Campaigning for Street Trees, Sydney Botanic Gardens, 1890s–1920s

JODI FRAWLEY

Gender and Cultural Studies
Faculty of Arts
University of Sydney, NSW, 2006
Australia
Email: Jodi.Frawley@people.net.au

ABSTRACT

Between the 1890s and 1920s street trees became a more prominent feature in streetscapes across New South Wales, Australia. The Sydney Botanic Gardens, with their extensive nursery system, were responsible for supplying seedlings to councils and municipalities for use as street trees. As such, this institution was a primary mover of what a street tree should be, how they should be used and what plants were best suited to this particular use in urban environments. This paper analyses the nurturing of this use of street trees by the Sydney Botanic Gardens and the Director Joseph Maiden. This institution was a place that moved not just stock and seedlings, but ideas about how nature's inclusion into urban environments had the capacity to influence and enhance the cultivation of civilised citizens. This was affected through access to transnational resources available to the Sydney Botanic Gardens.

KEYWORDS

Street trees, urban planning, Sydney Botanic Gardens, Joseph Maiden, transnational networks

Environment and History **15** (2009): 303–322. doi: 10.3197/096734009X12474738199953

As an independent agency within the New South Wales government, the Sydney Botanic Gardens was able to spearhead a public campaign that changed local urban aesthetics. This meant providing towns and cities across the state with tree stock for planting into public places including streets. One of the reasons that trees were used in streets was because they were thought to have a civilising influence on citizens of the city. This was not a local idea, but one that had gained momentum in a variety of locations across the globe. Street trees were entangled with the history of the development of urban planning and specifically the use of the street to bring about social change. A very distinctive pattern emerged that emphasised a particular shape and image of a tree planted that enhanced urban linearity. While the rhetoric used in this campaign suggested that the intended outcome was to civilise towns for national purposes, this was affected through a transnationalising of ideas and plants. Ian Tyrrell argues that that 'the nation itself is produced transnationally'[1] and this paper takes up this point by considering how the Sydney Botanic Gardens' director, Joseph Maiden, used transnational resources to construct this element of cultural nationalism in Australia.

The Sydney Botanic Gardens, officially established in 1816, always had a thriving nursery and propagation ground. This nursery had acclimatised and supplied stock for the parklands of the institution. By the 1890s a state nursery at Campbelltown was established as a satellite of the Sydney Botanic Gardens to complement the second state nursery in Gosford managed by the Forest Branch of the Department of Lands. These nurseries were established in response to the needs of the forestry sector. Approximately two and half million plants were distributed from the Botanic Gardens nurseries between 1896 and 1924. Most years, this meant that around one hundred thousand plants were sent to public institutions, including schools, prisons, railway stations, court houses and churches. Plants from these nurseries regularly made their way into municipalities and councils, who used the trees for urban landscaping, including a provision for parks but also for planting trees into streetscapes. This aspect of the work of the Botanic Gardens was often stated amongst the duties and functions performed in Sydney, but it has not been scrutinised to any extent.[2] Such work placed the Botanic Gardens in a prime position in the creation and influence of the everyday streetscapes of urban New South Wales.

THE DIRECTOR

The period between 1896 and 1924 also framed the tenure of Sydney Botanic Garden's tenth director, Joseph Maiden. A Londoner by birth, Maiden had lived in Australia since 1881. Although never formally trained as a botanist, his professional position as the inaugural curator of the Technological Museum of Sydney allowed him to build a career as an expert in the usefulness of Australian botany. Additionally he engaged the public on matters of botanical importance

through public lectures focusing on economic botany rather than pure science. This topic, according to Maiden's biographer Lionel Gilbert, differentiated the Technological Museum from the Australian Museum and the Mining Museum.[3] He was the Consulting Botanist for the Forestry and Agriculture departments from 1893 to 1924 advising on scientific forestry and advocating for a botanical survey. He was an active member of a range of learned societies and understood the importance of encouraging strong relations within the network of scientific society in Australia at this time. His move to the Sydney Botanic Gardens in 1896 saw an expansion of all of these areas of interest and gave him the increased capacity to move into the production of botanical science, applied science, acclimatisation debates, botanic nationalism, and everyday life pertaining to botanical matters. Over the twenty-eight years of Maiden's tenure one area of interest was his engagement with the more generalised movement for the improvement of urban planning. He took up the aspect that pertained to his field of expertise by championing and enacting the planting of trees into streets across New South Wales.

Although an avid nationalist, Maiden drew from a transnational network of botanical exchange in working with ideas about street trees. Such a network began with correspondence as the infrastructure through which plants, plant material and plant information moved. Throughout Maiden's directorship, members of the public were encouraged to correspond with their questions about botany. In 1910, for example, Maiden received requests for information on themes as varied as Australian edible nuts and how to propagate wilga *(Geijera parviflora)* seed. Included were requests for information about tree-planting, pruning, distribution and avenue-planting for streets.[4] Within Australia, Maiden developed corresponding relationships with forestry conservators of the different states, including John Ednie Brown who worked in Western Australia, South Australia and New South Wales and George Perrin of Victoria and Walter Gill of South Australia. All of these men were interested in fostering an appreciation of trees and were instrumental in initiating Arbor Day programmes in public schools. In 1891, Ednie Brown pointed to Strathfield and Homebush, suburbs of Sydney, as 'commendable beyond degree' with regards the use of trees in avenue plantings.[5] Throughout his career, Maiden sustained this network of correspondents in Australia that included both professional and non-professional people.

Maiden also corresponded with internationally placed botanists as widespread as Colonel Prain of the Calcutta Botanic Gardens in India and John Medley Wood of the Natal Botanic Gardens in South Africa. When needed, advice was often sought from William Thistleton-Dyer at the Royal Botanic Gardens, Kew and his successor Colonel David Prain. He wrote to supervisors, curators and directors of other botanic gardens as this was a ready-made network inherited with his position in Sydney. One of his first tasks upon taking up this position was to send a circular to all botanic gardens, botanical institutions and individual botanists who already had exchange relations with Sydney, informing them of

his appointment.[6] In this, he established himself as the primary point of contact at the institution in matters of botanical knowledge. In sending out letters and packages he additionally signalled his own willingness to actively partake in such a transnational botanical network.

The combination of the local, intra-colonial, inter-colonial or international origins and destinations of these letters, packages and consignments made this network transnational. This broadly refers to 'multiple ties and interactions linking people or institutions across the borders of nation-states, while foregrounding the communications that allow this to occur'.[7] Boundaries were, in many ways, irrelevant to the process. The transnational emphasises the movement rather than point of origin and the network emphasises the connections formed through this movement. Regardless of where his correspondents were, Maiden used the same transnational networks to engage in the exchange of seeds, specimens, reports and journals. Such relations facilitated the movement of trees and publications about street planting. This transnational network enabled Joseph Maiden to collect journals, books and reports into the Sydney Botanic Garden Library that advocated this type of planting. His vision for street tree planting was an amalgam of the ideas that he found in this research. This image, understood by Maiden through the transnational transfer of information, was the primary concept that preceded all other elements that went into making the townships across the state greener.

PLANNING ANTECEDENTS

Street trees can be spatially understood alongside various sorts of public planting, public gardens and parks that emerged consistently by the mid-nineteenth century across Europe. As other historians have shown, these inclusions did not begin in the mid-nineteenth century, but appear in a piecemeal way across the cityscapes of Europe from at least the mid-sixteenth century.[8] Helen Armstrong argues that the introduction of street trees in Australia relied upon the antecedents in the European sphere.[9] The desire for the city to provide a utopian setting for activities developed progressively through the work of French planners Abbé Morelly (1750), Abbé Laugier (1753) and Pierre Patte (1765, 1783). Such planning relied on the formal arrangement of streets and squares with trees. According to Armstrong, this type of planning transferred to the new settlement in Australia with the First Governor Arthur Phillip and was identified by Armstrong as forming the conceptual basis for the laying out of streets in Sydney. Over the following century, however, Sydney developed in an ad hoc manner with a myriad of unplanned accretions that triggered Paul Ashton to describe Sydney as an 'accidental city'.[10] The inner city developed in an improvised fashion that made a mockery of any plan that Phillip had envisioned.

Lynette Finch argues that over the nineteenth century, the multifunctional street formed as part of this unplanned city, especially where urban populations increased through industrialisation.[11] These streets tended to develop as dark narrow alleys with dead ends, patched together organically as need arose. In the urban sectors where the underclasses lived horses, carts, people, garbage, and sewerage all vied for a claim on this space. Furthermore, the street was a place where working class and underclass communities gathered and socialised, not as a space to move *through* but as place to *be*.[12] These types of streets were identified in Sydney by a range of social surveys conducted in the mid-nineteenth century.[13] It was this sedentary gathering of one class that was set against the emerging recreational activities of another. During this period in Europe, the mercantile and aristocratic classes started to claim city spaces for carriage riding, promenading and games like croquet and pall mall.[14] These activities could not take place if the streets remained multifunctional.

Streets were no longer places for lingering but were perceived as functional and rational spaces of movement by a new class of professionals concerned with planning in the city. One of the most famous forays into the reorganisation of the social and political life of the city through urban planning was in Paris in the 1850s. This restructuring of the city was famously undertaken by Napolean III's Prefect of the Seine, Baron Haussmann. Paris was iconic of this use of city space, providing a watershed moment in the use urban planning to include new technologies and direct social change. In Paris it wasn't just a case of including parks, which was largely what happened in London and New York, but integrating an axial plan of boulevards, and place promenades that linked up as a system. These boulevards and streets were distinctively planted out with avenues of trees. The tree-lined boulevard became a symbol of the modern city whose architects and engineers provided the capacity for controlling social activity by planning the fabric of the city.[15] At the same time, road and sanitation engineering were introduced into the Paris urban form.

A symmetrical form contained activity, separating vehicular traffic from foot traffic, whilst directing walkers towards the shop fronts and window displays that had started to appear at this time. Haussmann imposed this order over the mediaeval structure of the city. The rhetoric used by Haussmann, and later adapted in places like Chicago and Sydney, revolved around the capacity for 'orderly public architecture to promote harmonious social relations'. Daniel Hess argues: 'If industrialization and unmanaged urban growth were responsible for fragmenting cities, then new civic centers were planned to unite alienated classes and ethnic groups around common civic endeavours and cultural institutions.'[16] These cultural institutions included libraries, parks and museums as places of learning, regulation and surveillance.[17] Uniting in this sense was really about erasing difference, particularly if it was politically threatening. Walter Benjamin argued that Haussmann was enacting a 'strategic beautification'[18] that gave new

meaning to 'a nineteenth century tendency, to enoble technical exigencies with artistic aims'.[19] Beauty and technique combined to serve a political end.

These streets civilised the city in three ways. Firstly the imposition of a street changed the capacity for resistance to governance. What were thought to be locales of political interaction were simply bulldozed and replaced with zones for leisure, consumption and play. Such streets facilitated the traffic of and for commercial life. The wide boulevards of Paris also made it easy for the military to march through the city, straight from barracks to the working classes, and were supposed to be too wide to blockade, although this was proved erroneous by the Paris Commune of 1871. Each of these cases were about providing safe passage – about moving *through*. Secondly the new boulevards included the provision of channel and kerbing, storm water drainage, sewers, gas lines and gaslights.[20] The introduction of these technologies countered and controlled the effects of air-borne and water-borne disease. These innovations responded to the growing need for public health concerns to be incorporated into city planning. Hygiene, although here articulated as a way of providing clean environments, was intrinsically linked to morality and civilised behaviour. Thirdly, through the occupation of these newly created city spaces, the middle classes could both model civilised behaviour and survey inappropriate behaviour. As the new city form opened up the streets to light, both natural and artificial, it also opened them up to surveillance. So while Haussmann spoke of bringing order, changing the aesthetic and making Paris more beautiful, what this additionally meant was the dispersal of working and underclasses that represented a whole range of perceived threats, political, hygienic and moral, to the governance of Napoleon III. The trees that lined the boulevards that Haussmann and his 'landscape architect'[21] Adolphe Alphand included into Paris streetscapes were sentinels for a city form that was taken up in many places in Europe, Africa, the Americas, Asia and Australia.

From the 1890s until the mid 1920s, planting of street trees became a more popular inclusion in urban landscaping in Australia beyond the capital cities. By this time street trees could also be found in urban landscaping in England, France, Holland, and Germany. They spread into colonial life as well – in Spanish Manila, Dutch Batavia, French Pondichéry, British Calcutta and Dutch South Africa. America too saw the rise of street tree planting in the late nineteenth century. Washington's avenues were planted out with pin oaks, lindens and elms in the 1880s.[22] This was not just a European fashion, but one that extended, as Henry Lawrence has shown, to places and cities across the globe.[23] In order to introduce this urban aesthetic into these many global locations, towns and cities needed advocates for urban landscaping and access to stock that could be used to create new streetscapes.

If this geographic distribution of street trees was considered in conjunction with a list of globally located botanic gardens, delineated to some extent by Donal McCraken's *Gardens of Empire,* an interesting pattern emerged.[24] The

botanic gardens, most of which were established in the nineteenth century, were located in most of the same colonial settings that eventually had trees in their streets. This information alone was not enough to suggest a correlation. However, botanic gardens, whether located in Europe, or the colonies, more often than not had nurseries and propagation houses that constituted a portion of the operational functions of the places. Botanic gardens, along with acclimatisation societies, agricultural societies, commercial nurseries and private gardeners all partook in a nineteenth century transfer of exotic plants into colonial Australia. Colonial bureaucracies logically turned to their botanic gardens rather than commercial nurserymen to provide appropriate plants for local use, for the simple pragmatic reason of free supply. Contributing trees for street planting was common task across this network of places.

Wherever there was a nursery that received stock from a myriad of international sources, botanic gardens were also expected to provide plants for local urban landscaping. This was true of outposts such as Rockhampton Botanic Gardens in Queensland[25] or Peitermaritzburg Botanic Gardens in South Africa,[26] just as it was so for the Royal Botanic Gardens, Kew.[27] In Victoria, Roger Spencer has identified the importance of the local botanic gardens in supporting two different phases of street tree planting in Melbourne.[28] In addition to this civic function, botanic gardens were able to exchange seeds and plant stock which could be used in the nurseries under their charge. As colonial institutions, botanic gardens became one of the centres that moved notions of street form and function into the colonies. In New South Wales, this wasn't always a case of dealing with existing city form, as it was in Europe, or India. Instead the settlement of this colonial site was very much in formation. Many of the municipalities and councils of New South Wales were only recently gazetted in the 1880s.

In New South Wales, the *Crown Lands Act 1884* introduced a closer settlement policy with smaller blocks that increased and intensified the population distribution into rural areas. Where pastoralism had dominated the tenure system through the earlier years of settlement, shifts in the global market for wool had slowed economic growth. In addition, immigration to Australia had blossomed through the gold boom. As gold mining dropped off in terms of its capacity to support the new expanded and expanding population, rural tenure began to shift from broad scale pastoralism to smaller, more regulated blocks.[29] This heralded new systems of occupation, organised by small scale agricultural development and the rise of the dairying industry. Heather Goodall points out that for indigenous people their own claims for 'free selection emphasised that now they were in direct competition with white selectors'.[30] Dual occupancy had prevailed through the pastoral era, but the influx of immigrant settlers that arrived with these new systems of farming solidified exclusive, rather than shared environments.

The development of rural industries saw improved infrastructure, rail and road, accompany closer settlement. As rural populations grew, it also saw the

establishment and growth of towns surveyed and dotted across the state. Towns provided a range of hub services for rural industries including banks, stores, and hotels. What they also provided were zones of exclusion for indigenous people, who found by the 1890s that they had no rights of access to many of the facilities that white settlers enjoyed.[31] By the 1890s towns were no longer 'on the map', instead homes, schools, court houses and other buildings, parks, and street life made material the dreams and aspirations of settling New South Wales. A survey of photographs indicates that prior to the 1890s trees were *less* likely to be used in street plantings. Trees often overhung fences and property boundaries giving an impression of belonging to the spatial patterning of the street whilst being contained as part of a garden. After this time, photographic evidence suggests that tree-lined streets became far more prevalent.[32]

AT THE SYDNEY BOTANIC GARDENS

In the same way that the state provided other sorts of infrastructure, it also assisted in the improvement of the urban aesthetic. By 1905, Maiden articulates the distribution of plants for public purposes as 'a matter of state policy'. He says:

> The officers charged with the distribution of the plants endeavor to inflict as little hardship on nursery men as possible, but the policy of the Government is based on the knowledge that in most cases unless the State gave some assistance , trees &c. would not be planted at all.[33]

Such assistance was in the provision of trees. Plants were provided free-of-charge to any public institution that required them. This largely consisted of state operated institutions. The local police station, railway stations, post office and hospitals all received stock from Campbelltown nursery of the Sydney Botanic Gardens. In addition, public schools received consignments of trees. Municipalities and councils make up the remainder of places who received stock. All these sites made up the fundamental bureaucratic presence in towns. If towns were to be hubs for rural development then they required the provision of justice, health and communication centres to service their growing populations. The state, in providing trees, was providing the means by which an aesthetic gloss was applied to these places to make them more civilised.

On the other hand, private places, groups and institutions were excluded from access to this stock. This meant that homeowners could not apply for plants for their gardens, and private firms could not apply for plants to beautify commercial premises. This distinction between the supply to public and private land occupiers had been established in the Sydney Botanic Gardens since 1855 when a Select Committee had reported that 'as a general principle … no seeds and plants shall in future be distributed from the Garden, which are procurable

from private nursery gardens'.[34] This policy, continued through to the 1920s, protected the right of nursery men to maintain a market for their goods. The street provided a boundary between the intervention of the state into sustaining a civilised environment and the rights of commerce and home ownership. Although Maiden fielded regular requests from private individuals for free stock, he was obliged to confine his distribution to the civic sphere.

Procedurally, groups requiring plants could send applications to the botanic gardens. Maiden asked that they include information on soil, climate and the area of land required for planting but they were not able to request particular species of plants. He says: 'Every care is exercized to send a selection of plants suitable to the district, but such plants as palms, camellias, roses, … bulbous and herbaceous plants generally, and seeds cannot be issued.'[35] He even refused to provide lists from which varieties could be selected.[36]

Decisions made about which plants to send rested with the State run nurseries. In this, he attempted to ensure that the control of this distribution was shared between his own nurseries in the botanic gardens, and the State Nursery at Gosford. Propagation was geared towards a mass distribution of plants in August and September, allowing local bodies to plant out in spring. This effort on Maiden's part was complicated by the varied scales of governance pertaining to these places. Both nurseries were answerable to the State, but municipalities and councils were responsible for street planting and the consequent care and maintenance of the resultant trees. This was part of the reason that Maiden provided meticulous detail in a range of publications, newspaper articles and Royal Commission evidence[37] on the process of preparing ground, planting, manuring, making guards, nurturing, pruning and generally caring for the trees that he sent out to these towns. He had no control over the trees after they left his nursery, but believed that if he supplied good clear instructions that councils would have the means, in both stock and information, to green their towns.

Under this system, Maiden avoided sending cold clime trees to their death in arid places like Bourke. This was especially important in a state with such a wide variety of geographic and climatic environments. In response to this, Maiden developed a zonal map of New South Wales to account for these differences in geography. He considered the geology, the types of vegetation cover, the rainfall and the climatic variation and identified five divisions:

> 1) The cold region, consisting of the north and south tablelands – here British trees flourish; (2) the coastal strip; (3) the Northern Rivers, a distinctly sub-tropical belt, forming the north-eastern portion of the State; (4) the Western Slopes and Riverina; (5) the Western Plains. [38]

This knowledge was accumulated from travelling through New South Wales and regularly asking for information from correspondents about the suitability of different trees to different areas. In his first year as director, he sent a circular through his correspondence network, both internal to the government and all

others, requesting advice about the plants that thrived in particular local districts and also requested 'notes on soil, aspect, moisture'.[39] This was specifically so that he could collate the information and use that knowledge to send appropriate trees. He understood that a tree suitable for the town of Cooma at the base of the alpine region would not be suitable to send to Maclean in the coastal river region of northern New South Wales.

One of the ways that he tested the adaptabilty of trees to Australia was to plant and rear them in the Sydney Botanic Gardens site. Singular specimens took pride of place within the landscape created by Maiden and his staff. The traffic in seeds, cuttings, and seedlings across borders meant that Maiden was able to grow a full range of trees from all continents. Such trees were scattered throughout the park-like settings of the lower gardens. This didn't mean that everything that Maiden grew was successful. Some trees grew to maturity, others failed to thrive at all. Maiden translated this adaptability, or lack of it, to information on the suitability of trees to different geographic locations. Of the Indian Cedar *Cedrus deodora* he says: 'A noble tree, native of the mountains of Afghanistan, Baluchistan, and north-west Himalaya. This is the *Cedrus* most generally useful in New South Wales as an avenue or specimen tree'.[40] While on the other hand, of the plane tree, used extensively in Europe and America, he said it 'is hungry for soil (and) is a waste of time and money'.[41] Such testing gave Maiden and H V Jackson, the superintendent at Gosford, the opportunity to direct with authority, but not necessarily control, the look and function of street spaces across New South Wales.[42]

It was the adaptability of some species that made them standard bearers for this trend. In other locations, trees had been successfully relocated to provide stock for street tree planting. It was the adaptability of the pin oak *Quercus palustris* in two different continents that made it a valuable resource for consideration in Australia. Maiden wrote of it:

> Originally described in Germany from a cultivated specimen. It has been for over a century an inhabitant of the parks of Europe, where it often grows vigorously and attains a large size. "Although less commonly planted into its native land, its symmetrical habit and the beauty of its summer and autumn foliage make is always a distinct and desirable ornamental tree, and no other oak is better suited to shade the highways and parks of the Northern States" (Sargeant). Meehan singles out this oak as particularly adapted for side-walk (pavement) planting in cities, since it seems to thrive under the adverse conditions usually found in such places.[43]

Maiden showed how it has thrived both in a native habitat in North America and in a new location in Europe. He also demonstrates that the tree was brought into the city, and into parks in Europe, but also naturalised as a city tree in both parks and streets in America.

A TRANSNATIONAL FORM FOR A LOCAL FUNCTION

For trees to work in the spatial patterning of the street, it was a particular form that took precedence over factors such as indigeneity, or the deciduous nature of a tree. This meant that neither indigenous nor exotic trees were preferred, but instead Maiden matched the appropriate transnational stock with the intended geographical locations. The access to nursery stock enabled Maiden and the Sydney Botanic Gardens to grow the transnational stock of plants that moved into streets across New South Wales. So what was this form, this image? It relied on three interconnected aspects: the capacity for shade, the density of the canopy and a uniform shape. The importance here lay in the capacity for movement. When the street tree trend was taken up in various places across the globe, it was not the plane tree of Paris that moved, but an expectation of functional aesthetic form. This is why different trees are found in different locations and why they are so familiar and recognisable in each place.

They provided shade, an ameliorative to the heat and humidity found in Australia. Street trees were predominantly referred to as shade trees by Maiden when he publicly discussed this matter.[44] This indicated a particular function in a hot climate, where settlers needed protection from the heat of the summer sun. Unlike Europe, where the deciduous tree was coveted for its capacity to allow winter sun to warm the chill of the streets, in Australia, shade was a local requirement all the year around. In the colder parts of New South Wales, it was less problematic to include deciduous trees. In this way the cold climate trees did have a place and were grown in the nurseries of the Sydney Botanic Gardens.

At this time, there was much debate in Australia as to the effects of the hot climate on morality and intellect of white men. Here race was inexorably bound up with the climate. In the cold regions of the world, so this theory goes, white men had developed sharper skills through response to a hostile cold climate. Key attributes such as intellect, morality and initiative eventually became the heritable qualities of the civilised. In the tropical climates, where food was in abundance and life could be lived at a different sort of pace, the opposite was true. The heritable qualities found in relation to hot climates were intellectual stagnancy and moral decline.[45] Coloured people in Australia, whether indigenous, Indian, Pacific Islanders, Chinese or Asiatic were categorised according to this theory. Where the climate itself could not be changed, white settlers adapted architecture and landscaping to ease the steamy humidity, or the dry heat that was found in New South Wales. Shady trees created the conditions in which the bustling activities of town could be conducted in optimum comfort protecting the civilised.

They were also thought of as a means of counteracting the unsavoury air-born qualities of the street environs. Industry pumped copious amounts of smog and smoke into the air in cities. Trees were thought to provide a way of cleansing this smoggy atmosphere. Trees could breathe into city air and green life was referred

to as the lungs of the city. In country towns, rather than industrial smog, it was the dust from unsealed roads that contribute to unhealthy air. By planting trees alongside the streets, the soil was stabilised and streets were thought less likely to add to the dust problems in the dryer parts of the New South Wales. While these elements were very important justifications for planting trees, it was the shape or outline that needed to be cultivated in the street tree form.

A good street tree carried the same shape as those in Paris, Washington, Bangalore and Melbourne. A long trunk was preferred such that young boys were discouraged from climbing. A long trunk also allowed for city amenities, such as street lighting or verandah roofs. Trees were trained to attain this length in their early shoots and those that naturally attained such trunks became popular additions to nursery stock. What then became the lowest branches spread dramatically from the trunk and the head of the tree formed a neat 'ball'. Pines, widely used in ocean promenades in Australia, are a variation on this theme. They also have straight, single trunks, with wide spread on the first branches, but instead of creating a balled head, they create a shape more akin to a cone. Unless trained, pines shoot branches at ground level, so need the care of gardeners to conform to this type of shape. The optimum tree would be densely covered. Horticulturalists call this shape umbrageous, which indicates the capacity of a tree to cast shade and provide coolness.

Figs and camphour laurels, both highly regarded by Maiden, were living trees that could be readily imposed into this ideal outline. Most indigenous trees don't conform: neither the spindly canopy of the eucalypt nor the dense shrub of most wattles was favoured for this use. One of the trees regularly distributed from the state nurseries was the Brazilian peppertree, *Schinus molle*.[46] Some 2,650 trees were distributed from Gosford in 1902 for example.[47] Whilst botanising at Hill Top near Sydney in 1896, Maiden notes that *Acacia elata* was described by his friend as the 'pepper-tree wattle (after *Schinus molle*), which gives an excellent idea of its foliage'.[48] This was not a scientific classification, but an attempt to subsume transnational difference into a template that essentialised form and function over other differences. Maiden readily transposes the Brazilian peppertree and the pepper-tree wattle, not because they were botanically or geographically related, but because their form shape, size and denseness of foliage were *aesthetically similar.*

In Maiden's lobbying for the planting of street trees in the *Sydney Morning Herald* it is this imagined aesthetic ideal form that he advocated. Uniformity in their spacing on the street absorbs his attention. Some trees need to be placed 10 feet apart, others 20 or 25 feet; advice only an expert could give. He even advocated the spacing of 100 feet for the large Moreton Bay fig *Ficus macraphylla*.[49] This ensured that shade was evenly dispersed along the street. Each species that was suggested was modified so that the eventual growth patterns would produce a recognisable urban aesthetic. Figs planted too close together crowded the street and those planted too far apart lack the beauty of the interlac-

ing of branches, instead offering a broken line. The planting of different species along a single avenue was consistently condemned by Maiden, and other internationally placed writers. Such difference spoiled the repetitive patterning of the ideal. Although the introduction of trees into urban landscapes heralds a natural look for the city, in fact this image was a cultivated one and was never attained without consistent human intervention.

In the early stages of a trees development, gardeners employed for parks kept the trees guarded with an array of devices. Iron palings, temporary timber fencing and occasionally nets created a technological protection for young trees. Regular watering and monitoring of growth ensured that gardeners maintained an interaction with the trees over their lifetime. But the most important job of the gardener was pruning. A tree had to be guided into this ideal image. Lower branches were constantly removed and a single leader was forced to a height of ten to twelve feet – this was preferred over a trunk that split and created an uneven structure for city streets.[50] Pruning also helped the trees to function in relation to other street technologies. They had to create a ceiling high enough for carriages and other transport to move beneath. In an ideal arrangement the street tree worked in tandem with artificial lighting of the street. Pruning a large street tree was no small job and could take a full day for a group of gardeners. In 1906 Botanic Gardens staff removed 'six dray loads'[51] of branches from a single tree in order to maintain a 're-formed, symmetrical and well-balanced head'.[52] As such the symmetry of the tree took precedence in forming an ideal shape. In his publications Maiden juxtaposed discussion of the desirability of particular species for street or ornamental planting with photographs that reinforced the symmetrical, umbrageous, uniform image of the transnational street tree. He used photographic shots to accompany the descriptions of *Ficus benjamina*, *Ficus macrophylla*, *Populus alba*, *Populus nigra*, *Quercus virginiana* and *Ulmus campestris* in his publications about forestry in Australia. All of these species, exotic and indigenous, were popular inclusions in plant distributions from the Sydney Botanic Gardens. This shape was preferred across the globe and can be found as readily in colonial Asia as it was in Paris, Washington or London.

This meant that whether a tree was indigenous to a region was a somewhat irrelevant feature of street trees, no matter where they were located. In London and Paris the plane trees, *Plantanus orientalis,* was one of the species on the streets. This tree, indigenous to Persia, according to American landscape architect Andrew Downing, was naturalised in both the European and American continents by the nineteenth century.[53] On the other hand, in Japan, the indigenous conifer *Pinus massoniana* was used along the highways of the *Wumi Matsu,* with the traveller Andrew Murray suggesting that they 'serve throughout all the Empire for marks along the road'.[54] In India, on the other hand, the indigenous fig *Ficus infectoria* was found with imported South American jacarandas (*Jacaranda mimosifolia*) in New Delhi.[55] In New South Wales by the 1920s Moreton Bay figs from Queensland, oaks from Europe and Britain, pines from America, figs

from India, peppertrees and jacarandas from Brazil, and camphour laurels from China all took root in places like Strathfield, Grafton, Bungendoore, and Quirindi. At a practical level, there was no importance placed upon the distinction of native and exotic. The transnational movement and use of trees allowed for a range of trees to be adapted to this ideal.

TRANSNATIONAL NATION-BUILDERS

Street trees were an addition to street life and have the effect of overlaying the cadastral grid used in the earlier surveys and formation of towns. The trees repeat and deepen the visual line of the street and thicken the layers of settlement. Trees softened the harsh lines of the built environment. They traced the lines that were already there in the grid pattern, naturalising settlement through an appropriation and remaking of nature. This did not mean that towns were meant to blend into their indigenous surroundings, on the contrary this was very much a constructed vision – the trees were meant to blend with the built environment. Maiden acknowledged that local indigenous trees would aptly respond to the local climate and geography, but it was the imagined aesthetic of a tree-lined streetscape that took precedence, not whether a tree was exotic or native.

The planting of street trees was almost always done after the townships had been established and indicated permanence to the settlement of that particular place in terms of civic pride. Trees that grew to great size, indigenous figs and exotic oaks, could outlive the settlers that planted them. Oaks were often discussed in terms of the permanence they brought to urban landscapes because of their longevity; they indicated that settlers were here to stay.[56] The wattle *Acacia pycnantha* was rejected for this type of cultural work during Maiden's tenure, even as it was being taken up as a national symbol between 1890 and 1914. Wattles, Maiden argued, were 'unsuited to street planting, as they mature too quickly'.[57] With a street life that he estimated at five years, this simply meant unnecessary work for municipal authorities. Longevity was measured against the impermanence of migratory and transient built environments. In the formulations of urban planning such transience could be applied to the underclasses of European cities just as easily as it could be to the mobile indigenous people of Australia. Trees added to the sense of civic stability associated with enduring settlement.

The European Valonia oak was one example of a tree that could readily be used because it represented both an economic and aesthetic contribution to settling. Successful naturalisation of citizens was marked by a successful uptake of economic activity and Valonia represented this dual capacity. Maiden said 'It is a tree that should be very widely tested in this Colony, for it is an ornamental shade tree, as well as one of the principal tan yielders of the world.'[58] In 1899, Maiden sent the Oak to 29 locations throughout the State.[59] Trees naturalised

nation-making, they were 'bought-in' as nation-builders. They could at once be demarcated as exotic or indigenous, *and* transnational. Difference was just fine, so long as it worked toward a practice of naturalising settlement and not against it.[60]

The introduction of trees into the street was spatio-cultural reinforcement of the politico-cultural ideal. Maiden, ever the triumphant nationalist, argued at one Royal Commission that 'solving municipal problems becomes a possible national function'.[61] Just like the trees that were made into a particular shape, so too the Australian-ness was about conforming to a national model. One could be from elsewhere, but nation-building encouraged a sense of belonging that made them all Australians. This was a matter of conforming to an idealised image of Australian-ness. The White Australia policy of immigration introduced in 1901 constructed this national identity along the lines of whiteness. Australians hailed from England, Ireland, Scotland and Wales, but could also claim nationality if they were from America or South Africa. Migrant groups also came from Scandinavian and German speaking countries and became Australians. As shown by sociologist Ghassan Hage, this whiteness was never a stable or unified category, but depended largely on naturalising specific groups of people from elsewhere to an Australian ideal.[62]

These same ideas are reflected in the naturalising of trees from a myriad of origins for a uniform, linear, aesthetically recognisable street form. The elms planted in Kendall Avenue Bathurst [63] could be identified as North American, but they became Australian in their relocation. These trees became a source of civic pride. In Grafton, on the Clarence River in Northern New South Wales, journalist Leslie Curnow waxed lyrical about the 'trees that line its wonderful streets'. He wrote of the town 'Many inland towns have fine trees, Bathurst, for instance, but Grafton ought to be world-famous in this respect.'[64] When a plant was categorised as indigenous or exotic it was marked by its location in relation to original habitats. However, plants can also be naturalised and it was this process which took precedence over indigeneity. This meant that if trees adapted to a habitat over an extended period of time, plants were acknowledged as a part of that habitat. In Grafton the trees that Curnow saw, were the South American jacaranda, *Jacaranda mimosifolia,* the Australian silky oak, *Grevillea robusta* and the American plane tree, *Platanus sp*., but he saw them for the contribution they made to making Grafton a special Australian city. In the same way that settlers who were indigenous to many different places of the world were becoming naturalised as a uniform part of the Australian nation, street trees from elsewhere patterned belonging in this same way. This process of erasing difference in an urban aesthetic occurred at the same time that erasing of difference was being undertaken as part of white Australian nationalism in other arenas.

In the national forum, only certain groups could make a claim to the national ideal. Indigenous people and certain migrant groups, such as the Pacific Islanders and the Chinese, could not claim belonging in a nation that was federated under

the standard of White Australia. Those that did not belong could be uprooted and cast out, or left at the margins, and this too was reflected in the selection of species acceptable for street planting. In Tocumwal, imported figs were used as street trees, but at the outskirts of town the unruly local gums were left as fringe dwellers, because figs conformed to this ideal.[65] This didn't mean that indigenous trees had no place in these formations. On the contrary Moreton Bay figs *Ficus macrophylla* and Port Jackson figs *Ficus rubiginosa* were sent to many coastal towns, while sugar gums *Eucalyptus cladocalyx* were sent to places like Carrathool Shire Council in the riverina district of south western New South Wales because they were thought to be drought resistant.[66] So if the indigenous *could* conform to this ideal then all the better.

Street tree planting in New South Wales did not start with Maiden and the Sydney Botanic Gardens, nor did it end when Maiden's successor George Darnell-Smith divested the institution of the Campbelltown State Nursery in 1930. Through a particular combination of the director, knowledge, propagation and distribution street trees both entered the Sydney Botanic Gardens and then left again. This wasn't simply that physical stock of seeds and seedling came into Sydney, but a transnational idea that travelled with narratives as well. During the nineteenth century urban centres across the globe included street trees as urban technologies, which added shade and beauty to their streets. Such urban landscaping relies on the repetition of the outline of the street tree as an idea, but the Sydney Botanic Gardens was able to effect a localising of this idea. By combining and recombining plants, plant material and plant information, Maiden was able to take a key position in influencing the way streets were greened. He understood what the form and function that trees were to provide. He also understood which trees grew well in Australia and actively built a map of regional variation in geography and climate that was specifically related to the introduction of plants for urban landscaping. The final ingredient in the capacity to change was Maiden's access to the correct plants for appropriate towns across New South Wales. He had grafted an idea that was in motion on to trees that were in motion, and transplanted them to New South Wales towns. Settling was effected through this use of trees to reinforce spatial claims on urban space in Australia.

NOTES

[1] Ian Tyrrell, *Transnational Nation: United States History in Global Perspective since 1789* (New York: Palgrave Macmillan, 2007), 3.

[2] See Lionel Gilbert, *The Little Giant: The Life and Work of Joseph Henry Maiden 1859–1925* (Sydney: Kardoorair Press in Association with Royal Botanic Gardens, Sydney, 2001).

[3] Ibid., 67.

[4] J.H. Maiden 1911 'Report of the Botanic Gardens and Domains, &c. for Year 1910' NSW Votes and Proceedings 1 December 1911, 3-4.

[5] John Ednie Brown, 'Aboricultural Lecture Issued in Connection with Arbor Day', in *Catalogue of Trees at Gosford Nursery* (Sydney: 1891).

[6] Letter from Maiden to William Thistleton Dyer, Kew, May 1896, Australian Joint Copying Project, Royal Botanic Gardens, Kew, M743, 180.

[7] Steven Vertovec, 'Conceiving and Researching Transnationalism', *Ethnic and Racial Studies* 22 (1999): 447.

[8] Henry Lawrence, *City Trees: A Historical Geography from the Renaissance through to the Nineteenth Century* (Charlottesville and London: University of Virginia Press, 2006), Lewis Mumford, *The City in History: Its Origins, Its Transformations and Its Prospects* (San Diego: Harvest Book Harcourt, 1961).

[9] Helen Armstrong, '18th Century Influences on Early Street Planting in New South Wales', *Landscape Australia* 3 (1985): xxi.

[10] Paul Ashton, *The Accidental City: Planning Sydney since 1788*, Sydney History Series. (Sydney: Hale & Iremonger, 1995), 10. See also Shirley Fitzgerald and Sydney (N.S.W.). Council., *Sydney: A Story of a City* (Sydney: City of Sydney, 1999).

[11] Lynette Finch, 'On the Streets: Working Class Youth Culture in the Nineteenth Century', in *Youth Subcultures : Theory, History and the Australian Experience*, ed. R. D. White (Hobart: National Clearinghouse for Youth Studies, 1993), Jodi Frawley, '"Haunts of the Street Bully": Social Reform and the Queensland Children's Playground Movement', *History of Education Review* 29 (2000).

[12] Asa Briggs, *Victorian Cities* (Harmondsworth: Penguin, 1968), Graeme Davison, David Dunstan, and Chris McConville, *The Outcasts of Melbourne : Essays in Social History* (Sydney: Allen & Unwin, 1985), James Donald, *Imagining the Modern City* (London: The Athlone Press, 1999), Lynette Finch, *The Classing Gaze: Sexuality, Class and Surveillance* (St. Leonards, NSW, Australia: Allen & Unwin, 1993), Alan Mayne, 'Contingency: Municipal Slum Clearance in Sydney, 1879–1900', in *The Imagined Slum: Newspaper Representation in Three Cities, 1870–1914* (Leicester: Leicester University Press, 1993).

[13] See for example, W.S. Jevons, *A Social Survey of Australian Cities – Remarks Upon a Social Map of Sydney, 1852* and Report of the Select Committee to Enquire on the Condition of the Working Classes of the Metropolis, New South Wales Parliamentary Papers Legislaive Assembly, 1859–60.

[14] Henry Lawrence, 'Origins of the Tree-Lined Boulevard', *The Geographical Review* 78 (1988): 360–63, Henry Lawrence, *City Trees: A Historical Geography from the Renaissance through to the Nineteenth Century* (Charlottesville and London: University of Virginia Press, 2006).

[15] Allan B. Jacobs, Elizabeth Macdonald and Yodan Rofé, *The Boulevard Book: History, Evolution, Design of Multiway Boulevards* (Cambridge, Mass.: MIT Press, 2002), W Robinson, *The Parks and Gardens of Paris Considered in Relation to the Wants of Other Cities and of Private and Public Gardens* (London: McMillan and Co., 1878).

[16] Daniel Baldwin Hess, 'Transportation Beautiful: Did the City Beautiful Movement Improve Urban Transportation?', *Journal of Urban History* 32 (2006): 517.

[17] Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995), Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan (London: Penguin Books, 1977), Ian Hoskins, *Cultivating the Citizen: Cultural Politics in the Parks and Gardens of Sydney, 1880-1930* (1996), Karsten Schubert, 'Paris and London 1760–1870', in *The Curator's Egg: The Evolution of the Museum Concept from the Revolution to the Present Day* (London: One-Off Press, 2000).

[18] Walter Benjamin, *Charles Baudelaire: A Lyric Poet in the Era of High Capitalism*, trans. Harry Zohn (London: NLB, 1973), 175.

[19] Ibid., 173.

[20] Donald, *Imagining the Modern City*, 46.

[21] This is not a term that would have been used at this time – the 'first' landscape architects, claimed by urban historians, are American – Andrew Downing, Calvert Vaux and most importantly Frederick Law Olmstead.

[22] William Solotaroff, *Shade-Trees in Towns and Cities: Their Selection, Planting and Care as Applied to the Art of Street Decorations; Their Diseases and Remedies; Their Municipal Control and Supervision* (New York: John Wiley and Sons, 1911).

[23] Lawrence, *City Trees: A Historical Geography from the Renaissance through to the Nineteenth Century*.

[24] Donald McCracken, *Gardens of Empire: Botanical Institutions of the Victorian British Empire* (London: Leicester University Press, 1997).

[25] Jodi Frawley, 'Rockhampton Botanic Gardens History', (Rockhampton: Rockhampton City Council, 1999).

[26] Donald P. McCracken and Eileen McCracken, *The Way to Kirstenbosch* (Pretoria: National Botanic Gardens, 1988), 78–84.

[27] Ray Desmond, *Kew: The History of the Royal Botanic Gardens* (London: Harvill in association with the Royal Botanic Gardens Kew, 1998), 181–82.

[28] Roger Spencer, 'Fashions in Street Tree Planting in Victoria', *Landscape Australia* 4 (1986).

[29] See Richard Waterhouse, 'The Yeoman Ideal and Australian Experience, 1860–1960', in *Exploring the British World: Identity, Cultural Production, Institutions* (Melbourne: RMIT Publishing, 2004).

[30] Heather Goodall, *Invasion to Embassy: Land in Aboriginal Politics in New South Wales, 1770–1972* (St. Leonards, N.S.W.: Allen & Unwin in association with Black Books, 1996), 85.

[31] Ibid., 92.

[32] I conducted a survey of approximately 1000 images of 'trees' in the State Library of New South Wales digital photographic library: Picman. While I am unable to wholly attribute this to Maiden or the Botanic Gardens, I hope to show that institutions who provided the stock for planting directed both the idea of street trees and its physical implementation. The Botanic Gardens was one of these places.

[33] J.H. Maiden, 'Forestry: Some Practical Notes on Forestry Suitable for New South Wales, Parts VI to VII', *New South Wales Agricultural Gazette* 15 (1905): 56.

[34] Minutes of Evidence, Select Committee on the Botanic Gardens, 10 August 1855, *Votes & Proceedings New South Wales Legislative Assembly*, 1139.

[35] Maiden, 'Forestry: Some Practical Notes on Forestry Suitable for New South Wales, Parts VI to VII'.

[36] Ibid.

[37] Royal Commission for the Improvement of the City of Sydney and Its Suburbs. Sydney: New South Wales Parliamentary Papers, 1909; Royal Commission on Forestry Minutes of Evidence, *New South Wales Parliamentary Papers* 1908 (1907): 253-65; Joseph Maiden, 'Tree Planting in the City Streets', *Sydney Morning Herald*, 6 May 1905, 6; Joseph Maiden, 'Our Parks: Lighting; Sanitary Matters: Police and Traffic Regulation', *Sydney Morning Herald*, 3 August 1905, 11; Joseph Maiden, 'Our Parks: The Philosophy of Pruning and Eradicating Trees', *Sydney Morning Herald*, 20 January 1906, 8; Joseph Maiden, 'Our Parks: Seats, Fences, Roads and Paths', *Sydney Morning Herald*, 31 March 1906, 8; Joseph Maiden, 'Our Parks: Pavement Gardening, Plantations, Grass.' *Sydney Morning Herald*, 20 January 1906, 8; Joseph Maiden, 'Our Parks: How to Plant and Tend a Tree', *Sydney Morning Herald*, 4 May 1907, 5.

[38] J.H. Maiden, 'Tree Planting for Shade and Ornament in New South Wales, with Especial Reference to Municipal Requirements', in *Forest Flora of New South Wales* (Sydney: 1916), 300.

[39] J.H. Maiden, 'Report on Botanic Gardens and Domains, &C. For the Year 1897', (Sydney: Botanic Gardens, Sydney, 1898), 8.

[40] J.H. Maiden, 'Forestry: Some Practical Notes on Forestry Suitable for New South Wales, Part XVIII', *New South Wales Agricultural Gazette* 17 (1908): 531.

[41] Ibid.: 524.

[42] J.H. Maiden, 'Forestry: Some Practical Notes on Forestry Suitable for New South Wales, Parts VI to VII', 54.

[43] J.H. Maiden, 'Forestry: Some Practical Notes on Forestry Suitable for New South Wales, Part XVVIII, *New South Wales Agricultural Gazette* 19 (1908): 531.

[44] J.H. Maiden, 'Some New South Wales Plants Worth Cultivating for Shade, Ornamental, and Other Purposes', *New South Wales Agricultural Gazette* 8, no. 6 (1896), 'Shade Trees, City Beautification', in *Commonwealth of Australia Parliamentary Debates sixth Parliament First Session Senate and House of Representatives Vol 75 8 October–12 December 1914* (1914).

[45] David Walker, 'Climate, Civilization and Character in Australia, 1880–1940', *Australian Cultural History* 16 (1997).

[46] Many of the scientific names used in this paper have been altered by subsequent taxonomic work. I have used the names as they appear in the documents of the time, and acknowledge that botanists will have disregarded them.

[47] Report for the State Nursery Gosford, Letterbook of the Gosford State Nursery, 1901–1902, SR NSW 3/2283,198.

[48] J.H. Maiden, 'Concerning Hill Top', *Agricultural Gazette of New South Wales* 7, no. 5 (1896): 266.

[49] J.H. Maiden, 'Our Parks. The Philosophy of Pruning and Eradicating Trees', *Sydney Morning Herald* 1906.

[50] J.H. Maiden, 'Forestry: Some Practical Notes on Forestry Suitable for New South Wales, Part V', *New South Wales Agricultural Gazette* 14 (1904): 982.

[51] A dray is a colloquial term referring to a low, heavy cart without sides, used for haulage.

[52] J.H. Maiden, 'Report on Botanic Gardens and Domains, &C. For the Year 1906', (Sydney: Botanic Gardens, Sydney, 1907), 26.

[53] Andrew J Downing, *A Treatise on the Theory and Practice of Landscape Gardening*, 8 ed. (New York: Orange Judd & Co, 1859), 135.

[54] Andrew Murray, *The Pines and Firs of Japan* (London: Bradbury and Evans, 1863), 31.

[55] M.S. Randhawa, *Beautifying Cities of India* (New Delhi: Indian Council of Agricultural Reseach, 1961), 12–17.

[56] J.H. Maiden, 'Forestry: Some Practical Notes on Forestry Suitable for New South Wales', *New South Wales Agricultural Gazette* 19 (1908): 523–6, 'Ornamental and Useful Tree-Planting No. 2', *Journal of Horticulture and Cottage Gardener* (1876): 170–72.

[57] J.H. Maiden, 'Tree Planting for Shade and Ornament in New South Wales, with Especial Reference to Municipal Requirements', 301.

[58] J.H. Maiden, 'The Valonia Oak', *Agricultural Gazette of New South Wales* 10, no. 7 (1899): 617.

[59] Ibid.: 611–17.Valonia Oaks went to the following locations: Sydney, Chatswood, Wharoonga, Picton, Moss Vale, Barbers Creek, Goulburn, Wagga Wagga, Dapto, Ulladulla, Bungendoore, Cooma, Prospect, Mt Druitt, St Marys, Upper Kurrajong, Lawson, Mount Victoira, Mount Wilson, Jenolan Caves, Bathurst, Molong, Stuart Town, Coolabah, Bourke, Quirindi, Walcha, Armidale and Tenterfield.

[60] Ghassan Hage: 'As Michael Billig argues in *Banal Nationalism*, many of our words embody a national deixis which ensures that images of the nation are always 'near the surface of contemporary life'. Ghassan Hage, *White Nation: Fantasies of White Supremacy in a Multicultural Society* (Sydney: Pluto Press, 1998), 38.

[61] Hughes, 'Royal Commission for the Improvement of the City of Sydney and Its Suburbs', 182.

[62] Hage, 'White Nation':15–26

[63] SR NSW, Photo Investigator, 12.932_a012_a012X2449000056.jpg; 12932_a012_a012X2449000059.jpg; 12932_a012_a012X2449000060.jpg.

[64] Leslie Curnow 'The Northern Rivers – The City of Grafton' 27 October 1910, DT in Mitchell Library Newspaper Cuttings FMV/7717 Vol 20: 44–5.

[65] State Library of New South Wales, Picman, At Work and Play, 05988.

[66] SR NSW 8/262.02115.