AUSTRALIA'S INDUSTRIOUS CONVICTS:

A reappraisal of archaeological approaches to convict labour

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Abstract

Over the last three decades the convict as worker has become an increasingly studied aspect of the Australian transportation experience. With their insight into the landscapes and material culture of the convict experience, historical archaeologists have had—and continue to have—an important role to play in such research. This paper draws upon previously published studies of the archaeology and history of convict labour, considering the use of such labour in the colonies which received convicts between 1788–1868: primarily Van Diemen's Land, New South Wales and Western Australia. Focusing on the use of convicts by the government, it finds that there is a distinct group of settings within which convict labour was deployed. In addition, the paper discusses the key determinants that resulted in the formation and evolution of the places of convict labour. Whilst not intended as a restrictive model, this synthesis of convict labour settings and their formative factors provides a contextual framework and classificatory system for future research.

Introduction

From the moment that convicts stepped ashore in Australia, their labour was appropriated to the cause of building and sustaining the colonies. Their deployment in the extraction of raw materials, building construction or agricultural development resulted in a complex interaction between the disparate and constantly shifting motivations which governed the Australian convict system. From the beginnings of transportation in 1788, to its cessation in 1868, convicts labouring for the government were directed and motivated by an amalgam of determining factors at a British and colonial level. Their lives and labours were shaped by decisions made by London-based committees, colonial governors and station superintendents, as well as the temporal and spatial settings within which work was carried out. Today's archaeological landscapes are a result of these formative processes, and provide an insight into the motives and outcomes of convict labour in the Australian colonies.

Using previously published research into the archaeology and history of convict labour this paper examines the key motivations and outcomes of convict labour across the Australian transportation experience, with a view to providing a contextual framework for future study. Focusing on government-run establishments, where the delineation between the *intent* governing convict labour management and its *actuality* is more readily apparent, the key settings within which convicts laboured are examined. Leading on from this, the main factors which determined how sites of convict labour would be formed are analysed, with particular

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reference to how these moulded the archaeological landscapes visible today.

The Motives of Convict Labour

The transportation of sentenced men and women from Britain and its colonies to the Australian colonies lasted for 80 years (1788–1868), forming part of a much wider movement of unfree people across the globe (Nicholas and Shergold 1988). Some 139,000 men and 26,000 women were transported to Australia during this period (Maxwell-Stewart 2011:17), playing an integral role in the development of New South Wales (NSW) (1788–1840), Van Diemens Land (VDL) (1803–1854) and Western Australia (WA) (1850–1868) (Figure 1). Approaches taken toward convict management throughout this period were significantly diverse, depending upon the period and colony in which they were implemented. For example, assignment, a system of management which evolved in NSW and VDL, saw the majority of convicts assigned to work for free settlers. Its successor, probation, primarily operated in VDL and resulted in the concentration of convicts in government gangs prior to their assignment to settlers as 'passholders'. In WA, the all-male transportees had already served a period of incarceration in Britain prior to their shipment to the colony.

Nevertheless, the management of convict labour in the Australian colonies can in part be understood through an examination of the motives which governed the deployment of this labour. Casella (2007:58) outlined three aims of incarceration—punishment, deterrence and reform—neatly summarising how classic criminological debates have been shaped within a framework formed from these aims. The influential work of prison reformers John Howard (1777) and Jeremy Bentham (1791), or the analyses of Emile Durkheim (1964) and Michel Foucault (1977), can be read within the bounds of these aims. When considering the use of convict labour, however, it is possible to add a fourth aim: *economy*. In his 1791 work, Bentham based his penitentiary model upon 'pecuniary Economy', where the prison would be driven as much by profit as by punishment, deterrence or reform (Bentham 1791:42–75; Ignatieff 1978:110–113). As will be discussed herein, considerations of economy were to pervade the entirety of Australia's transportation experience, colouring the deliberations of British and colonial administrators alike, and even underpinning entire facets of the experience.

In the context of Australian transportation, contemporary discussions within Britain and the colonies about the efficacy or otherwise of the system of convict management constantly referred to the fourfold aims of punishment, deterrence, reform and economy. During the 80 years of Australian transportation, the influence of each varied greatly, depending upon British approaches to prisoner management and colonial reactions to it, though constant reference was made to each whenever existing
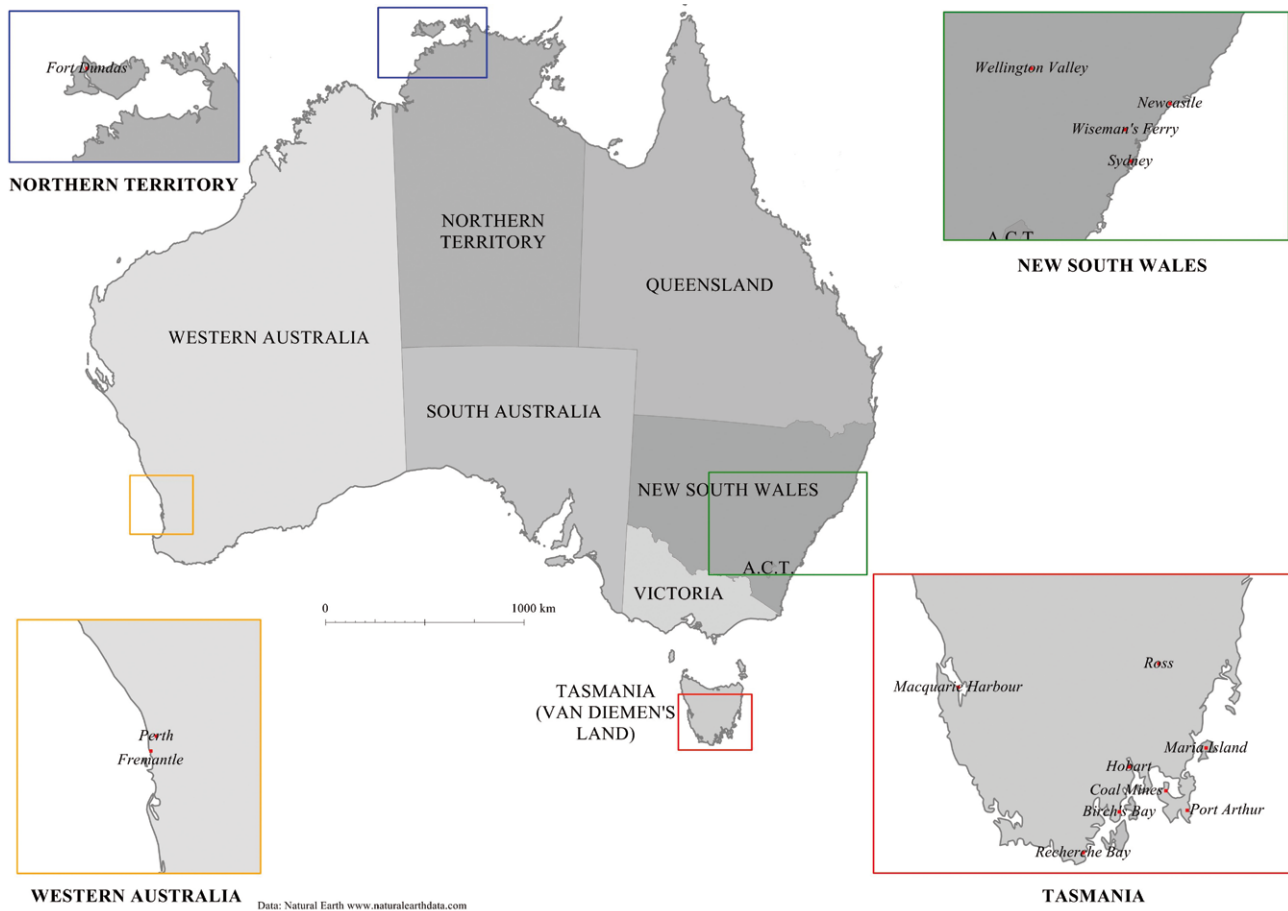
Figure 1 Locations mentioned in the text.

systems were being refined, or new ones initiated. Although marked more by its diversity of experience than its uniformity, it is possible to chart the course of Australian transportation through reference to the changing emphasis on these aims over time.

From the outset, the act of transporting a prisoner 10,000 miles distant was seen in terms of the immediate punishment it brought the individual, in addition to the deterrence it offered to criminals remaining in Britain. During the early years of settlement in NSW and VDL, deterrence and punishment took precedence over reform or economic motives. Periodic reviews, such as the Select Committee report of 1812 (British Parliamentary Papers 1812) and the 1822 report of Commissioner John Bigge (British Parliamentary Papers 1822), allowed the British government to take stock of transportation's progress and alter its course. Bigge's report, in particular, sought to ensure that transportation remained a 'real terror' to Britain's criminals, tightening the controls over the system of privately assigned convict labour, while at the same time strengthening the hierarchical model of secondary punishments that awaited recalcitrant convicts (British Parliamentary Papers 1823:5). A decade later, an 1832 Select Committee report found the system of transportation still to be inadequate (British Parliamentary Papers 1831–32), causing the Secretary of State, Edward Stanley, to call for the re-introduction of a 'degree of rigour' to secondary punishment (British Parliamentary Papers 1834:19).

Whilst the 1820s and 1830s were characterised by attempts to strengthen the deterrence and punishment values of

transportation, they also saw an increasing concern for its reformative value (Winter 2013:137). The culmination of this was the publication of the findings from the 1838 Molesworth Report, which ultimately triggered the overhaul of VDL's convict management system and the complete cessation of transportation to NSW (British Parliamentary Papers 1838). Today seen as an 'emotional' picture of the convict system that used 'selected examples, half-truths, even inaccuracies' to damn the assignment system (Townsend 1985:80), the Molesworth Report was nevertheless a contemporary reflection of Whitehall's concerns that the system was an uncertain one, where the four core aims were undermined by placing the fate of convicts in the hands of private masters.

When a new probation system was eventually implemented in VDL from 1840, it was intended to be built upon a foundation of certainty. Placed upon arrival in gangs, convicts could only progress into private service as passholders through outward displays of moral and religious reformation, aided by rigorous classification and superintendence (British Parliamentary Papers 1845:12–16). As Charles LaTrobe's 1847 report was later to point out, probation failed in all these respects, becoming as uncertain a system as its predecessor (British Parliamentary Papers 1847). Hamstrung by a chronic lack of funds or efficient staff, as well as a depressed colonial economy, probation only began to achieve its aims in the late 1840s, shortly before transportation to VDL ceased in 1854.

Throughout the 1840s there had been an increasing focus on economy, as the British and VDL governments sought to

mitigate the spiralling costs of probation (Tuffin 2007:75–76). When transportation was introduced to WA in 1850, economy was very much at the forefront, as the colony sought to capitalise on the benefits that could be accrued through convict labour (Gibbs 2006:72). Transportation to WA formed an integral part of a sentence which had already been partially served in British prisons (Shaw 1966:354). The convicts' presence provided a market for local produce, in addition to providing a source of labour with which many private and public works were completed. In the end, economy also played a role in the cessation of transportation to WA, when the British government decided prison-building in Britain was a cheaper option (Shaw 1966:357).

Previous Studies of Convict Labour

This paper is primarily concerned with how the remnant physical landscape can be used to gain insight into the motives that drove the deployment of convict labour, as well as the outcomes of that labour. Through archaeology's ability to meld documentary and material culture data, it is possible to examine original intent at the same time as engaging with actuality as presented through the physical landscape (Lenik 2012:52, 53). The maps, plans, letters, reports and accounts available to the researcher provide insight into the intentions of the administrators: why a particular station might have been formed, what class of convicts it was meant to hold, or how an establishment was meant to operate. Through the archaeological record, the actuality of this can be measured: the site's relationship to the natural environment, the siting of buildings or the patterns of material culture distribution can be read against the backdrop of intent. These landscapes of convict labour were formed in reflection of penological aims and shaped by the interactions between governors and governed. At the same time, the constructed landscape also acted upon those within it (Anschuetz et al. 2001:185).

The study of convict labour in Australia draws upon a wealth of previous theoretical work. Archaeologists recognise that the process of labour is heavily imbued with meaning and cannot just be read in economic terms:

> The labor that occupies the attention of historical archaeologists is the labor that is colonized [sic], enforced, controlled, exploited, indebted, hierarchical, unequally distributed, often rigidly structured, and simultaneously global and local (Silliman 2006:147).

Labour interactions therefore provide the archaeologist with insight into the constant push-and-pull of human relationships. Silliman (2006) found that labour studies in archaeology are pervaded by concerns about identity, race and gender, as well as agency and the lived experience. Through labour, archaeologists can understand the process of colonisation and the way that it can occupy the nexus between two cultures (e.g. Delle et al. 1999; Given 2005; Paterson 2005). Through labour, the form of social hierarchies can be traced, in particular, the powered cultural landscapes that can be created by the operation of domination and resistance dynamics (e.g. Lenik 2012; Orser 1988; Paynter and McGuire 1991; Singleton 2001; Spencer-Wood and Baugher 2010). Despite this, there is no unified approach to engaging with the archaeology of convict labour in the Australian context.

Previous archaeological and historical studies have engaged with the deployment of the convict unfree in the labour process, examining everything from the products and setting of this labour, to the management of the labour source itself. However, as will be discussed, these studies are analytically separated, remaining as examinations of temporally and spatially limited areas.

The well known historical studies of Robson (1965), Shaw (1966), Hirst (1983), Hughes (1988) and Nicholas (1988) provide a cross-section through the Australian convict system, exposing the political, social and economic components that enabled this system to function. From an archaeological perspective, Gojak (2001:73) found that archaeological research into the NSW convict system had three main foci: the convict experience; punishment and penal institutions; and the nature of convict society, although the concentration on each was uneven and lacked a serious engagement with system-wide contextualisation. Ten years later, Gibbs (2012) found that the uneven pace of research had continued, although Winter's (2013) placement of the archaeology of Australian transportation, particularly to WA, within a global context, has provided some systematic contextualisation.

The increasing interest in the convict as worker has resulted in a large corpus of study. Roberts (2011:33) has charted the development of convict labour historiography, examining its progress from a study of the 'criminality and culpability' of the convict, to a study of the convict as worker. Over the course of Australian transportation there were two main ways that convict labour was organised and motivated by the government. It could be employed within a gang environment, the collectivisation of labour increasing levels of superintendence and, theoretically, work output (Nicholas 1988; Robbins 2000, 2004), or it could be targeted at specific, skills-based tasks (Macfie 2002; Nash 2003; Robbins 2000, 2009; Tuffin 2007). This recognition and utilisation of the intrinsic skills of the convict, as well as attempts to ensure the full extraction of a convict's labour potential, were defining features of convict labour management. Some studies (e.g. Hirst 1983; Nicholas 1988) have been criticised for their concentration upon the ameliorated conditions of many convicts, others instead choosing to highlight the more brutal elements that permeated the convict labour experience (Evans and Thorpe 1992; Hughes 1988). Some studies have striven to take a middle ground, recognising the complexity inherent in extracting labour power from an unfree workforce (Maxwell-Stewart 1997). Integral to this have been examinations of the convicts' responses to the appropriation of their labour: from simple acquiescence to the extremes of collaboration or resistance (Atkinson 1979; Casella 2001; Dunning and Maxwell-Stuart 2004; Karskens 1986; Macfie 1988; Maxwell-Stewart 1999; Roberts 2000).

Australian historical archaeologists have been actively engaged in the study of the products and setting of convict labour. Although written from an historical perspective, Kerr's (1984) study of the planned architecture of the convict system linked building design and built form to the development of penological practice in Britain and Australia. Karskens (1986) used a typological analysis of walls along the Great North Road, NSW, to draw wider conclusions about the management and utilisation of convict skills and labour. Thorp's (1987a, 1987b)

study of non-institutional convict places in NSW created a coherent contextual discussion of these places of confinement and labour. Frederickson (2011) sought to use the archaeological fabric of Fort Dundas, Northern Territory (NT), to examine the control and organisation of convicts. Central to Gibbs' (2001, 2006) analysis of WA's convict legacy was a classification of convict places, including the numerous places where convicts laboured. Also concentrating on WA, Trinca (1997:33) analysed what he termed the 'spatial intent' of the convict system's built legacy, seeing it as comprising 'linked elements in a hierarchy of discipline'. In Tasmania, Tuffin (2004b) has sought to analyse convict stations through their utility as quasi-industrial establishments.

Settings of Convict Labour

During 1788–1868, the interaction between government and convict was nowhere more immediate than where the government retained direct control over the processes and products of convict labour. At these places, the interface between administrative aims and operational realities is at its clearest. How the labour was organised and managed was a direct reflection of how British and colonial aims, as well as those of a more immediate kind, came to be implemented. The labours to which the convicts were put, as well as the way in which they were utilised and motivated, provides insight into the constantly evolving convict system. However, convicts labouring directly for colonial governments did so under a confusing array of systems, at a great number of locations and for a wide variety of purposes throughout Australia's transportation period. Nevertheless, it is possible to discern a pattern to the deployment of convict labour, centring upon the settings within which this labour was deployed and the determining factors which led to the formation and evolution of these settings.

Convict labour can be distilled into five settings: day gangs; work camps; work stations; industrial stations; and establishments, each characterised by a series of traits (Table 1). These settings are deliberately expansive, encompassing a variety of place-types and systems. Every place where convicts laboured during the period of Australian transportation can be understood in terms of these categories—some beginning and ending as one setting, others beginning as one and then morphing into another. The categories are designed to be used as a contextual guide, providing a scale of comparison.

Day Gangs

The day gang was perhaps the government's most recognisable form of convict labour management. It focused the labour power of a group of convicts on a particular task, the outcome of which could be the attainment of a resource or the creation of a product. This collectivisation also allowed for economies in superintendence. The gang could comprise unskilled or skilled convicts, or a mixture of both (Nicholas 1988:154, 156). Gangs could be employed as a single unit, or be one of several working toward the same end. Emphasis on coercive measures varied from gang to gang—the type of work, forms of restraint and their desired outcome all affecting the experience of gang life.

The day gang was often attached to a town-based institution. Convicts within day gangs resided at a fixed point, labouring within a localised area during the day. The Hyde Park Barracks (1819), the Hobart Prisoners' Barracks (1821) and the Fremantle Prison (1852) were such nodal points, accommodating many of the convicts in those three centres (Penitentiary Chapel Historic Site 2006; Robbins 2005; Trinca 1997). During working hours convicts would be employed on road projects, harbour works, the creation of public buildings or agricultural pursuits (Nicholas 1988:155), returning at the end of the day to be housed in barracks accommodation, or—particularly in the early years—accommodation they had sourced for themselves. In WA, these gangs often consisted of Ticket-of-Leave holders who had been unsuccessful in their hunt for private employment (Gibbs 2006:73; Trinca 1997:25).

Work Camps

Work camps were one step removed from day gangs, being a detached establishment entailing additional logistics for maintenance, surveillance and administration. Labour at these places was still invariably collectively organised, the gangs assigned to tasks in and around the camp area. The main difference between the camp and the day gang was that, whereas the latter's home establishment housed convicts engaged in a multitude of tasks, the work camp was dedicated to a single purpose, without which it ceased to be. Work camps purposed with road construction, such as those at Wisemans Ferry, NSW (1827–1832), for example, saw convicts housed in a combination of temporary and permanent camps for the duration (Karskens 1984). When the road had been constructed, the camp was discontinued, or relocated elsewhere (Karskens 1984:19, 25).

Setting Type	Characteristics
Day Gangs	• Often attached to a larger institution • Localised work area • Single or multiple gangs could be devoted to a single work outcome
Work Camps	• Detached establishment • Often dedicated to a single work outcome • Limited self-sufficiency
Work Stations	• Detached establishment • Often dedicated to a single work outcome • Higher degree of self-sufficiency
Industrial Stations	• Could have detached establishments of its own • Multi-faceted labour focus • Labour dedicated to self-sufficiency
Establishments	• Labour confined to establishment or to day gangs • Often involved in manufacturing or service-related tasks

Table 1 The five main settings for government convict labour and key characteristics.

At Birchs Bay, VDL, a dedicated timber-getting camp operated between 1824–1830, cutting, carrying and reducing timber for export to Hobart. It only ceased operation due to the exhaustion of the timber and the consequent establishment of the Port Arthur timber camp (1830–1877) (Macfie 2002).

The dedication of the work camp to a single outcome meant that these establishments were limited in their capacity to be self-sustaining. Very few, if any, of the convicts were involved in labour that would offset the costs of their upkeep. Instead, essential food and material were imported into the camps, which were often located near existing nodes of settlement (Spry 2006:132). Even those work camps located some distance from settled areas relied upon a constant round of supply. During the short-lived life of the coal mining camp at Recherche Bay (1840–ca 1843), VDL, more than 70 convicts were dedicated to the task of proving and winning the coal. Those not involved in the immediate activity of shaft-sinking constructed ancillary structures, such as the horse gin (winding gear), making and mending tools or cutting timber (Tuffin 2008:52). All food and matériel was brought in by sea.

Work Stations

As at the work camps, convict labour at work stations was largely dedicated to one goal. However, unlike a camp, a station was able to direct a proportion of its labour to aid the establishment's level of self-sufficiency. This was often possible because of the station's larger population, its particular focus or because of prevailing systems of convict labour management, which may have demanded such increased independence. In VDL a heightened requirement for station self-sufficiency during the post-1839 probation era led to the creation of many work stations, whose labour forces were engaged in land clearance and agriculture, timber-getting or mining (Brand 1990; Tuffin 2007:73–74).

Like many such stations established after the Bigge Report, Wellington Valley (1823–1832), NSW, was designed to isolate the more disruptive members of convict society in a relatively self-sustaining environment, putting them to work on ground clearance and cultivation. It was a designated agricultural station, the produce of which went some way toward supporting its own isolated existence (Roberts 2000:54–55). The Tasman Peninsula Coal Mines (1833–1848) was another example. Dedicated completely to the extraction of a coal resource, less than half of the labouring convicts were actually engaged in mining, the remainder being employed in ancillary activities designed to support the station's goal (Tuffin 2008:53).

Industrial Stations

The key signifier of an industrial station was its multifaceted labour focus. Whereas camps and stations targeted a single outcome, labour at the convict industrial station ranged from resource production to goods manufacture. This type of establishment is today synonymous with penal stations, where convict labour was leavened with coercive measures. However, even at these places, hard labour punishment details worked alongside gangs of skilled and semi-skilled convicts. Thus, at Port Arthur, some convicts extracted timber from the bush, while others worked on the construction of large sailing vessels, laboured in the extensive gardens or were engaged in shoemaking or other skilled trades (Clark 2009).

Even more than work stations, industrial stations were designed to be self-supporting, in part offsetting their massive financial costs. In NSW, the Newcastle penal settlement (1804–1821) included a series of farming outstations providing goods to the settlement and local commissariat (Roberts and Garland 2010:19–20). Macquarie Harbour (1822–1833), VDL, was similarly supplied from its own gardens (Maxwell-Stewart 2008:32–35, 121). Even more importantly, self-sufficiency at industrial stations could be sought through resource procurement and manufacturing. Coal, timber and lime produced at Newcastle were used in Sydney's many building works (Roberts and Garland 2010:9). At the VDL prison of Point Puer (1834–1849) boys produced shoes, made boats, worked timber and carved stone—this not only taught them trades but also offset the station's running costs (Jackman 2001:7).

Establishments

Some places were designed to confine convicts and put them to work within the limits of their walls. In these 'establishments', convicts would spend their working hours labouring on a service or production-related task and be held within barracks or cell accommodation at night. Women in the NSW and VDL female factories, for example, were put to work on laundry or sewing whilst incarcerated (Casella 2001:49). In some instances there may have been associated day gangs labouring in the immediate area who were also quartered nightly in the establishment, such as when barracks-based convicts were co-housed with those working in the town in the Hobart Prisoners' Barracks (Brand 1990:199). Also counted amongst this were the treadwheels. A prime example of the authorities' adamant desire that no aspect of convict labour should be wasted, the wheels were always linked to secondary machinery; flour used at convict establishments was sometimes ground in this way (Tuffin 2004a:130).

Forming Landscapes of Convict Labour

In addition to the settings, it is also possible to discern a series of factors which determined the formation and evolution of landscapes of convict labour across the Australian transportation experience. Although punishment, deterrence, reformation and economy were the four motives around which transportation revolved, these do not provide a sufficiently rigorous framework for understanding how actual landscapes were created and evolved. Instead, three common factors affecting convict labour and its settings can be defined: organisation, the management and deployment of convict labour; supervision, as enforced by the supervisory staff and enabled by the design of the establishment itself; and production, through the extraction of a resource or the development of goods (Table 2).

Organisation

The management of convict labour necessitated a very different approach to that utilised in the free labour environment. Having forfeited their labour rights to the British government upon their sentence, the usual contract between an employer and employee was missing (Maxwell-Stewart 1997:143). And, although vested with the power to direct convict labour, in practice it was not a simple matter for the State to acquire and deploy this labour. Convicts were not slaves and access to their labour was governed by British and colonial laws (Kercher 2003). How the
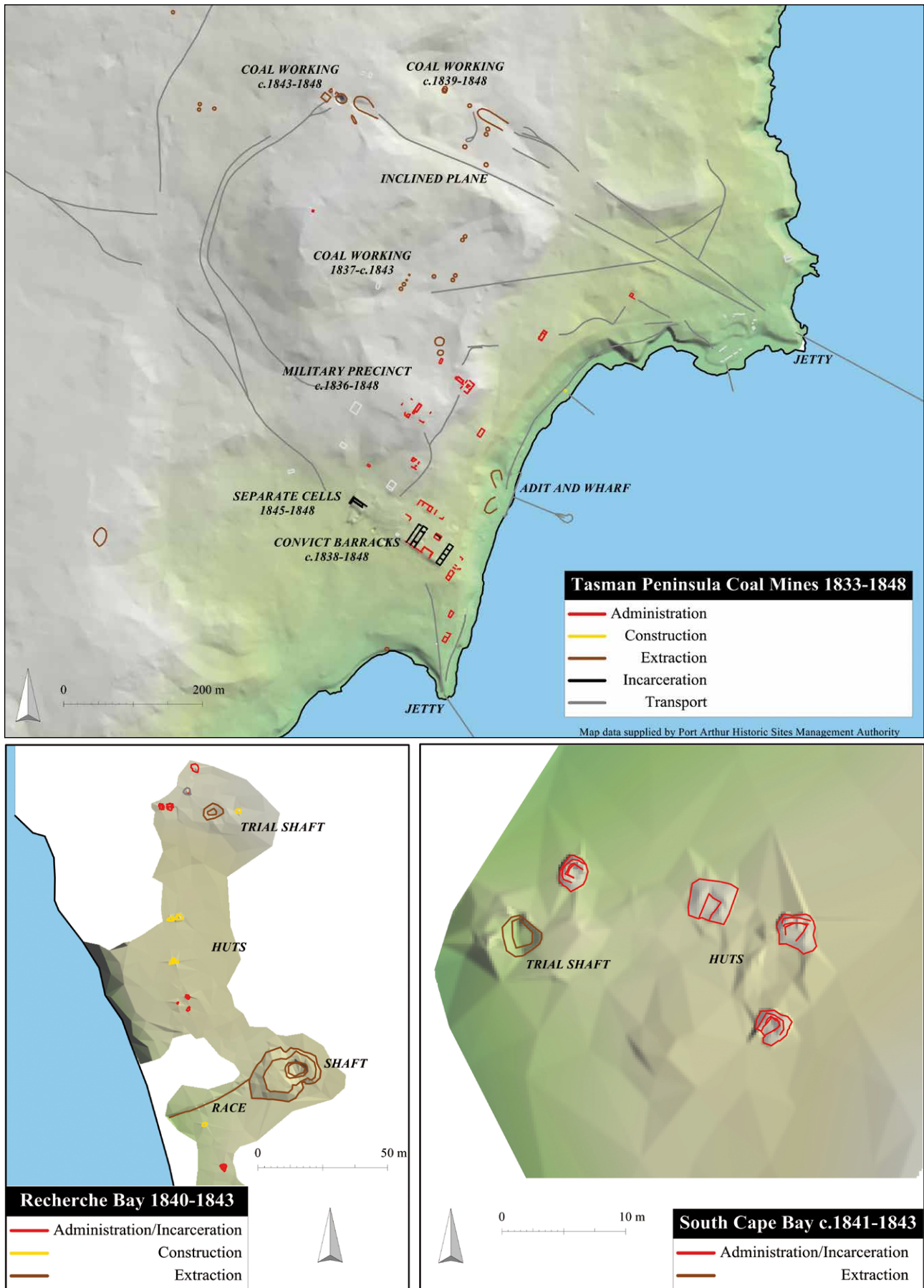
Figure 2 An example of convict labour settings. These surveys of three convict coal mines in VDL show two separate work camps (below) and the much larger work station of the Tasman Peninsula Coal Mines (above). Whilst the latter evolved from a work camp into a work station due to the relative abundance of the coal, the scarce nature of the resource at the other two meant that they never progressed beyond their initial stages.

government sought to identify and co-opt convict skills and labour has already been the subject of much scholarly attention and does not require a full discussion here (e.g. Maxwell-Stewart 1999; Nicholas 1988; Robbins 2000, 2003, 2009; Trinca 2006; Tuffin 2007). Similarly, the reaction that convicts had to the government's assumption of their labour rights has also been well discussed (Atkinson 1979; Casella 2001; Dunning and Maxwell-Stuart 2004; Reid 1997; Robbins 2005; Roberts 2000). Such studies show that the relationship between prisoner and gaoler was incredibly complex, where the efficient extraction of labour power could not be attained through a simple recourse to lash, law or leniency. Those who sought to direct convict labour were required to engage in a series of negotiations that shaped the effectiveness of the labour's end result.

The manner in which convict labour was organised was dependent upon three key elements: the overarching system under which it was carried out; the setting of the labour; and the methods used to extract and quantify the labour. The labour's setting, discussed above, was particularly influenced by the other two elements, since the system in place at the time affected the number and type of establishments in a colony. Decisions taken in London and by the colonial governments had a dramatic effect upon convict labour, governing not only how it was organised and managed, but also its expected outcomes (Winter 2013:139). The cessation of the assignment system in 1839, with the concomitant ending of transportation to NSW and the instigation of the flawed probation system in VDL, is one of the most obvious examples of such organisational change.

Using VDL as an example, there were at least three major shifts in the way that convict labour was managed (Tuffin 2007:71–76). In the earliest phase, 1803–1839, the aims of the British and colonial governments were in harmony. Convicts laboured in gangs, stations and larger establishments, their labour paid for by the British Treasury, benefitting both broader punitive aims and the growth of the fledgling colony. The second phase, following probation's introduction in 1839, saw increasing concerns with transportation costs, resulting in government establishments being split along funding lines—either colonial or British, the latter driven by an increasing need to recoup the costs borne by the home government. In the final phase, 1848–1871, Britain slowly disengaged from the colonial management of convicts, requiring remaining establishments to operate at a high level of efficiency (Tuffin 2007:76). These overall shifts in management approaches were to have a very real effect upon the settings within which convicts laboured.

Understanding overarching systems enables archaeologists to contextualise the sites they are studying. Through this, engagement

Figure 3 An example of two different types of convict labour. In the foreground are two convicts erecting a post-and-rail fence, whilst behind them an unironed gang brings timber to the Port Arthur settlement (Mitchell Library, State Library of NSW, DGA 64/v.1, 'Gentlemen Convicts – The Centipede', Thomas Lempriere, ca 1836).

with the forces that led to the formation and evolution of these places can begin. Just as important is an understanding of how convict labour was managed. Convicts were guided within the system's bounds by a balance of incentives and disincentives; a mix required because an unmitigated and continuous use of coercive methods did not make for a productive workforce (Fredericksen 2001:52; Robbins 2003:365). Incentives came in many and varied forms. At the simplest they appeared as direct performance inducements, such as increased rations of tea, sugar and tobacco (Maxwell-Stewart 1999:103); convicts employed in positions of trust often accrued such bonuses. Incentives could also take the form of shortening a sentence, or elevation to a less arduous position (and the further inducements such an elevation might entail). Convicts could also find themselves provided with improved accommodation, either at some remove from the barracks containing their peers, or in less crowded quarters.

The skilled convict was very often the target of performance inducements. A sought-after commodity in the colonies, every transport that arrived had a leavening of convicts possessing transferable skills, it being one of the government's aims to identify and co-opt these to their requirements (Dyster 1988:137–144; Karskens 1986; Robbins 2000:149). Such skills-targeting was necessitated by an overall lack of control over the composition of convict workforces. In contrast to governing a free workforce, the number, age ranges and physical fitness of convict labourers were often beyond the control of establishment administrators. By

Determinative Factor	Key Elements
Organisation	• Overarching system of management • Setting of the labour • Method of labour management
Supervision	• Military, civil or convict • Built landscape
Production	• Extractive • Construction • Agrarian • Manufacturing • Service

Table 2 Factors affecting the formation and evolution of landscapes of convict labour.

matching existing skills to occupation, an establishment's base level of efficiency was increased. Once in place, skilled convicts could find their situation ameliorated by indulgences, although their value to many establishments meant that they could find themselves retained beyond the length of their original sentence (Roberts and Garland 2010:15).

Just as there were many ways to induce the labouring convict to perform, there were just as many ways to force them back onto the regulated pathway if they erred. Extended incarceration, the lash, restricted diet, demotion—all could be brought to bear. The work the convict performed was designed to be punitive, the degree of punishment dependent upon the type of work. Heavy labour, such as carrying timber, quarrying, breaking stone or mining coal, had an in-built punitive value that could be enhanced by the application of performance inhibitors, such as irons or rations restriction, or lessened through improved treatment (Figure 3). The worst-behaved convicts, or those newly-arrived at an establishment, were often directed to this type of work (Maxwell-Stewart 1997:146–147, 1999:104). The changing regulations under which convicts laboured, the men and women who were employed to implement punishments, and the character of the individual convicts and their supervisors, all affected the array of incentives and disincentives.

The manner in which convict labour was organised, in particular the targeted use of skilled convicts, resonates through the archaeological record. Frederickson (2001) and Karskens (1986) found that direct evidence of the skill and organisation of convict labour could be gleaned from the structures and buildings built by their hands. Karskens (1986:21–25), in particular, linked historical evidence of skill appropriation within road gangs to a typological analysis of the walls built along the Great North Road. Evidence of the premium that was placed on convict skill also comes from the arrangement of the places built to house convicts. At the Tasman Peninsula Coal Mines, the most highly-prized labourer—the miner—was afforded a level of indulgence that extended to increased rations supplemented with tea and sugar, as well as accommodation in barracks separate to the rest of the convict population (Maxwell-Stewart 1997:148; Tuffin 2008:54–55).

Understanding overarching organisational management systems is vital to understanding how and why places of convict labour formed and evolved. Buildings and created spaces did not spring unbidden from the ground; their origins required local, colonial or British direction. These outside motivators could result in the formation of a string of road stations, or the instigation of an extensive station-building programme throughout a colony, making the reasons an establishment came into being an important element to trace. Evolution could take place through external and internal stressors, an organic process whereby factors like population, the natural environment, budget, access to materials and administrative competency could all result in deviance from the set path. For the archaeologist, seeking to understand why an establishment was formed can naturally lead to an examination of such deviance. The motivation for a site's formation may be discernible through the historical record, yet it is through the actuality of the landscape and material record that its operation and progress can be understood.

Supervision

One of the more recognisable aspects of convict labour was the manner of its supervision. The term, as applied herein, encompasses not only the roles of those who staffed the establishments, but also the physical structures which facilitated it, defining the daily lived experience of the convicts. The fences and walls which delineated and controlled space, as well as the people charged with controlling the application of convict labour, were an integral part of how convict labour was managed within its setting.

Those charged with the convicts' supervision were a mixture of civil officers, military personnel and convicts. Often just as ensnared by the regulations as the labouring convict, these administrators were the enforcers—either willing or unwilling—of the system. As would be expected, their roles changed markedly according to time and place. The military were perhaps the most recognisable element of supervision, involved not only in convict and asset security (Maxwell-Stewart 1997; Wright 2011:151), but also in the planning and creation of colonial infrastructure (Winter 2013:138). Civil administrators were a mixture of free and emancipated settlers, drafted into the system to take care of the administrative machinery, performing every role from clerk to station superintendent. A discernible trend was the increasing professionalisation of this class, reflecting a similar trend in post-1820s British penal administration (Ignatieff 1978:189; Wright 2011:164–165). This is most evident in 1840s VDL which, at the start of the probation period, found itself bereft of well-trained civil administrators. Badly-run stations were the result, a situation that was not rectified until the latter years of the decade when the less able administrators were weeded out and replaced by an experienced, professional cadre (Tuffin 2007:73, 76).

The last supervisory group was the convicts, placed in a situation theoretically one step removed from their incarcerated peers. Invariably seen fulfilling the role of clerk, overseer or constable, they, more than any other group tasked with supervising the implementation of the regulations, were doubly-bound by these self-same regulations (Maxwell-Stewart 1997:154–155). On the one hand, their role was to enforce the system, on the other their own performance was measured by the same regulations. From the point of view of convict labour they were an integral element, largely made necessary by the paucity of free colonists willing to perform such tasks (Robbins 2004:90). As supervisors, these convicts occupied a key place in the government's strategy for extracting labour and were to be found at every establishment where convicts laboured.

These supervisors presided over built landscapes that sought to reinforce penal objectives. The design and execution of these built elements varied, being a direct reflection of the penological environment within which they formed and evolved. Kerr (1984) charted the evolution of convict building design for the entirety of Australian transportation, showing that, although far from uniform, buildings illustrate how convict labours were physically directed by architecture which served to define, restrict, reform and contain. This could be the fences which surrounded compounds, or the walls which formed cells. Buildings could be arranged upon basic principles of hierarchy and surveillance: buildings of importance removed from the barracks, supervisor's quarters overlooking the convicts' quarters etc. (Kerr 1984:133, 170). Convicts could be accommodated in purpose-built gaols,

locked behind high walls and confined in cells and wards (Trinca 1997:20–21). Alternatively, they might be housed in rough-built work camps, restrained by little more than regulations and a forbidding natural landscape (Karskens 1984). Individual settings or setting types could evolve over time. For example, Thorp (1987a:160–189) has shown that the design of stockades and similar places of convict accommodation in NSW passed through four distinct phases, a thesis supported by the findings of Karskens (1984).

The dynamic between the supervisors and the supervised is often readily apparent in the archaeological landscape. At the Ross Female Factory (1847–1854) the placement of buildings of administration around the periphery of the main compound spoke of efforts to control the populace (Casella 2001:55). Similarly, at the Tasman Peninsula Coal Mines, the buildings of administration were removed from those holding the convicts, with both being overlooked by the buildings of the military (Tuffin 2008:57). Establishments of a smaller size, such as road gangs, could follow a similar design, ringing those buildings requiring supervision, such as the convict barracks and tool store, with the buildings of superintendence (Karskens 1984:20–21). Walls and fences were essential for delimiting boundaries. Stockades in NSW, as their name suggests, could be surrounded by a high staked fence (Kerr 1984:62).

The analysis of built elements provides insight into the workings of a penal landscape not always readily apparent through the historical record. Convicts needed to be confined, constrained and directed, the built landscape having a very real effect on how this occurred. How this built landscape evolved can also be an important indicator of greater changes taking place in approaches to convict management. The manner in which the convicts were supervised was also a direct reflection of penological aims, with every establishment in the colonies having a proportion of military, civilians or convicts acting as supervisors of the system.

Production

The final factor which determined the form of a convict labour setting was production, without which the camp, station or establishment reverted to a mere gaol, a holding pen for convicts. Production can be subdivided into five main groupings, in part mirroring the traditional primary, secondary and tertiary definitions of industry: extraction, including the refinement of a raw material; construction, the employment of convicts in public building works; agrarian production, such as land clearance, agriculture and husbandry of stock; manufacturing, the utilisation of materials for the production of a tertiary good; and service, the ancillary activities carried out to facilitate the operation of establishments.

The extraction and refinement of raw materials by convicts was an activity often associated with places of extreme punishment. Newcastle, the Tasman Peninsula Coal Mines and Macquarie Harbour were all establishments where convicts under secondary sentence were put to hard labour. Labour-intensive tasks were naturally a focus for punishment gangs; however, such tasks also required skilled convicts, since the success of the whole operation turned upon their ability to extract or refine the product. The Tasman Peninsula Coal Mines depended upon the skills of the few convict miners employed at the face (Tuffin 2008:55–56), as did the success of timber-getting establishments upon the abilities of fellers and sawyers (Robbins 2000:148–149).

Extractive industry could take place in many settings: from a day gang working in the Sydney government quarry (Thorp 1987a:154) to one of the felling gangs attached to the large industrial station of Port Arthur (Tuffin 2007:78–79). Places where extractive industry was undertaken were marked by the presence of the raw material source—such as a workable outcrop of sandstone or coal—and the infrastructure associated with its removal, such as tracks, roads, tramways, log slides, inclined planes and jetties. Sometimes, such as with timber or stone, further refinement was required, adding another link in the chain. In other instances, the material went through little refinement, being ready for export almost in its raw form. Coal on the Tasman Peninsula, for example, only needed to be screened prior to export (Bairstow and Davies 1987:20).

Like extractive industries, construction often employed a heavier form of labour. Much construction work was dedicated to road building and the erection of public buildings, where gang-based labour could be employed on breaking stone, carting materials and excavation, all of which required collective muscle power. Construction-related workers were interlaced with skilled convicts, arguably more than were deployed in extraction. Carpenters, masons, blacksmiths and bricklayers formed the core of many gangs, and the successful construction of the buildings, bridges and jetties of the colony became their responsibility.

The setting of convict construction-related labour was dependent upon the location of the object they were to construct. Strings of gangs were dedicated to the construction of the Great North Road (Karskens 1984, 1986), whilst another group of convicts were shipped to the northern tip of Australia to form a military and trade outpost at Fort Dundas (Fredericksen 2001). The labour's setting also required access to the materials that went into the product, meaning that very often construction sites would be found in concert with extraction sites. Quarries (Fredericksen 2001:53), lime kilns (Bairstow and Davies 1987:22), claypits, brick kilns (Maxwell-Stewart 2008:29–30) and sawpits could all be found dotting the landscape where convicts were engaged in construction. If materials were required to be imported, or moved from the site of extraction, associated transport nodes and networks would be located near the site of construction.

From the earliest days of settlement, the employment of convicts in agrarian labour served the twin aims of bolstering the supplies of the commissariat and clearing ground for further settlement. At the Newcastle penal station, successful conversion of bush to arable land encouraged free settlement to such a degree that the station lost its 'distant and dismal' seclusion and therefore eventually its reason for being (Roberts and Garland 2010:20). At other places there was a continual battle to provide enough simply to supplement rations (Maxwell-Stewart 2008:32–35) (Figure 4). Convicts cleared and worked the ground with very little recourse to labour-saving aids, although, as increasing attention began to be paid to the economies of transportation, operations were bolstered by beasts of burden (Tuffin 2007:74).

Convicts employed in agrarian labour were often associated with the larger establishments, or the purpose-built agricultural work stations which were a feature of early NSW (Thorp 1987a:56). In some instances small, dedicated establishments

would be formed to clear land (Kerr 1984:61). Vast swathes of ground would be cleared and cultivated, the produce used on site for rations or exported to other stations or towns. There was a concentration upon the staples—wheat, oats, potatoes—although some stations attempted to grow less common fare, such as the hops tried at Maria Island (1825–1832, 1845–1850) (Tasmanian Heritage Council 2008:8). Convicts were also involved in the husbandry of stock, primarily sheep and cattle, including the rearing and supervision of the animals and their use for food, wool and hide (Thompson 2007:76, 130–132; Thorp 1987a).

Convicts working in the manufacturing process often worked with materials sourced from the extractive or agrarian industries: wool and hides from the government farms were converted into footwear and clothing, tools and fittings were forged with coal from the mines, barrels, ships and boats were constructed from timber from the timber-getting stations. These convicts were often at the higher end of the skill scale, working individually or in small teams, rather than larger gangs (Nicholas 1988:156, 157–158). Work could be compartmentalised, the 'factory line' approach increasing levels of efficiency (Robbins 2000:148). Such operations attracted many of the incentives discussed above, the government seeking to extract a high labour return through targeted indulgences.

The presence of manufacturing processes at an establishment and an attendant high proportion of skilled convicts was a clear indicator of a government's desire to achieve some form of economy as part of an operation. Manufacturing was often, but not always, associated with the larger establishments. At these, a proportion of the workforce could be devoted to the production of goods required at the station and by the commissariat. The production of items required at a station—such as clothing or tools—indicated an attempt to achieve at least a small level of self-sufficiency. Many establishments had their own blacksmith, or a team of tailors or shoemakers (Maxwell-Stewart 1997:147–148). At another level were those manufacturing operations which targeted a market beyond the establishment. A key example would be the shipbuilding operations carried out at Macquarie Harbour and Port Arthur, which produced steam boats, barques, schooners and whaleboats for the colonial fleet (Nash

Figure 4 Sketch by Thomas Lempriere showing the gardens on Phillips Island, Macquarie Harbour. Though successful, the gardens required the convicts' constant labour (Allport Library and Museum of Fine Arts, Tasmanian Archive and Heritage Office: Thomas Lempriere, 'Philips [sic] Island from the N.W. extremity to the overseer's hut, Macquarie Harbour', ca 1828)

2003). Port Arthur, as well as other convict establishments, had its own flour mill which supplemented the rations of the majority of stations on the Tasman Peninsula (Kerr 1984:54; Maxwell-Stewart 1997:149; Tuffin 2004a).

The final production processes were those related to service. Although not producing goods or materials per se, convict service-related labour enabled such activities to be carried out and to form a source of revenue for the station. The Female Factories, for example, put women to work on laundry and sewing tasks contracted from outside the prison (Casella 2001:49). Every establishment had its complement of wardsmen and women, scavengers, clerks and water carriers, their labour ensuring an establishment's functionality. Commonly scattered throughout the establishments, convicts engaged in service-related activities were sometimes congregated in the one place, such as the placement of the carters in Carters' Barracks (1819), NSW (Kerr 1984:53).

Understanding the productive end to which the convicts were put is essential to an examination of the landscapes of convict labour. Such landscapes could comprise individual or interlinked industrial sites, their form and interrelation providing insight into the processes undertaken and the value or otherwise of the operation. The processes also influenced the way in which convict labour was organised and supervised—whether collectivised or individual, skilled or unskilled—thereby interlinking with the examinations of organisation and supervision outlined above.

Conclusion

The examination of government-employed convict labour has formed a focus of study for both archaeologists and historians, with the former well placed to offer unique insights into the way in which this labour was managed. By examining the remnant landscapes of convict labour, archaeologists have, and will continue to, shed light upon how British and colonial penological motivations affected the working lives of convicts. So far, a synthesised approach to the question of convict labour has been lacking, with studies restricted to spatially or temporally limited zones. This paper, drawing upon published and unpublished research, has sought to draw together these approaches to produce a workable overview of both the landscape types within which convict labour could be set, and also the factors which determined these landscapes' formation.

There were five main settings within which convicts laboured. Encompassing the deployment of convicts in government-run establishments, camps and stations, these settings are flexible enough to encapsulate the use of convict labour in all Australian colonies and time periods. They are designed to be unrestrictive, presenting researchers with a contextual bracket and classificatory system within which sites can be placed.

Places of convict labour formed and evolved due to a series of specific determining factors. Understanding the way in which labour was organised, from the motives of the British and colonial governments, to the use of skilled convict labour, is vital for understanding the development of particular sites. Likewise, forms of supervision—both of the human and built kind—are integral to charting such development. Finally, the form or forms of production that were involved directly influenced the management of labour, providing further insight into the penological aims of the British and colonial administrators.

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