

**The Architecture of Territory: The Lands Building and State Expansion in New South
Wales**

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Abstract

The New South Wales colonial project was a land-centred enterprise that became dependent on the surveying and sale of land. The process of land alienation was a significant factor in the configuration of the colonial territory as well as the development, distribution and typologies of architecture. This article considers a building that was central to this project: the Lands Building in Sydney that housed the Lands Department, the bureaucracy responsible for implementing the governmental instruments relating to Crown land. An analysis of the building suggests that systems of governance were deeply entwined in its form, planning and use. Of particular concern is the integration of symbols and technologies of surveying and land recording that are integrated into the design of the building and its subsequent adaptation. These include the configuration and expression of the façade, the organisation of the plan, a domed observatory and measuring instruments. At stake is the reframing of the architecture of the State as a technology of governance with territorial reach.

Key words: territory, surveying, governance, land, technology

An observant pedestrian on Bent Street in Sydney may be puzzled to find a statue of the nineteenth-century politician John Robertson occupying a niche in the façade of the monumental Lands Building. This puzzlement is likely to be intensified upon reading the inscription “FREE SELECTION BEFORE SURVEY, LAND ACT 1861” on a scroll at Robertson’s feet. The observer would be surprised to learn, therefore, that this reference to a clause in a seemingly obscure legislative act not only explains in large part the existence and function of the building behind, but the pattern of occupation and development in much of the New South Wales territory.

The story of architecture in Australia cannot be told without reference to the measurement and commodification of colonial territory by survey and land titling. The organisation of territory shaped the form, siting, typology and material expression of buildings. Historian Patrick Wolfe has remarked that “territoriality, the fusion of people and land, is settler colonialism’s specific, irreducible element. . . Rather than replacing one owner with another, settlers seek to replace an entire system of ownership with another.”¹ At the heart of this system was the progressive conversion of land claimed by the government – Crown land – to private ownership which in turn facilitated the physical control of land through its “improvement”.² In New South Wales the Lands Department was the bureaucratic instrument tasked with managing this complex process of land “alienation” by identifying and recording each parcel to be transferred. This article centres on the operational headquarters of the land alienation system: the Lands Building, designed by the Colonial Architects Office and constructed in stages commencing in 1876 (Fig. 1). In the terminology of Reinhold Martin, it was a ‘technology of organisation’ that demonstrates how architecture entwined with modes of governance and statecraft in the colonial project.

The Lands Building was designed and constructed at a transformative moment in the history of New South Wales. The origins of the settlement as a penal colony were nearly a century in the past and the future of a federated Australia was closing in. The building’s monumentality was certainly representative of a growing sense of state pride and wealth but the Lands Building embodied a much more specific set of ambitions on the part of the now self-governing colony. As an organisational and scientific apparatus, the building was engaged in the deployment of the power of the state – the mapping and measurement of its territory – which was integral to the transformation of the state itself through the commodification of land into private property.

This analysis considers key architectural, technological and planimetric aspects of the building in relation to the evolution of legal instruments, survey methods and bureaucratic organisation following the establishment of responsible government in New South Wales in 1856. This focus on architecture as one of several technologies of governance distinguishes this study from previous examinations of the Lands Building that have taken historiographic approaches related to either its urban significance or heritage value.³ The central contention is that the formation of “the state” under the conditions of pre-federation settler colonial occupation was tied to the expansion of territory facilitated in part by the creation of a land market that relied on legislative, scientific and, in the exemplar of the Lands Building, architectural innovations. Each of these is manifested physically in some form in the Lands Building’s fabric: an astronomical observatory that doubles as classical dome, statuary that symbolise the exploration and governance of the colonial territory and instruments of measure related to developments in scientific precision.⁴

Surveying and the Formation of the Capitalist State

Colonial *governance* and the colonial *project* are concepts that help to explain the mechanisms by which the land was systematically colonised and the indigenous population dispossessed. The surveying and alienation of land were essential elements in what David Scott calls ‘colonial governmentality’ arguing that the exercise of colonial power was a distinct form of governmentality (following Foucault’s formulation of the term).⁵ He rejects the idea that European forms of government were transferred intact to their colonies and that we must “understand the project of colonial power *at any given historical moment*”. This requires an understanding of the “political rationality that constituted it.”⁶ Scott’s argument resonates with Wolfe’s conceptualisation of colonisation contending that colonial power depended on “*the systematic redefinition and transformation of the terrain on which the life of the colonized was lived.*” He raises three fundamental questions: What is the *target* of colonial power? For what *project* does it require that target? And what is its *structure*? In other words, how is it organised to achieve these ends?⁸ These three questions provoke a reconsideration of the function of architecture within colonial society and its implications in evolving models of government power and the structure of the territory. As a settler-colonial operation, New South Wales did not have resource extraction as its primary target (such as India and Egypt although resource extraction assumed subsequent importance), it was rather, as Wolfe suggests, the accumulation of land.⁹ Its *project* was therefore the expansion of territory for European settlement, a project which was executed through a structure of imposed legal frameworks designed to expedite the expansionary project. The

settler-colonial project of territorial expansion, which operated initially through the violent appropriation of land, became over the course of the nineteenth century, a key component in the emergence of the capitalist state. The claiming of land by the state gave way first to a system of grants and then to the commodification of land through a property market.¹⁰ It is the latter manifestation of the New South Wales colonial project that is considered here; the maturation of a self-governing colony into a fully-fledged capitalist enterprise.

Establishing the nature of the colonial project is only one half of the problem. The Lands Department was not tasked with, or involved in, the direct appropriation of land or imposition of government power. Within the system of governmentality that the colonial project operated, the Lands Department functioned within a specific mode of governance. Sociologist Bob Jessop's study, *The State: Past Present, Future*, conceives governance as "mechanisms and strategies of coordination in the face of complex reciprocal interdependence among operationally autonomous actors, organizations, and functional systems."¹¹ Governance, in other words, works beyond the direct imposition of state power but involves the establishment of frameworks by the government. The creation of a land market in New South Wales is an example of one such framework.

There are two important factors in the development of the New South Wales colony that influenced the governance of the territory. The first is that the "state," for much of the nineteenth century, was not coextensive with its territory. The borders of the colony were established but territorial control was limited due to factors such as the size of the terrain, progressive but piecemeal infrastructural expansion and the prevalence of squatting which caused Governor Darling to establish the "Limits of Location" in 1829 in an attempt to bring order to the occupation and use of the land.¹² The squatters were pastoralists who used the extensive unsettled regions of New South Wales largely for grazing stock. Objections to squatting were numerous but often fixated on their occupation of land beyond the reach of law and "civilisation"; land on which they had no incentive to build permanent structures or "improve".¹³ The creation of the Limits coincided with the increasing influence of Edward Gibbon Wakefield's ideals of "systematic colonisation" which led to the imposition of the Ripon regulations in 1833.¹⁴ Wakefield's arguments concerning the distribution of Crown land focused on the ease with which members of the labouring class were able to acquire property in the absence of a minimum price. This led to a shortfall in available labour as the transportation of convicts was phased out as well as an overly rapid expansion in the colonial territory. The Ripon

regulations, enacted from London, were the first to set a minimum upset price on alienated land with the intention of restraining settlement with the Limits of Locations and maintaining a substantial labour force.

The second factor was the preference of subsequent governments for an increasingly laissez-faire system of land alienation.¹⁵ The desire for territorial expansion within a laissez-faire market system created a problem for the state of “the political organisation of space” (in Jessop’s terms) requiring delineated spatial frameworks with a minimum of government intervention. In New South Wales, as in many British colonies, the answer to the problem of the political organisation of space was twofold: legislation and surveying. The Lands Department was created in order to implement the former and undertake the latter. In his study of the history of territory, Stuart Elden refers to these two factors as “control” and “measure”. In Elden’s formulation of territory as a “bundle of political technologies,” as opposed to simply land, “measure and control—the technical and the legal—need be thought alongside land and terrain.”¹⁶ The articulation of legal frameworks and surveying of land progressed by fits and starts in the first half of the nineteenth century. Only with the advent of responsible government in New South Wales in 1856 were serious attempts made to systematise these processes through the Lands Department.

The creation of a property market was an integral part of many settler-colonial states under British imperialism. The creation of “property” itself had a two-fold function: it legalised indigenous dispossession and it created a revenue stream for the colonial state. Robert Nichols, author of *Theft is Property!* conceptualises the creation of property as a recursive process of land theft whereby the object that is being stolen – property – is created in the very act of its theft. As such the making of property “refers not to the creation of a new material object but to a new juridical and conceptual object—an abstraction—that serves to anchor relations, right, and, ultimately, power.”¹⁷ It was not enough to inhabit the land, one had to demonstrate ownership according to a set of values established by the colonists.¹⁸ The ability to “make” property, through the technologies of surveying, identification and recording of possession was fundamental to the Lands Department’s mission.

The identification and recording of land were tied to the establishment and evolution of property law. In *Colonial Lives of Property*, Brenna Bhandar, argues that ownership of land in settler-colonial contexts did not follow a simple progression from possession through use to the abstractions of ownership by title. In a similar vein to Nichols’ concept of recursivity, she observes that “the

very nature of the appropriation of indigenous lands justified by the tripartite reliance on possession, use, and the abstract proof of ownership in the form of registered title exemplifies the fractured and disjointed nature of temporality in the colonial context.”¹⁹ In other words, the dispossession of indigenous people through the mechanisms of property law did not follow a simple trajectory, producing instead “uneven landscapes and scenes of dispossession.”²⁰ This disjointed temporality is evident in the entire process of the acquisition and alienation of Crown land as legislation, mapping and record keeping sought to keep up with the untamed spread of squatters and land speculators.

The technology of land laws operated in concert with the technology of the survey. Large scale topographical surveys in India and Egypt were carried out in a similar vein to those in New South Wales but with differing aims such as the collection of tax revenue or military organisation rather than the sale of land.²¹ Property surveys superseded the written descriptions of grant boundaries prevalent in the early settlement. Bridging the gap between these documents would become a central tenant of the Lands Department in the latter part of the nineteenth century. Regardless of whether the creation of property preceded or succeeded the surveying of land, the two technologies were required to establish the land title in order to create a stable, reliable market for land. As John Weaver observes in *The Great Land Rush*, “the technology of measurement and the language of improvement were connected to form realms of order that reduced multiple interests and, potentially, litigation; these new renderings of locales enabled capital markets to catalogue property with development potential.”²² The question that divided politicians, bureaucrats and technicians in the late nineteenth century was whether the alienation of land should be carried out systematically and with precision, or expeditiously with a view to placing settlers on the land as quickly as possible. As we shall see, this question had consequences for conduct of surveying, of the Lands Department and ultimately the design and operation of the Lands Building itself.

The Land Acts of 1861 and the Lands Department

Two legislative events in the middle of the nineteenth century were crucial in shaping the New South Wales territory for the next fifty years. The first was the advent of responsible government which transferred legislative control over Crown land to the New South Wales government which in turn gave rise to a number of new governmental departments including the Department of Lands and Public Works. The cumbersome size of this department was quickly recognised, and it was split into separate Lands and Public Works departments in 1859.²³ The second was the

passing of the Crown Lands Alienation Act and the Crown Lands Occupation Act in 1861.²⁴ The architect of the lands acts was John Robertson, a prominent politician and a landowner. The entry of landowners into politics was a significant force in shaping policy; for the first time in the history of the colony men with a direct financial interest in the land were able to legislate to protect the value of their assets and counteract policies that had favoured the squatters who were accumulating vast wealth in the unregulated land beyond the Limits of Location.²⁵ As argued by Don Baker and Bill Gammage, the land laws were instrumental to the process of dismantling the monopolistic power of the squatters and instituting a more laissez-fair, if not democratic system of land alienation.²⁶

The inscription on John Robertson's statue in the façade of the Lands Building is testament to his ideological commitment to free selection, the most controversial and consequential aspect of the Lands Act (Fig. 2). Free selection allowed for anyone meeting certain criteria to select between 40 and 320 acres of land for purchase prior to an official survey being conducted to establish the boundaries.²⁷ Contrary to the stated aims of organisations like the Land League of New South Wales, Gammage argues that the purpose of free selection was to sell land as quickly as possible. However, it was not necessarily in order to place settlers on the land but rather designed to benefit Robertson, his supporters and the government.²⁸

The most immediate effects of the New South Wales acts were to open to exploitation a major source of government revenue (while passing a public resource into private hands), and to underwrite the value of already existing freehold estates (such as Robertson's), which, even improved, had sometimes sold for less than £1 an acre before 1861. Neither effect was 'democratic' in the sense that we commonly understand the term today.²⁹

At face value the 1861 Acts appear to be a continuation of policies beginning with the Ripon regulations but in the detail they marked a novel direction. Rather than aiming to create a systematised and orderly pattern of colonisation through a minimum land price as the Ripon regulations had intended, the 1861 Acts aimed to simultaneously establish a profitable property market while nominally opening up land selection to a much broader constituency than had been previously envisaged.

Free selection was certainly effective in expediting the sale of land. By the 1870s it had become the single most lucrative source of funds for a government caught up in a spending frenzy on

education, railways and other public works.³⁰ A significant side effect, however, was the exponential growth in workload created for the Lands Department. It is not difficult to see why free selection would create problems for the department and generate resistance from the Surveyor General: relative to its population, the territory of New South Wales was vast and allowing land to be acquired haphazardly forced the department's surveyors to cover enormous distances to complete the surveys that would locate a property and underwrite its title. The structure of the Lands Department gives a sense of the complexity of the task: beneath the minister the department was divided into three branches: the Under Secretary, the Chief Commissioner of Conditional Sales and the Surveyor General. The latter two reported to the Under Secretary who in turn reported to the minister. The Under Secretary oversaw several branches, including Ministerial, Miscellaneous, Auction Sales and Statistics, Deeds, Pre-emptive and Auction Leases, Records Account and Crown Land Agents. These branches generally dealt with the sale, lease and granting of deeds for Crown Land. Work generated by the 1861 Crown Lands Alienation Act in applications for Conditional Purchases of land became so voluminous that the work was removed from the Surveyor General's office to a separate branch with its own commissioner. The office of the Surveyor General was the largest with an enormous set of responsibilities a snapshot of which is provided by the Lands Department's first Annual Report of 1880.

The Survey Department was split into field and office divisions which effectively divided work into surveying and recording. The report notes that "The district surveyors and several of the first class surveyors are employed almost exclusively in reporting on questions requiring local knowledge and field inspection, in supervising and distributing the work of licensed surveyors, and occasionally acting themselves where the duty cannot be properly done by licensed surveyors."³¹ The district surveyors also, "keep the District Survey Offices open for inquiry at all times when not absent in the field..." The division between field and office work also indicates the extent to which the Survey Department operated as a geographically dispersed bureaucracy, under a process of decentralisation that would be exacerbated in the 1880s.

The work of the office division can be roughly characterised as mapping and recording of the colonial territory in relation to Crown Land and its alienation. For example, the Roads Branch was responsible for "all cases of application for roads through alienated land...the alignment of streets..." etc. while the Reserves Branch dealt with land reserved for public use. Much of the work of the Survey Department was in reconciling alienated land with, on the one hand records

in the Lands Department, and on the other hand with local and regional maps.³² Other duties performed by the department include the drafting of diagrams for Crown grants and the all-important work of producing county and parish maps. The imperative to locate newly selected properties accurately within this array of records and maps was a challenge that the Surveyor General would seek to solve by undertaking a full topographical survey of New South Wales, an immense scientific and logistical venture that would occupy significant departmental resources for several decades and impact the expression of the Lands Building itself.

The Lands Department, in essence, was in charge of the representation of the New South Wales colonial territory and the detailed recording of land ownership. The design of the Lands Building reflected the rationalisation and mechanisation of this bureaucracy. It was also, however, the central hub of an increasingly decentralised system. The picture that emerges from the intersection of the building with its inhabitants is a diagram of the colonial settlement project itself. A certain maturity of process was emerging in the 1880s as government bureaucracies solidified their departmental structures and infrastructures increasingly joined up the disparate regions of New South Wales. The legacy of the messy evolution from penal to self-governing settler colony continued to impact, however, on the sale and distribution of property. The governmental desire for orderly economic development of the landscape came into periodic conflict with entrenched interests and laissez-faire attitudes to the expansion of capital.

The Lands Building: A Technology of Organisation

The growth of the Lands Department in the 1860s and 70s, due in large part to land law reform, created a pressing need for a larger premises.³³ The department occupied a small building on the Bridge Street site that would be demolished to make way for its replacement. The enormous revenues drawn from the sale of land funded the new building, customised to the needs of the bureaucracy led by the Surveyor General. The building, designed by the Colonial Architect James Barnet, was much more than office accommodation. It was both a symbol of colonial ambition and achievement, and a technological device to facilitate the core responsibilities of map making and document storage that underwrote the system of land commodification.

From a historiographical perspective, the Lands Building broaches a tension between an emphasis on design authorship and an approach that acknowledges architecture's dependency on processes of governance and technological adaptation. Barnet's own attitudes to design and public service give a sense of how certain conflicts, contradictions or even abnormalities were

enshrined in the building. First and foremost, Barnet was a public servant, the head of a branch of the Public Works Department and answerable to minister and government, a responsibility he took seriously. This attitude guided, to an extent, his architectural proclivities and, as Peter Bridges and D. L. McDonald suggest, he “produced a style of architecture which was a visible expression of public opinion of what was appropriate for the Government’s buildings... His buildings were a statement of the importance, real or proclaimed, which politicians attached to cities and towns and a measure of the success of local politicians in winning a share of the colony’s bounty for their constituents.”³⁴ Barnet was not afraid, however, of departing from neo-classical convention, especially in finding avenues for vernacular expression and technological innovation.

Located on an entire city block on Bridge Street, the Lands Building’s prominent northern façade fronts Macquarie Park, a small but significant open space that provides an aspect to the building from the Sydney Harbour. Its strong formal relationship to the Chief Secretary’s building to the east on Bridge Street, also by Barnet, links the Lands Building to the centre of government on Macquarie Street, comprising an emerging government precinct that Wendy Thorp notes was a deliberate attempt by Barnet to give formal definition and dignity to the growing urban centre.³⁵ Peter Kohane observes another set of relationships between buildings designed by Barnet in an urban sequence bookended by the Customs House at Circular Quay and the General Post Office, further evidence of Barnet’s urban ambitions.³⁶ The Lands Building was one of Barnet’s largest projects, designed shortly after the General Post Office and was still incomplete when he was forced into retirement in 1890.³⁷

Much of the historical analysis of the Lands Building to date has focused on its architectural and urban significance which has stopped short of a detailed consideration of its role in the land-centred project underway in the colony in the latter half of the nineteenth century. The building’s part in this territorial project is not incidental to its architecture, on the contrary its function is readily legible in all aspects of the design and execution of the building. To conceptualise the territorial ambitions of the Lands Building I have appropriated Reinhold Martin’s term, “technology of organisation” to describe the interaction of design, planning and program that combine to produce the organisational effects of the building.³⁸ Martin’s framing of architecture as a technology of organisation recognises “the inseparability of architecture from its technological context. That is, not only is architecture always already a product of technological processes, including technologies of representation; architecture is always already to be counted

amongst such processes.”³⁹ The inseparability of architecture from its technological context is conceived in the present analysis to include the various technologies of territory embedded in the design and adaptation of the Lands Building as well as invisible legislative and governmental technologies. I will consider three aspects of the building that embody this concept: the façade, the plan and technologies of surveying.

The *Terra Nullius* of the Façade

Nowhere in the Lands Building is the tension between architectural ideal and colonial ideology starker than in the realisation of the façade. The siting of the building on an entire city block created a compositional challenge for Barnet. The ground slopes steeply, falling south to north towards Macquarie Park. To maintain unity in the composition, Barnet designed a rusticated basement level that absorbs the slope, only becoming fully visible on the grand northern façade.⁴⁰ Above this datum the four faces of the building are composed of a pattern of loggias and windows framed by forty-eight statue niches (Fig. 3). Barnet intended that these niches be occupied by sculptures of persons involved in the exploration, acquisition, and settlement of the country. When asked by the Premier, Henry Parkes, to put forth a list of names of explorers to fill the niches in 1890, Barnet obliged noting that if likenesses could not be found, they could be substituted with “allegorical subjects appropriate to exploration” such as mathematics, astronomy, geometry etc.⁴¹ Barnet’s fondness for using statuary to ground his classical revival buildings in local history and culture was well known. The years of controversy surrounding the colloquial reliefs on his earlier General Post Office building would have been fresh in his mind.⁴² Filling the niches preoccupied Barnet well into his retirement. In a letter dated 1898 he noted that only seventeen of the niches had so far been occupied and suggested that Matthew Flinders, one of his first choices, should be added.⁴³

The perception of the Lands Building’s façade by members of the government was markedly different to Barnet’s. In reply to a letter from Barnet in 1890, Philip G. King, a member of the Parkes government disagreed with Barnet’s sense of urgency to fill the niches:

I do not think I can quite agree with you in appropriating, once and for all, the whole of the forty eight niches referred to. There may be men to follow who for eminent services in the great question of “the land,” may deserve places far more than some whose names are on your list.⁴⁴

King's response is a reminder that the question of "the land" was an ongoing concern for the colony. The perceived emptiness of the continent's interior was not just a matter of exploration, it was also one of improvement and resource extraction which, following the gold rushes had become increasingly overseen and regulated by the government. This is made abundantly clear as King continues:

I cannot however see why the niches should be reserved for explorers only. The Land Office has been the means by which the executive has carried out the whole of the laws and regulations by which the Crown Lands have been converted into private holding whether freehold or leasehold. The office heads since Sir Thomas Mitchell's time might well be represented down to and including "Adams."

He further suggested that figures involved in establishing geology and mining such as W. B. Clarke and E. H Hargreaves should also be included, logical additions as, following the completion of the second stage of construction, the building also accommodated the Department of Mines.⁴⁵ In a moment of historical irony, Barnet himself was slated to have a niche, only for it to be cancelled at the last minute and replaced by the aforementioned one of John Robertson – a clear indication of the precedence of governance over artistry.⁴⁶

The Organisation of the Plan

If the intentional emptiness of the façade of the Lands Building was both symbol and allegory for the colonial project, the plan was an organisational map of the department, its functions and mission. The building was constructed in two stages. The first stage, including the Bridge Street frontage, was built between 1876 and 1881 and contained offices and topped by the observatory. During construction the Lands Department continued to operate from their existing premises at the rear of the site. The second stage was completed between 1888 and 1891 adding more offices, a fire protected storage strong-room, a plan room for map drafting, a gallery and a clock tower. The physical size of the Lands Building reflected its large and cumbersome bureaucracy due in large part to the duty to administer the Lands Acts. Prior to construction, *The Illustrated Sydney News* described the proposed organisation of the building as follows:

In the northern part of the basement will be the rooms to which the public have most frequent occasion to resort, and the remainder of this floor will be devoted to

workshops, stores, and quarters for messengers and office-keepers. On the ground-floor will be situated the offices of the Surveyor-General, Deputy Surveyor-General and several branches of the Lands Department; on the next, or first floor, will be the offices for the Ministers and Under-Secretaries; the Stock branch of the Lands Department; a museum in connection with the Department of Mines, and accommodation for the Lithographic branch. The floor above this will be appropriated to the drawing and compiling parts of the Surveyor-General's work. And, in the centre of the building, running through the whole height, will be a fire-proof record room about 43 feet square, having iron galleries, frames for records, and an available wall space of about ten thousand feet.⁴⁷

Although this account explains the basic organisation of the building and its staff, it does not capture the full symbolic nature of the arrangement of spaces nor the complexity of the Lands Department itself. Inherent in the planning of the building were a number of hierarchical and functional divisions that indicate the labour carried out within its walls. The upper floors were reserved for activities that required the best access to daylight: map drafting, compiling, copying, diagramming etc. The lower floors were dedicated to administrative work. It is also telling that the ministerial offices sat above the Surveyor General despite the logical connection between the latter and his staff on the top floor. In the centre of the building, resembling a multistorey bank vault, was possibly the most important part of the building, the records room (Figs. 4 and 5). Each branch of the department had reason to access this hub, in which were stored all of the documents necessary to identify a plot of land, its dimensions, location and owner.⁴⁸ The fundamental essence of Crown land alienation was in the record of its sale and ownership and this room therefore represented the virtual value of colonial territory.

The Architecture of the Survey

If the planning and organisation of the Lands Building reflected the scope and diversity of tasks undertaken by the department in administering land-related legislation, scientific instruments integrated into the design and subsequent adaptation of the building were an indication of the symbolic importance of scientific progress in the colony and a desire for precision in the measurement of the territory. The most prominent of these is the observatory that crowns the Bridge Street façade, an unorthodox inclusion in the design of a government office building and perhaps unique in nineteenth-century bureaucratic architecture. Of no less import were the post-occupancy additions of a survey baseline installed in a basement corridor and a height datum

plug embedded in the façade. Each of these related to different scales and modes of measurement, but all spoke to a need for ever-increasing exactness. The presence of these instruments in the building impels an adjustment in the idea of architecture as one among many technologies of organisation. Here the building is conceived as an assemblage of technologies and privileging “architecture” is a somewhat futile exercise when it is considered within the systems of governance at play. The observatory is the most integrated of the technologies of measurement and was present in the earliest extant drawings of the Lands Building (Fig. 6). Barnet notes that it was intended for astronomical purposes and the observatory was in use during the 19th and early 20th centuries.⁴⁹

Without a grounding in nineteenth century methods of surveying, this addition to the building may appear incongruous and to understand its inclusion the power and influence of the Surveyor General and his role in the department needs to be considered. The desire for speed of land sales and revenue inflow built into the 1861 Lands Acts did not come without resistance from the surveying profession and, in particular, the Surveyor General. While the fundamental principle of free selection before survey could not be immediately amended, the surveyors’ desire for precision in the mapping of the territory was still realisable through the large-scale survey. These surveys, conducted either through the overlay of a grid, as was the practice in North America, or triangulation as seen in the monumental exercise of mapping India, sought to provide a more or less precise framework within which property, infrastructure, resources and other smaller scale surveys could be located.⁵⁰ In 1828, then Deputy Surveyor General Thomas Mitchell commenced the first large scale trigonometric or triangular survey of the landscape. As D. N. Jeans recounts, a grid survey similar to that used in North America was favoured by Governor Thomas Brisbane (an amateur astronomer) for its simplicity, but it was largely confined to the laying out of townships. Mitchell argued that ruggedness of the terrain combined with the importance of natural features, such as water resources, made the grid both difficult to execute and relatively useless in terms of land use.⁵¹ The trig survey, which depends on the physical landscape for its measurements, would capture the concrete conditions of the terrain and have far greater utility. An article in *The New South Wales Magazine* in 1833 set out the justifications for embarking on this the enormous task:

Thus it appears that a general survey is indispensably requisite, for the satisfactory accomplishment of three distinct objects of primary importance, namely: the location of grants; the division of the territory; and the construction of permanent public works,

such as roads, bridges, canals, &c. — It may be added, that by arriving at accurate results, on these and similar points, *at first*, the permanent establishment of towns and habitations will follow.⁵²

Despite the need and support for the survey, in the absence of sustained government support Mitchell's effort petered out and it was Philip Francis Adams in the second half of the century who eventually triumphed in the battle for the rationalisation of the territory. Adams, who was appointed as Surveyor General in 1868 was the driving force in the push for a full survey of New South Wales. In 1865 while in the role of Deputy Surveyor General, Adams called on the parliament to provide funding for his project. After railing against reasons for inaccuracies in existing surveys he turned his attention to free selection before survey:

Sufficient has been said to shew (sic) how little satisfaction can be expected from the present system, under which reliable maps can only be obtained after the whole of the land has been alienated, or at least measured; in fact, reversing the order in which they should come before the public, who are more interested in learning what land there may be still for sale than what has been sold.⁵³

Adam's solution to this problem was to begin a full trigonometrical survey which he notes, perhaps playing on intercolonial rivalries, had already begun in Victoria.

The central tenant of any trig survey's accuracy is the establishment of a precise baseline measurement— from which the triangulation would proceed — the end points of which were confirmed astronomically in relation to the Sydney Observatory (situated less than a kilometre away from the Lands Building at Observatory Hill) facilitated by the construction of temporary canvas observatories. Although Adam's aforementioned pleas to parliament emphasised the practicalities of alienating land, the trig survey was equally a demonstration of colonial scientific prowess and technical expertise. Close collaboration between the Government Astronomer at the Sydney Observatory and the survey branch were essential in the execution of the triangulation and field surveyors were required to have expertise in astronomy in order to carry out their tasks.⁵⁴ As the survey advanced, points in the triangulation were categorised as first, second or third order stations. Many of the first order stations had their coordinates astronomically recorded and confirmed.⁵⁵

Although the department and storage of survey documents remained within the Lands Building, the trigonometrical survey was not merely an exercise in cartography. Physical evidence of the machinery of the survey and its territorial reach remain strewn across the landscape of New South Wales. As the survey relied on distinct physical features in the landscape for triangulation within which subsequent detail surveys could be integrated, each station was located with a permanent structure or cairn. Over time the form and materials of the cairns changed, from mounds of rock to concrete. These structures are part of the architecture of the colony's scientific organisation: the basis for its legibility, measurement and the rationalisation of what, at the inception of British settlement, was a rugged and often incomprehensible landscape. They are also, perhaps more importantly, insurance for the establishment of land ownership and, in the absence or destruction of survey maps and records, provide physical evidence from which patterns of ownership can be re-established.

The observatory and its prominence in the composition of the Lands Building broadcast the science of surveying and the establishment of colonial control through measure. There is no suggestion that it was ever used as part of the trigonometrical survey, given its proximity to the Sydney Observatory, although it may have been used for training field surveyors.⁵⁶ Regardless of function, it is an indicator of the importance of astronomy to the survey process conveying nineteenth-century colonial ambition within a global and astronomical setting and territorial power, an abstract sign of the ability to precisely quantify the New South Wales terrain within the vastness of the universe.

Precision, Standards and Governance in the Survey

At another scale altogether, the movement towards the standardisation of systems of measurement in New South Wales gained pace in the latter half of the century as the need for increased precision caused problems for surveyors in various branches of government and a growing number of private practitioners. While the Lands Department maintained their own height datum, this did not necessarily align with other agencies that employed their own surveyors such as the Railways and Harbours and Rivers branches of the Public Works Department. The emergence of what, in Andrew Barry's terminology we could call a *metrological* form of the "technological zone" was propelled by a number of factors including the potential for land-related litigation, inter-colonial relationships and improvements in precision.⁵⁷ The insertion of a height datum plug and survey baseline in the Lands Building was a reflection of the

department's centrality in systems of measure in the colony and its role as custodian of standards in the measurement of the territory.

The brass height datum plug was installed in the building's façade in 1882, shortly after the completion of the first stage of construction. A plaque above the plug indicated its height as "27ft. above mean high tide, and 28 ft. 9 1/2 inches above mean sea level." In recognition of the need for higher levels of accuracy in drainage and engineering works the height was recalibrated in 1891.⁵⁸ It became increasingly evident, however, that the Lands Department and various branches of the Public Works Department were employing differing numbers for this datum. For example, the Railways branch calculated the plug to be 26.01 feet above mean high tide, while Harbours and Rivers had it at 27.24. The Government Astronomer meanwhile only used mean sea level, not mean high tide. The need for a common datum was not just a matter for government departments, the newly formed Institute of Surveyors agitated throughout the 1890s for a reliable height datum. The Institute's advocacy was a key element in prompting an 1897 conference between representatives of the branches of the Public Works Department, the Lands Department and the Government Astronomer to establish a common benchmark. Having resolved to adopt the Lands Building plug as the datum, calculated from mean sea level, the conference agreed to revise the value of the plug to 28.94 feet and the inscription was altered again.⁵⁹

Debates in the Institute of Surveyors' primary mouthpiece, *The Surveyor*, suggest that while the determination of the height datum was an important issue it was overshadowed by the more urgent need for a precise survey baseline from which private surveyors could calibrate their equipment.⁶⁰ The increasingly real possibility of litigation over incorrectly measured boundaries was a result of swelling property values, particularly in Sydney, and the devolution of responsibility for surveying from the Lands Department field surveyors to private surveyors who were more exposed than the government to claims of negligence.⁶¹ In an 1890 letter to the editor of *The Surveyor*, E. Herborn questioned whether New South Wales actually possessed a legal lineal standard of measurement for land. He acknowledged that the Lands Department had previously installed a baseline in the old Lands Building, and then at the Sydney Observatory but noted that, "a doubt exists as to whether this has not been altered from time to time, but assuming that it is fairly correct, it does not appear to have been largely availed of by surveyors."⁶² Moreover the Gunter's Chain that had been the conventional tool for measuring land in the nineteenth century had been superseded by the steel tape with a far higher degree of precision and resistance to

wear.⁶³ The Lands Department took heed of this issue and, on the completion of the second stage of the new building, installed 66 and 100 foot baselines in a basement corridor. The location was chosen for temperature stability and the baselines were embedded in blocks of trachyte with brass plates protecting the terminals at either end on which a micrometer could be mounted.⁶⁴

The datum and baseline attest to a new technological reality emerging in the late nineteenth century. Precision and standardisation of measurement were enmeshed in the development of complex infrastructures and density of land ownership. Their integration in the Lands Building fabric again gives reason to question the value of conventional formal architectural analysis as the technological evolution of the building as an assemblage of instruments is far more revealing of both its architectural and political function.

Conclusion: Architecture and the Liberal State

Commodification of land through survey and title, made possible in part through the creation of standards, was an important contribution to the consolidation of the settler colonial state in New South Wales. The Lands Building's role as a technology of organisation must be contextualised within the late nineteenth-century epoch in which forms of direct colonial power had largely given way to *laissez-faire* forms of governance. While the squatters still maintained some measure of autonomy following the passing of the 1861 Lands Acts, by the end of the century further legislative action had broken up their runs and the system of freehold land assumed total dominance.⁶⁵ The Lands Building was therefore representative of a number ideological concerns, some of which dated from the beginnings of colonisation and others which reflected changes in the state and systems of governance that had long outgrown the penal colony origins. The building itself, despite its classical-revival stylistic solidity, was both conceptually fluid and functionally adaptable, in line with the evolving state that it served. The intentional emptiness of the façade – a nod to the ideology of continuous colonial progress – the symbolic observatory and the plan of bureaucratic organisation suggest both uncertainty and ambition, and also a level of hubris on the part of the government, its officers and its architect in claiming both domination and market freedom for the territory. These elements, unique though they are to the Lands Building, have equivalents in other colonial buildings and structures, both public and private, that indicate larger governmental and economic concerns. By concerning ourselves with these sometimes disregarded details we can develop a fuller picture of the specific ways in which architecture was adapted to the form and structure of the colonial project.

- ¹ Patrick Wolfe, *Traces of History: Elementary Structures of Race*, (London: Verso, 2016), 34.
- ² For discussions of dispossession and improvement see John C. Weaver, *The Great Land Rush and the Making of the Modern World, 1650-1900* (Montreal, Quebec: McGill-Queen's University Press, 2003), 134 and Libby Porter, "Dispossession and *Terra Nullius*: Planning's Formative Terrain," in Sue Jackson, Libby Porter, and Louise C Johnson, eds., *Planning in Indigenous Australia: From Imperial Foundations to Postcolonial Futures* (London: Routledge, 2018), 62.
- ³ See Peter Kohane, "James Barnet and the Classical Ideal: Architecture in Sydney," in Chris Johnson, Peter Kohane, and Patrick Bingham-Hall, *James Barnet: the Universal Values of Civic Existence* (Balmain, NSW: Pesaro Publishing, 2000) 10-20; Chris Johnson, *Shaping Sydney: Public Architecture and Civic Decorum* (Sydney: Hale & Iremonger, 1999); Wendy Thorp, *Lands Building Development Archival Resources*, unpublished, 1996 (Thorp's history of the Lands Building has been incorporated into several subsequent Conservation Management Plans); Peter Bridges, "James Barnet 1827-1904," in *Architects of Australia*, ed. Howard Tanner (South Melbourne: Macmillan, 1981), 72; Donald Ian McDonald, "James Barnet – New South Wales Colonial Architect (1865-1890): 'an underpaid officer of the government,'" (PhD diss., University of New England, 1984), 94-106.
- ⁴ This paper revises and expands on ideas previously published in Nathan Etherington, "The Lands Building Sydney: Architecture as Instrument in the Colonial Project," in *Proceedings of the Society of Architectural Historians Australia and New Zealand: 37, What If? What Next? Speculations on History's Futures*, edited by Kate Hislop and Hannah Lewi, 515-527. Perth: SAHANZ, 2021.
- ⁵ David Scott, "Colonial Governmentality," *Social Text*, 43, (Autumn 1995): 207.
- ⁶ Scott, "Colonial Governmentality," 204.
- ⁷ Scott, "Colonial Governmentality," 205. Emphasis in the original.
- ⁸ Scott, "Colonial Governmentality," 197.
- ⁹ See Jürgen Osterhammel, *Colonialism: A Theoretical Overview* (Princeton, NJ: Markus Wiener Publishers, 2005), 11.
- ¹⁰ Porter, "Dispossession and *Terra Nullius*," 62-69.
- ¹¹ Bob Jessop, *The State: Past, Present, Future*, (Cambridge: Polity Press, 2016), 166.
- ¹² "The Limits of Location," in *Select Documents in Australian History, 1788-1850*, ed. C. M. H. Clark (Sydney: Angus & Robertson, 1955), 225; Porter, "Dispossession and *Terra Nullius*," 64; Terry Kass, *Sails to Satellites: The Surveyors General of NSW (1786-2007)* (Bathurst: NSW Department of Lands, 2008), 19.
- ¹³ "Governor Gipps Presents the Case for New Regulations, 1844," in *Select Documents in Australian History, 1788-1850*, ed. C. M. H. Clark (Sydney: Angus & Robertson, 1955), 244-5.
- ¹⁴ See "The Consequences of Unsystematic Colonisation," in *Select Documents in Australian History, 1788-1850*, ed. C. M. H. Clark (Sydney: Angus & Robertson, 1955), 175-6.
- ¹⁵ D. W. A. Baker, "The Origins of Robertson's Land Acts," *Australian Historical Studies*, 8, no.30 (1958): 179-180.
- ¹⁶ Stuart Elden, *The Birth of Territory* (Chicago: University of Chicago Press, 2013), 322-3.
- ¹⁷ Robert Nichols, *Theft Is Property!: Dispossession and Critical Theory* (Durham: Duke University Press, 2020), 31.
- ¹⁸ Porter, "Dispossession and *Terra Nullius*," 60-61.
- ¹⁹ Brenna Bhandar, *Colonial Lives of Property: Law, Land, and Racial Regimes of Ownership* (Durham: Duke University Press, 2018), 10.
- ²⁰ Bhandar, *Colonial Lives of Property*, 24.
- ²¹ See Matthew Edney, *Mapping an Empire: The Geographical Construction of British India, 1765-1843* (Chicago: University of Chicago Press, 1997), 128 and Timothy Mitchell, *The Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002), 90.
- ²² Weaver, *The Great Land Rush*, 237.
- ²³ Lenore Coltheart, *A Guide to the History of the Public Works Department, New South Wales* (Sydney: Public Works Heritage Group, Public Works Department, 1991), 25.
- ²⁴ Crown Lands Alientation Act, 1861, 25 Vic No 1; Crown Lands Occupation Act, 1861, 25 Vic No 2.
- ²⁵ "Manifesto of the Land League of New South Wales 26 April 1859" in *Select Documents in Australian History 1851-1900*, ed. C.M.H. Clark (Sydney: Angus and Robertson, 1955), 100.
- ²⁶ Baker, "The Origins of Robertson's Land Acts," 180, and Bill Gammage, "Historical Reconsiderations VII: Who Gained and Who was Meant to Gain, from Land Selection in New South Wales?," *Australian Historical Studies*, 24, no. 94 (April 1990): 112.
- ²⁷ Crown Lands Alienation Act, 1861, 25 Vic No 1, clause 13.
- ²⁸ The Land League argued for land reform in order to place ordinary men on the land: "The ingenious mechanic, the stalwart yeoman, and the industrious labourer,—those classes of society which form the bulk and basis, the bone and sinew of every Anglo-Saxon nation,—have been foiled in every fair effort to find a home of their own..." "Manifesto of the Land League of New South Wales," 100-101.
- ²⁹ Gammage, "Who Gained and Who was Meant to Gain," 112.
- ³⁰ P. N. Lamb, "Crown Land Policy and Government Finance in New South Wales, 1856–1900," *Australian Economic History Review* 7, No. 1 (January 1967): 52-53.
- ³¹ Lands Department, *First Annual Report of the Department of Lands*, 1880, 35.

- ³² *Department of Lands Annual Report*, 1880, 43.
- ³³ The 1880 annual report shows a three-fold increase in employees of the Surveyor General's Department between 1869 and 1876, *Department of Lands Annual Report*, 1880, appendix.
- ³⁴ Peter Bridges and Don McDonald, *James Barnet, Colonial Architect* (Sydney: Hale & Iremonger, 1988), 13.
- ³⁵ Thorpe, *Lands Building Development Archival Resources*, 72.
- ³⁶ Kohane, "James Barnet and the Classical Ideal," 19.
- ³⁷ Bridges and McDonald, *James Barnet, Colonial Architect*, 123.
- ³⁸ Martin broaches the idea of architecture as a technology of organisation as part of his research into the "organisational complex" first explored in his doctoral thesis and then in *The Organisational Complex: Architecture, Media and Corporate Space*. The idea of the technology of organisation appears only in the thesis. See Reinhold Martin, "Architecture and Organization: United States of America, c. 1956." (PhD diss., Princeton University, 1999), 3-4.
- ³⁹ Martin, "Architecture and Organization," 4.
- ⁴⁰ Kohane, "James Barnet and the Classical Ideal," 19.
- ⁴¹ James Barnet to the Principal Under Secretary, Sydney, March 6, 1890, *James Barnet Papers, 1852-1898*, Mitchell Library.
- ⁴² In his design of the General Post Office Barnet had spurned classical orthodoxy and integrated reliefs of ordinary colonial citizens rather than allegorical figures or noteworthy men, causing a storm of controversy and several years of public inquiries. See Bridges and McDonald, *James Barnet, Colonial Architect* 68-72, Chris Johnson, "Barnet and Australian Identity Universal or Local, Imported or Native?" in Chris Johnson, Peter Kohane, and Patrick Bingham-Hall, *James Barnet: the Universal Values of Civic Existence*, (Balmain, NSW: Pesaro Publishing, 2000), 32-34.
- ⁴³ James Barnet to Francis Hixon, September 24, 1898, *James Barnet Papers, 1852-1898*, Mitchell Library.
- ⁴⁴ Philip G. King to Barnet, July 8, 1890, *James Barnet Papers, 1852-1898*, Mitchell Library.
- ⁴⁵ "The New Lands and Mining Offices," *The Illustrated Sydney News and New South Wales Agriculturalist and Grazier*, August 19, 1876, 14.
- ⁴⁶ See letter from Principal Under Secretary Critchett Walker to "Signor Sani" (presumably the sculptor Tomaso Sani) ordering the execution of a statue of Barnet. A note at the bottom reads "Cancelled by Sir George Dibbs who substituted Sir John Robertson," *James Barnet Papers, 1852-1898*, Mitchell Library. Bridges and McDonald note that the Secretary for Public Works in the new Dibbs government, William Lyne, "did not admire Barnet" and speculate that this was the reason for the statue being cancelled. *James Barnet, Colonial Architect*, 124.
- ⁴⁷ "The New Lands and Mining Offices," 14.
- ⁴⁸ "The Lands Department," *Australian Town and Country Journal*, January 29, 1898, 32.
- ⁴⁹ James Barnet, "Architectural Work in Sydney, New South Wales, 1788-1899," *Journal of the Royal Institute of British Architects*, vol. VI, 3rd series, (29 September 1899): 513.
- ⁵⁰ See Weaver, *The Great Land Rush*, 231; Edney, *Mapping an Empire*, 262.
- ⁵¹ D. N. Jeans, "The Breakdown of Australia's First Rectangular Grid Survey." *Australian Geographical Studies* 4, no. 2 (October 1966): 122-124.
- ⁵² "On the Trigonometrical Survey of New South Wales.", *The New South Wales Magazine* (Sydney, New South Wales): 1833 47.
- ⁵³ P. F. Adams, "Public Surveys: Report from Deputy Surveyor General Respecting State of," *Votes and Proceedings of the Legislative Assembly New South Wales 1865-6*, III, 2.
- ⁵⁴ The close collaboration of the Government Astronomer, George Smalley, based at the Sydney Observatory and the Surveyor General is demonstrated in a Report tabled to parliament in which Smalley lays out the necessity of astronomical science in supporting the trigonometrical survey. George R Smalley, "Geodetic Survey," *Votes and Proceedings of the Legislative Assembly New South Wales 1865-6*, III, 9-10.
- ⁵⁵ Pietro Baracchi, "Astronomy and Geodesy in Australia," *Federal Handbook, Prepared in Connection with the Eighty-Fourth Meeting of the British Association for the Advancement of Science held in Australia, August, 1914*, ed. G. H. Knibbs (Melbourne: Commonwealth Government, 1914), 378. See also E. Twynam, *Stations Determined Astronomically in Connection with Trigonometrical Survey* (Sydney: Charles Potter, Govt. Printer, 1892).
- ⁵⁶ Wayne Orchiston provides a detailed analysis of the relationship between the trigonometric survey and astronomy, "Contribution of the Lands Department to the Development of Astronomy in New South Wales During the Nineteenth Century," *Australian Journal of Astronomy* 2, no. 2 (October 1987): 65-74.
- ⁵⁷ Andrew Barry identifies three types of technological zone: the *metrological* concerning standards of measurement, the *infrastructural zone* defined by connection standards and *zones of qualification* which encompass the meeting of quality standards. See "Technological Zones," *European Journal of Social Theory* 9, no2 (2006): 240.
- ⁵⁸ D. M. Maitland, "Notes Upon Recent Tidal Observations," *The Surveyor* No. 4, Vol IV (October 6, 1891): 66.
- ⁵⁹ *Report and Proceedings of a Conference of Representatives of the Government Departments to Determine upon a Standard Datum for Levels in New South Wales*. (Sydney, N.S.W.): William Appelgate Gullick, Government Printer, 1897, 4.
- ⁶⁰ See, for example, E. Herborn, "Linear Standards," letter to the editor, *The Surveyor*, No. 8 Vol. II. (February 4, 1890): 5-8 and "Linear Standards." *The Surveyor*, No. 8 Vol. II. (February 4, 1890): 8-10.
- ⁶¹ "Lineal Standard." *The Surveyor*, No. 7 Vol. VII. (July 9, 1894): 155. The author acknowledges that "This question of standards has never yet been raised in any dispute over the position of allotment boundaries settled in our Courts.

But the day may not be far distant when it will be raised, and the advent of that day will be hastened by the Crown sale of such minute quantities as quarter inches. When it is raised, and settled, as it can only be settled by an appeal to our legal standard, the confusion that must arise regarding ownership of insufficiently marked allotments will seriously affect the value of much real property in Sydney and its suburbs, and hamper many transfers of re-subdivisions of allotments.”

⁶² E. Herborn, “Linear Standards,” 8, see also R. V. Bayliss, “The linear standards of the Department of Lands, New South Wales,” *Australian Surveyor*, 16 no. 5 (1957): 312 and “Discussion on Mr Knibbs’ Paper on the Report of the Weights and Measures Board,” *The Surveyor* No 8 Vol. VI (August 1 1893) 208.

⁶³ Bayliss, “The linear standards of the Department of Lands, New South Wales,” 312.

⁶⁴ Ian H. Marshall, “For Good Measure: The Story of the Adoption of Linear Standards of Measurement for Surveying Purposes in NSW,” in *Proceedings of the 19th Association Public Authority Surveyors Conference (APAS2014)* ed. Volker Janssen (New South Wales: The Association of Public Authority Surveyors, 2014), 176.

⁶⁵ Gammage, “Who Gained and Who was Meant to Gain,” 121.