

An Applied History of Indigenous Deer Hunting: Lessons in human-environmental relationships from Dutch Formosa

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Abstract

In the context of global environmental change and increasing calls for sustainability, history can provide critical lessons on how to initiate a transition towards a more equitable, sustainable, and environmental-friendly future. This research seeks to uncover such lessons through a case study that examines deer and deer hunting in seventeenth-century Dutch Formosa, drawing connections to contemporary discussions on Indigenous hunting practices. By reading archival materials from the Dutch East India Company and Chen Di's travel records against the grain, this research foregrounds the historical agency of Indigenous peoples and non-human actors. It posits that current frictions between Indigenous hunters and the Taiwanese state must be understood through the lens of settler colonial history. Borrowing from Povinelli's concept of geontopower, this study argues that ongoing transformation of Indigenous hunting practices and human-deer relationships resemble seventeenth-century geontological power formulations. These findings offer valuable lessons that can inform current debates on Indigenous hunting practices in Taiwan as well as wider debates on sustainability cultures.

Keywords: Dutch East India Company; Taiwan; Indigenous peoples; deer hunting; geontopower; applied history

Introduction

In 2013, Tama Talum, an elderly Bunun tribesman, was arrested and subsequently sentenced to three and a half years in prison by the Hualien Country District Court in Taiwan. Talum was convicted of killing two protected deer species with an illegal weapon, breaching both the Wildlife Conservation Act and the Controlling Guns, Ammunition and Knives Act. His defence vainly argued that hunting forms an intrinsic part of Bunun culture and that Talum's motive was to support his ailing mother. Talum's arrest and conviction sparked a prolonged and fierce debate on indigenous hunting rights in Taiwan. The case was taken to the Supreme Court, which, in the notable Interpretation No. 803 of 2021, declared certain provisions of the Controlling Guns Act unconstitutional, including the requirement that Indigenous hunting weapons be handmade. However, the Conservation Act was upheld as constitutional, and Talum's sentence was not overturned. A rare presidential pardon issued by President Tsai Ing-wen two weeks after the court ruling spared Talum from imprisonment.

What are we to make of this case? Why did it lead to such a protracted legal battle that even attracted foreign media attention? The Talum case epitomised the ongoing frictions between Indigenous communities and settler colonial states regarding differing perceptions and epistemologies about human-environmental relationships. Talum's defence invoked the right to practice traditional Indigenous lifestyles and argued that Bunun hunting fundamentally differs from commercial hunting and does not threaten animal populations. In contrast, the Government of the Republic of China (ROC), which controls Taiwan, delineated appropriate hunting practices and regulated interactions with certain wildlife through its legal statutes. The Conservation Act of 1989, implemented to prohibit commercial hunting, imposes significant restrictions on Indigenous hunting by requiring hunters to specify the number and types of animals to be hunted through an administrative process. And what about the deer? They have become central to these discussions on conservation and animal rights but are themselves represented and shaped by the island's four-hundred-year history of settler colonialism.

This research analyses the historical origins of this coming together of deer, Indigenous hunters, and state courts in Taiwan. It first provides an overview of existing research into the seventeenth-century origins of deer hunting on the island and proposes a more inclusive, posthumanist approach to this history by using the concept of 'geontopower'. Second, it provides a brief overview of Taiwan's deer history, providing space for deer in history-making processes. Third, this research outlines the geontopower formulations under Sino-Dutch settler colonisation through primary source analysis. Fourth, and last, it argues that these geontopower

formulations under the first colonial power structures in Taiwan help to understand current discussions on Indigenous hunting rights on the island. By doing so, this study provides valuable insights into the historical and violent processes underpinning the transformation of human-environment relationships, which are integral to sustainability cultures in settler colonial states such as Taiwan. These insights not only help contextualise the conflicts exemplified by the Talum case but also highlight the potential for rethinking current human-environment relationships.

Histories of Dutch Colonial Taiwan

The continuous salience of four centuries of settler colonialism in Taiwan is reflected in the asymmetrical historiography of colonial, Indigenous, and deer history. The arrival of the Dutch East India Company on Taiwan in 1624 is frequently regarded as the beginning of the island's modern history. This period has been used ideologically to support state-building and 'Chinese nationalism' by depicting it as the symbolic beginning and advancement of Chinese immigration (**Chiu, 2008: 9**). This national narrative has been challenged by various global histories that highlight the complexities of the relationship between the Company and the many Chinese merchants, hunters, and sugar farmers who migrated to the island under the Company's institutional framework during its forty-year presence (**Blussé, 1986; Shepherd, 1993; Heyns, 2003; Andrade, 2008**). Besides Sino-Dutch interactions, these global historical analyses of seventeenth-century Taiwan have also incorporated histories of Japanese sovereignty claims (**Clulow, 2016**) and the brief Spanish presence in the northern part of the island (**Borao, 2007**).

Despite challenging nationalistic narratives, historical research on Indigenous Peoples in Taiwan is still characterised by the primacy of settler agency. Although the emergence of the Indigenous rights movement in the 1980s and 1990s has led to increased scholarly attention on both historical (**Blussé and Roessingh, 1984; Kang, 2003; 2018; Chiu, 2008**) and contemporary developments (**Huang et al., 2021: 1-2; Simon et al., 2023**) within Indigenous communities, research on Indigenous hunting practices in seventeenth-century Dutch Formosa—referring to the former Company-controlled area on Taiwan's southwestern coastal plain—have largely maintained a settler-focused narrative.

This is also evident in global histories of the wider Southeast Asian deerskin trade (**Winters, 2020; Laver, 2012; Sprey & Hall, 2020**) and settler exploitation of the environment (**Richards, 2003: 89–111**) as well as micro-histories detailing the Sino-Dutch exploitation of deer through systems of hunting licences and village leaseholds (**Liu, 1998; Shepherd, 1998;**

Andrade, 2005; Tseng, 2011; Koo, 2011; Cheng, 2017). In contrast, research on contemporary Indigenous hunting practices has provided more space for Indigenous agency, analysing the tensions between Indigenous hunting rights and state law (**Charlton et al., 2017; Simon, 2009**), the potential benefits of Indigenous hunting for wildlife conservation (**Simon and Mona, 2015**) and sustainability (**Fang et al., 2016**), as well as the conservation of Indigenous hunting education (**Chang et al., 2015**). However, these contemporary analyses remain largely anthropocentric, often neglecting the role of the hunted animals and treating the early settler colonial structure and context in which Indigenous hunting transformations and contemporary frictions have emerged as self-evident.

Towards More Inclusive Notions of Historical Agency

In writing an environmental and deer history, this study aims to create analytical space for Indigenous epistemologies and animal agency. Deer history is understood here as the human record of deer-human interactions from which deer agency can be uncovered. By doing so, it responds to posthumanist calls within the fields of environmental and animal history for less anthropocentric notions of historical agency (**Domanska, 2018**). Many animal histories have explored the connections between (settler) colonial transformations of (domestic) animals in colonised (**Coleman, 2004; Swart, 2010**) and colonising spaces (**Landry, 2008**) as well as the changing perceptions of animals and animal agency over time (**Datson & Mitman, 2005; Ritvo, 2010; Pearson, 2013; 2016**). These histories have been extended by research on animal geographies, analysing 'how the ways in which human and nonhuman agencies have shaped each other through time' (**Rutherford & Wilcox, 2018: 3**).

This study continues these efforts for more inclusive notions of historical agency by going beyond a narrow analysis of deer hunting from the perspective of contesting sovereignty claims or settler colonial policies. In doing so, it aims to do justice to the historical development of Indigenous hunting practices as well as the contested histories of Taiwan's different deer species, which have experienced successive waves of settler colonialism in various ways. Thus, this study ventures into the field of posthumanism and engages with species entanglements (**Harraway, 2008**) and assemblages (**Tsing, 2015**) that have materialised within the consecutive settler colonial structures of exploitation and resistance in Taiwan's modern history.

Geontopower

This coming together of deer, Indigenous contestations, and state power also exposes underlying notions of what constitutes the ordering of Life and Nonlife, as defined by Elizabeth Povinelli's concept of geontology (2016). Are deer merely entities that need to be conserved or hunted for their 'products', living within an inanimate landscape? Or do we regard these animals as integral members of our community and cosmologies, with whom we coexist or *become with* (Harraway, 2008) in a perpetually changing landscape of ever-changing forms (Kohn, 2013: 161–165)? According to Povinelli (2016), the power to define this ordering and division of Life and Nonlife constitutes 'geontopower': 'a set of discourse, affects, and tactics used in late liberalism to maintain or shape the coming relationship of the distinction between Life and Nonlife' (2016: 4). The Talum case illustrates how this power is codified in laws that directly regulate the lives of Indigenous peoples, confining them to a cramped space in which they struggle to preserve their 'critical analytics and practices of existence' (2016: 6). As Povinelli argues, this formulation of power is particularly evident in settler colonialism:

This division, and the hierarchical relations it creates, has long operated 'in the open' in settler colonialism. It allowed colonialism and capitalism to sever and then to relate a hierarchy of things, rights, and values—the rock and mineral, the indigenous and black, the white and his glorious future (Povinelli, 2019).

Dutch colonial Taiwan is an interesting case study, since racial hierarchies were less distinct as Chinese settlers shared and expanded settler geontopower, surpassing the notion of Asian settler colonialism as merely the (un)conscious appropriation of Indigenous physical and socio-cultural landscapes within a white settler system (Saranillio, 2013). Moreover, the division and the hierarchal ordering of Life and Nonlife not only cramped Indigenous space but also initiated transformations in various deer populations in Taiwan that persist today.

By incorporating the concept of geontopower into a historical analysis of the interactions among deer, Indigenous hunters, and settler geontologies in Dutch colonial Taiwan, this research goes beyond anthropocentric biopolitical notions of settler colonialism (Morgensen, 2011). It demonstrates that, in addition to Indigenous ways of life, belief systems, and coexisting, animals—specifically deer—have also experienced the settler colonial logic of elimination (Wolfe, 2006), as evidenced by the extinction of Sika deer. This study contends that seventeenth-century settler colonial formulations of geontopower are still relevant for understanding contemporary debates on Indigenous deer hunting in Taiwan.

Methods and Sources

By contextualising and historicising current debates regarding deer hunting, this study aims to inform current stakeholders and help them avoid falling into the geontological pitfalls of the past. Therefore, this study constitutes an applied history. Similar research on the Company's hunting of the eastern Arctic Bowhead whale has provided insights for contemporary environmental regulations and wildlife conservation policies (Allen & Keay, 2004).

However, this study aims to go beyond a mere policy analysis by making a methodological contribution as well. By comparing early modern and contemporary forms of settler colonialism in Taiwan, this research expands on the three general epistemological concerns of applied history outlined by Mens (2023: 96–98): focusing on the particular rather than the universal, emphasising qualitative over quantitative analysis, and highlighting human agency. Through qualitative analysis of contemporary and historical archives, this research identifies 'seemingly recurrent patterns of behaviour' in settler colonial geontopower related to Indigenous deer hunting practices, thus addressing the first two concerns (Mens, 2023: 97). Additionally, this study demonstrates the potential for applied history to incorporate non-human forms of historical agency, illustrating that 'applied history can consider the long-term implications of decisions' that are not exclusively human (Mens, 2023: 98).

This study analyses a combination of Dutch and Chinese historical records, including the Dutch East India Company's daily registers (*Dagregisters*) which were originally held at Fort Zeelandia (Blussé et al., 1986), archives of Dutch-Formosan encounters compiled by Blussé et al. (1999; 2000; 2006), and the *Dongfan ji* (東番記) written by Chen Di (陳第), a Ming military advisor and literatus (Thompson, 1964). By reading the Company records against the grain, looking for the unwritten (Stoler, 2009) we can uncover both Formosan agency (Chiu, 2008: 10) and animal agency (Fudge, 2014: 264). Additionally, Chen Di's record of Formosan deer hunting practices, understood by one critical scholar as an example of Chinese imperial discourse based on legitimate otherness rather than inherent superiority (Jenco, 2021), provides valuable insights into early modern Ming-Formosan geontological debates.

The Lamentation of the Taiwan Deer

The Formosan Sika (*Cervus nippon taiouanus*), the Formosan Sambar (*Rusa unicolor swinhoei*), and Reeve's Muntjac (*Muntiacus reevesi*) are the three deer species most frequently documented in historical and contemporary

human records of Taiwan. Successive waves of settler colonialism over the past four centuries have impacted these deer differently.

The Sika are most prevalent in historical accounts due to their behaviour, habitat preferences, and interspecies competition. Sika migrated from southern China to Taiwan approximately twelve thousand years ago (**McCullough, 2009: 550**). They rapidly adapted to the island's environment due to a lack of natural enemies and the abundance of grasslands and forests (**Chen, 2000**). Sika usually form herds and prefer open- and mixed-feeding spaces with grasses, forbs, and browse, thriving even in areas disturbed by natural events or human agriculture.

Historically, this adaptability led to numerous human-deer encounters in Taiwan (**McCullough, 2009: 552–553**), further facilitated by the island's landscape. The central mountain range, characterised by dense forests and difficult terrain, was impassible for the Sika due to occasional mudslides caused by earthquakes, typhoons, and heavy rainfall. Competition with the larger Sambar deer, which were physically stronger and better adapted to this challenging landscape, further hindered the Sika's migration to higher elevated areas (**McCullough, 2009: 551–552**). Consequently, Sika remained confined to the human-populated southwestern coastal plain, resulting in frequent Sika-human interactions.

The seventeenth century marked the beginning of a period of continuous hardship for Sika deer, during which their numbers were reduced as the settler frontier continued to expand. Eventually, overhunting, facilitated by settler geontopower, led to their extinction on the island in the 1970s. Subsequent efforts by the ROC government to establish a recovery programme and reintroduce Sika deer into the wild were closely connected to the historical Sika-human encounters in Taiwan and China (**McCullough, 2009: 555–556**). Sika have become ingrained in the island's historical memory and continue to be celebrated, as evidenced by their depiction on Taiwan's 500 New Taiwan dollar (NTD) bill and their presence in numerous deer sanctuaries and national parks in which they serve as tourist attractions.

The Sambar and Muntjac are also closely connected to the island's colonial history, as reflected in their nomenclatures that trace back to the nineteenth-century British naturalists and British East India Company employees, Robert Swinhoe and John Reeves, respectively. Besides Taiwan, both species have also inhabited the English landscape since the late nineteenth century after being introduced there in captivity (**Cooke, 2019: 3-4**). The Muntjac, in particular, has a complex migration history and is now part of heated debates on wildlife conservation in various European countries (**Ward et al., 2021**).

In Taiwan, the Muntjac and Sambar have only recently gained prominence in human records due to several factors. Firstly, both deer were likely less favoured hunting targets than the Sika for medicinal purposes due to their short antlers (Cooke, 2019: 21). Moreover, their habitats in higher elevations and hills were less accessible to seventeenth-century settlers. Furthermore, the Muntjac, being a solitary and significantly smaller animal than the Sika, does not have a specific rutting season (Yen, 2017: 49), reducing the risk of overhunting during these periods. However, these sheltered conditions have changed in recent decades, especially for the Sambar, which is now farmed for their velvet antlers (Chan et al., 2009).

The violent displacement of Indigenous communities to the central mountain range over the past four centuries likely increased human-deer encounters since these communities moved closer to the habitats of the Muntjac and Sambar. In the 1980s, with the implementation of international conservation policies at the national level, both the Sambar and Muntjac were granted protected status in Taiwan. This combination of marginalising Indigenous hunting practices and stricter conservation policies has led to increased tensions between the state and Indigenous hunters. This tension culminated in the Talum case, where Talum was convicted for poaching a Muntjac. Thus, these deer have become prominent in human records primarily due to the restriction of Indigenous hunting territories and the perpetuation of settler geontopower.

Due to their incidental and inconsistent presence in archival records, it remains challenging to construct a comprehensive history of Taiwan from the perspective of these deer, as it is impossible to directly convey their experience or, from a subaltern perspective, ‘speak for them’ (Spivak, 1988). Nevertheless, imaginative endeavours, such as Hsieh Pi-hsiu’s *Lamentation of the Taiwan Deer*, offer a glimpse into what a historical, first-animal account could look like:

We could once leisurely stroll in the forests

A beautiful view on the face of Formosa

We were closer to this island prior to mankind

Should beauty equate sorrow?

Should a rarity become a target?

Should extinction be the fate of escape?

The greed of mankind

The bloodiness of mankind

Wearing our branched antlers

*Striding with raised heads in urban jungles
Yet still cannot conceal that intrinsic ugliness
We cannot be transplanted or replaced
Hereafter
We will only be a frame-mounted scenery
of a deep and verdant forest (2022: 77).*

Contested Indigenous Hunting

Hsieh's poem captures the transformation of deer from experiences of abundance, freedom, and life into experiences of hardship, containment, and nonlife. This transformation also extends to Indigenous hunting practices and deer relationships, which were subjected to oppressive geontological power formulations of settlers. The records of Chen Di and early Dutch missionaries residing in the Sirayan villages on the southwestern coastal plain reveal insights into pre-settler Indigenous hunting practices and deer relationships, documenting Indigenous hunting methods, customs, and rituals. For example, in Soulang, a Sirayan village, hunters employed fire to drive deer herds into ambushes where they were speared using assegais (**Blussé et al., 1999: 21**). The account of Chen Di reveals how hunters encircled deer herds (**Thompson, 1964: 175; Liu, 1998: 172, 173**), a method also used by the Favorolang tribes north of Tayouan (**Chiu, 2008: 16, 17**). Accounts of Dutch missionary George Candidus also include these encircling methods in 1628 and mentions the use of bells attached to assegais to track speared deer that had escaped. Other hunting methods included snares made from bamboo, rattan, or rope that were placed in dense foliage or open fields, and bows and arrows that were used by smaller hunting parties or individual hunters (**Blussé et al., 1999: 116, 117**). Hunting regulations, such as the prohibition of individual deer hunting and the restriction of the main hunting season to winter, ensured the recovery and health of deer herds over long periods of time (**Thompson, 1964: 175; Liu, 1998: 172, 173**).

Although deer hunting was not primarily practiced for commercial purposes, Sirayan villages did trade various deer parts with Chinese and Japanese merchants. Chinese traders were mostly interested in the organs and venison of deer used for medicinal purposes. Japanese traders valued deerskins because of their water-resistant character, which made them a suitable fabric for different kinds of clothing and armour used by the samurai classes (**Laver, 2012: 14; Sprey and Hall, 2020: 218**).

However, as evidenced by early Dutch accounts of Soulang in 1623, the use of procured deer parts went beyond mere economic purposes:

The treasure of their house (...) consists of deerskins which they lay down for each other at their gatherings, to sit or to sleep on. They also show off their assegais, swords, or choppers, of which even the handles are made of deerskin, nicely or artfully drilled and engraved, in which they are extraordinarily skillful. There is no doorpost, pillar or anything that can possibly have something attached to it in or around the house that has not been covered with deerhorns, heads, jaw-bones or other trumpery. Why they do this, out of peculiarity, superstition or some other reason, I do not know (Blussé et al., 1999: 16, 17).

The use of deer parts for Sirayan military purposes is also evidenced by deerskin utilised in war drums and warrior's garlands (Chiu, 2008: 17). However, as the passage above shows, human-deer relationships also developed on a sociocultural level. Sirayan wedding gifts often consisted of deerskins and wedding rings were made of deer bone (Blussé et al., 1999: 17). Furthermore, deer also featured prominently in spiritual practices, with skulls of deer and boar used in offerings to bless rice harvests. This might be related to the abstention of consuming certain foods in some Sirayan villages to prevent deer and boar from destroying the crops (Blussé et al., 1999: 86; Chiu, 2008: 16; Andrade, 2008: 15). The Dutch accounts correspond to that of Chen Di who also notes the various uses of deer parts (Thompson, 1964: 175). This interconnection between humans and deer shows a form of human-animal communication aimed at fostering a beneficial interrelationship.

This interrelationship found in the archival sources is also significant for contemporary discussions on Indigenous–deer relationships. For example, potential traces of these historical hunting customs, rituals, and purposes are found in contemporary Indigenous hunting practices. The Atayal and Truku communities, for example, limit hunting seasons and enforce rules to ensure animal recovery (Fang et al., 2016: 38; Simon, 2023b: 82–84). Additionally, Scott Simon's ethnographic research highlights that hunting among the Sediq and Truku goes beyond the mere practice of killing an animal:

Hunting is important for the intergenerational transmission of lifeworlds, as hunting provides a rare context in which Sadeq men transmit bodily skills and the ethics of Gaya to their sons in their own languages. Hunting is a relationship with deceased ancestors, whom hunters invoke in rituals surrounding the hunt and remember while traversing the pathways of the forest (2023a: 81).

Because of the continuous salience of deer and other hunted animals in Taiwan's Indigenous cosmology, society, and economy, both historical and contemporary records show no evidence of overhunting by Indigenous peoples (Thompson, 1964: 177; Simon, 2009: 410; Weng et al., 2022). There is convincing evidence that Indigenous hunting customs are designed to reduce the stress on wildlife and ensure the sustainability of animal populations (Fang et al., 2016: 37–39). Although Indigenous beliefs and customs have been affected by conversion efforts of Catholic and Presbyterian missionaries throughout Taiwan's settler colonial history, ethnographic research illustrates their persistence in contemporary Indigenous hunting practices (Fang et al., 2016: 39; Simon, 2023b: 87).

This does not imply that all Indigenous hunting should be viewed through the lens of Rousseauian 'noble savagery'. Contemporary ethnographic research has highlighted significant issues associated with the illegal bushmeat trade, where traders exploit the socioeconomically marginalised position of Indigenous communities by offering income in exchange for hunting (protected) wildlife (Simon, 2023b: 86–87). As mentioned before, historically, trade activities by Indigenous communities surrounding deer were not uncommon prior to the arrival of the Company. However, the key difference between these past and present practices lies in the nature of the trade. While historical Sirayan deerskin trade supported both a high standard of living and healthy wildlife populations, contemporary hunters face pressure from market forces and legal restrictions imposed by the state (Simon, 2023a: 86), which echo the constraints imposed by settler colonialism.

Seventeenth-Century Settler Geontopower

The coming to be of the cramped space within which Indigenous hunters find themselves today can be traced back to the arrival of the Dutch East India Company in the seventeenth century. This period marked the onset of Chinese settler colonialism and the earliest coming together of various deer, Indigenous, Dutch, and Chinese assemblages, which brought about significant geontological transformations. Even the Company's decision to settle in Tayouan was partly influenced by the presence of large deer herds on the southwestern coastal plain (Blussé et al., 1999: 1–3). A 1623 scouting report on the Sirayan village of Soulang by Dutch merchants Jacob Constant and Barend Pessaert indicates the Company aimed to maximise its procurement of deerskins from the very beginning of their settlement:

...we do not doubt that this country has less abundance of game than Siam or any other place, for, as soon as you go ashore, across from the roads of Tayouan it leaps up before your eyes in great number, just like

the wild boars whose plenitude in our opinion can be compared only to that of few other countries. The interior of the land consists more or less of clay and it would be fertile (in my opinion) if the natives did not lack knowledge, diligence, and industry, or if the Chinese who live among the natives were not too weak to turn their hands to the plough. [...] there are only a few things available that would be of use to Your Honour's Company. These are well known to everybody: a good roadstead and safe anchorage for ship. A steady supply and considerable quantity of deerskins (for which we would have to wait with patience) (Blussé et al., 1999: 21).

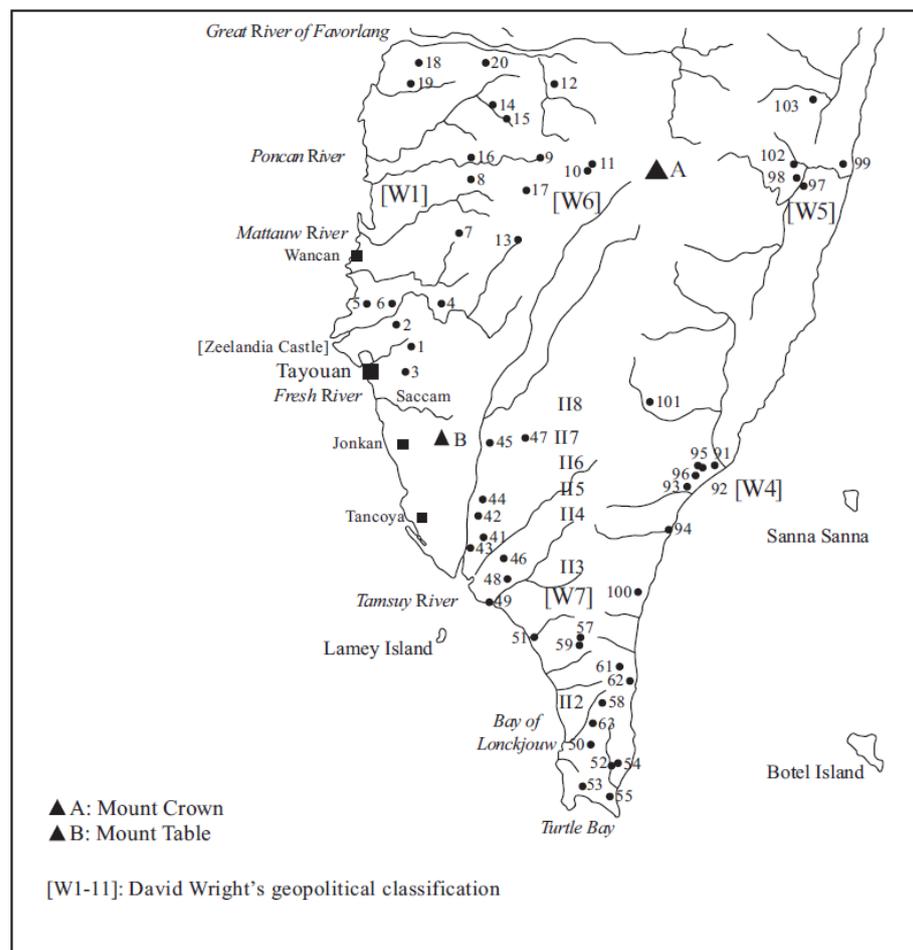


Figure 1. Chiu's (2008) Overview of the Geographic Distribution of Formosan Villages in Southern Formosa. Source: Chiu (2008, xxv). Chiu based this map on two different maps in Shepherd (1993: 11) and Kang (2005: 24, 169). David Wright's geopolitical classification refers to the work of Scottish Company servant David Wright, who described the power relations between different Formosan villages and the Company in Taiwan. Chiu divides these into eleven categories (see Chiu 2008: 112). The Sirayan area constitutes of the villages 1 through 3 and 5 through 6, which are respectively Sincan, Bacaluan, Tavakan, Soulang and Mattau. The full list of villages can be found in Chiu 2008: xxvii. This map was used with permission from the author.

From 1636 onwards, the Company gradually achieved this goal due to the materialisation of relatively stable and peaceful relations with Indigenous villages in the southwest (see Figure 1) (**Andrade, 2008: 135, 136**). This *Pax Hollandica* was primarily constructed through the Company's divide-and-conquer strategies, which also resulted in the violent subjection of the Favorolang villages north of Tayouan in 1638 by a Dutch-Sirayan military force. As a result, already-present Chinese deer hunters were more protected from Indigenous resistance, transferring a large amount of hunting fields to Dutch and Chinese hunters, who gained two-thirds of the total hunting territory (**Blussé & Everts, 2000: 227**). The intrinsic difference between the Company's objectives in procuring as much deer as possible and those of the Sirayan communities is also evident in the passage above. These objectives were underpinned by distinct geontologies which were most clearly manifested through the various policies issued by the Company concerning Chinese deer hunters and deerskin traders.

The peace treaty between the Company and the long-resistant village of Mattau in 1635, which served as a blueprint for subsequent treaties (**Andrade, 2008: 121–122**), provides an early glimpse of changing geontologies on the island. The treaty included a condition granting Chinese deerskin traders a free passage through the village (**Blussé et al. 1999: 304**), reflecting the perception that deer were first and foremost perceived as a commodity. Additionally, Mattau was forced to deliver a large sow and a boar to the governor at the fortress annually, symbolising the transfer of sovereignty to the Company (**Blussé & Everts, 2000: 16, 19, 39**). This underscored the geontological transformation of animals into Nonlife, a monetary tool used to secure the transfer of sovereignty. This transformation was further reinforced by the introduction of taxonomies *cabessa*, *bariga*, and *pee* for determining the price of deerskins based on their quality. In 1644, four *cabessa* skins were worth eight *bariga* and sixteen *pee* (**2000: 433**). Nonlife, therefore, does not imply that deer are seen as lifeless beings, but that they are subject to a colonial and hierarchal ordering in which their economic potential is taken as the most important feature of their aliveness.

Following the conquering of Mattau, the Company began issuing the first hunting licences exclusively to Chinese settlers (**Blussé & Everts, 2000: 22; Andrade, 2008: 121–122**). These licences enabled the Company to increase the procurement of deerskins. Hunters used pitfalls to trap large herds of deer at once (**Andrade, 2008: 137, 138**), severely depleting Sika deer and confining Indigenous hunting to the margins. In 1639, the Company banned pitfalls, not out of concern for deer populations or Indigenous hunting practices, but because pitfalls caused many deer to tremble and bleed, resulting in blood-stained skins that reduced their market value (**2008: 136**). As early as 1636, when the first licences were

issued, Formosan Governor Putmans disregarded multiple warnings from missionaries in the Sirayan villages regarding the depletion of deer (**Blussé & Everts, 2000: 22, 28**). It was only when it became evident that pitfalls threatened the profitability of deerskin procurement that the Company acted. Therefore, the Company's attempts to 'conserve' deer by banning harmful hunting practices maintained settler geontologies, in which the economic potentiality of deer was perceived as the most important aspect of their being.

These geontologies were perpetuated in settler formulations of power even after the abolition of the licence system. In 1644, the village leasehold system was introduced, granting exclusive trading rights to Chinese merchants to trade with 'pacified' Indigenous villages. The Company's intent was to retain the profits from licences while gradually shifting hunting practices back to Indigenous inhabitants, who would sell their produce to Chinese leaseholders, forcing them to participate in the colonial market. In practice, lease prices skyrocketed, and Chinese leaseholders faced intense pressure to break even. This resulted in leaseholders squeezing Indigenous communities financially to the extent that the Company began providing subsidies to some villages, funded by a fraction of the profits from the deerskin trade and leasehold system (**Blusse & Everts, 2006: 222, 269; Andrade, 2008: 149, 150, 167–169**).

Geontological transformations of deer were furthered by the tribute system implemented by Governor Traudenius in 1643, which built upon the conditions of the peace treaty with Mattau. This system demanded tribute from villages, often in the form of deerskins, symbolising the Company's power over conquered villages (**Blussé & Everts, 2000: 351, 432–433**). In some cases, such as in the village of Parissinawan, inhabitants had to barter deerskins with more remote villages to meet the Company's tribute requirements (**2000: 474**). In the northeast of Formosa, villages were even forced to pay in gold or silver due to their lack of deerskins (**2000: 577**). As a result, deerskins began to function as currency in several parts of the island by 1649 (**2000: 352**). This tribute system exemplifies how geontologies were mirrored in treaties, often backed by military power, constructing hierarchies and regulating what counts as valuable or exploitable. This even affected villages that had previously remained unaffected by the deerskin trade and the colonial market.

The geontological transformations and the forceful incorporation of Indigenous hunting practices into settler markets, made possible by the implementation of the licence, lease, and tribute systems, led to various conservation policies by the Company aimed at safeguarding the steady 'supply' of deer which was threatened by the self-inflicted problem of overhunting. The previously mentioned ban on pitfalls in 1639 and the

1647 ban on snares issued by the Batavian government are examples of this. However, there were other considerations for implementing such policies, for example, in 1647, to maintain political stability:

You will not allow to set snares for catching deer on Formosa until our further notice, so that the deer and hinds will have some breathing space, and the indigenous peoples will have no reason whatsoever to complain that we are diminishing their sustenance by that measure; for if their animals do become extinct, they will have a hard time finding any food at all (Blusse & Everts, 2006: 199).

Additional motivations for issuing ‘conservation’ policies were related to the Company’s aim to increase Indigenous farming activities. In 1651, the Company issued a ban on snares and nets for Sirayan inhabitants, hoping this would compel them to abandon their hunting practices, deemed as lazy, and to take up farming instead:

Therefore we now have once more unanimously decided completely to abolish this setting of snares and the spreading of nets for this year [...] notwithstanding the fact that Reverend Gravius residing in Soulang is raising some not unreasonable objections, that are however in our opinion essentially unfounded, because he seems to be more concerned about looking after the interests of the Soulang people in particular, than about our goal of the general preservation of hunting in Formosa. Even nowadays the inhabitants, by employing their old practices (when they did not yet know anything about these methods), and by hunting without setting nets or snares, can catch as much game to support themselves, while in addition these lazy people will also be engaged in steady physical exercise through which they might in time be stimulated to take up farming and other gainful labour (Blusse & Everts, 2006: 363).

These passages highlight the Company’s main interest in maintaining the economic potential of deer. They also uncover a different worldview regarding deer hunting and deer populations compared to Sirayan inhabitants whose societal and cosmological relationships with deer populations were erased by these policies, following Wolfe’s notion of settler colonialism as constituting an inherent logic of elimination (2006).

The Continuous Salience of Settler Geontopower

The seventeenth-century geontological transformations described here reshaped the position of deer within the hierarchy of Life and Nonlife, leading to their systematic elimination and permanently altering their status in Taiwan. Today, the animal continues to be regarded as a pest by

people who compete with deer for (farm)land and grazing space for settler-introduced cattle (**Pei, 2002: 15**). The paradox of deer conservation due to self-inflicted problems of overhunting persists as well. Sika deer, though protected by the textual reality of state conservation laws, continue to be commercialised as tourist attractions in zoos, farms, and national parks. The construction of national parks in Taiwan, based on US models rooted in colonial and racialised ideas of Indigenous peoples (**Ramutsindela, 2020: 207, 208**), has especially been significant in the containment of Sika and other protected deer species, as well as the restriction of Indigenous hunting activities (**Wang, 2021: 227–228**).

Similarly, the seventeenth-century geontological transformations that marginalised Indigenous hunters and led to a forced participation in the colonial market through licence, lease, and tribute systems continue to be resembled by contemporary state policies on Indigenous hunting practices. Restrictions on hunting weapons, which continue to impede Indigenous hunting possibilities, resemble the Company's colonial policies aimed at forcing Indigenous people to intensify farming by restricting hunting methods. Furthermore, the disruption of Indigenous relationships with deer through imposed settler systems continues to resonate, as Indigenous hunters remain bound by licences issued by local authorities. In response to the No.803 interpretation and the Talum case, an amendment was proposed to increase Indigenous self-management of hunting practices through different regulative stages: maintaining current hunting regulations, a self-management trial, and complete self-management (**Zheng, 2022**).

Even in the most autonomous scenario of self-management, hunters continue to be restricted by administrative contracts with the local authorities. In practice, the most common scenario for Indigenous hunting, under current regulations, requires hunters to declare in advance the number and kind of animals they intend to kill, reflecting a persistent unwillingness to acknowledge Indigenous hunting practices and underlying geontologies (**Zheng, 2022**). Put differently, it shows the continuous cramming of Indigenous space 'to keep relevant their critical analytics and practices of existence' through state policies (**Povinelli, 2016: 6**). Current problems surrounding the illegal bushmeat trade show how difficult it is to escape this process (**Simon, 2023b**).

There are, however, some glimpses of hope. A recent report from the Forest Bureau in Chiayi on the prospect and development of Indigenous hunting self-management now includes sections on Indigenous culture, epistemologies, and hunting customs, including notions such as Gaya (**Zeng & Weng, 2021**). Moreover, academic evidence in support of Indigenous hunting autonomy is growing. For instance, a study by Weng

et al. (2022) found that deer and other animals categorized as protected or endangered thrive in areas where Indigenous hunting occurs, demonstrating the positive relationship between healthy wildlife populations and Indigenous hunting practices.

Conclusion

The seventeenth-century geontological transformation that occurred under Sino-Dutch settler colonialism was characterised by prioritising the economic potential of deer life and the politically controlling Indigenous hunting rights. This transformation has irreversibly altered human-animal relationships on the island. However, between the first hunting policies of the Dutch Company and contemporary policies on Indigenous deer hunting, four hundred years of history have reshaped and remade human-animal relationships under different colonial regimes in Taiwan in distinctive ways. Further research can analyse how this process has exactly been shaped throughout Taiwan's colonial history.

Whether it is desirable to completely restore hunting practices prior to the first period of colonisation in Taiwan or whether it is possible to keep current hunting practices from being corrupted by profit motives are discussions beyond the scope of this study, as this calls for a discussion on the desirability of the broader capitalist system in which these hunting practices take place; a system in which labour and nature are continuously made cheap (Patel & Moore, 2020). Moreover, this pertains to discussions on the current political system and Indigenous governance in Taiwan.

Despite its limitations, this study can still offer valuable lessons for reflecting and uncovering potential perpetuations of settler-colonial geontological underpinnings of current state policies regarding Indigenous deer hunting. In doing so, it can avoid current stakeholders falling into the geontological pitfalls of the past. Clearly, the Talum case has revived societal debates regarding Indigenous hunting practices in Taiwan that have been around since the seventeenth century. This research has shown that applied history can play an important part in informing these larger democratic and open debates. Particularly, when these histories include more inclusive notions of human agency. Additionally, it reveals that the underlying frictions between Indigenous hunting communities and the geontological power structures enforced by the central state through laws and amendments, must be understood within the context of Taiwan's colonial past. Therefore, (re)thinking Sustainability Culture requires a critical attitude towards historically (in)formed geontological underpinnings of decision- and policy-making processes.

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