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The Swan River Colony's first British settlement: Early results from surveys of Garden Island (Meeandip), Western Australia

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Abstract

This paper describes the on-going research at Cliff Head, Garden Island (Indigenous name Meeandip) in Western Australia, the first British settlement on the west coast of Australia dating to 1829. The research has recorded features of local limestone and introduced materials such as low-fired brick, a well, and other artifacts brought from Britain. Early results suggest that areas at the camp existed for domestic purposes, storage of equipment and food supplies, the running of stock, and intra and inter-island communication, but other hypotheses are proposed.

Keywords

Western Australia, British, first settlement, Cliff Head, Garden Island (Meeandip)

INTRODUCTION

This article describes the preliminary results of archaeological surveys of a camp formed by passengers and crew from the barque *Parmelia* and HMS *Sulphur* on Garden Island in the south-west of Australia in 1829. Those on the two ships heralded the British colonization of the Swan River, an all-free group of settlers that was unique in the context of the penal colonies that comprised the previous British settlements in Australia beginning with New South Wales on the east coast in 1788 (Ritchie 2003:7). The initial group from the two

ships formed the settlement's vanguard and comprised a party of about 250 military personnel, free colonists of the gentry class, and their indentured workers (Anonymous 1829; Dance 1829a, 1829c; Ritchie 2003:7).

James Stirling – the lieutenant-governor of the new colony in 1829 – had when as captain of the Royal Navy's HMS *Success* surveyed the Swan River area in March 1827 as a site for a potential new British colony (Cameron 1981:24-29). At that time, Stirling and crew examined Cockburn Sound, Garden Island where they supposedly cleared an area and planted seed, Gage Roads between the mouth of the Swan River and Rottnest Island, and the upper reaches of the Swan River (Fraser 1827; Stirling 1827; Figure 1).

The Dutch and French had dismissal the Swan River area of New Holland – as the west portion of the Australian continent was called – as suitable for colonizing, raising doubt in Britain about its fitness as a settlement after Stirling proposed a colony (Cameron 1974; Heeres 1899:79; Major 1859:114-115, 121; Péron and Freycinet 1816:191). In addition, the British Colonial Office were initially unenthusiastic about establishing an expensive to establish and manage colony after the financial losses incurred by the failed Eastern Cape settlement in southern Africa in 1820 (Huskisson 1828; Thompson 1995:55). However, American and French visits to the south west of Australia in the mid-and late 1820s for economic (whaling) and exploration respectively piqued British xenophobia, while a change of governance in the Colonial Office (Arthur 1827:395; Gibbs 2000:3; Stirling 1829b:616) and a proposal to use private investment to finance the scheme saw the settlement sanctioned in early November 1828 (Barrow 1828a, 1828b; Stirling and Moody 1828). From that date, there were enthusiastic efforts to promote the new colony, beginning a flurry of activity called "Swan River mania" that resulted in 36 ships with about 1500 men, women and children aboard departing Britain between January 1829 and December 1830 for Australia's south-west coast (Appleyard and Manford 1979:144, 150).

Figure 1 near here

Those from the *Parmelia* and *Sulphur* arrived in June 1829 to find Captain Charles Fremantle's temporary outpost established – as instructed by the British admiralty – on the mainland near the Swan River to await the arrival of the settlement group (Schomberg 1829a, 1829b). However, for the Swan River colony's first settlement the leadership group from the two ships instead choose nearby Garden Island (called Meeandip by the local indigenous group the Whadjuk Noongar) about 16 km south-west of the Swan River. The decision to occupy a place with little development potential has caused much discussion over the years, with some believing that winter storms made disembarkation on the mainland impossible (Bourke 1987:30-31). However, others consider that the *Parmelia's* grounding on a sand bank near Garden Island resulted in the pragmatic decision to alight there, while others propose it showed the British colonists' unpreparedness for settling a new land (Burke 2016; Cameron 1981:86; Statham-Drew 2003). Nevertheless, at Cliff Head on Garden Island's east coast the group disembarked and built structures, dug wells, and planted gardens (Drummond 1829; Reveley 1829).

The island's occupation by the Swan River colony's leadership group and military continued until about late August and early September 1829 when most moved to the mainland. However, the settlement on Garden Island was not abandoned, with the colony's store remaining there under until 1831 (Dance 1831).

The material evidence of the first British settlement at the Swan River, found during archaeological surveys of the camp at Cliff Head, will be used to propose hypotheses about

the many research topics connected to the first steps of colonizing a new land. Early results through archaeologically observable elements such as structure remains and surface artifacts propose sections of the camp's use for different functions. However, this and other hypotheses are examined in a framework of appreciating the culture and life experiences of those entering a new landscape (Rockman 2003) and their behavior in overcoming insecurities and uncertainties associated with colonization (Connah 2003:149-150).

This research also examines the site in the context of Australian and Western Australian historical archaeology, continuing the increasing amount of research on the theme of the archaeology of cultural adaptation (Burke 2004, 2007a, 2007b, 2016, 2017; Burke, Dimarco and Meath 2011; Gibbs 1995, 2010; Hamersley 2011; Holland 2021; Tomlinson and Burke 2022; Winter 2013).

In 2029, Western Australia – the name of the Swan River colony after 1831 – marks the 200th year since the British arrived in the land occupied by the Whadjuk Noongar, an area the Indigenous people's ancestors had occupied for at least 40,000 years (Balme 2014; Dortch and Smith 2001; Pearce and Barbetti 1981). The settlement at Garden Island was the beginning of British and later European-Australian occupation of the west coast of Australia that spread to the lands of other Australian Indigenous groups, irrevocably affecting the culture of hundreds of thousands of Indigenous people (Briscoe and Smith 2002). There is no evidence in the historical record of the British negotiating with the place's Indigenous people about the planned occupation of their home. Within five years of disembarking at Garden Island in 1829 James Stirling, John Septimus Roe, and others in leadership roles ordered or were personally involved in killing Indigenous Australians as British colonists moved from coastal camps into the hinterland (Green 1984:81; Roe 1834; Ryan 2021). It is clear that Indigenous Australians were not passive victims of the settlement process (Beaudry 2003), but their struggle is often overlooked. It is hoped that these preliminary results and proposed

future research at Meeandip can aid in a small way to the continued reconciliation between the land's original inhabitants and the descendants of the people that arrived during the historical period but who now critique the first British colonists' behavior with post-colonial theories.

THE PHYSICAL ENVIRONMENT, HISTORICAL RECORD, METHODS, AND EARLIER RESEARCH

The physical environment

Garden Island is a narrow landform about 10.5km long north to south and 1.9km at its widest point comprising outcrops of limestone covered by calcareous sands of the Safety Bay Formation (Gozzard 1983). Central to the study area on the island's east shore is the distinctive Cliff Head with its precipitous limestone ledge 15m above the waters of Cockburn Sound and forming the southern end of Sulphur Bay. Cliff Head is the seaward end of a razor-edged ridge of sand running south-west to a hill 32m above sea level (Figure 1). Reasonably flat and heavily vegetated areas exist north and south of the ridge and hill, while further to the south-west Mt Moke rises to 55m above sea level giving from its summit panoramas over the Cliff Head area, Cockburn Sound to the east, and the Indian Ocean to the west (Figure 1). Dense scrub of mostly summer-scented wattle (*Acacia rostellifera*) and native juniper (*Myoporum insulare*) covers a portion of the flat area north of the hill, the north face of the ridge, and Mt Moke, while communities of Rottnest Island pine (*Callitris preissii)* low forest exist on the flat land south of the hill, south face of the ridge and a small area near Cliff Head (see Figure 1; Beard 1981:182; McArthur & Bartle 1981:10).

The entire island is a registered Aboriginal site (Department of Planning, Lands and Heritage 2023). At the ethnographic present, Whadjuk Noongar did not have watercraft allowing them to visit Garden Island (Hallam 1987), but the island was a ridge of limestone amongst an extended coastal plain during lower sea levels 18,000 years ago (Hesp, Murray-Wallace and Dortch 1999). In the late 19th century and up to the 1960s, the island's use was primarily recreational, but in 1966, the Australian Department of Defence (hereafter DoD) commandeered the entire south end and a smaller portion of the north of the island for the Stirling Naval Base (Taggart 1984). Associated with the naval base is a bridge connecting the mainland with the island. The central part of the island where the Cliff Head site is located became a regional park under the jurisdiction of the state of Western Australia's Department of Parks and Wildlife.

Permission is needed from the DoD to access the site from the south end of the island via the bridge, but those with watercraft may access the regional park section but must departed the island by sunset. The restricted access to the island since the installment of the naval base accounts for the preservation of some of the camp's archaeology, but material from all phases of the island's European history were observed in the survey area.

The historical record

Many produced historical documents while on Garden Island during the place's role as the first British settlement of the Swan River colony. The documents included diaries and letters, but the best for constructing hypotheses about the spatial arrangement of the camp are those that include drawings and sketches such as the diary of Jane and Mark Currie (Currie 1829a). The Curries' sketches are of reasonable quality and preserve perspective, but in some cases lack spatial context due to the deficiency of connecting cultural features depicted in

their images with topography. Three drawings by an unknown person at the camp in 1829 are also important for this research. However, the three images – while containing captions and descriptions of cultural features in the margins – have cultural and physical features distorted in scale and perspective (Unknown 1830a, 1830b, 1830c). While valuable, the images need careful analysis when used for constructing hypotheses in this research.

The reasonably well preserved written record of the British occupation's first days on Garden Island describe activities associated with the camp's establishment. Some in the colony's leadership group (Stirling 1829a, 1829b, 1905:6; Morgan 1829a, 1829b; Dance 1829b; Fremantle 1829) mentioned numerous activities on the island, the work done by all including ships' crews from HMS *Sulphur* and Fremantle's HMS *Challenger.* Work began as soon as people had reacquainted themselves with their land legs, the *Challenger's* crew the best primed after arriving at the beginning of May. They cleared vegetation and erected tents and timber and canvas huts, chores completed by the end of the first week of June (Berryman 2002:67). By the end of June, the digging of wells, erection of improved accommodation, the cutting of a track to a "high hill" that is probably Mt Moke, and gardens cleared, fenced, and planted with precious seed had transformation the island (Cottesloe 1928:60-64). However, despite the collection of written documents, no map exists that locates the living and store areas, gardens, and defensive positions, increasing the archaeology's significance as a window to the past.

Descriptions of collectors' visits to the camp, and early research

There is limited previous research on the site, with most data coming from cultural resource management survey reports (ERM 2005; Yates 1995) and a contribution from the history department of the Western Australia Museum in 1971 (Hutchison, Officer and

Digwood 1971). However, the first descriptions of the camp's physical remains occurred in Western Australia's main daily morning newspaper in 1937 and 1938. The tabloid articles described collectors gathering cannon balls and a cannon ramrod, ceramics, clay smoking pipes, copper coins, shot, and Aboriginal artifacts, but there is also the description of features such as pathways, an oven and a trench leading from the well – a 3.1m diameter straight sided depression cut into the limestone in 1829 – that is visible today (Anonymous 1937a:15; Anonymous 1937b:8; Carbine 1937:25; Watson 1937:13). The supposed site of Stirling's dwelling and those of junior officers were described, while the collectors' deduced that a scatter of thin-sheet lead was the remains of a powder magazine. Many artifacts were noted and collected (McKail 1938a:21, 1938b:7, 1938c:19), but those visiting the site during the 1930s were not archaeologists, and subsequently left no detailed reports, maps, or photographs, while it is unclear what became of the artifacts.

In March 1971, staff from the history department of the Western Australia Museum did a series of surveys (Hutchison et al. 1971:1). Hutchison et al. (1971:2-4) noted that bulldozers had cleared vegetation to produced wide easements for constructing the Stirling naval base facility, including a heavily disturbed area believed to be the site of Stirling's dwelling. The group spent three days conducting small excavations and locating the sites described by those in the 1930s including the trench from the well (Hutchison et al. 1971:1). Material found during excavations and surveys included fragments of ceramic, glass, and brick (Hutchison et al. 1971:1-6).

Two heritage surveys in 1995 and 2005 – the first examination of the area by trained archaeologists – noted the dearth of archaeological evidence at the site. Yates (1995:37) reported that the well, a small ring of stones, and a "sparse brick and ceramic scatter" were the only archaeological remains of the settlement. In addition, it was stated that the memorial to the 1829 colonists installed in 1979 (see Figure 1) and a pathway to it had potentially

destroyed archaeological data and that it was likely that looters had disturbed the area (Yates 1995:37-38). The 2005 survey came to a similar conclusion, identifying the well as the only 1829 cultural feature (ERM 2005:63) and that it was probable that most material associated with the camp had been removed (ERM 2005:71).

In forming the area for survey in this research, the authors considered the veracity of the 1930's descriptions of a rich archaeological record compared with the results of later surveys that found little. Furthermore, experience garnered by the authors of this article about the fallibility of using secondary historical sources to identify the location of early colonial sites in Western Australia resulted in the decision to survey an area larger than previously examined by others (Burke 2007a; ERM 2005; Hamersley 2011; Tomlinson and Burke 2022; Yates 1995).

Methods

Nine hectares were examined using parallel pedestrian transects. Lines of between three and eight people with individuals 5-meters apart crossed the area (Figure 1). Transects, and the finding and recording of artifacts, were easiest in the low forest that had little understory but difficult in dense scrub especially in the flat area north of the hill and ridge. Overall, about 65 per cent of the visible ground surface was examined, including heavily disturbed areas such as the site of the memorial on Cliff Head. Differential GPS recorded the location of features and loose artifacts, with artifact description and measurement occurring in the field following DoD and state government authority requests that all artifacts remain in situ. No excavations have occurred at this stage in the research.

RESULTS

The survey found 309 surface artifacts with early to mid-1800s attributes (Table 1). The artifact assemblage included features such as depressions and mounds comprising of dressed and undressed limestone, low-fired red and yellow brick, and sand interpreted as the remains of structures (Hamersley 2011:40-42).

The artifacts were categorized by function to provide a method of organizing data for understanding the broader meanings and implications of the data (Brooks 2005:7-9; Crook, Lawrence, and Gibbs 2002:31; Henry and Woodward 2019:90). Categories for subsistence (Foodways category), buildings (Structure category), and personal possessions (Personal category) were considered the minimal requirement in artifact functional categories for constructing hypotheses about area use and adapting to new environments. The functional categories formed followed the method espoused by Gibbs (1995:230) that was itself based on Orser (1988:233) and South (1977:95-96) that has effective use on other Western Australian archaeological sites where similar research questions were asked involving adaptation to new environments (Burke 2004; Gibbs 2010; Tomlinson and Burke 2022, and others).

Some limitations of placing artifacts in functional categories (Gibbs 1995:230; Walley 2018:276-277) are not identifying an artifact's secondary function due to its use in an unorthodox manner and the susceptibility to cultural or social variances that arise through older archaeological contexts. However, assuming an artifact's use for the role it was designed mitigates most shortcomings (Beaudry, Cook and Mrozowski 1991:174; Platts and Smith 2018:78). Furthermore, the Cliff Head site's association with an early nineteenth-century British settlement that has many positive correlates with North American, Australian, New Zealand and South African case studies overcomes through comparison of most of the

cultural or social variances (Gibbs 2010; Klose and Malan 2000:49-49; Lawrence 2003; Platts and Smith 2018; Ritchie 1991).

Artifacts were present in all vegetation and landform types but were sparse over the entire 9-hectare area. However, as Table 1 indicates, most (n=295) were found in two areas – on the hill's summit and north and east faces, and the flat area north of the hill (Figure 1). The number of artifacts over the flat section north of the hill contrasted starkly with the few artifacts in the flat area south of the hill that has similar topography, suggesting a preservation bias or a different function for the two areas.

Description of artifacts by function

Structure

The area surveyed contained five mounds of limestone, sand and brick, and five level areas formed by excavation interpreted as a remains of structures and building pads respectively. A mound on the hill (M1 in Figure 1) measured roughly 3 by 8 meters, but the feature's long dimension was difficult to determine due to heavy vegetation cover (Figure 2). A dry-stone course of dressed limestone interpreted as the edge of structure foundations comprised the east portion of the mound, with fragments of colorless window glass less than 2mm thick and pieces of imported low-fired red and yellow brick and some complete yellow brick examples on the surface of the mound and nearby. Some brick fragments had mortar attached.

Figure 2 near here

The five level areas (designated L1-5) were recorded excavated into the 30 to 40 per cent grade of the east-facing slope of the hill. Associated with the features was a low-density scatter of dressed limestone, yellow and red low-fired brick, and a single fragment of colorless window glass (Figure 1).

The flat area north of the hill comprised most of the artifacts in the structure function category including the existence of mounds of limestone, sand, and brick that probably represent four structures (designated M2-5; Figure 1). One (M2) comprised cobble sized limestone and sand measuring 3.5 by 11 meters with visible dry-stone limestone foundations and collapsed walls of limestone on the north, south and east faces. No evidence of limestone rubble on the west face suggested entry from that direction. Another feature of limestone rubble and sand (M3) measuring 3 by 4 meters had dressed limestone blocks forming steps with two risers and treads. Colorless window glass (n=2) and fragments of low-fired red and yellow brick with mortar attached were other structure function artifacts in this area.

At the base of the north-facing slope of the hill were features in limestone bedrock strongly suggesting that quarrying of stone had occurred, while fragments of imported low-fired yellow and red brick were recorded on the summit of Mt Moke in the western most section of the survey area.

Foodways

Artifacts in the foodways category comprised much of the Cliff Head assemblage, with most found in specific locales in the survey area such as the north-facing slope of the hill near the mound of sand and dressed limestone (M1). Many fragments of black glass alcohol bottle were amongst the scatter, including bases from cylindrical bottles with bulging heals typical of English bottles made pre-1830 (Stanbury and Kasi 2006). Fragmented and complete bottle

finishes in the scatter were of Jones' (1986:68-71) Group 3A and 3B (n=6) types, dating the material to the 1820s or earlier. Storage vessels of brown salt-glaze stoneware, fragments of colorless glass from drinking tumblers, and a shard of flatware in hard-paste English porcelain, were other foodways function artifacts in this area.

A small collection of foodways function artifacts was found with level areas L1-5 and associated structure function artifacts on the hill's east slope. The collection comprised two fragments of a refined earthenware cup or can, a refined red-earthenware teapot handle (Brooks 2005:32), and several fragments of black bottle glass.

Fragments of black glass from cylindrical English bottles were common in the flat area north of the hill. Most of the bottle glass was associated and the 1829 3.1-meter diameter well (designated F1). The well, fragments of bottles, and a depression interpreted as a soak measuring 10 by 11 meters (F2) were other foodways function artifacts in the northern most part of the survey area (Hamersley 2011:71, 81).

The southern most areas surveyed had the least amount of 1820s-dated archaeological material. However, there was a large depression (F3) measuring 12 by 14 meters and 1.6 meters deep with a gently sloping entrance that researchers interpreted as a soak supplying water for livestock brought by the British. A 5 by 6-meter depression nearby was interpreted as a well (F4). Fragments of black glass from cylindrical English bottles at two locations south of the hill were the other foodways artifacts recorded in the area, while a small rectangular mound of unknown function was recorded.

Transfer-printed refined-earthenware belonging to two different flatware items was recorded on Mt Moke, but caterpillar-tracked vehicles involved in installing modern DoD communication infrastructure had heavily disturbed the area.

Personal

Personal function artifacts were few. However, shells – especially the cone shell *Campanile symbolicum* (Wells and Bryce 1988:55, 57) – were common on the surface of the hill associated with mound M1 and the artifact scatter associated with the level areas on the east-facing slope. Their presence connects with the historical record that tells of colonists collecting native mollusk shells for their aesthetic value (Berryman 2002:67). Also found was a cobble-sized fragment of granitic rock (a rock type exotic for the island), and stems of clay-smoking pipes.

Table 1 near here

EARLY HYPOTHESES

While the number of artifacts in the archaeological assemblage is small, patterns exist that allow the construction of hypotheses about the lifeways of the British at Cliff Head. For example, there appears a loose positive correlation between artifacts with specific functions associated with particular areas, such as most of the foodways (n=105 from 153) and all the personal (n=33) function artifacts recorded in artifact scatters on the hill and its north and east flanks. There were also stark differences in artifact density over a reasonably small area, with few artifacts south of the hill compared with the area north of the hill that contained most of the structure function artifacts. However, the surveys – and analysis of the historical record – indicate that the area has witnessed complex site formation processes that require analysis before proposing theories for area use and lifeways.

Post-abandonment natural and cultural site formation processes (Schiffer 1985:29) are apparent at the site, with some artifacts with date ranges outside of the 1820s indicating post-1829 use of parts of the area. Furthermore, there is clear evidence of caterpillar-tracked vehicles having influenced Mt Moke and the area south of the hill that would have affected the primary context of artifacts. Hutchison et al. (1971) mentioned how the construction of infrastructure for the navy base had impacted the site, with the bituminized road linking the main navy installation south of the island with the fuel deport at the island's north passing near the Cliff Head area. In particular, the construction of the road affected the low area south west of the hill that was filled with earth to produce an embankment (see Figure 1). The road's installation alone probably destroyed the remains of structures if they existed in this area and buried or certainly moved other artifacts into secondary contexts that potentially accounts for the few artifacts in the area.

The late 1970s saw other reuse processes affecting the site with the installation of the memorial on Cliff Head and the crushed limestone pedestrian track leading to it. However, the presence in the flat area north of the hill of friable features that are probably the remains of structures and the well close to the pedestrian track indicates that disturbance of the surrounding area did not occurred away from these modern features.

Natural site formation processes in the form of soil creep downslope has influenced the context of some artifacts recorded on the north slope of the hill. The gravitation process (Koetje 1993:115; Rick 1976) on a slope of about 35-40 percent has moved, covered, and exposed some artifacts deposited during the camp's occupation. However, the tossing of artifacts (Stevenson 1985:75-77) or burying artifacts in pits were probably the cultural site formation processes that initially introduced the material into the archaeological record, with gravity, water flow and a loose matrix influencing their context after that time.

There was no evidence for vehicles such as bulldozers on the summit of the hill, with the landform's steepness on its north and south flanks inhibitive of vehicles of this type. However, Mt Moke's 20 percent slope provided fewer logistical problems, with clear evidence of disturbance by vehicles.

If the identification of artifacts and the description of their collection in the 1930s is correct, it is clear that hypotheses proposed about area function must consider post-abandonment cultural site formation processes such as collecting and scavenging that predictably took specific, large in size and easy recognizable artifacts (McKail 1938b; Schiffer 1977; Wildesen 1982).

Hypotheses on area use – the hill and environs

The slope to the hill of between 35 and 40 per cent would have made the moving of materials for the erection of structures on its summit and east flank difficult. Yet, bricks, dressed limestone, and other chattels were noted, suggesting that structures were erected on the hill. This implies some investment of time and resources signifying the importance of the hill to the settlement.

The superb visibility from the hill (Figure 3), and the mention in the historical record of the collection of cannon balls and a possible cannon ramrod (Anonymous 1937a:15), theorizes the place's use for defensive purposes. Knowledge of previous British or English settlement failure because of hostile responses from indigenous peoples or already established European populations would have been part of the psyche of those on Garden Island (Symonds 2003:151), with possible action taken to counter threats. Fortifying the fears – real or perceived – of those at Garden Island was the Swan River's isolation, where help if needed was at least three week's sailing time from Cape Town or a month – against the

prevailing wind – from Sydney. Therefore, the installation of defensive positions was a common undertaking. Some Australian examples include the small battery at King George Sound on the south coast of New Holland in 1827 (Wakefield 1827), and rampart and two cannon incorporated into the Victoria settlement at Port Essington in north Australia in 1838 (Allen 1969:Plate I.4). Even Charles Fremantle, in command since May 1 1829 of the holding force on the mainland south of the Swan River waiting for the arrival of the main settlement group, threw up defensive earthworks (Hillman [Roe] 1832 [1829]:16).

Figure 3 near here

The structure, foodways and personal artifacts on the hill, and a drawing produced at the time of the settlement showing the camp from the north help in proposing another hypothesis for a function of the hill – as a living area for some of the British. The sketch (Figure 4) by an unknown person contains objects that possibly correspond with features recorded during the survey. Furthermore, it has a caption and text on the left and right margins identifying depicted culture features. It is drafted from a location in Sulphur Bay and shows a flat, cleared area with five structures flanked to the south by a hill on which are two structures that the artist calls "Capt^{n} J's hut" (Figure 4 Box A), a flag on a mast, and other unidentifiable objects (Unknown 1830b). When compared to a recent photograph (Burke 2022, Figure 5) captured from close to the same location as the drawing, it appears that the hill and structures in the 1829 drawing correspond with the hill where mound 1 is located. However, the clear distortion of cultural features – compare the size of the "Men of War" (Figure 4 Box B) moored in Sulphur Bay with people standing on the beach and nearby

structures – makes it also plausible that the structure occupied by presumably (Captain) James Stirling is in the area where the memorial is located today (see Figure 5, arrowed).

Figure 4 near here

Figure 5 near here

A drawing by Mark Currie (1829a) of his hut in context with other dwellings also supports a hypothesis of the hill as a living area (Figure 6). The drawing, framed from a location in Cockburn Sound and looking west to the east shore of Garden Island, shows the distinctive limestone cliff of the head (arrowed) on the right margin and – amongst the vegetation – five structures at different elevations including v-tents near the beach. The Currie family occupied the structure in the image's center. Currie (1829a) mentioned that his family occupied a bell tent at Cliff Head shortly after arriving in June and that the dwelling made of unknown materials shown in the image replaced it in early July. In addition, Currie – as nascent harbor-master for the new colony – also stated that at one stage the family occupied an area in the camp with others holding administration roles in the new colony, such as colonial secretary Peter Brown and surveyor-general John Septimus Roe and their families (Currie 1829a).

Figure 6 near here

The hill's living area hypothesis and cultural landscapes

One must consider the unconscious decisions made by the British that possibly influenced area use and lifeways at Cliff Head when constructing hypotheses relating to the

many research questions connected to the physical signature of people taking the first steps of colonizing a new land. Changes in industry, consumption, and philosophy made the British in the early 19th century the modern era's first consumer society and one of the most liberal of nations (Karskens 2003:51; McKendrick, Brewer & Plumb 1982). They were markedly different to previous English-speaking groups that colonized, for example, the North American continent in the early 17th century. However, knowing one's place in established society was a socialized norm in British culture (Steinbach 2017:124; Storry & Childs 2017). Social, rather than individual processes created the class system – and other socialized standards or tendencies that guided behaviour and thinking – leading to enduring patterns that were transferrable from one environment to another. However, the methods the British used – personal habits, skills, and disposition of character – to respond to the social world they inhabited were not fixed or permanent, and could changed under unexpected situations or over a long period (Navarro 2006:16).

The British often transferred the methods of maintaining social norms when colonizing new places (Allen 1969; Hayes 2005). It is unclear if dwellings in Currie's drawing correspond with the five level areas cut into the 30 to 40 per cent slope and associated artifact scatter on the east flank of the hill, or if the structure on the hill's summit is associated with James Stirling. However, further research – and in particular excavations to increase the artifact assemblage – to clarify area function may support the proposition of the British creating a cultural landscape to implement and enhance control by surveillance afforded by the hill's elevation (Anschuetz et al. 2001:157-161; Gibbs 1997; Hamersley 2011:90-92; Hood 1997; Van Dyke et al. 2016:206-207).

Premises about area use and cultural landscapes at Cliff Head – created by the interplay between free will and culture over time (Bourdieu 1984: 170) – must deliberate about the unconscious mind of those that formed the camp. Europeans fashioned landscapes for a

variety of lifeway contexts – work, places of internment, the home – with many case studies from Western Australia alone indicating an awareness of the technique to control people (Barteaux 2016; Burke 2004:334-340; Burke, Dimarco and Meath 2011; Gibbs 1997; Whitley 2015).

Hypotheses on area use – flat area north of the hill

The archaeological and historical record associated with the flat area north of the hill propose hypotheses for function including storing the new colony's supplies, as accommodation for low ranks, and as a place where resources – freshwater – was collected. The caption for the scene depicted in Figure 4 indicates the use of structures in the area for accommodation of seamen and as workshops (Unknown 1830b). However, Morgan – the colonial storekeeper – described some of the structures on the flat area near the jetty in Sulphur Bay for storage, with the purpose built storehouse completed by August 1 1829 described as spacious and adequate to hold goods unloaded from the two ships (Berryman 2002:77-79; Morgan 1829a). Excavations are required to confirm that the four mounds containing dressed and undressed limestone, red and yellow brick, and shards of window glass in the area are the remains of structures. However, if proved, the features – particularly the example measuring 3.5 by 11 meters – would suggest that the structures described in the historical record had reasonably large internal surface areas.

The historical record provides other evidence for the area's use for stowage of food and equipment. When the British arrived in June 1829, it was unclear – despite the survey done by Stirling in 1827 – how long it would take to gather information relating to the spatial and physical characteristics of resources on the island and mainland. Typically, the garnering of locational knowledge – knowing where resources exist (Rockman 2010:4-5) – occurs in the

space of hours, days, weeks, or months. It took those at Peel town – one of the large coastal camps formed with the arrival of the main group of British colonists to the Swan River colony shortly after the arrival of those on Garden Island – little time to recognize and use local coastal limestone in the construction of hearths and cobbled floors in dwellings (Burke 2016:32-33, 37; Tomlinson and Burke 2022:385) or to identify the best quality local woods for fuel (Burke 2017). However, learning about the reliability of resources, or if the agricultural knowledge brought with new colonists was appropriate for an area (Symonds 2003:152), took longer to achieve, a process Rockman (2003:4, 2010:4) referred to as limitational knowledge.

The practice of learning before achieving effective adaptation (Kirch 1980; Rockman 2003) – in this case the ability of the British to exist and persist in a new environment – took time, resulting in the commonly observed trait of New World colonists of importing goods to avoid failure and to store and husband the items once arrived. The precise tonnage and number of items brought from Britain and unloaded from the *Parmelia* and HMS *Sulphur* is unknown, but 260 tonnes of foodstuffs (including 17 tonne of preserved meat and 19.5 tonne of bread and flour) and an unknown quantity of mason's and carpenter's tools came from the *Sulphur* alone (Morgan 1829b, 1829c; Sholl 1829). The *Parmelia* had seeds for vegetables and fruits, tents and other accommodation acquirements, medical supplies and firearms (40 muskets, 20 carbines and 20 rifles) amongst the items unloaded from its hold (Barnard 1829; London Military Depot 1829; Porrett 1829). Commentators mentioned that it took six-weeks to unload the stores from the two ships (Currie 1829a).

The stores brought by the British, and the surveying of regions suitable for establishing towns and identifying areas fit for agriculture, indicate experience in settling new places and a preparedness to use introduced items to overcome the period of experimentation with local resources before achieving effective adaptation. However, drinkable water is a resource

rarely imported, with the want of discovering reliable water resources the first objective of many when entering a new place (Allen 1969; Richards 1999). The digging of a well and another feature in the flat area north of the hill (F1-2) propose efforts to provide a reliable water supply, while fragments of black-glass alcohol bottles near the well (F1) postulating the reuse of the bottles for water storage.

The lack of personal function artifacts in the area despite evidence in the historical record that the structures' use was also for accommodation can relate to post-abandonment scavenging of the site. The flat area north of the hill is the easiest to access for those visiting the island with watercraft, resulting in a higher potential for scavenging, collecting and curation of artifacts in that area compared to others (Rathje & Schiffer 1982).

Hypotheses on area use – flat area south of the hill

The limited material evidence and heavy post-abandonment disturbance in the area south of the hill limits the forming of premises about the area's function. It is possible the area south of the hill had no designated function. However, features resembling soaks propose a thesis that the area's main use involved the pasturage of animals and a place for the collection of potable water. Stock and horses were not brought on the *Parmelia* or *Sulphur*, but introduced after the arrival of the *Calista* and *St Leonard* on August 5 and 6 respectively that had a combined total of 40 horses, 11 cows, 61 bullocks, and about 270 sheep as cargo (Currie 1829b, 1829c; Scott 1830).

While structure and foodways artifacts were few and in secondary context on Mt. Moke, their presence suggests an area that was permanently occupied. In addition, the artifacts on Mt. Moke justified the decision to enlarge the survey area compared to others that did not include the summit inside research envelopes.

The historical record provides strong evidence to support a hypothesis that the archaeology represents the residue of a site associated with communication. The image drawn looking south from Sulphur Bay shows a hill in the center background with a structure and standard linked with a “Signal Hill” caption in the right margin (Figure 4, C), while maps of Cockburn Sound by the colony’s surveyor-general John Roe (1829) also marked Mt Moke as “Signal Hill”. (Hillman [Roe] 1832 [1829]:120, 128; Roe 1830). With views of the Indian Ocean, Cockburn Sound, and the mainland, those occupying the summit would have had the ability to communicate with ships arriving at the Swan River and with other sections of the camp.

CONCLUSION

The results of preliminary surveys have provided sufficient evidence to propose testable hypothesis about area use and lifeways of those at Garden Island (Meeandip) in 1829. Further studies of the Cliff Head area in the lead to Western Australia’s bicentenary and in conjuncture with advise from Indigenous representatives and relative authorities plan to test hypotheses using a range of techniques. Excavations in areas associated with possible structures such as the hill, its east-facing flank, and the flat area north of the hill will most likely produce a larger artifact assemblage to aid in testing hypothesis about defense, living, and storage use theories for these areas. Hypotheses about the formation of cultural landscapes are subject to analysis of the excavated material. However, the authors are realistic that functions for some areas of the 1829 camp – such as the area south of the hill – are possibly impossible to determine due to post-abandonment disturbance.

At an extra-site scale, the archaeology of the Cliff Head site at Garden Island (Meeandip) represents a rare example of a group’s initiation to a new area. Australia’s

European history alone has many examples of failed settlements (Allen 1969, 2008; Burke 2017; Crosby 1975; McGowan 1985; Richards 1999), but only rarely is the archaeological record of successful colonization available for study (Connah 2003:149). Furthermore, the absence of archaeological research from some regions of the New World severely restricts the study of the global phenomenon of British colonization (Dyson 1985:2; Lawrence 2003:28). The research at Garden Island, that is still in its preliminary stages and with hypotheses to test, will produce results that fill research voids about the behavior of those arriving in new environments.

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Figure 1 Map showing the Cliff Head area and artifact location (the authors)

Figure 2 Drawing of the sand and limestone mound (M1) at the summit of the hill (the authors)

Figure 3 Photograph looking north from the limestone mound (M1) at the summit of the hill showing flat area north of the hill (dissected by track) in middle ground, and Sulphur Bay and northern end of Garden Island in the background (L. G. Tomlinson 2022)

Figure 4 Image showing the camp in 1829 looking south-west with storehouses (foreground), structure designated as "Capt^{n}. J's hut" (raised, in the middle ground) and "Signal Hill" (center background, designated "C"). (The Art Gallery of Western Australia, 1924/00D, artist unknown c.1830b)

Figure 5 Photograph taken from about the same location in Sulphur Bay as Figure 4 (S. Burke 2022)

Figure 6 Drawing showing the Curries' dwelling and other structures on the east shore of Garden Island (Currie 1829a)