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**Landscapes of production and punishment: convict labour in the Australian context**

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This paper presents an interdisciplinary project that uses archaeological and historical sources to explore the formation of a penal landscape in the Australian colonial context. The project focuses on the convict-period legacy of the Tasman Peninsula (Tasmania, Australia), in particular the former penal station of Port Arthur (1830-77). The research utilises three exceptional data series to examine the impact of convict labour on landscape and the convict body: the archaeological record of the Tasman Peninsula, the life course data of the convicts, and the administrative record generated by decades of convict labour management. Through these, the research seeks to demonstrate how changing ideologies of affected the processes and outcomes of convict labour and its products, as well as how the landscapes we see today were formed and developed in response to a complex interplay of multi-scalar penological and economic influences.

Areas of inquiry: Australian convict archaeology and history. The archaeology and history of Australian convict labour management. The archaeology and history of the Tasman Peninsula

Keywords: convicts, incarceration, convict labour, Port Arthur, industry, Australia

For much of the nineteenth century, the Tasman Peninsula, in the extreme south east of Van Diemen’s Land (Tasmania, Australia), was the carceral hub of a peculiar and infamous penal colony (Figure 1). Fringed by a temperamental sea, with a heavily-guarded isthmus its only terrestrial link to the mainland, the Peninsula was an extensive open prison entirely devoted to the incarceration and labour of those deemed the most problematic of the colony’s convict population. With only sanctioned boat and foot traffic allowed on or near the Peninsula, its 670 square kilometres were a blank spot of intrigue and rumour for the outside world. Over forty-seven years between 1830 and 1877, a range of coordinated activities were conducted across the Peninsula, centred upon the penal station of Port Arthur. These included primary resource extraction and refinement, manufacturing, building and cultivation, all linked to the punishment of thousands of male offenders who experienced a wide range of contemporary penal sanctions. The histories of these convicts provide a representative cross-section of Australia’s male convict population, their history embedded in a complex archaeological landscape and recorded in a rich documentary archive. It offers a remarkable opportunity to enhance our understanding of the convict labour and punishment regimes implemented by the metropolitan and colonial governments during what was an instructive and transformative episode in the history of secondary punishment.

[Insert Figure 1. Caption: Map showing locations mentioned in the text]

This article introduces a new project that is designed to synthesise the archaeological residues and historical records of the Tasman Peninsula’s convict past, with the aim of reaching wider conclusions about the experience, efficiency and efficacy of convict labour in the nineteenth century British Empire. Funded by the Australian Research Council, *Landscapes of production and punishment* draws upon historical and archaeological methods and techniques, both old and new, to explore the interrelationship between convict labour and the landscape. The project charts how evolving labour management practices on the Peninsula reflected contemporary ideologies concerning convict reform and punishment, and how these practices were manifested through the technologies, processes and physical organisation of industry and labour. Our research acknowledges that convict labour remains the least visible and most poorly interpreted aspect of the convict experience, but also recognises that the landscape itself was a product of various industrial and labour processes. It was the appropriation and management of convict labour that defined the convict ‘experience’ in Australia. We argue that a true understanding of the character and consequences of that experience requires a careful reading of the ways in which convict workers adapted and moulded the physical environment. This can only be achieved through engagement with and greater synthesis of the material and documentary evidence.

The immediate focus of the project is on the Tasman Peninsula, which is unusually rich in its evidence pertaining to the vagaries and extremes of forced labour, but we aim to provide a framework for investigating the deployment and use of convict labour elsewhere in Australia and around the globe. Conventionally, penological zones such as Port Arthur are represented as places of low-skilled, punishment-orientated labour, exclusionary and exceptional, exploitative and inefficient. However, the archaeological and historical record argues for a more nuanced understanding of convict labour. The Tasman Peninsula was in fact a vast and vital proto-industrial centre. The work performed ranged from highly skilled artisan crafts to industrial workshop production and intensive ganged labour performed in irons, all carried out in different physical and administrative contexts over five decades. Indeed, no other place in Australia can claim such a span and diversity of convict industry and labour activity. But how did this labour actually work? How was it orchestrated and extracted? How did it evolve over time and space, and how was it expressed in the physical environment? The answers are best drawn by synthesising historical and archaeological approaches, and with the application of the newest technologies and methods, particularly digital techniques, revolutionising both disciplines.

Historical overview

Over eighty years between 1788 and 1868, an array of different and evolving policies were applied to manage the roughly 165,000 convict men and women transported to the Australian colonies (Maxwell-Stewart, 2011: 17). Driven by a combination of changing local imperatives and critical metropolitan interventions, various schemes were implemented, corrected and disbanded. However, by the early 1830s, the key elements of a convict ‘system’ were in place. This was a tiered or graded structure that placed convicts into either private ‘assignment’, public works, or punitive labour in chain gangs and penal stations, before graduating to heavily regulated forms of parole and pardon (Maxwell-Stewart, 2010: 1232). Of these, the penal station represented the most punitive sphere of convict life and labour. Penal stations became a firm fixture in the apparatus of colonial punishment in New South Wales from the early 1810s (Roberts and Garland, 2010), their number and role expanded and magnified after the 1819-1820 Commission of Inquiry when new stations were established in New South Wales at Port Macquarie (1821), Moreton Bay (1824) and Norfolk Island (1825), and in Van Diemen’s Land at Macquarie Harbour (1822), Maria Island (1825) and Port Arthur (1830). These were remote carceral institutions, populated largely (but not exclusively) by convicts who reoffended while under sentence in the colony. As sites of punitive exile and exemplary punishment, characterised by highly coercive and tightly surveiled labour regimes, they are now recognised as both an exception to the general principle of employing convict labour profitably (Evans and Thorpe, 1992: 102), and as significantly innovative and transformative experiments in secondary punishment (Maxwell-Stewart, 1997; Ford and Roberts, 2014).

Established in 1830 as a timber-harvesting camp, Port Arthur’s relative isolation, minimal prior settlement and abundance of natural resources recommended it as the site of the colony’s primary penal settlement after the 1833 closure of stations at Macquarie Harbour and Maria Island (West, 1852: 447). Between this date and the onset of the next decade, Port Arthur’s convict population doubled to over 700.i In addition to timber-getting, their labour was directed into other extractive industries, such as sandstone and dolerite quarrying, and shell-gathering for lime production, as well as blacksmithing, sawing, carpentry and masonry to meet the local construction and maintenance needs. Surplus timber and locally manufactured shoes and boots were exported for the wider convict service. Port Arthur formed the primary hub of extraction, refinement and manufacturing, with a number of outstations (including extensive coal workings), transport hubs and security nodes simultaneously established across the Peninsula, covering the landmass and its adjacent marine areas in a web of communication, transport and surveillance designed to coerce, control and contain the convict population.

The penal landscape of the Tasman Peninsula was altered markedly during the 1840s. In a monumental change of policy from 1839, following the recommendations of the 1837 House of Commons Select Committee on Transportation, all Tasmanian convicts were to serve a probationary term in purpose-built establishments, before progressing into private service as passholders (Brand, 1990). By the mid-1840s, over 3,800 convicts were located in seven separate stations across the Peninsula, superintended by over 350 civil and military staff (Figure 1).ii Primarily focussed on agriculture and timber getting, the stations heavily exploited local resources, producing raw and manufactured materials that both contributed to their own maintenance and also flowed out to other government projects beyond the Peninsula (Tuffin, 2007: 74). The Probation period substantially widened the footprint of convict management on the Peninsula, but the stations were wound down and consolidated in the late-1840s, many closing due to poor siting, maladministration and natural resource exhaustion (Tuffin, 2007: 76). Thereafter, local activity was once again centralised at Port Arthur, which subsequently underwent an industrial efflorescence as new technologies and administrative energies produced a surge in resource extraction and a manufacturing and construction boom. This was carried on into the 1870s, until the gradual diminishing of the settlement’s convict and administrative population led to its eventual closure (Petrow, 1997: 237).

The historiography of convict labour

The *Landscapes of production and punishment* project engages with both the material and archival remnants of the convict past to understand the lived experience of convict labour. In doing so, we remind historians of the importance of material evidence, and we impress upon archeologists the importance of engaging with larger thematic concerns. Since the 1960s historians have utilised the archival resources generated by 80 years of penological administration. This decade marked an important turning point in the study of Australia’s convict legacy, heralding a transition from traditional nineteenth century views of a barbaric convict past, to an increasing use of the raw data generated by decades of control and coercion. The resulting historiography has spanned a wide spectrum: from the origins and demographics of the transportees, to their lives during and after transportation (Roberts, 2011: 34; Smith, 2008: 9-11, 34-42). Our project draws upon this rich historiography, particularly the ability of the quantitative data to recreate penological ecologies. The first attempts in the 1960s to use computational methods to sift through such data produced results that were strangely at odds with the observations of nineteenth-century convict managers (Robson, 1965; Shaw, 1966). Contemporaries commonly claimed that convicts were professional criminals, skilled in little but picking pockets, despite the more complex picture of pre-transportation employment provided by the convicts themselves on their arrival in the colony (i.e. Clarke, 1874). Historians at first dismissed this, assuming that criminals routinely lied about their past and that they lacked skills and a work ethos (Roberts, 2011: 34-35). It was thus assumed that convict transportation could have done little to stimulate colonial growth rates.

These assumptions were challenged by subsequent attempts to use quantitative techniques to probe the convict archive. Based on an analysis of nearly 20,000 records, the contributors to Convict Workers argued that the men and women transported to New South Wales were drawn from a cross-section of the British and Irish working classes (Nicholas, 1988). They questioned the notion of early Australia as an inefficient colonial backwater characterised by the excessive use of punishment, maintaining that convict labour was efficiently deployed and that convicts were better clothed and fed than most British workers. More controversially, they argued that convict labour was mobilised by incentives rather than coercion. Most importantly, *Convict Workers* made comparative use of data drawn from other unfree labour systems, especially New World slavery, paving the way for comparisons with the use of other convict and coerced migration systems internationally. More recent contributions to the literature have mapped the many parallels between convict, indentured and slave labour which attempted to catalyse overseas colonial expansion and facilitate colonial growth (Anderson and Maxwell-Stewart, 2014; Anderson, 2016; Maxwell-Stewart, 2016; Panza and Williamson, 2017).

All archives are designed to suit a particular purpose (Stoler, 2009). As Oxley has pointed out, much of the pre-*Convict Workers* literature took the observations of nineteenth-century convict administrators and other ‘moral entrepreneurs’ at face value (Oxley, 1996). In fact, Sturma had already highlighted the extent to which contemporary assumptions about the nature of convict labour were historically used to justify levels of exploitation (Sturma, 1983; Roberts, 2011). Documented levels of convict offending could be used to justify the use of coercive measures or the awarding of indulgences. Convict attempts to challenge their circumstances merely confirmed their degraded status. In this sense ‘convictism’ validated labour extraction processes in a fashion that was not dissimilar to ‘plantation racism’ (Maxwell-Stewart, 2007). However, through the application of quantitative techniques, historians can place individual records of court encounters within a wider perspective, providing an opportunity to test the rhetoric of the managers of convict labour, analysing the distribution of punishments over time and across different locations. This work has revealed the extent to which punishments were disproportionately born by convicts who possessed skills that were not in colonial demand and oscillated according to the state of colonial labour market (Reid, 1997; Inwood and Maxwell-Stewart, 2015)

This work also capitalised on and provoked more attempts to explore ways in which convicts resisted their colonial managers (Atkinson, 1979; Hirst, 1983; Roberts, 2005; Dyster, 2007; Robbins, 2005). It confirmed that the use of coercion was much more widespread than implied by *Convict Workers*, a work which had dismissed penal stations, houses of correction and chain gangs as peripheral to the operation of the convict system as a whole (Evans and Thorpe, 1992: 100). In their critique of *Convict Workers*, Evans and Thorpe argued that some work performed by convicts was organised so as to produce pain over profit (Evans and Thorpe, 1992: 109). They used the term “penal labour” to describe this form of production, typified by prohibitions on the use of draft animals and other labour saving devices, as well as a reliance on leg-irons, the lash and other coercive punishments. Despite the extra costs involved, penal labour had a utility in that it aided system-wide labour extraction. All convicts knew the risks associated with not bending their backs for the colonial state or private masters (Maxwell-Stewart, 2016: 417). However, not all work performed in penal stations and others sites of punishment was unskilled (Maxwell-Stewart, 1997; Roberts and Garland, 2010; Robbins, 2003; Robbins, 2000). The extent to which the convict administrators experimented with different forms of production and labour extraction, and the impact that this had on the operation of the convict system as a whole and the subsequent lives of those who laboured in these environments, remains largely untested.

Whilst historians have pursued the complexities inherent in Australia’s convict labour past, archaeological engagement with its physicality has been less pronounced, concerned largely with single sites and institutions rather than the holistic landscapes generated by and for convict labour. With a number of notable exceptions, historical archaeology has played only a small role in the formative debates framing the direction of historical engagement over the last four decades. Years of expansive and comprehensive investigations of convict sites and regions have offered a useful but relatively potted contribution to understandings of convict labour and production. Rare exception includes Grace Karskens’ work on the Great North Road, notable for its account of the organisation and supervision of ganged labour, based on an astute reading of both the historical record and the physical remnants which, she argued, evidenced a surprisingly efficient and skilful application of convict labour (Karskens, 1986; Karskens, 1984). However, despite Karskens’ pioneering work, there was little obvious pursuit of the natural synergies between historical and archaeological approaches to Australia’s convict past. Archaeologist Denis Gojak drew attention to the problem in 2001, noting that historical archaeological studies into Australia’s convict past remained focussed on the convict experience, punishment institutions, and the nature of convict society, but the concentration on one or the other was producing uneven results (Gojak, 2001). The discipline lacked a wider contextualisation and was disconnected from the larger research questions that were shaping the historiography (Gojak, 2001: 73). Similar sentiments were reflected the following year by archaeologist Tim Murray (Murray, 2002: 10) and a decade later by Martin Gibbs (Gibbs, 2012).

Historical archaeologists are well placed to take an active, if not leading role, in the study of Australia’s convict past, although in recent decades much of the best and most valuable work remains shelved in unpublished reports and theses (Gibbs, 2012; Colley and Gibbs, 2011). Published work has offered valuable information about the control and coercion of convict labour (Gibbs, 2006; Trinca, 1997; Gibbs, 2001), the social hierarchies on remote farming estates (Connah, 2001), convict subversion and patterns of resistance (Fredericksen, 2001), and the power dynamics within convict institutions (Casella, 2001; Casella, 2002; Casella, 1997; Casella, 2000). Some work has sought to address larger historical questions. Eleanor Casella’s archaeology has revealed much about the role of institutions in narratives of global transportation (Casella, 2005). Susan Lawrence and Peter Davies have conducted an overview of the operation of the convict system through an archaeological lens (Lawrence and Davies, 2011). Sean Winter has placed Western Australia’s convict system within a wider global context (Winter, 2013), and Richard Tuffin has formulated an analytical framework for the characterisation and study of places of convict labour (Tuffin, 2013). There have been some outstanding surveys of Tasmanian Probation stations (Parham and Noble, 1994; Thompson, 2007), and Greg Jackman has placed the boys’ prison of Point Puer, Tasmania, within an imperial labour and penological framework (Jackman, 2001).

However, with few exceptions, archaeologists have rarely engaged with these sites as functional industrial entities. The penological landscape was a container where daily negotiation took place between convicts and administrators: a “contested terrain of convict life” (Robbins, 2005: 83). These negotiations were reflected in the processes and outputs of labour, where every product was appended with a punitive and economic value, and landscapes shaped by penological and industrial forces. To unlock the potential contained in the archaeological landscape, interdisciplinary collaboration is required to match the physicality of convict work places with historical data that describes and quantifies the experiences of convict workers.

Penological landscapes and convict industry

The history and archaeology of the convict system as expressed on the Tasman Peninsula provides evidence of the vagaries and extremes of convict punishment and labour. Places of convict labour were fashioned by the ideologies and aims of policy makers, and by the ways in which those policies were articulated in the management strategies negotiated locally on a daily basis. Contemporary approaches to convict management were determined by the interplay between four key foundational pillars: punishment, economy, deterrence and reform (Casella, 2007: 58; Priestley, 1985: 123; Colvin, 1997: 8). Wherever and whenever a prisoner was incarcerated and engaged in labour, there was a tension between these (Priestley, 1985: 135; Vaidik, 2009). Places like Port Arthur were intended to epitomise punishment-oriented approaches, where exemplary severity was intended to “be conducive to the prevention of crime, from the threat of being sent thither operating so strongly on the minds of the prisoners generally”.iii The settlement’s subsequent history of labour and industry, however, provides a chance to test the way in which authorities and convicts negotiated and defined their workplace and its outcomes, in response to or regardless of the punitive or reforming aims of colonial and metropolitan administrators.

We argue that to understand the contemporary application of labour management regimes upon the convict population, it is necessary to extend our focus beyond the walls of the institution and into the encircling landscape. A place like Port Arthur was defined by the presence of ‘closed’ and ‘open’ environments, with convicts and administrators often required to navigate both on a daily basis (Figure 2 and Figure 3). The closed environment was defined by cellular confinement and the presence of heavy surveillance infrastructure. This environment was often formed around a central institution, or, as at Port Arthur, a cluster of separate institutions united by the infrastructure and regulatory backdrop of control and coercion. At such places, zones of work, relaxation, learning and punishment were defined by the spatial limitations of wall and palisade, the gaze of an overseer and strictures of the watch clock. The open environment was largely free from the infrastructure of containment and surveillance, outside of the cleared and fenced bounds delineating the station’s limits. In this environment convict teams and gangs laboured, exploiting nearby resources to aid the development and sufficiency of the settlement. The often transient nature of these places made it difficult to erect the infrastructure of security, the aims of punishment and profit instead reliant upon the vigilance of overseers and military guards and the imposition of output controls such as task work.

[Insert Figure 2. Caption: Illustration by Thomas Lempriere, an officer stationed at the penal station of Macquarie Harbour, Van Diemen’s land, showing convicts at work in an ‘open’ environment. Thomas Lempriere, ‘Philips Island from the N.W. extremity to the overseer's hut, Macquarie Harbour’, ca.1828, Allport Library and Museum of Fine Arts, Tasmania Archive and Heritage Office.]

[Insert Figure 3. Caption: Illustration of convicts labouring within the ‘closed’ environs of the Port Arthur penal station. Artist unknown, ‘Etablissement penitentiaire de Port Arthur (Terre de Van Diemen)’, in: Campagne de circumnavigation de la fregate l'Artemisea, N. Remond Pub, 1854, Allport Library and Museum of Fine Arts, Tasmania Archive and Heritage Office.]

The landscape experienced by convicts was demarcated by both built and natural boundaries, as well as by cognitive webs of fear and threat (Myers and Moshenska, 2011b: 2-3). They were containers brimming with elaborate and fluid power dynamics, where the policies and aims of administrators and managers were constantly contested by the individual and collective agency of the convicts. The expression and negotiation of these power relations resulted in the creation of powered cultural landscapes - places and spaces that were draped in interacting webs of power, meaning and influence (Spencer-Wood and Baugher, 2010; Lenik, 2012; Singleton, 2001; Orser, 1988; McGuire and Paynter, 1991; Weber, 1965: 152; Foucault in Spencer-Wood, 2010: 521; Wolf, 1990: 586-587; Shanks and Tilley, 1987: 71-72; Gieryn, 2000: 465; Watkins, 2005). The landscape became a “terrain of power” (Gieryn, 2000: 475), steeped in symbolic and ideological meaning (Delle et al., 1999; Leone, 1984; Given, 2005: 53-54; Shackel, 2001). The authorities used a myriad of tactics and strategies to assert dominance over prisoners, centring upon the regulation of time, behaviour and space (Garman, 1999: 246; Cunzo, 2006: 178; Cunzo, 1995: 118-124; Ignatieff, 1978: 101-104; Markus, 1993: 97).

The built environment was an overt manifestation of these strategies, affecting how people negotiated their surroundings: where they could move, what they could see (McAtackney, 2011; Garman, 1999: 13; Myers and Moshenska, 2011b: 8-9). There has been a natural tendency for archaeologists and historians to focus upon the built environment of the institution, such places having been the focus of contemporary strategies of confinement, accommodation, punishment and reform (Casella, 2007; Myers and Moshenska, 2011a). The remnant physicality of many such institutions, as well as the survival of associated documentary and ethnographic evidence, provides researchers an opportunity to engage with historic methods of prisoner accommodation, control and coercion, as well as notions of power between and within the ranks of the free and unfree (Garman, 1999; Casella, 2002; Fennelly and Newman, 2017). Whilst recognising and drawing upon the results and methodologies of such enquiries, this project argues that, experiences of incarceration and labour for the prisoner and administrator extended beyond the walls and palisades of settlement and into the institution’s hinterland. Every such institution sat within greater networks: be it as part of globe-spanning punitive transportation networks, as responsive outgrowths to societal pressures, or as economic units of supply and demand. In the Australian context, the admixture of penological and economic aims in particular resulted in expansion beyond the confines of the institution, with convict labour often deployed in bolstering the infrastructure requirements and material wealth of fledgling colonies.

Be it in the closed or open labour environment, the convict workplace was a site of control and contestation. Such workplaces are vital to understanding how people negotiated their spatial and social environment, the layouts and architecture influencing, and in some cases reflecting, prevailing social hierarchies (Markus, 1993: 264-265), as well as assisting the imposition of supervisory regimes and the regulation of work output (Foucault, 1975: 144-145; McKendrick, 1961: 32). Following Eleanor Casella’s model, the industrial past can be analysed in terms of continuity and change, production and consumption, settlement patterns and the characterisation of landscapes, class status, power and identity, and the international contexts of industrialisation (Casella, 2006: 65-66). Within this, the linkages that a place of industry had to economic, transport, communication and demographic networks are vital for understanding the formation and development of the industrial landscape (Palmer, 1999: 1190; Hardesty, 1988: 1; Aschmann, 1970: 174). Importantly, particularly from the standpoint of our research, technological transfer and operation is also intimately tied to the deployment of labour. Labour oversupply, as well as the presence of very cheap or unfree labour, could suppress technological innovation (Taylor, 1961: 63; Palmer, 1999: 1161, 1176-1177; Lichtenstein, 1996: 149-150). Where and when technology was adopted can inform as to the value that was placed on an operation, as well as the capital and industrial networks in which it operated (Palmer, 1999: 1189-1191; Casella, 2006; Carter and Cross, 2001).

On the Tasman Peninsula, the convict was a coerced participant in the formation and development of an industrial landscape that was intimately related to punishment. Convicts worked in a vast array of different situations and roles across a variety of spaces, each site requiring a comingling of infrastructure and labour management techniques pertinent to both industrial and penological ends. Activity at these places resulted in resource concentrations and labour collectivisation, turning them into individual centres of industrial activity. These sites were, however, all related and interconnected. Timber-getters selected and cut the timbers in remote locations. Gangs carried the timber to the refinement hubs where sawyers reduced them to building components. Quarrymen worked in tandem with carters and masons to extract, move and refine sandstone. Boats crew moved personnel and materiel from station to station. Clerks, signalmen and messengers ensured the compilation and communication of information and instructions.

All these situations required convicts be located where the task was required, and each environment was controlled by a web of incentive and disincentive designed to extract a necessary measure of labour and output. Labour management structures (workshops, sawpits, clay pits, kilns), incarcerative infrastructure and accommodation (cells, wards, huts and treadmill) were sited in association with transport and communication networks (jetties, tramways, boat stations, signal stations) and security (constable stations), between which all manner of personnel, products and raw materials flowed. Together, these hallmarks of the institutionalised and industrialised landscapes combine to form a “total landscape”, the examination of which illustrates how workplace control and coercion was exercised and the prisoners’ reaction to it (Kerr, 1988: 2). This has led us to ask a number of key questions: how did space and the built environment direct and control unfree labour? How was this labour controlled and coerced in the open labour setting? How did the administrators mix the requirements of labour and industry with those of incarceration? And, what does a landscape of convict labour look like today?

Project aims and methods

At the heart of *Landscapes of production and punishment* lies the cross-interrogation of records which have hitherto stood in analytical isolation, forging synergies between archaeology, criminology and economic and social history. Archaeological and historical techniques and sources provide an opportunity to visualise and analyse the labour landscapes of key sites on the Tasman Peninsula, investigating inter and intra-site relationships, as well as links between the built and modified environment. The conceptual framework and methodology for the project builds on the notion of flow. From the time of their entry on to the Tasman Peninsula, convicts were moved into and through the labour system, utilising existing skills and developing new. They were differentially managed in response to their skill sets and performance as workers, and physically moved between places and spaces. This is paralleled by industrial flow: the creation, operation and management of worksites and extraction points, and the movement of materials and manpower across the landscape. The challenge of the project is to ensure that archaeological and historical sources and techniques are combined to properly visualise and interpret these labour landscapes, bridging current disconnects in the study of convict history. The historical record needs to be supplemented by a greater archaeological appreciation of inter- and intra-site relationships, and of links between the built and modified environment. The archaeological record requires the historian’s skill in reconstructing thousands of individual life course histories in order to re-populate these extant landscapes. Through a melding of approaches, we can engage with both the original intent as evidenced in the documents, and the actuality presented through the physical record as a way of exploring the physical impact of convict labour on both landscape and convict bodies (Lenik, 2012: 52, 53).

In order to achieve these objectives the project expands and integrates three exceptional data series: the archaeological record for the Tasman Peninsula, including the UNESCO World Heritage listed sites of Port Arthur and the Coal Mines, as well as the many satellite stations and resource extraction sites; historical life course data for thousands of convicts who served on the Peninsula (roughly 9,000 of whom passed through Port Arthur alone); and the immense body of administrative records including detailed production statistics generated by forty-seven years of convict labour management.

The specific aims of the project are to map:

1. changes in convict management on the Tasman Peninsula,

2. the manner in which these are reflected in the use of technologies, processes and the physical organisation of craft, industry and labour,

3. the extent to which they shaped an iconic Australian convict landscape,

4. their impact on convict life and work experiences, including post-incarceration careers,

5. the manner in which the management of convict labour on the Tasman Peninsula influenced labour extraction regimes in the colony as a whole.

A centerpiece of the research is the completion of a coherent investigation of the Tasman Peninsula’s convict period landscape and the systemic identification of sites of convict labour and incarceration. Since the 1970s, the ‘penal peninsula’ has been the target of surveys of varying scales and intensities (i.e. Bairstow and Davies, 1987; Thompson, 2007). Hundreds of sites relating to incarceration, production, supply, communication and security have already been recorded. The project unifies them under one analytical and theoretical canopy, allowing for the creation of temporal and spatial linkages. Through such unification sites can be understood as nodes, linked by networks of tracks, roads, tramways, wharfs and jetties (Coroneos, 2004: 82-85). When examined holistically, these nodes and linkages provide a picture of convict labour deployment and management across a wide area, providing insight the daily routines and realities of convict life and labour.

A key innovation of this project is the use of LiDAR (Light detection and ranging) aerial remote sensing imagery to cover large areas and penetrate vegetation cover. The use of LiDAR for archaeological purposes in Australia lags behind its deployment in the international context, with limited examples of its use for research (Davies et al., 2016) and no examples of its use on convict labour landscapes. LiDAR provides a rapid and cost-effective means of identifying new archaeological sites, as well as accurately locating and contextualising those located during previous surveys. Interesting opportunities for analysis are afforded by this data, which comes embedded with not only site-specific and relational information, but also the relationship of features to topographic, geological and vegetative landscapes, allowing us to place convicts and supervisors back in the real space of the Peninsula landscape. These techniques also allow a complete and holistic reassessment of the layout of industrial workplaces and work spaces, including extraction, processing and manufacturing sites

This physical evidence supplements and enriches the documentary record, at the same time as allowing ambiguities about place and use of space to be addressed. There is an enormous body of materials scattered across many record series held in different archives including the Tasmanian Archives and Heritage Office (TAHO), the State Library New South Wales and The National Archive, UK. The establishment of the Australian penal colonies coincided with an acceleration in the ability of governments to collect and utilise information. This was especially true of institutionalised populations. The convicts despatched to Van Diemen’s Land were particularly well documented. The records of the Convict Department housed in TAHO, for example, number 522 volumes (now part of the UNESCO Memory of the World registered collection) which not only catalogued the physical features of 73,000 male and female convicts, but also tracked their conduct histories. Another 900 volumes of correspondence files for the Colonial Secretary’s Office assisted with the day-to-day management of convict labour.

These records can be queried for express evidence of industrial processes, performance and production, as well as spatial/locational, site and object-related information relevant to the archaeological components of the project. The historical record contains as yet untapped potential for understanding the physicalities and spatial realities of convict labour. Of particular interest are the hundreds of statistical returns for the Tasman Peninsula which provide data on the number of convicts at different sites at different points in time. Also included are morbidity and mortality returns, descriptions of ration levels, punishment episodes, work roles and occupations and measurements of output. From these we can trace and quantify critical aspects of the ecology of convict labour, including absconding and industrial unrest, labour management practices, rates of accident (trauma), industrial-related pathologies and mortality associated with particular crafts, industries and roles at different locations. This localised research can be compared to an existing database containing a 1-in-25 sample of every male convict transported to Van Diemen’s Land, the comparative database providing a longitudinal cross-section of all court appearances and punishments awarded (Maxwell-Stewart, 2016). The similar record of court appearances and punishments assembled by the *Landscapes of production and punishment* project will enable comparison of the skills, conviction histories, punishment and life course outcomes. This information can be used to drive a comparison of the age structure and skill composition of convicts who served time on the Tasman Peninsula, compared to those who did not.

We are using output data to measure fluctuations in productivity and assess changing levels of work quality. Aligning these reconstructed series with shifts in management structure, available workforce skills and punishment levels tells us much about the management of convicts, including the constraints experienced by overseers and administrators and the capacity they had for running what amounted to an industrial enterprise. The historical record will also be surveilled for markers of convict protest and collective action, moments when convicts subverted or attempted to wrest control of their own labour power. This research leads toward a far more intricate and nuanced picture of the type of labour the convicts were engaged in, the outputs that were achieved, the environments they operated in and the tools and technology that were adopted. From this we can draw conclusions about the efficiency or otherwise of these places and processes.

Mapping time and space

This research brings large and complex data series together in order to explore the impact that changes in production and punishment had on both levels of output and convict bodies, as well as the landscape itself. A key synergy between the historical and archaeological approaches to this project is that many of these data fragments locate the convict and their administrators within known time and place, allowing us to map those involved. Taken on the individual level, this data provides a coarse-grained view of their experience. On a systematic level, however, the data has the potential to provide critical illumination on the dynamics of power as played out at these places. The following section presents early results of this research, demonstrating the facility that such visualisation has for furthering our understanding of historic interaction between convicts and administrators and the landscape.

The ability embedded in quantitative and qualitative data to recreate places, spaces and relocate the individual has been well recognised (Robertson, 2013; Brown, 2016; Stanford University, 2017; University of Richmond, 2017; Gregory and Geddes, 2014). Such projects mine historical resources for geospatial elements, providing new avenues of analytical enquiry and opening up interpretive opportunities. As was the case with some of these projects (i.e. Robertson, 2016: 157; Brown, 2016: 179), the spatial visualisation element of the research for *Landscapes of production and punishment* is currently primarily designed to facilitate our analysis of the convict labour landscape. As the project develops, however, it is intended to provide a more public-facing interface allowing a wider audience to conduct their own investigations of these landscapes of convict labour.

Our project taps into an exceedingly rich vein of geospatial enquiry. This takes the form of the convict conduct records which survive for Van Diemen’s Land, providing a summary of every charge brought against a convict in the years 1817-1877 and the punishment awarded. As a result of previous work undertaken by PAHSMA, every male conduct record has been scrutinized for evidence of service at one or more sites on the Tasman Peninsula (Hood, 2003: 7). This information has been supplemented with data extracted from colonial musters and other record series. In all, around 9,000 convicts who served at Port Arthur and its sometime subsidiary the Coal Mines, and a further 737 who were at the boys’ establishment of Point Puer, have been identified. These have been linked to life course data for all convicts transported to Van Diemen’s Land compiled as a result of previous ARC funded research, providing information on place of birth, next of kin, former employment, literacy on arrival, physical disabilities, date of emancipation, as well as details of colonial marriages and post-release convictions and date of death (Maxwell-Stewart, 2016).

In addition to information about the awarding of tickets of leave, certificates of freedom and pardons, these conduct records also contain frequent annotations locating the convict at particular points in time and space. The project has recognised that the analysis of these records for locational data can be correlated with synthesized archaeological data and historical map imagery to place the offence – and therefore the convict – back in the landscape. This landscape was where the lives of convicts and their administrators were played out on a daily basis. By tapping into the temporal and spatial data embedded in resources like conduct records, we can in effect repopulate historic landscapes that have otherwise lost their links to the individual.

A sample of 330 individual convict conduct records have been transcribed as part of an initial pilot project, accounting for 4% of 9,000 convicts known to have passed through Port Arthur. From these 330 individuals, 675 offences were recorded which occurred in and around the settlement. Of these offences, at least 121 could be geo-located directly to spaces and places within the bounds of the station. Spanning the initial decade of settlement at Port Arthur (1830-1839) these geo-locatable offences provide a glimpse into the terrains of power that overlay this place of punishment and labour (Figure 4).

[Insert Figure 4. Caption: Showing the process of spatially illustrating data contained in convict conduct records. The top illustration is the conduct record of convict Moses Cochrane [#717]. His life course information (in this case offences whilst at Port Arthur) has been transcribed into table form. Offences which can be spatially located (highlighted) are then geolocated using GIS. Conduct record of Moses Cochrane, #717, CON 32/1/2, Tasmanian Archives and Heritage Office.]

An important part of this process was the recreation of the historic landscape. Port Arthur’s landscape today is a palimpsest that comprises built and modified elements dating not only the 47 years of convict settlement, but 140 years as a township and tourist destination (Young, 1996). Understanding the location, form and function of features relevant to our period of interest relies upon a close querying of historical, archaeological and architectural data. Eight major maps of the settlement were completed during the period 1830-77, in addition to a large number of maps and plans focusing on localised areas or structures. Using GIS (Geographic Information System) six of the main maps and 48 localised maps and plans were georeferenced to modern survey and remote sensing (LiDAR) information.

These georeferenced plans were subsequently digitised. Polygons were used to represent spaces and areas, with polylines also employed to denote boundaries (fences, walls, gates and portals) and networks (transport and communication). In this way all the major components of the recorded historic landscape could be represented, with built spaces alone comprising at least 1300 separate objects. The creation of each mapped object was accompanied by the completion of metadata fields which provided information of historical source and interpretive confidence, function, survey source and locational confidence, coding and chronological control. This metadata allows multiple level queries to take place on the objects, as well as allows the preservation of vital historical context.

The attachment of unique coding information to the mapped objects meant that, when the geo-located metadata was exported in table form, it could be linked directly to data employing the same coding system. This coding represented the built form both in time and space, meaning that data containing spatial and temporal information could be melded to it. This code-enriched data could take many forms: from biographical information that located individuals in time and space, to production and labour statistics demonstrating product and personnel flows. In this instance, the 121 offences that contained locations were appended with the codes relating to the particular space or area in which the offence occurred. Once re-imported into GIS, this linked the offence back into its original temporal and spatial context (Figure 5).

[Insert Figure 5. Caption: Representation of Port Arthur in 1837, showing the location of structures, gardens and major boundaries. The 121 offenses from the sample are shown, with a breakdown of their locations. ARC project 2017]

It is clear that through such geospatial analysis we can extract a wealth of criminological, demographic, social and economic information from records that would otherwise be difficult to query. Table 1 shows the breakdown of offences, indicating the type of transgressions which would be picked up by the authorities – or, at least, recorded. Figure 5 shows the location where the offences were recorded. Of interest are those relating to the workshops, indicative of the convicts’ reaction to the imposition of labour regimes. Through the spatial component, we can actually map the workshops where such struggles over labour were taking place, potentially illuminating how the spaces within which the men were required to work affected the efficiency and efficacy of their labour. By examining the data in this way, we can also identify the presence or absence of collective actions amidst the convict body. Similarly, movement offences show how and where convicts sought to test the physical limits of their confinement. A station like Port Arthur was a patchwork of areas where convicts, as well as some administrators, could and could not be. To place such offences in time and space is to illustrate not only where these areas were, but also how hierarchical divisions between and within the convict and administrative body dramatically affected interaction with the landscape.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Single incidence |  | More than one incidence |
| Other offences, which includes offences against convict discipline | 34 | 36.17% |  | 30 | 50.85% |
| Larceny, other | 21 | 22.34% |  | 3 | 5.08% |
| Offences against good order | 17 | 18.09% |  | 10 | 16.95% |
| Offences against property | 5 | 5.32% |  |   |   |
| Assault, aggravated | 3 | 3.19% |  |   |   |
| Assault, common | 3 | 3.19% |  |   |   |
| Indecent, riotous, or offensive conduct | 3 | 3.19% |  | 5 | 8.47% |
| Obscene, threatening, or abusive language | 2 | 2.13% |  | 5 | 8.47% |
| Receiving | 2 | 2.13% |  | 2 | 3.39% |
| Robbery and stealing from the person | 2 | 2.13% |  |   |   |
| Malicious damage | 1 | 1.06% |  |   |   |
| Unnatural offences | 1 | 1.06% |  |   |   |
| Fraud and false pretences |   |   |  | 2 | 3.39% |
| Offences against the person |   |   |  | 2 | 3.39% |
| **Offences** | 94 |  |  | 27 |  |
| **Incidences** | 94 |  |  | 59 |  |
| **Total offences** | 121 |  |  |  |  |
| **Total incidences** | 153 |  |  |  |  |

Table 1: Breakdown of offences represented in the sample. Twenty seven of the 121 offences had more than one type of incident recorded. These are shown on the right

By geo-locating this type of offence data, we illustrate those areas where surveillance was active and working. Perhaps unsurprisingly, the prisoners’ barracks was a focus of offences, with over half the recorded offenses tied to this location. Such a focus was undoubtedly linked to the unavoidable concentration of the population and the presence of watchmen and overseers. Smaller concentrations were encountered at other places where the prisoners congregated, such as the workshops, hospital and in places of incarcerative punishment (the gaol and solitary cells). In addition to such offence concentrations, there is value is examining the gaps in the offence data, those places where no offences are recorded. Even though the size of our sample of currently negligible, it is clear that places like the military barracks, stores and officers’ accommodation were zones of high security and spatial control.

These offences allow us to recreate how a prisoner reacted to the imposition of penological and labour regimes and allows us to place the individual back within the temporal and spatial setting. It is an example of where data derived from archaeological methodology can be melded with that drawn from historical enquiry to recreate and repopulate lost labour landscapes. On an individual level, such glimpses bring the landscape to life with the lived narratives of convicts and administrators. When multiplied across the entirety of the Tasman Peninsula, the palimpsest of offences begin to tell us about how convict labour was managed and how that labour reacted to the imposition of control and coercion. Further, when we begin to marry it with other sources – including the qualitative and quantitative records mined for production and punishment data – the analytical and interpretive potential of this historic landscape to retrieve micro and macro-narratives of past lives and labours is substantially enhanced.

Conclusion

*Landscapes of production and punishment* embraces an opportunity to come to terms with what a landscape of convict labour looks like. Through a synthesis of techniques in the fields of archaeology and history, the project is beginning to reveal the complex and multifaceted nature of convict labour within a particular environment. The research is repopulating the historic landscape and reclaiming meaning for the remnants of the built landscape, reuniting the bureaucratic architecture of convict management with the physicality it once created. Upstanding remnants and featureless spaces can once again be understood and experienced in light of activities that were carried out within and around them. By studying the outputs and outcomes of convict labour and industry, we will learn more about Australia’s convict past and, in turn, its place relative to contemporary free and unfree labour settings. By examining the type of labour convicts were engaged in and the environments they operated in, as well as the adoption and adaptation of tools and technology, we are beginning to draw conclusions about the efficiency or otherwise of these places and processes. A broader outcome is that this research framework will have applicability in the first instance to the other World Heritage convict listed properties, providing a basis for comparative research and analysis and as well as a unifying narrative, but ultimately to many other places and aspects of the convict system within Australia and internationally.

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Endnotes

i Secondary Punishment, Sir John Franklin, Lieutenant Governor, to Lord John Russell, Secretary of State, 19 January 1841, Enclosure No. 5, British Parliamentary Papers, 1841 (412), p.136-38.

ii Convict Discipline, Sir Eardley Wilmot, Lieutenant Governor, to Lord Stanley, Secretary of State, 31 January 1845, Enclosure No.3, British Parliamentary Papers, 1845 (659), pp.76-79.

iii ‘Proceedings of a Committee Assembled at the Public Office’, 30 November 1832, CS01/632/14299, Tasmanian Archives and Heritage Office (transcripts of Ian Brand).

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