

“Should We Have Beethoven’s *Moonlight* Sonata ... or a Hot Dinner?” Resource Stress as an Alternative to the Abandonment of Peel Town, Swan River Colony, 1829–1830

Shane Burke

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Abstract Peel town, one of many coastal camps established with the 1829 British colonization of the Swan River in the southwest of Australia, collapsed after 11 months of hardship. It has been long considered that dislike of the camp’s leader, Thomas Peel, was the main reason for the abandonment of the camp. However, the analysis of charcoal from hearths, fireplaces, and ash pits associated with five dwellings from the camp suggests that, during their stay, colonists exhausted local wood as fuel, forcing them to use timber containers, furniture, and ships’ timbers as firewood. The results propose that colonists were under extreme resource stress, which contributed to the camp’s abandonment.

Extracto La ciudad de Peel, uno de los muchos campamentos costeros establecidos durante la colonización británica en 1829 del Río Swan en el suroeste de Australia, se derrumbó tras 11 meses de adversidades. Se ha considerado durante mucho tiempo que la aversión del líder del campamento, Thomas Peel, fue el principal motivo para el abandono del campamento. Sin embargo, el análisis del carbón vegetal de los hogares, chimeneas y pozos de cenizas asociados a cinco viviendas del campamento sugiere que, durante su estancia, los colonizadores agotaron la madera local como combustible, viéndose forzados a utilizar contenedores de madera,

muebles, y madera de barcos como leña. Los resultados sugieren que los colonizadores estuvieron bajo una presión extrema con respecto a los recursos, lo que contribuyó al abandono del campamento.

Résumé La ville de Peel, l’un des nombreux camps côtiers établis avec la colonisation britannique de 1829 du fleuve Swan dans le sud-ouest de l’Australie, s’est effondrée après 11 mois de difficultés. Il a été longtemps considéré que l’aversion de Thomas Peel, le chef du camp, avait été la principale raison de l’abandon du camp. Cependant, l’analyse du charbon des foyers, des cheminées et des fosses aux cendres associés à cinq habitations du camp suggère que, pendant leur séjour, les colons avaient épuisé le bois local comme combustible, ce qui les avait forcé à utiliser des conteneurs et des meubles en bois, ainsi que le bois des navires comme bois de chauffage. Les résultats suggèrent que les colons avaient été soumis à un épuisement extrême des ressources, ce qui avait contribué à l’abandon du camp.

Keywords colonization · resource stress · abandonment · charcoal analysis · Swan River Colony · Peel town

Introduction

Between December 1829 and November 1830, a group of colonists inhabited a camp in coastal sand dunes and woodland in the lower west corner of Australia.

S. Burke (✉)
University of Notre Dame Australia, PO Box 1225, Fremantle,
Australia
e-mail: shane.burke@nd.edu.au

Comprising a large part of the initial British settlement of the Swan River—one of many colonizing events between 1760 and 1860 that spread British culture globally—the group of about 500 men, women, and children came from a wide range of regional and economic backgrounds. Most likely they had differing expectations of what was required to colonize a new land, but it is doubtful they foresaw the circumstances of the new physical and cultural environment into which incompetent and poor leadership thrust them. Many struggled. Their leader, Thomas Peel, received much of the blame for the position in which the colonists found themselves, and he was openly disliked by most. Peel had invested heavily in bringing the group to the Swan River in return for a large allocation of land, but his poor leadership and occasional absences from the camp fueled a sense of abandonment within the group. In July 1830, after eight months of neglect, some colonists requested a legal break in the contracts they had made with Peel (Collie 1830; Hasluck 1965). The leadership group of the fledgling Swan River Colony approved the request, and by November 1830 most colonists had left the camp for other parts of the Swan River Colony, leaving Thomas Peel's plans in ruins.

The archaeological remains of the camp, called Peel town—also known as Clarence, Brighton, or Canvas Town (*Sydney Gazette* 1830:2)—are rich and well preserved, supplying data for a myriad of research topics connected to the first steps in colonizing a new land. This article, however, focuses on the reasons for camp abandonment and, in particular, whether the archaeology can identify stress-related behavior. Artifacts linked with many functions have been collected and analyzed, but it is the excavation of features containing large amounts of charcoal, food remains, and other artifacts deposited during the camp's 11-month occupation that this article describes and interprets. The results of the analysis of this material provide other reasons to account for the camp's abandonment apart from dislike of the group's leader. The material collected from five dwellings occupied by family units suggests that colonists approached the procurement of fuel for cooking and heating in different ways, with some actions suggesting an escalation of stress-related behavior. The results imply that other problems not described in the historical record, such as the gradual reduction of resources and the uneconomical behavior required to obtain them, made living at the camp untenable and most likely contributed to the camp's desertion.

Peel Town in the Historical Record

Peel town's members were part of the vanguard of the British colonization of the Swan River on the lower west coast of Australia (Fig. 1), the first British settlement of the Australian continent that was not convict related, as were the previous British colonies of New South Wales and Van Diemen's Land. The main colonizing group arrived from Britain between June 1829 and May 1830, forming coast-based camps, such as Peel town near the Swan River's mouth on the Indian Ocean. The number of people at Peel town was similar to that of the Swan River Colony's main camp at Fremantle, 10 mi. (16 km) north. Unlike Fremantle and other camps, however, all of Peel town's members were part of a single settlement syndicate. The terms arranged between the British Colonial Office and the syndicate's leader, Thomas Peel, are complex, but originally Peel proposed sending 10,000 people and receiving 4 million ac. (1.6 million ha) in return (Peel et al. 1923:589). For various reasons the Colonial Office reduced the amount of land to 1 million ac. (404,000 ha) and introduced a stipulation that Peel and 400 colonists had to arrive at the Swan River by 1 November 1829 to receive an initial allocation of 250,000 ac. (101,000 ha) (Twiss 1923a:611, 1923b:612–613).

Peel—part of a wealthy Lancastrian cotton-milling family—used newspapers and handbills to disseminate his plans to the British public to form a settlement group, and by June 1829 many families and individuals had signed agreements to emigrate to the Swan River as part of Peel's syndicate (Hasluck 1965:55–56). The articles of agreement varied between individuals, but agricultural laborers and tradespeople signed on to work for Peel for five years at a wage of between 3 and 5 s. a day, and the promise of 50 ac. of land after three years (James Stone and Company 1829b, 1829c). The settlement group also included middle-class professionals, such as surgeons and surveyors, and families of former officers of the British Navy and Army who were attracted by Peel's offer of land grants of between 200 and 1,000 ac. (James Stone and Company 1829a, 1829d; Hillman 1836). The shortage of vessels forced Peel to stagger the departure of his colonists over a six-month period; the first ship, the *Gilmore*, with 180 colonists, departed Britain 10 August 1829 (Hasluck 1965:69).

Unfortunately for Peel and the colonists, the *Gilmore* arrived off the coast of Western Australia six weeks late, on 15 December 1829 (Scott 1829). The group's failure to arrive before the specified date of 1 November

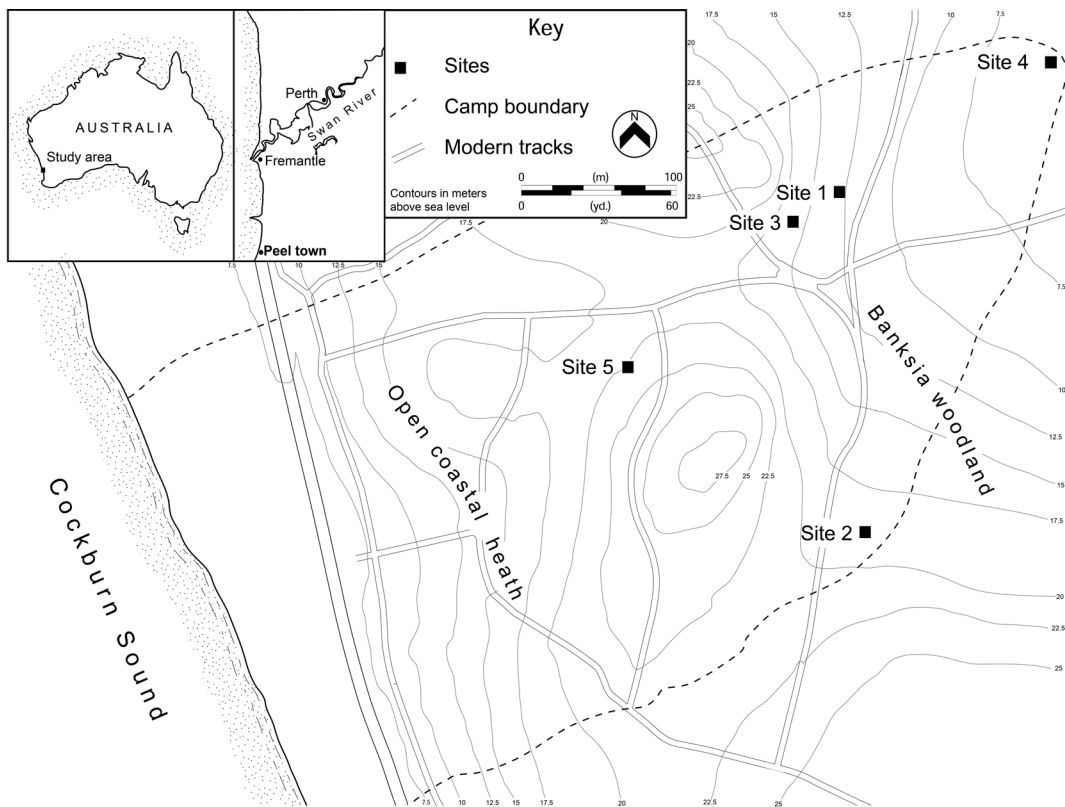


Fig. 1 Map showing the location of sites, Cockburn Sound, and vegetation types in relation to Peel town. (Drawing by author, 2015.)

severed the syndicate's arrangement with the Colonial Office and voided all Peel's claims to the 250,000 ac. For the lieutenant governor of the Swan River Colony, James Stirling, support of Peel and his group was essential, however. The colonists made a significant numerical contribution to the Swan River's British population, and returning them to Britain would have jeopardized the young colony's survival. Complicating matters, Stirling was grappling with the enormity of the problems of serving as the overall leader of a new colony and unwilling to resolve the tribulations of Peel and his colonists immediately. With nowhere to go until Peel and Stirling made new arrangements, in late December 1829 *Gilmore's* 180 colonists established themselves on the Cockburn Sound coast near Brown Hill, 10 mi. (16 km) south of the main colonist camp at Fremantle (Friend 1829–1831; Roe 1836). In Britain, the colonists had become part of a structured colonizing syndicate with the advantages of financial backing and large numbers of people. However, bad luck, but mostly bad management on the part of the syndicate's leader, saw the group from the *Gilmore* dumped on a foreign shore to fend for themselves.

Two months after the *Gilmore's* arrival, the second ship containing Peel's colonists—*Hooghly*—arrived with 176 people after a three-month voyage (Scott 1830a). The *Hooghly* colonists joined the group from the *Gilmore*, but selected for settlement an area a short distance from the already established camp, forming their own enclave of Peel town called “Hooghly Town” (*Sydney Gazette* 1830:2; Bayly 1831).

Across the camp, families that included men with trades, such as brick making, carpentry, or boat building, appear to have used these manual skills to construct habitable structures, while others erected tents and marquees they had brought from Britain. However, many less dexterous individuals were unable to build shelters, while others produced flimsy structures that leaked or were destroyed when storms arrived in the middle of March 1830 (Bayly 1831).

The last of Peel's ships—the *Rockingham*—arrived on 14 May 1830 with the final installment of colonists (Scott 1830b). The arrival coincided with a large storm that forced the ship aground on the beach about 0.5 mi. (800 m) south of the camp (*Perth Gazette* 1835:567; Shaw 1939:72–75; Heal 1988:32–34; Shardlow and

Shardlow 2007:12–17). Despite the mishap, all disembarked safely, but their arrival resulted in a further 152 people at Peel town and a camp population totaling about 500.

The conditions experienced by colonists at Peel town are oft cited as part of the story of the supposedly disastrous first years of the Swan River Colony (Battye 1912:43; Colebatch 1929:23). Despite this notoriety, there is a surprising dearth of primary historical sources, with Alexander Collie's (1830) medical report the only contemporary primary source on life at Peel town between December 1829 and November 1830. Members of other Swan River Colony camps knew of the conditions at Peel town, for most mention Peel and his group in letters and diaries (Friend 1829–1831). Information flowed freely from the colony storekeeper on Garden Island opposite Peel town to Lieutenant Governor Stirling (Morgan 1830a, 1830b), while some heard of the camp's privations from others visiting the camp (Friend 1829–1831), but few mention the living conditions. George Bayly, who was the *Hooghly's* second officer, left a reasonably accurate account, but his descriptions of the camp apply to the period from the *Hooghly's* February 1830 arrival to its mid-March departure for Sydney, and, as a result, they do not mention later camp conditions.

The 14 July 1830 release of some single men and a few families from their contracts with Peel due to the non-payment of wages is the first evidence in the primary sources of unrest in the camp (Leake and Henty 1830; Leake et al. 1830). Their release and news of illness at the camp resulted in Stirling requesting Assistant Surgeon Collie of the 63rd Regiment on board HMS *Sulphur* (moored off the coast) to visit the camp and prepare a report (Dance 1830). Furnished to Stirling on 25 July, Collie's four-page document is moving but impassive, stating that 28 people had died since arriving, most due to dysentery, scurvy, and childbirth complications (Collie 1830). According to Collie, sickness was rife, especially among children unaccustomed to a continuous diet of salted meat. He mentioned that the camp had partly fragmented on instructions from Thomas Peel: 12 families from the *Rockingham* moved 22 mi. (35 km) south to Mangles Bay, and a further family of 7 along with 12 single men moved even farther south to a site on the banks of the Murray River (Collie 1830; Robinson et al. 1830). The health of the people at these satellite camps was much better than that of those at Peel town.

Collie's July 1830 report mentioned Thomas Peel's absence from the camp, and Jane Dodds, one of the *Rockingham's* cabin passengers, also mentioned that Peel was not present when she arrived in May (Heal 1988:31). Others mention that Peel town without leadership was the site of anarchy (Dunnage 1830; P. Meares 1830; Smithers 1830), but none provides details about colonists' subsistence practices or specific behavior. However, news that the social conditions at the camp were poor forced Stirling and Swan River Colonial Secretary Peter Brown to send a deputation to the camp in October 1830. They suggested to those remaining that they pay Peel their passage money in exchange for the cancellation of their articles of agreement (*Perth Gazette* 1833a:76; Gill 1963:164). Most took advantage of this suggestion and, by November 1830, most had left (R. Meares 1830). Given their leave to depart, members of Peel's syndicate spread through the slowly developing Swan River Colony, their hatred of Thomas Peel obvious (Bunbury 1834–1837). Over the next three years, cases for unpaid wages and for the return of goods from Peel were common in the civil court, brought by colonists who had begun their Swan River Colony experience at Peel town (*Perth Gazette* 1833a:75–76, 1833b:79, 1837:936).

The Archaeological Record of Peel Town

There is much literature on the history and archaeology of the colonization of new areas during the modern era: Crosby (1975), Stevenson (1982), McGowan (1985), Hardesty (1988), Richards (1999), Blanton (2003), Rockman (2003, 2010), and Allen (2008), to name a few. However, few examine or attempt to identify signs in the archaeological record suggesting stress-related behavior. The research on the Donner Party, trapped in the snowbound Sierra Nevadas (Hardesty 1997; Dixon et al. 2011; Ellis et al. 2011), and Blanton's (2000, 2003) and Rockman's (2010) research into Jamestown during the initial colonizing phase are the best known, and, with Gibbs's (2003) analysis framed toward maritime disasters, are the exceptions. Testing the archaeological signature for evidence of stress that led to the abandonment of Peel town is this study's major driver, encapsulated within seminal questions about how quickly colonists learned about resources in a new area, the appropriateness of a colonizer's culture to a new environment, and, from a material perspective, what the objects left

behind represent about the effectiveness of knowledge gathering (Rockman 2003:3, 2010). Wishing to observe how colonists learned about new resources in the camp area and their subsistence practices resulted in a focus on cooking hearths and fireplaces. Charcoal from firewood, food remains, and other artifacts associated with these features provided clear evidence of behavior related to stress.

Since discovery of the site by the author in 2006 (Burke 2007), excavations have uncovered many artifacts and features from within the camp's approximate 65 ac. (26 ha) footprint, including five sites comprising vestiges of structures. The sites contained the remains of rudimentary hearths and fireplaces made of imported low-fired yellow brick and local limestone, carbonized timber posts, and rope pegs of iron. Other artifacts suggest a habitation and food-preparation function for the five sites.

The distances between each site (Fig. 1) and evidence from the historical (Smythe 1830; *Sydney Gazette* 1830:2; Bayly 1831) and archaeological records suggest that separate family units or groups occupied these sites during Peel town's occupation. Two of the sites can be linked to specific families or groups. Site 2 was the dwelling of the Crisp family, comprising John and Martha and six children under the age of nine (Scott 1829; Erickson 1988:713). John Crisp was a carpenter; he and the family arrived on the *Gilmore* (Scott 1829). George Barrow and his servant William Burne can be fixed to Site 4 (Smythe 1830; Barrow 1833). Barrow arrived in February 1830 on the *Hooghly* as a cabin passenger, suggesting that he was of the gentry class, but he departed Peel town in August 1830, most likely returning to Britain, leaving his servant behind. Shortly after, Thomas Bailey and his five children occupied Barrow's dwelling (Elmslie 1831a, 1831b). The Bailey family story in the new colony is one of heartbreak, with Thomas's wife Ann dying in childbirth in August 1830 (State Records Office of Western Australia 1830) and the family destitute at Site 4 until at least July 1831 (Bailey 1831a, 1831b; Elmslie 1831a, 1831b).

Before moving to Barrow's dwelling, Bailey, along with the Elmslie, Oakley, and Lyttleton families, lived in a complex of structures about 500 yd. (460 m) from the beach. Bailey, Adam Elmslie, and William Oakley were foremen employed by Thomas Peel to oversee the allocation of supplies to Peel's group, while John Lyttleton—part of the middle-class professional group attracted by promises of land in the colonies—was the

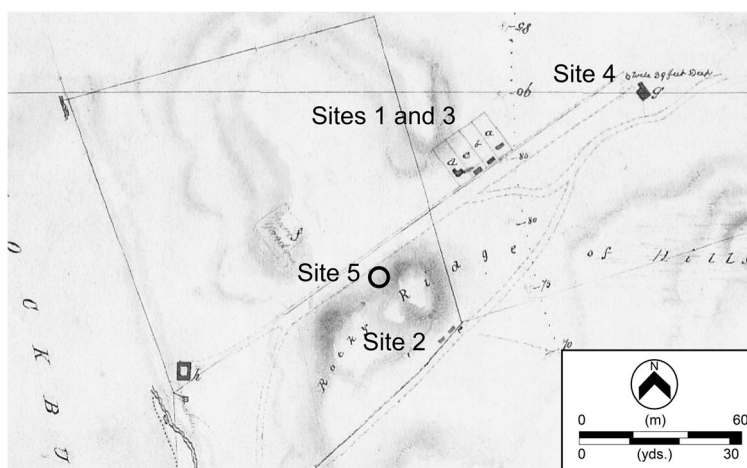
camp's surgeon. Sites 1 and 3 are linked to these families, but it is unclear which site is associated with which family. It is also unclear who occupied Site 5.

The five sites were occupied at different times during the camp's 11-month existence. Surveyor George Smythe's map of the camp, dated to late February 1830, showed dwellings corresponding with Sites 1, 2, 3, and 4 (Smythe 1830) (Fig. 2). However, the area on the map where Site 5 exists is uninhabited, suggesting that Sites 1–3 were most likely established from late December 1829, when the sites' occupiers arrived on the *Gilmore*. Barrow, at Site 4, arrived on the *Hooghly*, and his dwelling's inclusion on the map indicates that he and his servant erected their lodging rapidly. Site 5 was established after late February 1830 and is a structure associated with Hooghly Town.

Colonists' ignorance of the high inflammability of Australian vegetation in summer resulted in many accidentally lit bushfires at Peel town, with fires in late February and March 1830 consuming a number of colonists' dwellings (Friend 1829–1831; Bayly 1831). Fire—most likely associated with the large bushfire Bayly (1831) discusses in March 1830—appears to have destroyed the timber structures at Sites 1 and 3, providing a *terminus ante quem* of March 1830 for the archaeology of the two sites. The historical record suggests that Site 4—occupied at different times by Barrow and the Bailey family—had the longest usage of the five sites and was possibly one of the last dwellings occupied at Peel town (Elmslie 1831a, 1831b). However, it is unclear when the Crisp family abandoned Site 2, or when Site 5 was vacated.

It is pertinent to describe the Peel town area's vegetation, given this article's concentration on the procurement of firewood for heating and cooking. Salt-laden winds, soil type, and topography influence vegetation across the site. An open coastal heath of salt-tolerant shrubs (*Olearia axillaris*, wild rosemary; *Acacia lasiocarpa*, glow wattle; *Hakea prostrata*, harsh hakea; *Grevillea preissii*; and *Banksia sessilis*, parrot bush) forms the windward vegetation of the ridge on which a section of the camp was located, while “banksia woodland” comprising *Banksia attenuata* (candle banksia, the commonest tree in the area), *Xanthorrhoea preissii* (grass tree), *Macrozamia riedlei* (zamia), and groves of stunted *Eucalyptus marginata* (jarrah) and *Eucalyptus gomphocephala* (tuart) occur on the ridge's lee (Fig. 1) (Beard 1979:23–25). *Eucalyptus decipiens* (limestone marlock) exists in shallow soils over limestone in this

Fig. 2 Detail of George Smythe's February 1830 map, showing the location of some colonist dwellings at Peel town (Smythe 1830). Note that no dwellings are recorded where the Site 5 excavations took place. (Map adapted by author, 2015.)



region, while *Melaleuca raphiophylla* (paper bark) is found near a brackish swamp about 800 yd. (730 m) east of the camp (Beard 1979:25). The historical record describing the area 11 years after the camp's abandonment suggests that the present vegetation reflects the vegetation regime of 1829–1830 (Gregory 1842:54).

The wood of local shrubs and trees varies in quality as firewood, with the leaves of the grass tree ideal for kindling, due to their impregnation with resin, and the wood of jarrah, tuart, acacia, and banksia burning with much heat when dry. However, other species, particularly paper bark, produce little heat and much smoke, while the fronds of the zamia palm produced potentially toxic smoke.

Methods

Methods, techniques, and sampling design for describing and collecting archaeological charcoal are common in the literature, but those of Figueiral and Mosbrugger (2000:399) and Pearsall (2000) were followed in this study. Deposits of charcoal as spent fuel were collected from contexts inside well-preserved hearths and fireplaces at Sites 1, 3, and 5, and from ash pits where the material had accumulated in front of hearths and fireplaces by periodic hearth and fireplace cleaning (Sites 1, 2, 4, and 5) over time. Contexts containing charcoal were excavated in 2 cm arbitrary spits, the volume of charcoal-rich sediment ranging between 0.4 and 43 L per spit. The sediments, in bulk, were dry screened, and the charcoal combined in one bag per spit.

Four hundred charcoal fragments were examined per spit, apart from four basement spits at Sites 1, 2, 3, and 4

that had a small volume of sediment. However, the charcoal from the basement spits was used by normalizing basement-unit charcoal counts in relation to the sediment volume of spits for which the full 400 samples were collected (Marston 2014:164). Normalizing counts also allowed interspit and intersite comparison (Pearsall 2000:196–199).

The comparative charcoal collection was prepared from native woody species presently growing in the area using techniques advocated by Donoghue (1989:95). However, early results from the examination of the archaeological charcoal suggested the need for a comparative collection of exotic woods. These were sourced from trees growing in Australia, the United States, and Britain; the woods gathered were those typically used by the British and others for containers (barrels, crates, and chests), furniture, structures, carriages, and ships.

Results of Charcoal Analysis

A total of 5,762 charcoal fragments were analyzed. From these, 85% were identified to the genus level, the high successful-identification percentage due to the preservation of distinct cellular attributes brought about by the charcoal's relatively young age. Table 1 shows the raw and normalized counts of charcoal associated with fuel from the five sites. Most of the local taxa were identified to species level, while some exotic taxa that had very similar anatomical characteristics across species (oaks, elms, beeches, and pines) were identified to genus. All of the local taxa identified exist in the

Table 1 Raw and normalized counts of charcoal from taxa associated with fuel deposits

Site and Context		Local Taxa										
		Jarrah	Tuart	Marlock	Candle banksia	Parrot bush	Paper bark	Harsh hakea	Grevillea	Grass tree	Christmas tree	
1-54a		98/149	65/96	32/42	109/159	49/63	—	23/37	3/5	7/11	—	
1-54b		211/1287	53/325	15/94	82/450	2/25	—	5/31	—	8/50	—	
1-54c		14/1575	7/787	—	4/450	—	—	—	—	3/337	—	
2-150a		2/2	—	—	9/9	75/79	9/9	15/16	—	—	—	
2-150b		10/27	2/5	—	57/153	105/282	6/16	170/456	—	2/5	12/32	
2-150c		14/840	7/420	—	17/1020	1/60	—	—	—	2/120	—	
3-180a		99/293	72/213	22/65	48/142	12/36	—	7/21	2/6	—	—	
3-180b		169/791	7/33	8/37	168/786	—	—	—	—	14/66	—	
3-180c		192/2700	8/112	—	164/2306	—	—	—	—	3/337	—	
3-180d		18/2015	6/675	—	2/225	—	—	—	—	12/18	—	
4-365a		12/18	2/3	—	12/18	—	45/67	—	—	12/18	—	
4-365b		—	—	—	44/75	54/92	92/158	54/92	—	8/14	25/43	
4-365c		5/12	1/2	3/7	105/252	—	158/379	10/24	—	8/19	—	
4-365d		41/245	12/72	—	222/1328	—	8/48	—	—	32/191	—	
4-365e		7/525	1/75	—	28/2100	—	—	—	—	8/600	—	
5-465a		—	—	—	8/24	—	—	3/9	36/108	—	—	
5-465b		10/42	—	—	51/213	—	10/42	20/83	1/4	—	—	
5-465c		109/1473	13/446	—	212/2864	—	—	38/513	—	—	—	
Site and Context		Exotic Taxa										
		<i>Quercus</i> sp.	<i>Pinus</i> sp.	<i>Ulmus</i> sp.	Teak	<i>Fagus</i> sp.	West Indian mahogany	Red cedar	East Indian satinwood	Yew	Unidentified	
1-54a		2/3	4/6	—	—	—	—	—	—	—	44/71	
1-54b		—	—	—	—	—	—	—	—	—	38/237	
1-54c		1/112	—	—	—	—	—	—	—	—	2/224	
2-150a		42/44	32/34	85/89	29/30	—	—	—	—	—	76/80	
2-150b		—	—	—	—	—	—	—	—	—	36/97	
2-150c		2/120	—	—	—	—	—	—	—	—	4/240	
3-180a		38/112	—	—	—	—	—	—	—	—	66/195	
3-180b		—	—	—	—	—	—	—	—	—	34/159	
3-180c		—	—	—	—	—	—	—	—	—	36/506	
3-180d		—	—	—	—	—	—	—	—	—	3/337	
4-365a		71/106	78/117	9/14	5/8	7/11	36/54	12/18	25/37	—	74/111	
4-365b		30/51	4/7	1/2	—	2/3	29/50	—	—	—	57/98	
4-365c		20/48	—	28/67	—	—	—	—	—	—	63/151	

Table 1 (continued)

Site and Context	Exotic Taxa									
	<i>Quercus</i> sp.	<i>Pinus</i> sp.	<i>Ulmus</i> sp.	Teak	<i>Fagus</i> sp.	West Indian mahogany	Red cedar	East Indian satinwood	Yew	Unidentified
4-365d	—	46/275	—	—	—	—	—	—	—	39/233
4-365e	—	4/300	—	—	—	—	—	—	—	4/300
5-465a	115/345	—	51/153	1/3	30/90	19/57	24/72	28/84	15/45	70/210
5-465b	181/838	44/184	9/38	2/8	5/21	—	2/8	—	—	65/271
5-465c	1/14	—	—	—	—	—	—	—	—	26/351

Note: n/n=raw count of charcoal/normalized count of charcoal

present-day vegetation, and all charcoal—with the exception of *Xanthorrhoea*—were from woody taxa.

Table 1 shows clear differences in the normalized number of charcoal fragments between spits at individual sites and between sites over time. The earliest layers at all sites comprised many fragments of charcoal from local hardwood trees, such as jarrah, tuart, and candle banksia. There was then an increase in charcoal from other local species, such as harsh hakea and parrot bush, while paper bark increased in frequency over time at Site 4. Charcoal from exotic woods was present in low numbers in the base spits at some sites, but normalized numbers of fragments increased slowly and eventually dominated the most recent spits with a suite of oak, pine, elm, teak, Australian red cedar (from Australia's east coast), yew, mahogany, and satinwood at Sites 2, 4, and 5. In addition, in the most recent spits, charcoal from local bush species, such as grevillea and harsh hakea, continued, while charcoal fragments from jarrah and tuart—so common in the base spits—were very few.

In younger spits there is a real statistical decrease of charcoal from jarrah, tuart, and candle banksia based on the t-test result:

$$t_{30} = 3.74, p > 0.001$$

rejecting the null hypothesis that there was no change in the number of charcoal fragments from jarrah, tuart, and candle banksia between the base and surface spits at the five sites.

The results show that charcoal from exotic wood was uncommon in all spits at Sites 1 and 3, but very common in the most recent spits at Site 2, 4, and 5. With bushfires destroying Sites 1 and 3 in February or March 1830, the results demonstrate that the reasons for the behavior that resulted in the use of exotic wood for fuel at Sites 2, 4, and 5 most likely occurred after the destruction of Sites 1 and 3. Sites 2, 4, and 5 show extreme statistical significance based on the chi-square test of association:

$$\begin{aligned} \text{Site 2: } X^2 &= 2341.974, df 1, p > 0.001; \\ \text{Site 4: } X^2 &= 2353.251, df 1, p > 0.001; \text{ and} \\ \text{Site 5: } X^2 &= 5512.85, df 1, p > 0.001 \end{aligned}$$

for the null hypothesis that there is no difference in the number of exotic-wood charcoal fragments between earlier and later deposits. There was also a strong negative correlation between exotic-wood charcoal and

charcoal from jarrah, tuart, and candle banksia in the most recent spits, based on Yule's Q results:

Site 2: $Q=-0.82$, and

Site 5: $Q=-0.98$,

while the trend was visible at Site 4, but weaker:

Site 4: $Q=-0.55$.

Interpretation

The results of the analysis of charcoal fragments associated with features linked to heating and cooking at five separate sites suggest that colonists at Peel town had to use different types of wood for fuel, and this led to changes in fuel collection over time.

Despite the lack of established transport routes and reliable transportation, some from Peel town did travel to other camps, like Fremantle, and exchange information, while colonists from Fremantle and other camps visited Peel town in their travels (Friend 1829–1831). However, movement of stores was impossible, and colonists from Peel town could not leave the camp permanently for fear of breaching contractual agreements. Furthermore, the scenario in which they found themselves was unlikely to change until arrangements were made between the syndicate leader and the new colony's lieutenant governor. Despite the uncertainty of their future, however, the results suggest that learning about resources in the new land occurred very quickly. Combining charcoal from the five sites into the three categories of local wood with good firewood qualities (comprising jarrah, tuart, limestone marlock, candle banksia), local wood with poor firewood qualities (paper bark, Christmas tree, grevillea, harsh hakea, parrot bush), and exotic wood (oak, elm, beech, pine, teak, West Indian mahogany, Australian red cedar, East Indian satinwood, and yew) suggests a general, three-phase pattern of fuel use (Fig. 3). The first phase comprises mostly charcoal from local species with good burning qualities. In addition, the results propose that colonists from the *Gilmore* rapidly discovered that the wood from certain trees was superior to others for fuel, with tuart, jarrah, and candle banksia, which are very good fuels, appearing in basal spits recording the colonists' first firewood-collection forays. Today jarrah and tuart are present but

uncommon in the area, and one can assume this was the case in 1829–1830 (Gregory 1842:54), with the decline in charcoal fragments from these trees in younger spits suggesting their exhaustion in the area in and around the camp.

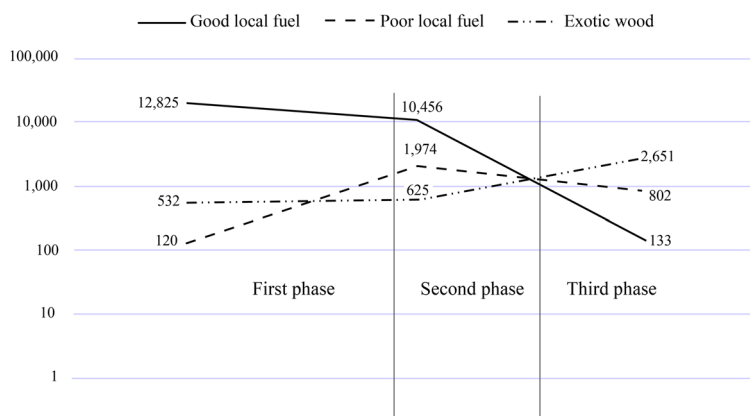
The decline in numbers of charcoal fragments from candle banksia implies that even the wood of this very common tree was becoming harder to acquire. Colonists, therefore, turned to less ideal woods for fuel. As Figure 3 shows, there is a decrease in the number of charcoal fragments from good local firewood species and an increase in charcoal from poorer firewood species. This second phase of firewood collection would have seen colonists turning to local, but less effective and harder to collect, fuels. For example, the wood of the parrot bush provides much heat when burned, but its prickly leaves would have made collection unpleasant, while the gathering of sufficient amounts of wood from parrot bush, grevillea, and harsh hakea would have been time consuming due to the small size of the plants in those taxa. As desirable fuel sources dwindled, the colonists' hearths and fireplaces at Sites 1, 2, and 3 were fed less desirable local firewood in order to cook meals for the 160 who had arrived on the *Gilmore*.

The second phase—when desirable fuel became harder to acquire—coincides with the arrival of Thomas Peel's second ship, the *Hooghly*, with about 180 colonists aboard. The charcoal from Sites 4 and 5, established by members of this ship, shows similarities to the upper spits at Sites 1 and 3 and the middle spits of Site 2, consistent with changes in the availability of good fuel. In addition, the doubling of the camp's population with the *Hooghly*'s arrival would have exacerbated the stress on colonists to find suitable wood for fuel. Those from the *Hooghly* had little choice but to use wood that was poor fuel, such as harsh hakea or—especially at Site 4—paper bark, which was most likely collected from a source near the brackish swamp about 800 yd. (730 m) east of the site.

Accounting for Exotic Charcoal

One can deduce, with confidence, the behavior of colonists associated with sourcing firewood for first- and second-phase charcoal at all sites. However, accurately establishing the behavior that produced third-phase firewood use—dominated by charcoal from exotic woods—requires evidence from other artifacts associated with the charcoal-rich sediments. The contexts

Fig. 3 Changes in wood types over time at Peel town (normalized counts used). (Graph by author, 2015.)



associated with hearths, fireplaces, and ash pits also provided a large collection of non-charcoal artifacts, with the presence/absence and frequency of artifacts changing during the occupation phases of the sites. Table 2 lists these artifacts by context and spit. The presence of some artifacts in the charcoal-rich contexts, such as fragments of English flint that arrived in the hearths and fireplaces as a result of fire making using flint and a steel striker, yellow brick that was imported by Peel for building purposes, ceramics (from forms mostly associated with food preparation), bottle glass, and smoking pipes, remains constant over time. However, metal artifacts and charred clamshell appear in the most recent spits of Sites 2, 4, and 5. The clamshell is from the species *Venericardia rosulenta*, which inhabits rocks and sand in shallow water in Cockburn Sound (Wells and Bryce 1988:164), with its presence in the hearths, fireplaces, and ash pits most likely the result of

the instinctive reaction of throwing food scraps into the fire after eating a meal. Fragments of copper-based sheeting; brass drawer knobs and handles; butterfly, butt, and H-type hinges; and brass tacks also appear in the most recent spits of Sites 2, 4, and 5. These artifacts, however, pale compared to the number of iron-based fasteners, such as nails, spikes, and bolts. Table 3 records these artifacts, separated by length and attribute; McCarthy's (2005:169) comment that there is a myriad of terms for metal fasteners augurs the pointlessness of separating these items using other criteria. Furthermore, copper-based fasteners increased in more recent spits.

Charcoal from exotic wood forms a strong positive correlation with iron- and copper-based fasteners and other metal artifacts. In addition, fasteners are not present in large numbers in basal spits at Sites 2, 4, and 5. These artifacts are also not found at Sites 1 and 3—further evidence to suggest that colonists had abandoned

Table 2 Artifacts associated with charcoal rich contexts at Sites 2, 4, and 5

Site and Context	Shell	Copper Sheet	Hinges	Knobs and Handles	Upholstery Tacks
2-150a	MNI=43/83.65	22/104.33	—	—	—
2-150b	—	1/2.83	—	—	—
2-150c	—	—	—	—	—
4-365a	MNI=17/42.12	15/67.91	MNI=8/190.33	12/156.21	32/60.1
4-365b	—	17/172.19	MNI=1/56.04	1/7.55	—
4-365c	—	2/7.11	—	—	—
4-365d	—	—	—	—	—
4-365e	—	—	—	—	—
5-465a	MNI=22/37.54	—	MNI=10/266.01	8/73.76	56/78.4
5-465b	MNI=1/0.9	—	—	—	—
5-465c	—	—	—	—	—

Table 3 Fasteners (nails, spikes, bolts)

Site and Context	Iron-Based Nails, Spikes, and Bolts						Copper-Based Nails: Complete			
	Complete			Shafts with points	Shafts without points	Heads	Weight (grams)	16–24 mm	25–50 mm	Weight (grams)
	14–34 mm	35–100 mm	>100 mm							
1-54a	3	1	—	2	1	1	35.21	—	—	—
1-54b	3	—	—	1	—	—	9.77	—	—	—
1-54c	—	1	—	—	—	—	8.43	—	—	—
2-150a	150/1 ^a	243/17 ^a	7/2 ^a	34	12	23	3111.4	1	9	23.22
2-150b	43/2 ^a	23	—	2	12	17	923.04	—	—	—
2-150c	2	6	—	1	—	2	29.65	—	—	—
3-180a	9	1	—	1	3	2	55.54	—	—	—
3-180b	7	—	—	2	—	1	50.09	—	—	—
3-180c	—	1	—	1	—	—	61.67	—	—	—
3-180d	1	—	—	—	—	—	4.44	—	—	—
4-365a	74/1 ^a	98/6 ^a	6	21	35	19	1503.66	3	7	21.7
4-365b	23	7	—	1	4	4	654.08	1	8	21.8
4-365c	11	4	—	1	2	2	77.71	—	—	—
4-365d	5	1	—	2	—	—	22.95	—	—	—
4-365e	—	—	—	1	—	—	4.3	—	—	—
5-465a	176/1 ^a	201/22 ^a	5/2 ^a	77	129	—	3697.5	3/1	3	15.61
5-465b	80/1 ^a	14	1	14	7	—	878.11	1	1	7.35
5-465c	37	12	—	13	25	—	432.91	1	1	8.93

^aTotal number/number clenched.

these sites. To construct a plausible explanation for the behavior that resulted in a change from local to exotic woods and the introduction of large numbers of fasteners, primarily metal, into charcoal-rich contexts, one needs to determine the specific uses of these woods during the late 18th and 19th centuries.

Third-Phase Charcoal

The results show that the inhabitants of Sites 2, 4, and 5 most likely behaved differently to overcome the scarcity of local firewood. At Site 2, occupied by the Crisp family, there was a rapid move from difficult-to-collect or poor-fuel-quality local woods for fuel to objects made of oak, pine, elm, teak, and Australian red cedar—the latter all woods with a variety of uses, but commonly used in ship- and boatbuilding (Kenchington 1993:3; Müller 2010). Furthermore, the 22 fragments of copper-based sheet are most likely the remains of copper sheathing nailed to the timber hulls of ships to inhibit shipworm and fowling (McCarthy 2005:101). The use

of a 7.75 × 13.5 in. (196 × 343 mm) piece of copper sheathing as a spark arrestor fronting the hearth at Site 2 and another 20 in. (508 mm) long sheet as an anchor for canvas further suggests a maritime source of fuel wood. Evidently, nails, spikes, and sheathing were embedded in or attached to the wood when it was deposited into hearths and fireplaces. The copper-based nails associated with the charcoal were all countersunk, typical of sheathing nails (McCarthy 2005:175–175), further supporting the suggestion that the Crisps were accessing the coastline for firewood as well as building materials.

There is no mention in the historical record of colonists from Peel town collecting flotsam and jetsam from the shores of nearby Cockburn Sound, but many describe the storms that lashed the camp from March 1830 that could conceivably have deposited wreckage (Bayly 1831; Shaw 1939:74; Hasluck 1965:97–98; Henderson 1980:101–102; Heal 1988:30–31). These storms resulted in the wrecking of at least four ships on the coast between 0.5 and 6 mi. (0.8 and 9.6 km) from the camp, with maps of the coast of Cockburn Sound from this

period showing the area strewn with grounded vessels (Clint 1830a, b). One of the ships wrecked was the *Rockingham*, the last of Thomas Peel's ships, which ran aground on 14 May about 0.5 mi. (0.8 km) south of Peel town (Heal 1988:30–31).

The charcoal and metal artifacts at Site 5 suggest a different response to declining fuel supplies. The most recent spits contain a range of charcoal from exotic woods used in the production of European furniture, with beech, West Indian mahogany, East Indian satinwood, and yew—common in British furniture—in particular. Versatile pine of many species was also used in British furniture. Up until 1810, it was common carpentry practice to use cheaper pine as a base wood and then veneer the item with an attractive satinwood (either the West or East Indian variety) or mahogany (Marshall 1796:51; Horner 1906:3539–3540; Edwards 1996). The satinwoods and mahogany were also used “solid” in table and chair legs, with yew—renowned for its great plasticity—commonly used for chairs (Edwards 1996). In the context of charcoal from these woods, the copper-based domed-head nails recovered are most likely upholstery tacks (Fig. 4a), often used to embellish 18th- and 19th-century furniture (Johnson 2012:22), while the copper-based plain knobs and rosette handles were fixtures for drawers and cabinet doors that were still attached when the wood was used as fuel.

Six of an MNI of ten hinges were double-strap hinges of the butterfly type (Fig. 4b), typically used to hinge furniture cabinet doors (Priess 2000:56), but sections of one larger, asymmetrical T-strap or cross-garnet hinge, used for sectioned doors or hinged lids, suggest that timber crates, cases, and trunks were also used as firewood. The large number of clenched nails in the most recent spit of Site 5 also supports the assertion that timber objects made with cruder carpentry skills were used as fuel. Clenching—the securing of a fastener in position by hammering down the protruding point—is a technique used in boatbuilding for achieving a fastener's maximum adhesion in wood (McCarthy 2005:54–55). However, having to hammer a protruding nail flat is also a sign of using a fastener that is too long for the thickness of timber being nailed—an attribute commonly seen in objects serving a utilitarian function, such as crates and cases, and where appearance was unimportant.

Colonists of the Swan River Colony, of which the members of Peel town were part, were granted land determined by the value of items introduced into the new colony (Statham 1981:183). Because of the land-

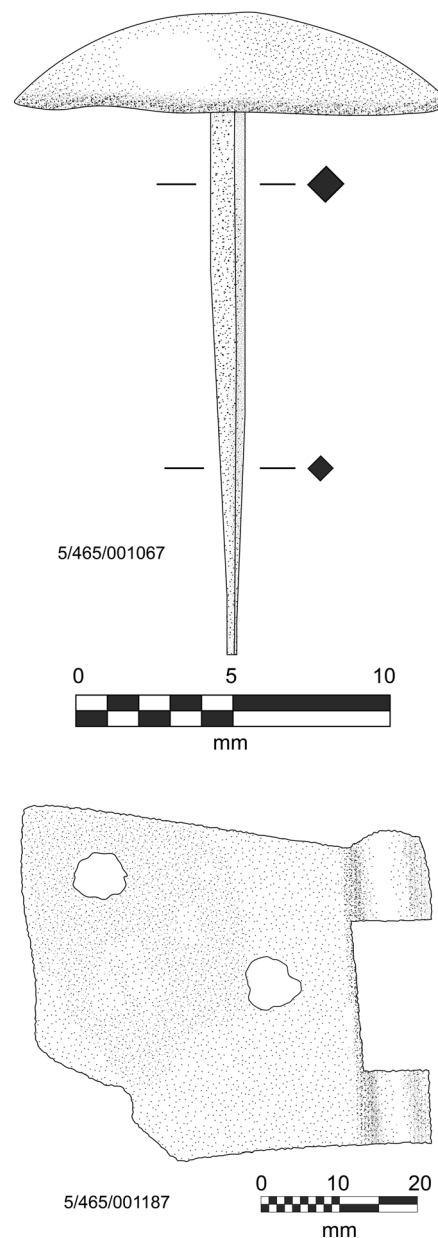


Fig. 4 Artifacts typifying the use of timber containers and furniture for fuel at Peel town: (a) copper-based upholstery tack (top); (b) a single strap from a butterfly-type hinge (bottom). (Drawing by author, 2015.)

grant system, copious documents exist listing objects that colonists claimed entitled them to land. The description and quantity of items brought by the Dunnage family, which had arrived on the *Gilmore*, provide a hint at the types of timber objects introduced into the camp that were possibly later used for fuel. The family brought two rosewood chairs (one of any number of

richly hued brownish woods, often with darker growth rings), a “mahogany ship table to order of the best quality,” and a piano (Dunnage 1830), while a total of 13 cases, casks, barrels, and chests holding a variety of possessions suggest that colonists during the initial colonizing stages introduced into the camp many objects with the potential to be firewood in the future. With the exhaustion of local woods, occupants of Site 5 most likely used furniture and the containers used to transport goods as firewood.

The Crisp family at Site 2 appears to have accessed wood for fuel from a marine context, but overlooked furniture and containers, while those at Site 5 seem to have ignored flotsam and jetsam, and instead used containers and furniture as fuel. The third-phase charcoal and metal artifacts at Site 4 suggest that the site’s inhabitants—either Barrow and his servant or the Bailey family—used a combination of wood collected from Cockburn Sound, timber containers, and furniture. Hinges, upholstery tacks, fragments of ship sheathing, and copper-based nails in the uppermost spit were in association with charcoal fragments from oak, pine, elm, teak, beech, Australian red cedar, and East Indian satinwood.

Peel Town in the Context of Stress

The historical record is divided regarding the general behavior of those at Peel town, with some sources describing boredom brought on by monotony and others suggesting aggression toward one another. However, all sources state that colonists were uncertain about their future, and that there was a growing feeling of discontent with the syndicate leader Thomas Peel (P. Meares 1830; Bayly 1831; Hasluck 1965:97–98). However, after analyzing charcoal from hearth, fireplace, and ash pit, it appears that colonists—at least in the context of firewood management—were faced with ever-changing circumstances, resulting in continual shifts in behavior. As good quality, local fuel supplies dwindled, colonists adapted first by using less suitable local fuels. This was followed by a variety of actions ranging from using furniture items and timber containers to scouring the coast for flotsam and jetsam.

Charcoal from wood commonly used in shipbuilding and associated with clamshell in the most recent spits at Sites 2 and 4 suggests that the action of gathering ship timber from the coastline inadvertently introduced

colonists to edible shellfish stocks on the rocks and beach. These acts are part of the process of colonizing an unknown land—in the course of which individuals and groups gather, share, and use environmental information in such a way that it can be communicated to others. Learning that jarrah and tuart were the best types of wood for firewood indicates a rapid discovery of the usefulness of this resource. The comprehension shown by colonists matches Rockman’s (2003, 2010:4) “locational knowledge,” one of three types of knowledge gathering related to landscape learning. Locational knowledge comprises the gathering of information relating to the spatial and physical characteristics of particular resources. Locational knowledge is the easiest form of environmental information to collect, and in many instances can be garnered in the space of hours, days, weeks, or months (Rockman 2010:4). The discovery of outcrops of quarriable limestone and edible shellfish is also an example of locational knowledge, but the appearance of clamshell in the most recent spits of hearths and fireplaces suggests that the discovery of this food source came some months after arrival.

Learning about the reliability of resources, however, took longer to achieve, a process Rockman (2003:4, 2010:4) refers to as “limitational knowledge.” The gathering of limitational knowledge includes information about the usefulness and reliability of various resources and their ranges of variation within the overall environment. Limitational knowledge cannot be gathered instantly and only accrues with experience, with length of learning time differing dramatically for different aspects of the environment depending on the frequency of resource use or the nature of the cycle—such as the climate—being learned (Rockman 2010:4). Despite their short time at Peel town, colonists would have been initially unaware of the sustainability of good fuels because it was unclear how long they would be in the area, but, as time passed during their 11-month stay, they became aware that the supply of good quality fuel was finite. As Rockman (2003:4) and Kirch (1980:130) concluded, for effective adaptation to occur people need knowledge linked to behavior that allows them to exist and persist in a new environment. Their research suggests that insufficient resources existed in the environment to allow the large Peel town group to persist, but the corpus of data collected in the locational and limitational knowledge categories about the landscape and resources meant that colonists were aware of stocks and—significantly—their limitations. The knowledge

gathered about resources most likely influenced the behavior of the colonists, resulting in the eventual abandonment of Peel town.

Objects and Their Changing Functions

The growing industrial proficiency of Britain, aided by cheaper raw materials from its colonies, made Britain and its people the first mass consumer society (Ritchie 2003:11; Cohen 2006:xvi), but the adoption of this material culture would have been uneven among the regions of Britain and among the different ranks and occupations of the British people (Karskens 2003:37–38). Furthermore, the British of this period were beginning to put huge emphasis on wealth and status demonstrated through material objects (Lawrence 2003:21–22; Cohen 2006:ix). The British used houses, furnishings, and glass and ceramic tablewares in unique ways as expressions of the ideals of domesticity, the ideology or “cult” that transformed the 19th-century homes of English-speaking peoples into highly symbolic zones (Clark 1986:114; Kasson 1990:169–170; Fitts 2001:116). Objects were designed to affect household members in terms of their sense of self and, importantly, in the presentation of self to others within and beyond the home. It is understandable, therefore, that people formed sentiments regarding and attachments with their belongings (Cohen 2006:44; Beaudry 2015:7). It is unlikely that anyone will know what types of furniture Peel town colonists used for fuel, but charcoal from expensive timber that had been imported into Britain and metallic furniture fittings suggest that some pieces were costly.

For the elite and middle-class professionals at Peel town, it appears that tasteful furniture and its placement in their new homes were to play a role in the new colony similar to that played in Britain. Objects were to express attitudes about how the activities of daily life should be ordered, and were a way of defining oneself in a society in which it was increasingly difficult to tell people apart (Cohen 2006:xi,14). As in Britain, the condition of the home on the Swan River and the presence or absence of the appropriate symbols identified the individual’s class (Beaudry 2015:5). Imagine, therefore, furniture—charged with symbolism and status—carefully packed in Britain and brought 12,000 mi. (19,300 km) by ship to the Swan River, used instead to provide fuel for a hot meal. The objects’ change of function in the new colony saw them get no farther than 400 yd. (360 m) from the beach. In a society where tasteful furnishings “made the

person” (Cohen 2006:125), and where every bad decision regarding the selection and use of objects could be a cause for regret, the destruction of the tangible associated with the trappings of elite and middle-class British culture would have caused intense stress for some at Peel town, for a decision had to be made between preserving or destroying symbols of society, wealth, personal sentiment, and respectability.

A further hint of behavior linked to stress comes from the historical record. In February 1831, Thomas Watson, in a letter to the colony’s surveyor general John Septimus Roe, requested that action be taken regarding the illegal taking of timber from his grant by Peel’s colonists (Watson 1831). Watson had arrived on the *Gilmore*, but was not associated with Thomas Peel’s syndicate and was, therefore, separate from the Peel town colonists. He was granted 1,000 ac. of land due east of Peel town (Hillman 1836), his grant’s boundary 2 mi. (3.2 km) from the nearest Peel town site (Site 4). The February 1831 letter dates to after the time that most colonists had received their leave to depart the camp. Yet, the few remaining at the camp still needed to walk at least 4 mi. (6.4 km) to collect firewood and had to perform an illegal act to secure it. This evidence indicates that, as firewood close to the camp diminished, colonists—who did not have the benefit of animal transport—had to walk increasingly longer distances to fuel sources. While wood was available in the vast stretches of banksia and eucalypt woodland in the plain surrounding the camp and from wrecked ships on the coast, colonists at Peel town would have become increasingly stressed by the time and energy required to collect and carry wood. Eventually, in circumstances where illness was rife, a threshold would have been crossed where the time spent in traveling and gathering firewood for the few fit members of the camp (Collie 1830) became greater than the time spent in preparing food, collecting water (that required a shorter journey), and attending to other needs. The archaeological and historical evidence suggests that the gathering of fuel became uneconomical, and that the colonists at Peel town were under resource and emotional stress.

Peel town was comparable in population size to the other main camps established by the British in the Swan River area. Attributes of Peel town’s archaeology—such as the use of good quality firewood and native food stocks—show that colonists had knowledge of resources and that landscape learning was occurring, a process no doubt facilitated by the sharing of knowledge

by individuals at the camp. Yet, the historical record alludes to events occurring at Peel town that were not experienced at other camps, while results from the camp's archaeology suggest that colonists experienced resource stress that was most likely a major contributor to the camp's abandonment—but settlements of similar size and in similar physical environments, such as Fremantle and others nearer to Peel town, survived, suggesting that factors of the cultural environment most likely played a part in the camp's collapse also. Peel town was the only camp formed during the Swan River Colony's first days when everyone was tied by contract to a single settlement syndicate; most of those at Fremantle, and later Perth, were in family-sized units with greater autonomy. Despite having a similar population size, the camp at Fremantle very early had a greater range of services develop, such as merchants selling food and other goods (albeit at exorbitant prices), and hotels offering alcohol and accommodation (Friend 1829–1831; Shaw 1830). These early businesses operated from hastily erected canvas or prefabricated structures, or rough, ramshackle dwellings made of local materials—but there was an air of permanency. Visits to Fremantle by the colony's leadership group from Perth, the comings and goings of ships offshore, and the moving of colonists from Fremantle to land in the upper reaches of the Swan and Canning rivers meant the development of a different psyche among those at Fremantle. At Peel town, there was no leadership, and contracts to Thomas Peel forced a group of people together until decisions were made about their future. The group was too large for the area's available resources, and the spirit of those at the camp must have been one of desertion and isolation.

Conclusion

The analysis of charcoal and other artifacts from hearths, fireplaces, and ash pits associated with the group that carried out the initial colonization of the Swan River in 1829–1830 suggests that, over time, British colonists at Peel town suffered a decline in the availability of good quality fuel for cooking and heating. The colonists used wood from other sources to alleviate the resource crisis, employing a range of different behaviors that resulted in stress. Until now, it has been suggested that low morale and disquiet toward the syndicate's leader, Thomas Peel, was the cause of the camp's eventual collapse, but the

colonists' actions—including using timber containers and furniture, scavenging timber from a marine context, and having to travel miles to secure local wood for fuel—illustrate another hardship and stress that surely galvanized colonists' wishes to abandon the area.

The results suggest that colonists rapidly learned which woods were the best fuels, but the dwindling of local supplies forced the use of introduced timber objects. Colonist behavior at Peel town highlights the necessity for researchers to be alert to primary intended function, primary intended use, and secondary intended use of artifacts (Crook et al. 2002:29–30; Brooks 2005:18), for much of the charcoal collected from the most recent spits of three of the five sites came from objects that had been brought to the new colony to serve practical purposes and, in some cases, to symbolize class and status. Instead, they were used in the context of supplying a hot meal. In the case of Peel town in 1829–1830, the people at the camp had material culture appropriate for life in the parts of Britain from which they emigrated, but the same material culture took on new meanings and functions in the novel cultural and physical environment of the new British colony of the Swan River.

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