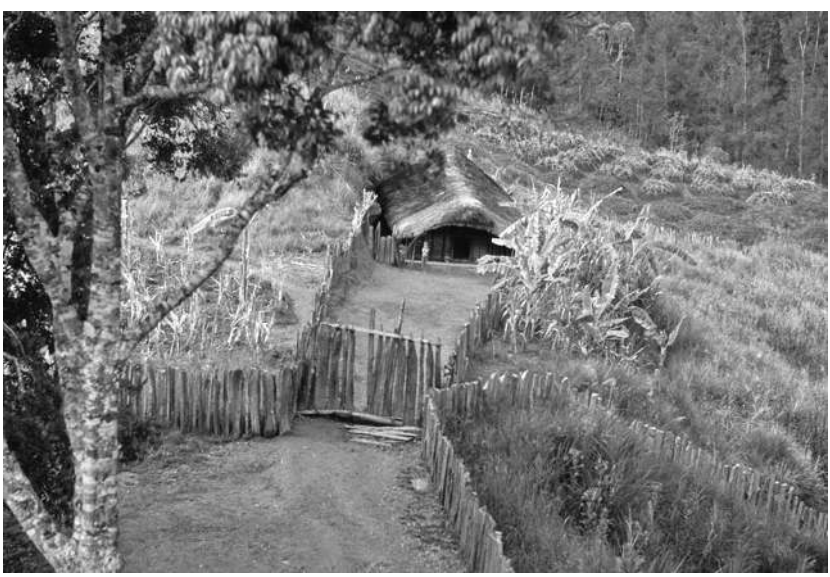


Figure 1 Enga house surrounded by gardens. Mounds for sweet potato cultivation in the background (courtesy of Don Jeffers, mid-Lai valley, 1966)

the arrival of the Taylor and Black patrol from the Australian administration, which set up a patrol post and airstrip at Wabag in 1939. From 1942 until the end of World War II, the Wabag post served to keep lines of communication open, although the war had little impact on Enga other than delaying colonization (Lacey 1982). When the war ended, patrol posts and missions were established throughout Enga. The colonial administration appointed local leaders, established a police force and the Australian legal system, and tried to end warfare, while missionaries simultaneously established churches, schools, agricultural projects and clinics. In 1975, after PNG became independent, Enga was declared a separate province. Most of the economic history discussed in this Element occurred prior to European influence, except that discussed in Sections 9 and 10.

Virtually all aspects of more traditional Enga life have been described in the anthropological literature. The publications of Meggitt cover most geographical areas, including social organization and economy (1956, 1958, 1965a), *tee* ceremonial exchange (1972, 1974), gender (1964b, 1990), religion (1965b), leadership (1967) and warfare (1977). The studies of Waddell (1972) and Wohlt (1978) provide a sound understanding of Enga agricultural systems. Other important works cover Enga religion (Brennan 1977; Feacham 1973a; Gibbs 1977, 1978); Tee Cycle (Bus 1951; Elkin 1953; Feil 1982, 1984, 1987); women's lives (Kyakas and Wiessner 1992); environment and health (Feacham 1973b); oral traditions (Lacey 1975, 1979, 1982; Wiessner and Tumu 1998) and warfare (Young 2004). The characteristics of Enga society discussed next, described in the past tense, are those that prevailed shortly after contact with Europeans. Although some practices have changed, many persist.

The Enga population was divided into nine mutually intelligible dialect groups that shared many aspects of economic, social, political and ritual life (Map 2). Regular exchange of trade goods, ideas, practices and rituals with all surrounding linguistic groups occurred throughout the period covered, particularly with the Mandi, Huli, Kakoli and Kyaka. Boundaries with surrounding groups were open and no interlinguistic group hostilities enter into historical traditions. The Enga were horticulturalists who relied on the cultivation of the sweet potato in an intensive system of mulch mounding to feed large human and pig populations. Other traditionally cultivated crops included yams, taro, bananas and sugarcane. Nutritionally rich pandanus and other forest foods supplemented the diet; marsupials and cassowary were frequently hunted.

Political units were defined by a segmentary lineage system that divided groups into tribes, clans, subclans and lineages, each with its own big men. At the time of Meggitt's studies in the 1950s and 1960s, tribes of central Enga were composed of between 920 and 5,400 people divided into an average of 7.8 clans with a range of 100–1,000 members each (Meggitt 1965a). Tribes and clans shared a common

Map 2 Mutually intelligible dialect groups in Enga province (Brennan 1982)

origin myth and genealogy that linked male members to the legendary tribal founder. The central corporate group was the clan whose members cooperated to cultivate and defend clan land, make war, pay war reparations, perform rituals and stage festivals of ceremonial exchange. Marriage was largely clan exogamous and created strong network ties with affinal and maternal kin in other clans to weave the broader social fabric. Affinal and maternal kin provided alternate residences in times of hardship, support in warfare and exchange ties. This allowed the Enga to practice both corporate group and network strategies when pursuing certain goals (Blanton 1996 et al.; Feinman 1995). Approximately 90 percent of married couples in eastern and central Enga and 70 percent in western areas practiced patrilineal descent and patrilocal residence.

The Enga were industrious. Studies from the 1970s indicate that women spent approximately six hours a day gardening, tending to pigs and carrying out household chores (Waddell 1972; Wohlt 1978) (Figure 2). Men spent nearly four hours a day clearing land, doing the heavy garden work, fencing, building houses and other tasks (Figure 3). These figures do not include childcare for women and engagement in warfare, ritual and *tee* ceremonial exchange for men. Women cared for young children; however, the boys moved to the men's house

Figure 2 Woman in garden with small child and pig (courtesy of Rev. Otto Hintze, Yatamanda, early 1950s)

Figure 3 Men building a traditional house (courtesy of Paul and Ruth Wohlt, Yumbisa, northern Kandep, 1973)

at the age of six to eight years. Women raised the pigs that were the foundation of the household wealth; a large pig was the product of five or more years of feeding and care.

Male–female relations were characterized by a separation of the sexes that was more pronounced in western Enga than in eastern Enga owing to beliefs about the dangers of menstrual contamination for men. This created major contradictions within Enga society: male–female separation was essential for male secrecy and unity in times of warfare, while ties with affinal and maternal kin were key to most forms of external cooperation and exchange. Gender divisions were strengthened by separate men's and women's houses. Though Enga adults of the same sex were initially considered equals, men competed to become leaders or big-men by displaying skill in mediation, oration and wealth management to provide benefits for their fellow clan members. Women did not engage in overt competition, though their accomplishments in the private realm as producers and the active links between clans were acknowledged (Kyakas and Wiessner 1992). Men's status in relation to other men was achieved with backing from their wives and female kin, though the separation of men and women was set by ideology.

Politics occupied much of men's time and effort. Whereas frequent and destructive warfare created sharp divisions between clans and claimed the lives

of 15–25 percent of the male population (Meggitt 1977; Wiessner 2010b), women departed with the pigs and children at the onset of war and were rarely targets of violence (Kyakas and Wiessner 1992; Meggitt 1977). Compensation exchanges of pork, live pigs, shells, salt, oil and foodstuffs were used to reestablish peace. Ceremonial *tee* distributions of wealth demanded the continual supervision of men as well as the attention and diplomacy of the women who formed bridges between groups (Feil 1978; Kyakas and Wiessner 1992). Cosmology and religious beliefs were dominated by two sets of spirit beings: the sky people and their descendants the ancestors.

1.3 Oral Traditions As History

History underlaid all matters of public concern and surfaced continually in public forums. It gave people a sense of identity and security as part of a larger group and thereby made them willing to make sacrifices for the group. Land disputes could not be resolved outside of their historical context; the settlement of wars hinged to a large degree on the history of relations between opposing groups. Historical knowledge was and is an important source of power and influence for Enga people. It was imparted to male clan members informally in the men's houses; those who sought more active public roles continually built upon this corpus of knowledge whenever opportunities arose. With the absence of men's houses today, it is no longer systematically transmitted. Historical information was contained in a variety of Enga oral traditions, so it was intriguing to work out what we could learn from different sources drawing on the insightful work of Roderic Lacey (1975; 1979).

1.3.1 Origin Traditions and Genealogies

The Enga distinguished between myths (*tindi pii*) and historical narratives (*atome pii*), although the two are entwined in origin traditions. Most tribal histories began with origin myths that provided markers for shared identity: the names of tribal founders and their spouses, places of origin and past economy. All tribal origin traditions included genealogies linking the narrator to the tribal founder, covering ten to fourteen generations. Genealogies established social and political divisions, tied groups to certain tracts of land and specified relations to one or more other tribes. Genealogies could be divided into two periods: the first covered the earliest two or three generations recording fictive ancestors who were representative of tribes and clans. We called this period "the founding generations." The second period began with the generation of subclan founders, from approximately the seventh generation