WANING STARS—CHANGES TO TAKÛ’S STAR KNOWLEDGE

RICHARD MOYLE

University of Auckland

Local oral tradition suggests that star lore for navigation purposes on the Polynesian Outlier of Takû was vested principally if not exclusively in the captains of the ocean-going canoes which voyaged in pairs to several other Outliers to the east and southeast until the mid-19th century. Such knowledge was both privileged and sacred. However, the introduced disease that caused the drastic reduction in population in the late-19th century not only brought about the demise of these canoes through the dearth of able-bodied men to crew them, but also killed the captains who had not earlier passed on their knowledge to the next generation. The uneven spread of star knowledge evidently existing within the able-bodied community at that time has been maintained for at least three generations in the persons of the elderly handful of great-grandchildren of the survivors of the epidemic. Although descendants of those survivors routinely defer to them in all discussions of star lore, making an intergenerational assessment difficult, it appears that members of present younger generations on Takû are unaware not only of the relationships between specific stars and certain natural phenomena, but also in many cases of the names of the stars themselves and, indeed, cannot identify them in the night sky. This article examines indigenous knowledge of stars in both the historical past and the present, and the contexts in which such knowledge was and is used.¹

Takû (also known as Mortlock Island or “the Mortlock Islands”) is an atoll lying some 200 km off the east coast of Bougainville in Papua New Guinea. It maintains contact with the neighbouring Outliers of Nukuria (Fead Is.) and Nukumanu (Tasman Is.), and infrequently with other Outliers located within Solomon Islands. The present population of some 450 persons lives in a single community on Nukutoa Island. This article is based on 12 months ethnomicological fieldwork between 1994 and 2001.

STAR LEARNING AS A FORM OF KNOWLEDGE

Indigenous knowledge takes several forms on Takû. Particular forms may be based on such factors as gender, age or lineage, but wider groupings also exist. For their part, recollections in varying forms of clarity, and including both those capable and incapable of verification, all represent
Waning Stars—Changes to Takū’s Star Knowledge

forms of knowledge. Within Takū’s community, knowledge in a broad sense is imparted in different ways according to the perceived presence or absence of a supernatural dimension, that is, whether knowledge is deemed to be secular or sacred.

Within the types of secular knowledge freely available to all in the community, practical skills such as tree-climbing, nut-husking, food preparation, lagoon fishing techniques, propelling a canoe and gardening labour are gained principally through observation or, in the case of fishing techniques, taught through parental or kin-related instruction in the context of informal education.

By contrast, song and dance rehearsals for performance on the ritual arena (marae) or at the annual school concert constitute formal education whose details – timing, location, frequency, duration and contents – are predetermined by each teacher, and those who are learning are expected to accept instruction without question. The nature of both the preparation and enactment of song and dance is embued with a degree of protocol not found in other activities, which suggests a high level of social significance reinforced by the very frequency of performance. Such protocol assumes both an understanding of the significance of poetic references to supernatural beings and their various activities and powers, and also an adherence to the belief system underpinning such references, such that song performance straddles the realms of both secular and sacred knowledge.

Within the other types of sacred knowledge, which are selectively imparted to those adults who qualify to receive it through demonstrated social maturity and sometimes also genealogical position, are details of clan history (especially the exploits of the founding ancestors), practical knowledge of activities in which supernatural beings are either invoked or believed to be present, protocol on the ritual arena, mortuary protocol and ocean fishing techniques for ‘prestige fish’ (ikatau). The information possessed by the captains of Takū’s ocean-going canoes, whose use of stellar navigation was routine, also falls into the category of sacred knowledge.

The nature of the canoe captains’ acquisition of knowledge can only be inferred from observation of present kinds of information-gathering, based on the assumption of consistency of methodology within parallel situations. Such methodology relates to selection for office, access to privileged information, and invocation of supernatural assistance. In Takū today the selection of individuals for traditional positions of authority is genealogically founded on the principle of patrilineal succession.

Oral tradition consistently reports that, until the late-19th century, the island’s sole chief (ariki) lived in almost total physical isolation while in office, deprived of physical and social contact with the community at large, and allowed only
occasional conjugal visits from his wife. Physical separation was a function of social distinction. Oral tradition also records that canoe captains were distinguished by having no children, a phenomenon which represents another form of physical isolation and social distinction but sharply contrasts with the principle of patrilineal succession characterising appointments to positions of clan headship and creative performance leadership.

Knowledge only rarely consists of information assembled independently by individuals, which ceases to exist on the death of each sole holder. The survival advantages arising from transmitted knowledge, especially from accrued transmitted knowledge, are particularly clear in a small isolated atoll. Among the several transmission devices in use, that of designated successors is perhaps the most overt. In both oral tradition and contemporary life in Takü, clan heads, all of whom are men, choose successors in later life and provide them in private with the kinds of privileged information necessary for the effective enactment of their duties, particularly those of a ritual nature. The need for privacy of tuition is based on the necessity for all ritual utterances to be word-perfect for fear of any error offending the spirit to whom the utterance is directed, with subsequent expectation of retribution. For this reason, much teaching is done while teacher and pupil are together at sea, far from any other canoes. The corollary—that eavesdroppers might gain access to the information if the tuition were undertaken in the presence of third parties and then use the information for their own purposes—is considered as foolhardy because of the latent potency of the verbal content. The extent of privileged knowledge currently attributed to canoe captains, and to canoe captains alone, is such that some form of systematic inculcation seems likely.

The available evidence suggests then that, in all these categories of action, the formal selection and education of canoe captains paralleled both contemporary and ongoing modes of action relating to sacred knowledge. Given that the role of captain encompassed that of navigator and given also that nocturnal navigation focused on knowledge of stars, it is reasonable to expect to find evidence within present-day star knowledge of the sacred dimension in the form of contact with the supernatural.  

THE 19TH-CENTURY POPULATION DECLINE

Historically, Takü’s understanding of stars can be seen as falling into two categories: the attributed knowledge of past generations and the demonstrated knowledge of present residents. This distinction is given a social dimension by the focus in the past on expert traditional bearers in the form of canoe captains, in contrast with the reliance at present on those holding genealogical links to such sailors in the person of a few elderly men. Available evidence suggests that the origin of these categories and
distinctions lies in a single event in Takū’s history occurring sometime between 1843 and 1884.

When Andrew Cheyne visited the island in 1843 in search of bêche de mer his ship was approached by ten large canoes (Shineberg 1971:295), suggesting an able-bodied adult male population of at least 50 and a likely total population therefore of more than a hundred. By contrast, in the census conducted during his own visit to Takū in 1884, William Churchill counted only 64 individuals (1909:88), and the canoes he saw were not in use on the water but lying on land inside their houses. By the following year this figure had dropped to around 50 individuals, falling even further to 17 in 1896 (Parkinson 1999:225), and reaching an all-time low of 12 in the early 1900s (Friederici 1912:299). And the canoes seen by Churchill were not the nine-metre dugouts used both then and now for deep-water fishing but large ocean-going canoes (vaka hailā) 15 metres long and 1.5 metres high, and having keels and planked construction (Churchill 1909:88).

The start of the drastic population decline is popularly attributed to an unidentified epidemic introduced by refugees fleeing the same sickness at Peilau (Ontong Java), but this does not adequately account for the apparent continuation of the decline over a 16-year period. Whatever the reason for the statistics, however, it is clear that the decimation killed off, among others, the group of specialists holding detailed information about stars and stellar navigation—the canoe captains.5

Figure 1. From right to left, the three drummers are Puāria Sāre, Nūnua Posongat and Pūtahu Tekapu. 1995. (Photo by author.)
DATA COLLECTION ON TAKÜ

During the years before his death in 1998 while in his 70s, Puäria Säre (see Figure) recorded several accounts of traditional practices, including ocean voyaging. At the time of those recordings, Puäria and another old man, Parasei Pūö, were identified by community members as being the most knowledgeable on the subject of stars, although neither man held any genealogical position which might have privileged his access to star information.

During the fieldwork periods (1994-2001), adults on the island routinely deferred to both these men, thence to Parasei on Puäria’s death. Of the effects of the 19th-century population decline, Puäria noted:


Tēnā, tēnā ni tinohiti. Ni tinohiti Taoa lāua ma Hakautu. Tēnā nā tama nā, rā ku sē hai tama; te vaka Avo, te vaka Pūtahu. Takaruā nā ia koi, tāhi te custom nā hare hakamātua. Sē hai a lāua nā custom te vaka, e kē are nā tama e taohi nā mē nā. Tēnā ko nā tama nā are, ku sē hai tama. Te maki e lasi ni tā mai mua, mate hākātoa nā tama nā. Tēnā, e puni ai nā matavaka.


Our island doesn’t have ocean pathways. It’s not like those other islands, which used to frequently sail. Specific people knew about inter-island sailing, such as the captains of Taoa and Hakautu. But those people had no children. If they had had children, such people would be the ones who knew about inter-island sailing. I’m the one talking to you about stars, because it was passed on by our fathers, who knew about stars. Different people on the islands knew about sailing. Those people are all dead now.

There used to be captains, such as the captains of Taoa and Hakautu [canoes], but the people on those canoes had no children, on Avo’s and Pūtahu’s [ancestral] canoes. Those two people know only the customs for their clans. They have nothing to do with maritime customs; the people who were knowledgeable were different. Such people had no children. They all died in a great sickness long ago, and so knowledge of those routes was lost.

STARS AND THE SEA

Much existing knowledge of stars relates directly or indirectly to the sea, particularly to fishing. Fish constitutes the principal domestic food and, without exception, each household either directly owns, or has routine and
regular access to, at least one fishing vessel. The central significance of fishing is also confirmed by the stated function of tuki, the most numerous of locally-composed song types: ki ahu te tautai ‘to praise the fishing leader’. Moreover, it is in fishing alone of all secular activities that the egalitarianism that characterises Takū society may be temporarily suspended. Adults—either men or women or husbands and wives together—engage in formal fishing competitions which briefly elevate winners and ridicule losers. Common to all types of fishing, however, is the recognition that it must constitute a knowledge-based activity, not just to increase the chances of success but also for reasons of personal safety. In this latter respect, much contemporary star knowledge is linked to predicting and delineating periods of adverse weather conditions.

In a related context, contemporary Takū accounts of prehistoric ocean voyaging indicate irregular contact with other Polynesian Outlier islands to the east and southeast\textsuperscript{10} and Takū ascribe the safety and success of such voyaging to the captains’ navigation skills through analysing information from weather patterns by day and from star positions by night. The late 19th century population decline not only deprived the island’s survivors of men to crew the ocean-going canoes but also removed from communal knowledge much of the details of navigation techniques, including orientation by stars. Contemporary accounts tend to amplify that situation, elevating captains’ skills to quasi-magical levels on the one hand, and lamenting the almost total lack of present information on the other.

CONTEMPORARY VIEWS ON CONSTELLATIONS

Constellations are considered to be animate beings insofar as they share some human physiological and social characteristics. Tauhā (within Pegasus) and Matariki (Pleiades) create cold weather in order to keep their bodies cool, and Matariki and Mattasi (within Leo) never appear in the sky at the same time because they stand in an avoidance relationship similar to that existing between brother and sister. Their separate appearances are explained as an avoidance of shame (ki sē napā). Taro (within Scorpio) and Matariki are held to behave in an identical manner for the same reason. Additionally, both stars and humans are classified identically on Takū through use of the particle taka- that is prefixed to numerals, in contrast with other Polynesian regions where only humans are classified in this manner. Constellations are also believed to be active in that they are not simply associated with characteristic weather patterns or specific bird or fish behaviour, but are said to “bring” these events about. The patterns of tidal movements, periods of stormy weather, the arrival of migrating birds, fish and egg-laying turtles, the unwillingness of edible fish to take a bait, the fecundity of women and
the advent of sickness—all are directly and causally linked to the presence of individual constellations in specific parts of the sky at particular times of the night.

It should not be assumed, however, that Takü’s present community believes that all known constellations and individually named stars have or used to have cultural relevance. On several occasions while out fishing at night, men identified specific formations to me which they had noticed over the years, but which were merely noteworthy in a literal sense, and were evidently not used as orientation points on land or sea. Such a situation is illustrated most clearly with respect to Venus (Matanänui), as Puäria noted:

Matanänui rä se hetü koï. Së hai faeo, e më ma se më pilas. Läsuru, ku tû mai i tai, tapataia ko ku tû mai i tua. E tû mai i tai, tätou e tata ma ko Matanänui, e tû mai i tua, tätou e tata ma ko Tapao. E më mai pilas koï te lani.

Matanänui is simply a star. It brings no bad weather, it is something like pure decoration. In the late afternoon it is at sea, and in the morning it is in the east. When it is at sea we call it Matanänui, and when it is in the east we call it Tapao. It simply decorates the sky.

Furthermore, it should not be assumed that stars and star clusters are necessarily fixed in their totality. In 1978 while living on Bougainville, Puäria and some other men noticed what they believed was a new star. As Puäria related:

Yes, that’s what I showed you last night; it rises next to Amanu. When Amanu rises, this one rises beside it. It moves beside Amanu, but isn’t there later on, having gone to another place. It’s quite different from other stars, this new one. And it’s red.

Parasei was among the men who noted the new star in 1978 but, unlike Puäria, believes that it had originally resided within the constellation Kaipea (within Cancer) and then moved to a new and permanent location. The star that Parasei identified to me is Alhena within Gemini.

And finally, it should not be assumed that the community’s knowledge of stars constitutes a homogeneous body of information, and that a local name known to several people necessarily applies to the same star. There is difference of opinion about the location and number of stars in at least two constellations, Samono (within Ursa Major) and Äunu (within Taurus); this is detailed below. An indication of how closely star information is still
guarded on Takū can be gauged from the fact that none of these people appeared to be aware of the existence of contrasting opinions.

In Puāria’s statements there is a clear sense of progression as one set of weather patterns follows another in a causal process, each linked to the seasonal characteristics of specific constellations. A parallel progression appears also to have formed at least one basis of nocturnal navigation. When asked how he would navigate if he wished to sail due north on the open ocean, Puāria replied:


If Tauhä lies due north, you go with Tauhä [Pegasus]. If you deviate slightly seawards of Tauhä, you go with Matariki [Pleiades]. If you deviate slightly away from Matariki, you go for Samono. When you go for Samono, the head will dip down, so you head for the body. When the body dips down, you go for the tail. By then the tail is pointing straight up, so you head for that tail. And by then it’s dawn.

Stars as navigational aids continue to be used on a limited scale. Some men use individual stars as markers when returning home from nocturnal fishing expeditions, since sea mist or the absence of a moon can obscure landmarks and make the journey hazardous even for the most experienced, given the presence of the encircling reef and coral heads. Fishing for ruvettus (oil fish) on the open ocean occurs only on moonless nights and carries perhaps the greatest potential danger, because not only the fishing itself but also the negotiation of the reef passage must be undertaken in total darkness. Use of stars to guide the journey back to Nukutoa, the island where the community lives, appears to be limited to the trip across the lagoon from the main passage, a distance of some eight kilometres.

Prevailing trade winds are conventionally expected to blow alternately for periods of six months from the southeast or northwest, although the durations may vary by a month or more and the specific wind direction may change through an arc of 20 degrees or more. Star indicators of the start of each season are provided by Tauhä which, when visible in the western sky in the early morning signals the period of northwest trade winds (Te Laki) and when visible at dawn in the eastern sky announces the start of the southeast winds (Te Anāke).

Not all contemporary star knowledge relates directly to ocean voyaging. References in descriptions of weather patterns associated with particular
stars, such as high winds and heavy rain, are still relevant to the safety of canoe fishing within the lagoon and the success of such fishing for particular species such as goatfish and sea trout is likewise directly linked to periods defined by the movement of predetermined stars. Garden produce is Takū’s other major source of food, and the position of the constellation Kamete (within Delphinus) in relation to Maillapa (within Aquila) determines the time of year when garden food such as bananas, taro and giant taro can be expected to sprout well, as can coconuts wherever they may be planted. Insofar as the location of these stars in their identifying positions in the sky can be predicted with some accuracy, the stars function as reference points in time when reasonable expectations can be entertained for living conditions on the atoll in the immediate future.

CONTEMPORARY ACCOUNTS

The following are contemporary accounts of individual stars.

_Tauhä_ (a cluster within Pegasus)

The position of _Tauhä_ (lit. ‘Cluster of Four’) in the western sky in the early morning is associated with the advent of the northwest trade winds (_Te Laki_) which in turn are characterised by heavy rain. _Tauhä_ is considered as directly causing these phenomena, which continue until the constellation begins to be visible at dawn in the eastern sky, at which point the winds shift to the southeast (_Te Anāke_) and the time of _Matariki_ begins (see story below). As Puāria noted:

_Tauhä_ rā e kāmata ai te Laki i ana hana iho tahata ku hano iho i tai, i te Laki. Ā tēnā ko _Tauhä_, tēnā _Tauhä_ ku mē ki mē ana matani, ana ua. E hano iho rā ki lāua ma te lā, te lā e mē ki sopō aia koī takoto, aia e mē ki mena nā haeo ki sakamakallī nā haitino e i aia e mē, i aia koī takoto.

_Ki uru pōuri koī i tahata ki laro, ku sē hai faeo. Ku oti, nā faeo ku oti. Io, _Tauhä_ rā e mē lō nā masana rā ku kake, a nā unamea rā e kake hoki no hānnau i uta. Nā tama nā ku saita te _Taufā_ rā, nā tama nā ku huaroto katō._

Nā manu hākātoa a ki saita _Matariki_ e hano iho lōkoi ia. Ā tēnā, latou rā ku _Tauhä_ starts the _Laki_ season when it sets at dawn, at sea. That’s _Tauhä_, that _Tauhä_ which produces wind and rain. It sets with those two things and, when the sun rises, _Tauhä_ is still laying there, so it produces bad weather so as to cool its body, while it’s still laying there.

_It sets while it is still dark, and by dawn it has set. There’s no wind or rain; they’re finished, that bad weather is finished. When _Tauhä_ is there, the _masana_ turtles come ashore, the _unamea_ turtles also come ashore to lay their eggs on land. At the time of _Tauhä_, those animals—all those animals—are carrying eggs._

At the time when _Matariki_ rises, all those animals start laying. They lay

Aia ki hano iho i tahata lokoi, ki hakatoko iho ki tai a tēlā ku noho ake. Tēnā ana mē rā ku mē ni mē ana e mē ki sakamallī tana haitino, i aia e tuia te lā. Te ua rā a te matani rā, Matariki. Ia, tēnā nā ika nā ku fannau. Nā unamea rā, nā masana rā, ō nā pis hākātoa te moana. Ku hānnau ni, nā ni tama haitama. Nā ika te moana nā ku hānnau i saona. Matariki ku hano iho. Io, tēnā, tātou rā ku nohonoho - a koe kité i tai nei? tai nei e lasi ani? tai te Laki e lasi, ani? nā tai te Laki e lasi, ani?

Tai te Laki rā e lasi rā, tai te Anäke ku seai, ani? Tēnei tīno lokoi te tai te Laki, tātou ku noho tonu lokoi i tīno lokoi tai te Laki. Te Anäke hiti ia, sēki hiti maoni. Ana, tātou ku noho ki hano iho Āunu. Tēnei sao Āunu.

When Matariki rises to the same position that Tauhä occupied. Tauhä’s actions complete the Laki. Let’s leave that one now, and turn to Matariki itself.

Matariki is in that same position [that Tauhä was]. It proceeds in the same manner, but it sets at dawn rather than at night. When it’s about to set, the sun rises. That’s what it does in order to cool its body, because it’s been heated by the sun. Matariki produces rain and wind. And those animals lay their eggs—those unamea turtles and masana turtles—all the turtles of the ocean. They lay their eggs because they’re pregnant. The ocean turtles lay their eggs during that period when Matariki appears. And now we’ll proceed—have you seen the tide now? It’s very high, right? the Laki tide is very high, right? the Laki is very high, right?

During the Laki the tides are very high, but during the Anäke they’re not, right? What we have here now are the Laki tides, what we have now are precisely the tides of the Laki. The Anäke tide is about to replace it, but [the Laki] is not completely finished. This is the period of Āunu.

Āunu (cluster within Taurus)

There are two schools of thought concerning Āunu. Parasei believes it to be a single star within Taurus whereas the Ariki Avo stated that there were five, possibly six, stars within that same constellation. Both men, however, agreed with Puäria’s account (below) linking Āunu to the onset of bad weather.

When Āunu appears it additionally brings thunder [as well as rain and wind]. Those thunderclaps open the doors and allow the [high] tide to escape. When the Laki tide ebbs, the Anäke tide rises. Those tides change places during the period of Āunu. The thunderclaps on
those days are Āunu’s, opening the doors for the Laki and the Anāke winds, and they continue until Āunu sets before sunrise, then there’s no more bad weather; it’s finished when it sets before sunrise.

**Amanu** (stars in Carina, Eridanus and Canis Major)

The three stars constituting *Amanu* form a very shallow vee lying approximately north-south and are considered to outline a bird, the two outside stars being its wingtips. Procyon (Canis Minoris) denotes the northern wingtip and Argus (Canopus) the southern, with Sirius (Canis Majoris) locating the body. The bird thus has one wing longer than the other, and each in turn causes natural phenomena until the tilt of the earth’s axis causes it to dip below the other. *Amanu’s* position is associated with both weather patterns and the fecundity of marine and human resources, as Puāria explained:

```
Te hetū nā e lasi, Amanu, tēnei tātou e noho nei tēlā te matani nei e ħātōkōrau. Hātōkōrau rā, rā te kapakau i saupuku rā ku oti, tīno manu rā ku oti, anei te matani nei oti ħātōkōrau rā, tēnei ko tāna kapakau. Nei are tātou koī, noho are i tāna kapakau nā koī, suru iho ma te henua, ma te lā, tahata. Te lā rā ku noho iho i tua, aia ia ku hakasu. Tēnei e mē mē ai te matani nei, tēnei sao te matani e lasi, kōia pē e hiti. Tēnei nā matapeau nei, ni matapeau te kapakau nā.
```

```
Amanu e mē lō ana tū rā vana ana, nei lō, tātou e kau i nā utua, koī kau i nā utua, koī māmata nā tū te vare i nā utua, te vare nā hatu. Nā hatu rā e tū nā vare lātou, nā mē ātai te kerekere vātai koe kaukau rā te vare rā e tū ħākātoa vātai. Tēnā ko nā ika rā ku mē ki tipu.
```

```
Te kerekere rā e ħānau, nā hatu hoki e ħānau. Nā hahine rā, saita nei e noho pēnei arā hahine ku huaroto, ku mārama
```

This is a big star, *Amanu*; at present, that’s why the wind has turned to the north. It turned to the north when the south wing has finished, the bird’s body has finished, and now that’s why the wind sometimes moves to the north. We can expect that now during the period for that wing; it sets when the sun rises, at dawn. When the sun rises at the ocean side of the island [i.e., east], that’s when *Amanu* sets. That’s the cause of this wind, this is the period of strong winds, and tidal waves are also caused by that wing.

```
Much happens during *Amanu*’s period. When we swim over the reef, simply swimming there, you’ll see a slimy substance on the reef, on the rocks. The substance is actually attached to the rocks, and comes up, it appears also on the beach; if you go swimming you’d see it all over the beach. It’s from this that fish start to form.
```

```
The sand gives birth and rocks also spawn. During this period, women become pregnant, they get one or two
```
Waning Stars—Changes to Takū’s Star Knowledge

References to Amanu figure prominently in Takū accounts of night navigation, possibly because the constellation remains visible for much of the night throughout the year.

Kaipea (cluster within Cancer)

*Kaipea*, which coincidentally lies within Cancer (both names translating as ‘Crab’), is relatively dim until quite high in the sky.

Then *Kaipea* rises, it rises with those [same] things, and rain also. *Kaipea* rises with torrential rain. That’s the time of heavy rain, of *Kaipea*. And wind. That’s the end of those big stars. *Kaipea* is the first of the remaining stars. *Kaipea*, who brings bad weather, brings cloudy water, and the ocean also becomes cloudy because of it, *Kaipea*. Mist also comes at the time of *Kaipea*, so you can’t see the islands. It’s *Kaipea’s* mist. Then, when *Kaipea* is finished, it’s time for *Taurima*.

Taurima

*Taurima* “Cluster of Five” consists of five stars in Corvus in the southern sky.¹²

Then it’s time for *Taurima*. It rises along with its associated winds. *Taurima* and *Te Ura* come at the same time; their accompaniments are mingled. Together they bring a combination of bad weather: that’s why some people say that *Te Ura* brings strong wind and generally bad weather. But it’s not, because the two stars together—*Te Ura* and *Taurima*—bring the weather.
Taurima e sura ki mua hakamârie. Taurima e Anâke pê nei, te Ura e tô hakamârie ki muri. A nei tama nei ma ki më ana më i mua, â nei tama nei hakamurí. Io, â tênâ, e më në haeo te Laki. Tënâ tâtou ku noho i Te Ura ma Taurima ku oti râ, tënâ në hetû hakaoti te Laki râ ku oti. Tënâ në hetû hakaoti te Laki râ, ko Mattasi ma Matammea.

_Taurima_ is the first to rise, and the other one follows—_Te Ura_. _Taurima_ is slightly ahead.

_Taurima_ rises slightly ahead. When _Taurima_ is up like this, _Te Ura_ is slightly lower. The weather of this star comes first, followed by the weather of the other. Then they bring the bad weather associated with the _Laki_. And when _Te Ura_ and _Taurima_ are gone, the last stars of the _Laki_ appear. These last stars are _Mattasi_ and _Matammea_.

_Matammea_

There appear to be no natural phenomena associated with _Matammea_ (lit. ‘Red Face’), which is the planet Jupiter.

_Te Ura_ (cluster within Hydra)

Puäria described _Te Ura_ as a single large star lying to the immediate south of _Kaipea_ and shimmering as if in a heat haze, an appearance reflected in its name, which translates as ‘crayfish’. The “single star” is in fact a tight cluster of six stars.

_Te Ura_ râ e më ana faeo. Ki më nà faeo Te Kaipea ku oti, Te Kaipea ku hiti ake, a tênâ te haeo Te Ura. Kaipea ku ò i aruna më ni faeo te à, akoe ku iloa Te Ura ka Anâke. Te ua, tênâ në hetu nà e më nà faeo lätou.

_Te Ura_ brings its own bad weather. When _Kaipea_’s bad weather is over, _[Te Ura]_ rises, accompanied by its bad weather. After _Kaipea_ is up and there’s still bad weather, you will know then that _Te Ura_ is about to rise—it rains. Those are the stars that bring bad weather.

_Samono_ (cluster within Ursa Major)

Visible in the northern sky, this constellation does not entirely set, although others around it do. Its principal significance lies in the onset of illness that is believed to be a sympathetic reaction to the animal drowning when its beak sinks beneath the water, i.e., the horizon. This is also the sole constellation about which the two local experts, Puäria and Parasei, did not agree. Puäria locates the animal’s beak to the east whereas Parasei places it to the west. The following is Puäria’s account.
Waning Stars—Changes to Takü’s Star Knowledge

Of the stars we saw last night, *Samono* brings no bad weather. It simply brings sickness. After it rises... now I’ll tell you about these things, those stars that bring bad weather. When those two stars have set at dawn during the *Laki*, they bring bad weather. While these two are bringing bad weather at dawn in the *Laki*, *Tauhä* is rising and bringing more bad weather in the *Anäke*, at dawn.

While these two set at sea at dawn during the *Laki*, *Tauhä*‘s first two stars are rising and bringing bad weather for the *Anäke*. Look—there’s *Tauhä* now, beginning [my account of] the stars for the *Anäke*. It rises at dawn. When the star appears above the horizon, that’s the *Anäke*, and the *Laki* has finished blowing. We’ll start with the stars of *Tauhä*, because *Tauhä* leads in this line of stars. Those are the same stars that appear out the back at dawn.

We were looking for *Samono* last night; it rises at the same time as *Kaipea*, but slightly to the north, like that, with no associated bad weather. But, it brings sickness. We were sick the day before yesterday, and sure enough it appeared... it appeared in the *Anäke*, appeared at dawn—and drowned. That’s why we get coughs, coughs and stomach aches—because [*Samono*] drank seawater. At present, however, there’s no sickness and *Samono* is already risen.

So we now start looking [for *Kaipea*], it’s just about that time now. When [*Kaipea*] appears, it’s the weather for the *Laki*. *Kaipea* and *Samono* rise together. When *Kaipea* rises, it brings bad weather in the *Laki*. And the other one brings sickness. It drowned; and then it put its beak down and drowned at sea. And once again sickness appeared—stomach aches, runny noses, coughs—all those kinds of sickness appear.
unu te vai taj. Tēnei koi nā hetu e mē nā taratara latou.

Samono rā ku anake rā, te posouru rā e anake i mua, rā, pe i anake no suru i tua Nukutapu mā. E sopo rā hoki, sē sopo tonu i te Anāke, e sopo haka-tokorau.

Because [Samono] drowned from drinking seawater. These then are the stars they used to talk about.

When Samono rises, its head faces the southern trade wind, and it sets over Nukutapu islet. When it rises, it doesn’t rise directly into the wind, but more to the north.

Mattasi (Leo)

Mattasi is unique in Takū’s named constellations in that it is held responsible for an adverse physical condition among fishermen. As Puāria explained:


When Mattasi appears in the afternoon, there is only one star; we call that time ahiahi, ahiahi is the same as “afternoon”. At mealtime, it’s already up there. You know that, when you go out to sea, when we go to sea, we get sore eyes. That star affects you by causing sore eyes. On your return next day, you can’t look at anything. Your eyes are affected by the sea, they are sore and runny. It’s that star which has that association: sore eyes. When that star hasn’t appeared, your eyes won’t be affected. But if you see that it has appeared, like this, you’ll know. If you go fishing today, you return next morning you’ll be unable to walk around. You’ll be affected by the mattai—sore eyes.

Chinnery (1925:77) notes an earlier association of this constellation with the arrival of a fish type, the natara ‘sea trout’ (Epinephelus and Cephalopolis spp.), which remains plentiful until Matariki rises in the southwest.

Maillapa and Kamete (clusters within Aquila and Delphinus, respectively)

The two constellations Maillapa and Kamete not only lie adjacent to each other but also are linked in what is considered to be their behaviour. Kamete ‘Food Bowl’ contains Takū’s stocks of garden produce and certain edible fish and, when its position in the sky shifts to become tilted, the contents will fall to earth and be available as a food source.
Maillapa rā e futī tana kamete rā ni. Maillapa rā e toru, a te Kamete rā e futī ake aia. Saita te lāsuri ku pōuri, tātou ku noho koe ku kite pēnei, ā nei Kamete e tae mai lokoi pēnei ā ku mannī, te rui rā ku huri ki laro. Ā nei, saita nei, sēki mannī. Kī tae lokoi, kī mē te lāsuri ku takoto lō ikinei a, te rui rā ku huri ki laro. Te rui te kamete tama ni e futī. Tēnei se kamete Maillapa e futī. Maillapa e mē ma se tama. E toru rā, nei e ffuti tana kamete. Anā nā karo ama nā mē rā, tātou ku kite i tai. Nā ni mea ni moe i loto te rui te kamete, arā ku mannī.

Kamete rā, tēnā lāua ma Maillapa rā e ō. Nā huti rā, nā memeapū, nā mē nā verena rā e somo i te Kamete rā ku oti te mannī. Te mannī rā, tēnā nā kai, nā kai rā ku mannī mai ki tātou. Nā huti rā, nā taro rā, nā kanokano rā, nā niu rā, tēnei saita nei nā mē e somo hākätoa.

Maillapa drags up his food bowl. Maillapa has three stars, and he drags up the Kamete (food bowl). At dusk, you will see it like this [points], and immediately the food bowl arrives and overturns, the bowl flips. At present, it hasn’t flipped. At a certain time in the afternoon it appears somewhere around there, and flips. The food bowl dragged by that person flips over. This is the bowl that Maillapa dragged. Maillapa is like a person. There are three [stars], and it drags up its bowl. That’s when you see goatfish and other fish at sea. These are things from inside the bowl of the Kamete that overturned.

Kamete and Maillapa go together. Bananas, pawpaws, all the contents of gardens sprout when Kamete tilts. When it tilts, those foods pour out for us—bananas, taro, giant taro, coconuts—they all sprout at this time.

Toki (Aldebaran)

This solitary star (‘Adze’) is used by a few men to locate Nukutoa Island when returning from fishing in the main reef channel.

Te Kaipea ‘the Crab’

Of this cluster of four stars adjacent within Cancer, Puāria noted:

Kaipea comes with very bad weather, and heavy rain. Matariki still won’t have appeared, then we know, “Oh, weather like this means Matariki is about to appear.” In June you’ll know that Matariki is going to appear. Certain fish take baits in
ai te pis mātou i te ava, te natara rā ma te tono. E mmātau ai mātou, tēnā marama nā, June. E kamata i May, June, tēnā.

Takarua nā e napa. Tātou kite Taro ku takoto pēnei, Matariki sē sura ake. Taro e hano no suru lokoi ia, Matariki ku hiti ia. Lāua sē kite ki lāua ni, e napa.

Those two are ashamed of each other. When we see Taro lying like this, Matariki won’t rise. But when immediately after Taro sets, Matariki rises. They don’t see each other, they’re ashamed of each other.

Samasana

Chinnery (1925:77) identifies Samasana as Castor and Pollux, but this name appears unknown to present residents of Takū.

Matila (cluster within Grus)

Matila consists of a cluster of stars associated with the arrival of birds and migrating fish when it sets in the southwest sky in the late afternoon.

Matila mara e hano iho ma tana taumanu i te Laki. E hano iho i te Anāke, e mē hoki tana taumanu. Sē hai faeo, se hetū koī e au ma nā taumanu. E mē ana taumanu, ana tauika. Matila e hano iho i te lāsuru nā ika, nā hailama, nā kamai, rā e kai.

Matila usually rises in the Laki, bringing its birds. It descends during the Anāke, again with its birds. It doesn’t bring bad weather, it’s simply a star which brings birds. It comes with its birds and its [migrating] fish. When Matila sets in the late afternoon, the fish—tuna and rainbow runners—will take a bait.

Hakamanātoro

Hakamanā toro or Hāmanātoro consists of four stars within Aquarius forming an inverted Y-shape. As Parasei noted:

Hakamanātoro rā, e mē hakapā lāua ma Tauhā. Nā tauika rā, nā matani rā, aia e hakapā koī ki Tauhā. Sē hai faeo aia.

Hakamanātoro is the same as Tauhā. There are schools of fish, high winds, the same as for Tauhā. But there is no bad weather.

To the south of Takū are named constellations which, unlike those appearing more or less overhead from the island itself, are believed to have
been relevant in earlier times but are known now only in a generalised sense. These stars are Te Mahu (or Nā Mahu) and also two separate clusters known as Nā Simu and Nā Ruai Saraporu.

**Te Mahu**

Divergent views are held about the identification of Te Mahu. I present them here for the sake of comprehensive coverage. On the one hand, the nomenclature variously uses a singular (te) or plural (nā) particle, and on the other hand, the name may refer to different stars. The Ariki Avo gave this name for the larger Magellanic Cloud clearly visible in the southern sky around January, saying that it was an aoa ‘cloud’ rather than a hetu ‘star’. This statement contrasts with that of Parasei (see below). Avo believes that local knowledge about this cluster was obtained while Takū men were working in the copra plantations on neighbouring Nukumanu in the 1950s, a time when canoe travel between Nukumanu and Peilau was still common and the occasion for his own journey there. Te Mahu, Avo noted, was one of the guiding stars for that overnight voyage.

**Nā Mahu**

Parasei noted that Nā Mahu ‘The [Two] Mahu’ consist of two named stars in the southern sky which Takū locate as being approximately midway between the southern star of Amanu (Canopus) and the horizon and in direct line between Amanu’s central and southern stars. Unlike other constellations, which are characterised as being ‘stars’ (nā hetu), the stars in Nā Mahu are believed to be ‘islands’ (nā henua). And also unlike other star clusters, individual stars are named: the larger is Siapo and the smaller is Törä. As Parasei commented:


The Mahu are islands, over there, towards the south. There are two of them – Siapo and Törä. The Mahu don’t bring bad weather. They are our navigation stars in the south. If you were adrift on the ocean, you would arrive at those islands, to the south. When the first Mahu sets, its companion Mahu also sets, then you sail by Simu. When that Simu sets, [you steer by] the second Simu.
Nā Simu and Nā Ruai Saraporu

Two separate constellations are known as Nā Simu ‘Triggerfish’, each consisting of four stars outlining a diamond shape. The first lies in the southern sky just beneath the southern wingtip of Amanu (Canopus), and consists of individual stars from the constellations Carina, Pictor, Hydrus, and Reticulum.

Nā Ruai Saraporu

Literally, ‘The Few Saraporu people’, a name whose significance is no longer known. It consists of two large stars said to lie together beneath Canopus and beside Nā Mahu, rising after Nā Simu. This cluster was not visible from Takū and I could not computer-generate a local sky with Canopus rising very high at all. However, by changing the latitude to 20° South two separate pairs of large stars appear in the vicinity. Given that accounts of this cluster relate to voyaging in more southern latitudes, these stars may well be the ones intended. They lie within the Southern Cross and Centaurus. Puāria’s comment posits no link with the natural world.


While the Simu are visible, you steer by Nā Ruai Saraporu; they are also two clusters of stars to the south. You sail to Nā Ruai Saraporu and look up to find Taurima overhead. I’ll name those islands: the two Mahu (Siapo and Tōrā), Simu and Simu (they are two islands close together) and Nā Ruai Saraporu (two islands). Those aren’t stars, they’re islands. They’re over in the south, but I don’t know exactly where they are located.
26 Waning Stars—Changes to Takū’s Star Knowledge

Table: Identification of individual stars and constellations

<table>
<thead>
<tr>
<th>Takū name</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amanu</td>
<td>Canopus in Carina, Achernar in Eridanus, and Sirius in Canis Major.</td>
</tr>
<tr>
<td>Ātoru</td>
<td>Three stars in a straight line within Orion: Mintaka, Alnilam and Alnitak</td>
</tr>
<tr>
<td>Aunu (Avo)</td>
<td>Aunu consists of five, possibly six, stars in Taurus forming a V-shape: Aldebaran, Theta, Primus Hyadum, Ain, Delta and 33.</td>
</tr>
<tr>
<td>Aunu (Parasei)</td>
<td>Aldebaran within Taurus.</td>
</tr>
<tr>
<td>Hakamanātoro or Hāmanā Toro</td>
<td>Four stars within Aquarius: Eta, Zeta, Gamma and Pi forming an inverted Y-shape.</td>
</tr>
<tr>
<td>Kaipea</td>
<td>A tight cluster of four stars within Cancer surrounding a cluster of very faint stars. The border stars are Acubens, Tarf, Asellus Borealis and Asellus Australis.</td>
</tr>
<tr>
<td>Kamete</td>
<td>Four stars in Delphinus: 12Gam 2, 11Del, Sualocin and Rotanev.</td>
</tr>
<tr>
<td>Maillapa</td>
<td>Three stars (Alshain, Altair and Tarazed) in a straight line within Aquila.</td>
</tr>
<tr>
<td>Matammea</td>
<td>Jupiter</td>
</tr>
<tr>
<td>Matanānui</td>
<td>Venus</td>
</tr>
<tr>
<td>Matariki</td>
<td>The Pleiades</td>
</tr>
<tr>
<td>Mattasi</td>
<td>A single star within Leo, Regulus.</td>
</tr>
<tr>
<td>Mattila</td>
<td>Seven stars within Grus: Al Na’ir, Al Dhanab, Epsilon, Beta, Delta, Mu and Gamma.</td>
</tr>
<tr>
<td>Nā Mahu</td>
<td>Four stars outlining a diamond shape: Miaplacidus within Carina, Alpha within Pictor, Gamma within Hydrus and Alpha within Reticulum.</td>
</tr>
<tr>
<td>Te Mahu (Te Ariki Avo)</td>
<td>Magellanic Cloud</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Nā Ruai Saraporu</td>
<td>Two stars within Crux: Acrux and Mimosa, and two stars within Centaurus: Rigel Kentaurus and Hadar. Chinnery (1925:77) identifies it as these last two stars only.</td>
</tr>
<tr>
<td>Nā Simu #1</td>
<td>Four stars in the southern sky, each from a different constellation and forming the outline of a diamond: Miaplacidus within Carina, Alpha within Pictor, Gamma within Hydrus, and Alpha within Reticulum.</td>
</tr>
<tr>
<td>Nā Simu #2</td>
<td>Southern Cross</td>
</tr>
<tr>
<td>Samasana</td>
<td>Castor and Pollux within Gemini.</td>
</tr>
<tr>
<td>Samono (Te Ariki Avo)</td>
<td>Five stars within Cassiopeia: Caph (te suki), Schedar, Tsih, Ruchbah and Segin.</td>
</tr>
<tr>
<td>Samono (Parasei)</td>
<td>At least nine stars in Ursa Major, including Dubhe, Mirak, Phad, Megrez, Alioth, Mizar, Alula Australis and 23.</td>
</tr>
<tr>
<td>Takaniva</td>
<td>The Milky Way</td>
</tr>
<tr>
<td>Taro</td>
<td>Three stars in Scorpio in a diagonal line, the central star is reddish. From top to bottom: 20 Sig, Antares 21 Alp and 23 Tau</td>
</tr>
<tr>
<td>Tauhā</td>
<td>Four stars within Pegasus: Algenib, Alpheratz, Scheat and Markab.</td>
</tr>
<tr>
<td>Taurima</td>
<td>Five stars in Corvus: Alchibah, Gienah, Minkar, Algorab, Kraz and Alchibah.</td>
</tr>
<tr>
<td>Te Hetū Hou</td>
<td>Alhena within Gemini.</td>
</tr>
<tr>
<td>Te Meremere</td>
<td>Three stars in Orion in a straight line: Na’ir al Saif, Theta and 42.</td>
</tr>
<tr>
<td>Te Ura</td>
<td>Six stars within Hydra: Minhar al Shuja, Zeta, Rho, Delta, Sigma, Eta.</td>
</tr>
<tr>
<td>Toki</td>
<td>Aldebaran within Taurus.</td>
</tr>
</tbody>
</table>
The progressive loss of information on stars is one example of what happens to utilitarian information in a small and isolated Polynesian atoll community when the application of that information is no longer possible in its original context, i.e., fishing and navigation. The remnants have not become enshrined, for example, in song and dance infrequently performed as emblems of a past epoch (comparable with Tonga’s sole remaining meʻetuʻupaki dance—Moyle 1987:11-120) or recalled only in its poetry (comparable with Samoa’s obsolete mē dance—Moyle 1988:202). Nor has the information shifted in context to become the stuff of proverbs and oratorical allusion, comprehensible to only a section of society and presented only in ceremonial context, since oratory is not practised on Takū. Knowledge of stars has simply atrophied. It quietly slipped out of use and beyond memory, becoming a casualty of generational change.

There is no evidence to suggest a recent or foreign origin of the knowledge possessed by Puāria, Parasei and the Ariki Avo, among others, but there is general agreement that such knowledge represents a land- and lagoon-focused remnant of a previously greater and broader fund of astronomical information. Hints of such a fund are given in surviving information about weather patterns, hinting at past open ocean travelling. The advent and duration of a period of heavy rain and strong wind from a particular direction is, for example, of less practical consequence for island residents than for ocean travellers (although it remains relevant to pelagic fishing). The several named constellations better visible from more southern latitudes likewise suggest a previous association with travel within those latitudes.

As the erosion of Takū’s shoreline and salination of its gardens progress as a result of the atoll continuing to sink, with consequent rising dependence on imported food, one may reasonably expect that the significance of some bodies of traditional knowledge linked to earlier lifestyles will wane. Similarly, the posited link between heavens and earth may be replaced by another as evangelical churches maintain their long campaign to replace indigenous religion with an imported form. The link can be stated simply: practical application depends on an understanding of relationships between specific named stars and various natural phenomena, which in turn depends on correct identification of those stars. The two dependencies are separable. At present, however, application is confined to land- and lagoon-based mundane activities, whereas the more esoteric retention of identification alone apparently represents a relic of another era.
ACKNOWLEDGEMENTS

Financial support for the six periods of fieldwork on Takū was generously provided by the Territorial Survey of Oceanic Music, the University of Auckland Research Committee and the award of a Marsden Grant. To all of these organisations I am most grateful.

I also wish to acknowledge the patience and support of the Takū community and, in particular, the Ariki Avo for his generous hospitality.

Two anonymous readers supplied constructive comments on this paper, for which I express my thanks.

NOTES

1. Virtually nothing has been published about Takū’s star knowledge. From his short visit to the island in 1925, the Government Anthropologist E.W.P. Chinnery compiled a short list of indigenous and Greek star names (MS 1925), later expanding this in his published account of the visit (Chinnery 1925:77), but nonetheless limiting himself to a short sentence on each constellation. In general, this information confirms my own findings of 70 years later.

2. The present evidence of men travelling over the lagoon or on the ocean and regularly invoking both dead ancestors and Pākeva (principal spirit of the ocean) in order to ensure personal safety and fishing success indicates that the dangers inherent within sea travel can be mitigated through supernatural assistance. Accounts of ocean voyaging preserved in oral tradition confirm that parallel measures were used, particularly in times of high risk such as bad weather or equipment failure. Invocation of supernatural help is an integral part of seagoing activities and, although I have not tabulated observed instances, the frequency of such utterances appears to be in direct proportion to the perceived level of danger on the one hand, and the demonstrable level of fishing failure on the other.

3. Based on the present normal compliment of five men per large dugout (vakasi).

4. Given the present lifetime of less than 10 years for present-day canoes because of sea worm and rot, one may reasonably believe that these canoes had been out of the water and in their sheds for less than a decade by the time of Churchill’s visit.

5. Although the earliest known genealogical survey of Takū, made by E.W.P. Chinnery in 1930 (Manuscript MS766/5118, National Library of Australia) had the potential to identify the names of the canoe captains, insofar as senior residents at that time are likely to have included epidemic survivors, the survey’s author limited the information collected to the living population.

6. Field information was collected in several ways. Recorded accounts provided the more extended descriptions of existing star knowledge. More informal conversations tended to occur spontaneously, sometimes as a result of earlier discussions and at other times as adults expressed interest in the subject and offered their own views. On several occasions at night, Puāria and Parasei would independently seek me out and show me in the sky the stars and constellations they had been describing by day. During a mass
overnight retreat in 1997 on the small island of Nukurëkia, organised to entertain and therapeutically distract the surviving spouse of an elderly woman who had died off-island, Parasei woke me in the early hours and we walked to the end of a sandspit, where he showed me constellations in the eastern sky normally obscured by coconut palms on Nukutoa itself. And on many evenings on Nukutoa I took outside my laptop, on which I had installed MPJ Astro software, to help locate or confirm specific stars. By setting the programme to Takū’s latitude and longitude it was possible to reproduce precisely on screen the elevation and cardinal direction of any section of the night sky in real time.

7. Either through family links or individual endeavour, many adults on Takū accumulate detailed knowledge of one or more specialised activities to the extent that they gain community-wide recognition of their skills. Specific pelagic fishing activities, canoe making, house construction and patterned lashing techniques are among such activities. In addition to his knowledge of stars, Puāria was acknowledged as having the best knowledge of local place names and their origins, and Parasei alone could recount one particular epic myth.

8. The Ariki Avo Sini and Pūtahu Tekapu are elders of two of the five clans on the island.

9. A survey of such craft in 1998, for example, revealed a total of 52 small canoes, 22 larger canoes and 15 boats of aluminium or fibreglass, more than enough to accommodate the entire population.

10. Nukumanu (Tasman Is.), Peilau and Liuangiua (Ontong Java), Sikaiana, Taumako and Tikopia. See also Bayliss-Smith (1978:53).

11. When the sky is overcast, canoes tend to make this journey in a circuitous manner, hugging the inside edge of the reef until the first islet in the atoll appears, and only then travelling in a straight line to Nukutoa islet.

12. Chinnery (1925:77) states that the name applies to the constellation as a whole.

13. The significance of this distinction is unclear.


15. On the neighbouring outlier of Nukumanu, canoe journeys on the open ocean continue to this day in the form of travel to and from Peilau some 40 kilometres to the south and, in addition to the two cultures being similar and the two languages being cognate, Nukumanu share with Takū knowledge of several constellations and individual stars. During their visits to the island between 1908 and 1910, Sarfert and Damm (1931, translated in Feinberg 1995:188) compiled a star list. Because this present paper is not an exercise in comparative terminology, I confine to this Note to instances where the identical or cognate Nukumanu name applies to a different astronomical phenomenon. Hakamanātoro includes parts of Aquarius and Pegasus, Kāpea is a small star or nebula between Capella and Castor, Maillapa is Altair alone within Aquila, Matila is Grus alone within Grus, Tauhā includes stars from Andromeda and Pegasus, Te Ura is two stars in the Milky Way, and Toki is Vega in Lyra.
16. It is a fair generalisation to say that the topics of song poetry directly reflect and sustain the values that Takū hold most important to their culture. Fishing-related narratives occur most frequently, but intertwined with successful exploits on the open ocean are the names of family members, both living and deceased, in acknowledgement of the closely meshed nature of Takū society. However, examination of the poetry of more than 1,000 songs recorded between 1994 and 1999 reveals not a single mention of a star name or indeed the word *hetu* ‘star’ itself. Whatever significance star knowledge may once have enjoyed is no longer included in the present functions of musicking, which focus on maintenance of interpersonal relationships.

REFERENCES


