

THEMATIC STUDY  
OF THE  
Cultural landscape OF Queensland

**Edited by Jeannie Sim**

*Verily, there seems pressing need of a new apostle to go to and fro in the land, preaching everywhere what Ruskin calls the "duty of delight." A love of nature is just as much a matter of cultivation as a love of virtue or of knowledge, or any other desirable mental state, and its attainment must always form an essential part of every right education. That any life should ever be allowed to grow stale, flat, and unprofitable when there is much to learn and enjoy, is one of the mysteries. See to it, brothers and sisters – you dwellers in the quiet homes scattered over the hillsides, through the valleys, and on the broad plains of our country – see to it, that you are not throwing away your birthright.*

Source: Mackay, Angus (1875) The Semi-Tropical Agriculturist and Colonists' Guide. Brisbane: Slater & Co. pg. 1

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*Section 1*

LANDSCAPE HISTORIES

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The writing a history is essentially concerned with writing about truth – what events happened, when, where, what and who was involved – except such a simplistic approach has been found to be fraught with dangers. A review of traditional histories of Queensland reveal several missing components and viewpoints. To redress that situation, the following essays examine typically forgotten or the typically obvious in new ways. The four chapters in this first section deal with these important themes: climate, land, development and some of the marginal groups.

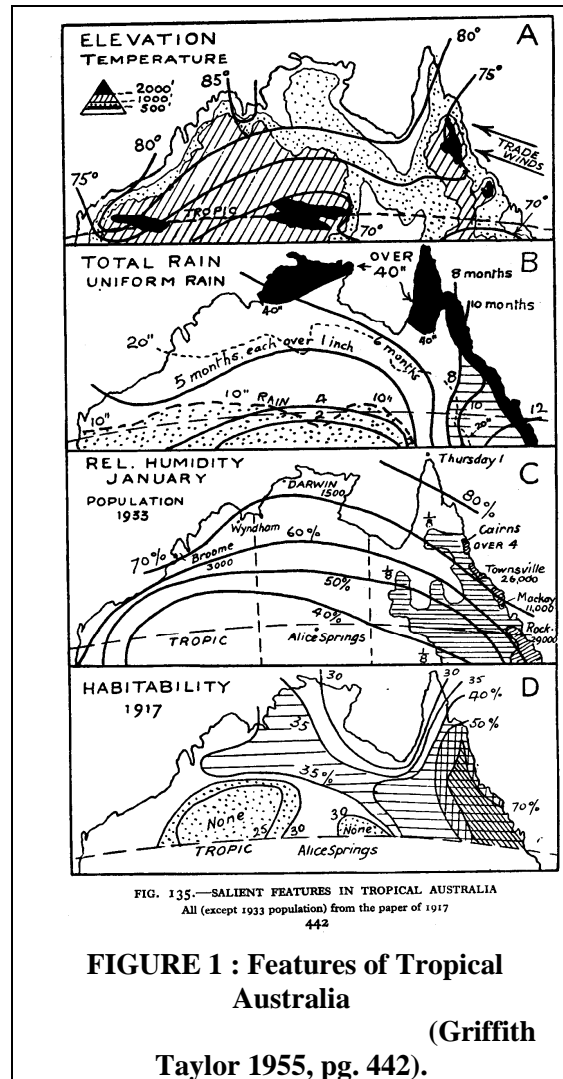
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# 1 CLIMATE

## *living in the tropics*

by Jeannie Sim

There are several topics addressed in this essay.<sup>1</sup> The first three topics describe the background about climate effecting people and the conditions experienced in Queensland (People and their Environment, Getting to Know the Queensland Climate, White People can Live in the Tropics). The other topics support the concept of experimenting with the new possibilities for lifestyle and needs to accommodate the 'new' climate of Queensland by the early settlers (Shade and Sunshine in Tropical Queensland, Climate and Cultivation, Climate, Lifestyle and Shelter, Verandahs, Shady Urban Open Space). While based on considerable original research of the Queensland situation, this theme would benefit from further primary research. However, Figure 1 provides an introduction to the fundamental climatic understanding of the truly tropical regions of Queensland.



### **People and their Environment**

To begin the description of the major historio-geographical theme of climate, a review of some of the theories concerned with the relationship and influence between human beings and environment is presented. One of the most important ideas is **environmental determinism**, however, this essay does not advocate nor test the legitimacy of this geographical theory. Environmental determinism is the "doctrine that human activities are controlled by the

<sup>1</sup> Much of this section is derived from: Sim, Jeannie (1999), "Designed Landscapes in Queensland, 1859-1939: experimentation – adaptation – innovation", unpublished PhD thesis, QUT, Brisbane.

environment."<sup>2</sup> It is mentioned because some of these ideas were raised in the Queensland and Australian literature researched. Some basic description of their theoretical framework is required for introductory and contextual purposes. The veracity or extent of environmental influences on human beings is not the issue here.

Current reference texts on human geography describe a variety of interpretations concerning environmental determinism that have been traced back in time to classical antiquity and the ideas expressed by Hippocrates and Aristotle. Such notions continued through the Renaissance and into the Enlightenment of the 18th century.<sup>3</sup> The human story and nature's influences was given further encouragement with Darwin's theory of evolution in the mid 19th century, and most relevant to this study, were the resultant ideas, expressed by advocates Ellen C. Semple in USA and Griffith Taylor who began as a geographer in Australia. Taylor believed:

... the best economic programme for a country to follow has in large part been decided by Nature, and it is the geographer's duty to interpret this programme. Man is able to accelerate, slow or stop the progress of a country's development. But he should not, if he is wise, depart from the directions as indicated in the natural environment. He is like a traffic-controller in a large city, who alters the *rate* but not the *direction* of progress; and perhaps the phrase 'Stop-and-Go Determinism' expresses succinctly the writer's geographic philosophy.<sup>4</sup>

<sup>2</sup> Livingstone, David (1994), "Environmental Determinism," In Johnston, R.J., *et al.*, The Dictionary of Human Geography, 3rd edition. Oxford: Blackwell. pp. 162-164

<sup>3</sup> Glacken, C.J. (1967), Traces on the Rhodian shore: nature and culture in western thought from ancient times to the end of the eighteenth century. Berkeley, CA: Uni. of California Press. This work is cited for its thorough coverage of environmental determinism through history in Livingstone's Dictionary of Human Geography entry noted above.

<sup>4</sup> Taylor, Griffith (1955), Australia: a study of warm environments and their effect on British settlement. 6th edition (1950) reprint with corrections. London: Methuen / New York: E.P. Dutton. pg. 479

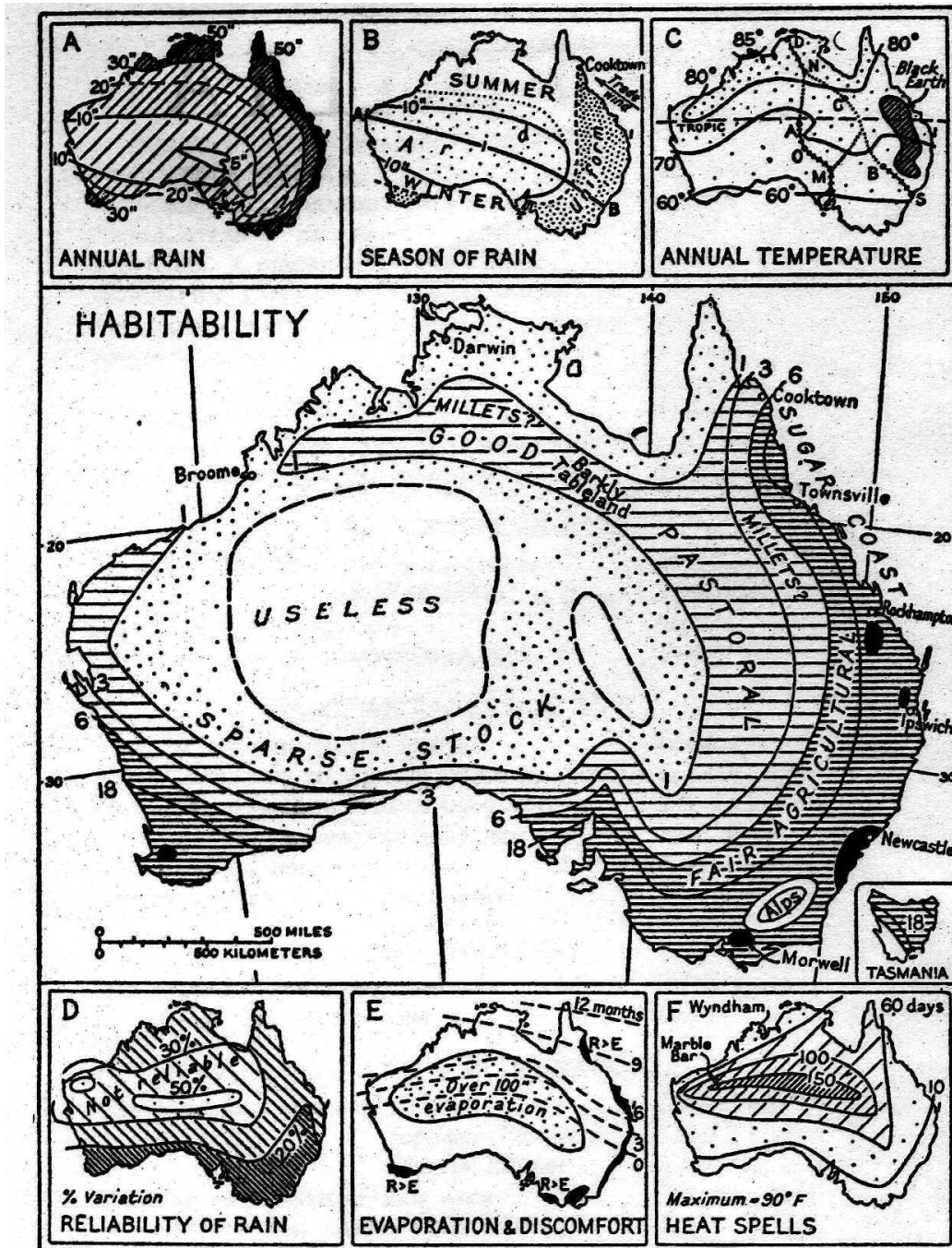
Of particular relevance here, are the descriptions of settlement possibilities (and probabilities) that Griffith Taylor prepared for Australia. Figure 2 shows Taylor's conjectural 'crescent of settlement' around the south-east coastal areas of Queensland, NSW, Victoria and South Australia, with separate patches in Tasmania and Western Australia. This diagram reveals something of the influence of tropical climate upon settlement and cultivation areas. The accuracy of these settlement predictions are in evidence today.

It is important to recognise that theories and concepts about the interrelationship of environment, human settlement, and the development and management of land are at the interface of several disciplines, notably geography, history, and anthropology, and at the heart of cultural landscape studies.

Other considerations of the environment and human activities were found in the tropical regional literature that directly related to the Queensland situation. Victor Savage found two main outlooks regarding the tropical climate in his study of Southeast Asia: "One school of thought defined tropical climate, especially the suffocating and enervating tropical heat, in malignant terms. Another body of thought pictured man in a soft, benign tropical climate devoid of the rigours of extreme hot and cold."<sup>5</sup> These early European views are both negative and are among the ideas that became the formalised theory of environmental determinism. Savage cited Ellsworth Huntington, Ellen Churchill Semple and Griffith Taylor as geographers who "popularized the relationship between climate and civilization."<sup>6</sup>

<sup>5</sup> Savage, Victor R. (1984), Western Impressions of Nature and Landscape in Southeast Asia. Singapore: Singapore University Press. pg. 170

<sup>6</sup> Savage, V.R. (1984), pg. 183 & endnotes pg. 401



FUTURE SETTLEMENT OF AUSTRALIA AS DETERMINED BY THE ENVIRONMENT

showing approximate lines of equal population (to the square mile). Black areas are the chief coal-fields. *Small maps:* A, annual rainfall; B seasonal rains (the line AB separates summer from winter rains); C, temperature (the suggested railway routes are indicated from Alice Springs [A] or Bourke [B] to Newcastle Waters [N], Marree [M]); D, rain reliability; E, evaporation and discomfort; F, regions experiencing long periods of heat (days over 90° F.). For discussion, see p. 475

(From 'Limits of Land Settlement')

FIGURE 2 : Predicted 'Crescent of Settlement' in Australia c.1917 (Griffith Taylor 1955, Frontispiece)

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## *Investigating Queensland's Cultural Landscapes: CONTESTED TERRAINS Series Report 2:*

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Savage pointed out that the issue for these early writers was essentially, "could the White Man live in the tropics? There was indeed much debate by laymen and academics, especially geographers, over this question in the late nineteenth century and [the] first forty years of this century."<sup>7</sup> Savage reviewed numerous contemporary writers and their discussion about the tropics and after all his investigations he concluded:

What had not been proven, however, and still loomed in the Western consciousness was the extent of the albeit subtle influence of tropical climate on the human mentality, behaviour and physical constitution. The enervating effect of the tropical climate on physical and mental processes was certainly difficult to prove, but the experience was widespread.<sup>8</sup>

This is a key matter for both historians and scientists investigating climate. The amount of comment in the early literature about the effects of heat, humidity and other factors, indicates an area worth further investigation.

### **Getting to Know the Queensland Climate**

Attitudes to climate are bound up with scientific knowledge and actual experience, as well as culturally-based perceptions and misconceptions. To properly understand all these issues, a history of climatology in Australia is needed, one related to the historical development of the field of geography (both physical and cultural aspects). There appears to be no study in which an overall understanding of this climate-horticulture relationship, especially for the Australian context. While important in understanding and interpreting the cultural landscape, this study has not been undertaken here. However, some aspects of climate and how it affected agriculture, horticulture and lifestyle were examined. Searching for clear descriptions by local residents and scientists about Queensland

climates through time, revealed a widely divergent awareness of its characteristics and limitations for agri-horticultural purposes. The hearsay and unsubstantiated ideas expressed in the local literature, were sometimes presented as facts, not opinions. It is for others to comment on the scientific veracity of climatic descriptions. The relevant issue here is the relationship between cases of 'facts' being misrepresented and any confusions or errors in responses evidenced by settlement, development and the cultural landscape. Occasionally, these results were uncovered in the research and are presented in the following review of the topic of climate as found in the early garden and Queensland literature. Meteorologists may consider that they understand the climates of Australia, but research reveals that climate is (and was) a source of misunderstanding for ordinary farmers and gardeners.

Climate had been used as a tool for encouraging colonisation from the early days. Archibald Meston's promotional writings of Queensland, encouraged settlement as much as recording geographical history. In the late 1890s he wrote of the local climate in glowing terms, quoting an early source of great influence:

Dr Lang, in his "Queensland" of 1860 wrote – "there is the utmost difference imaginable between the rigours of a Canadian winter of six or seven months' duration and the Paradisiacal climate of Queensland, in which the productions of both the temperate and torrid zones grow harmoniously together, and the process of vegetation goes on uninterruptedly during the whole year."<sup>9</sup>

However, the history of seeking an understanding of local climates in Queensland has been full of errors. One example is this extract by a local agricultural writer, Angus Mackay, in his 1875

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<sup>7</sup> Savage, V.R. (1984), pg. 183

<sup>8</sup> Savage, V.R. (1984), pg. 185

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<sup>9</sup> Meston, Archibald (1895), *Geographic History of Queensland*. Brisbane: Government Printer pg. 71. Dr. Lang encouraged many new settlers from Britain to come to Australia in the mid-19th century.

publication. While deriding such errors in others, he perpetuated a few of his own in his advice about seasons and climate:

Australia, to those who know little or nothing of the country, is a land of perpetual summer – subject to terrific floods and excessive droughts ; the latter, as a whole, prevailing. This belief is not confined to persons in other countries, whose knowledge of Australia has been acquired from books, of the class which state that flowers have no odors [sic] in Australia, and birds do not sing here. Colonists, old colonists amongst them, have different opinions of the country and the climate that differ but slightly from the foregoing ... Take Melbourne, Adelaide, Sydney, Brisbane, the whole year round, and the climate is wonderfully alike [sic]; nor does it change in anything like the degree the situation of these places would warrant us in believing. As we travel northwards to Maryborough, Rockhampton, Mackay, Bowen, Townsville, Cardwell, the change is just a little more decided. There is a little more winter in the southern sections ; a little more summer in the northern ...<sup>10</sup>

Stating that Brisbane, Melbourne, etc. have similar climates is most startling. Perhaps the small distinctions between the Queensland towns that Mackay described can be partially understood, although the implications of a little more summer or winter is quite relevant to the constraints and opportunities of gardening and agriculture. These allegations of similar climate were, perhaps, based on the factor of temperature, as no distinction between varying amounts or the season of rainfall or humidity are considered. However, some recognition of the climatic difference inland is noted by Mackay,

But leaving the coast, and travelling inland, the common opinion that perpetual summer prevails is soon dissipated; and very often in a manner far from agreeable... inland... the winter season is very decided. Frosts prevail in these inland districts all over the country; even to the centre of Australia. In Queensland, the climate inland more than 100 miles

from the sea can be considered semi-tropical, in so far as the summer months are concerned. The cold of winter is very decided, and summer vegetation dies beyond doubt.<sup>11</sup>

The seasonal variation of very hot summers and freezing winters are accurately described by Mackay. These climatic factors combined with frequent droughts in these regions presented cultivation problems beyond the experience of many, if not all newcomers. 'Semi-tropical' was a term that arose in many references from the 19th century and early 20th century, and equates to the modern term of 'subtropical.'

The reversal of seasons in the southern hemisphere was stressed for newcomers reading the gardening guides in Pugh's Almanac. Between 1865 and 1884, Walter Hill made numerous contributions to this semi-annual publication with his 'Gardening Calendar.' His gardening advice (which included some agricultural topics) was arranged under the twelve months of the year, each with this sort of heading reminder: "January in Queensland corresponds to July in Great Britain" or "June in Queensland corresponds to December in Great Britain."<sup>12</sup> These same caveats were incorporated into all the issues of Pugh's Almanac, at least up to 1884.

Several early gardening writers make note of climate variability across Queensland and began to classify the whole area into regions. Some were more correct than others in their observations and advice. Mr. Hill's final contribution to Pugh's Almanac in 1884 ("assisted by Mr. James Pink and J.G. Cribb, Esq."), included recommended plants arranged according to three climatic divisions: "cooler climates", "middle and southern districts, as far north as Bowen" and the "northern portion of Queensland."<sup>13</sup> The western and northern inland areas were not really represented in this advice. Confusingly, the accompanying gardening calendar made no reference to these climatic

<sup>10</sup> Mackay, Angus (1875), The Semi-Tropical Agriculturist and Colonists' Guide. Brisbane: Slater & Co. pg. 5

<sup>11</sup> Mackay, Angus (1875), pg. 5

<sup>12</sup> Pugh's Almanac, 1867, pp. 28 & 33

<sup>13</sup> Pugh's Almanac, 1884, pp. 33-35

differences in describing horticultural requirements or limitations. The calendar was written for a generalised climate that best represents Brisbane. Around the same point in time, Hockings alluded to climatic variations over Queensland thus: concentrating on the coastlands south of Rockhampton, while the colder districts and more tropical districts "will adopt such modifications as comparative lateness or earliness of seasons, difference in temperature, variations in extent of local rainfall, etc., may prove necessary."<sup>14</sup> No mention is really made of western inland areas apart from those in the south-east. Arguably, newcomers were not aided greatly by this sort of generalisation about climate, particularly when the subtleties of difference were not explained.

One authoritative (if generalised) set of sources describing the Australian climate or climates was Griffith Taylor's published works between the 1910s and the 1950s. Taylor divided Australia into '**natural regions**', (Figure 3) which were a combination of topographical boundaries and climatic types.

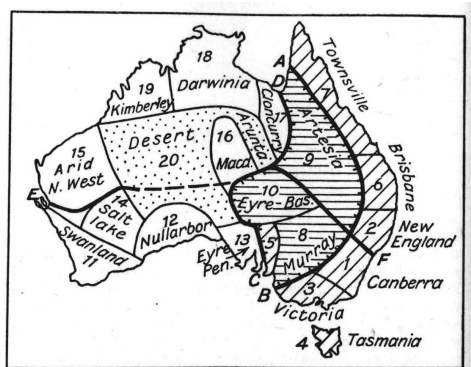


FIG. 45.—A MAP ILLUSTRATING THE DIVISION OF AUSTRALIA INTO TWENTY 'NATURAL REGIONS'

AB and CD are topographic boundaries; EF is a rainfall boundary. 's' is the Flinders Division, and '16' the Macdonnells. (See the endpaper map for details)

**FIGURE 3 : Natural Regions of Australia (Taylor 1955, pg. 44)**

Queensland is mostly represented by four of these regions: "(6) Brisbane," "(7) Townsville," "(9) Artesia," and "17. Cloncurry". 'Artesia' is the name Taylor used to describe the eastern inland areas of Australia which are mostly in Queensland. The mixture of both highlands and lowlands, inlands and coastal areas, and their related climates, are not well described in this classification either. They are generic and would have little value in helping gardeners or farmers understand their immediate, regional environment. However, this was the 'accepted' view of Australia for the first half of the 20th century. These classifications seem oversimplified and related less to climatic/topographical factors than the occasional convenient settlement or place name, especially when compared to the elaborate biogeographical regions devised in the 1980s.<sup>15</sup>

Taylor detailed descriptions of tropical Australia are more reliable. He provided views on environmental conditions affecting settlement in tropical Australia, which he said covered parts of Queensland, the Northern Territory and Western Australia "and constitutes 38.6 percent of the area of the Commonwealth."<sup>16</sup> As early as 1917, Taylor had described the features of the area north of the Tropic of Capricorn and he repeated these illustrations in numerous subsequent publications. These maps are included together here as Figure 1, Features of Tropical Australia.

### White People can live in the Tropics

Griffith Taylor, with his scientific geographical framework behind him, believed that it was the climatic comfort factor and economic factors that had kept (Anglo-Celtic) people out of northern Australia. However, there was a perception

<sup>14</sup> Hockings, Albert John (1888), *Queensland Garden Manual: containing concise directions for the cultivation of the Garden, Orchard, and Farm in Queensland. To which have been added sericulture (Silkworm), and the cultivation of Sugar, Coffee, Tea, and numerous other Tropical Plants and Fruit Trees especially adapted to the Climate and soil of Queensland.* Third Edition. Brisbane: Printed for the Author by Muir & Morcom. pg. 200

<sup>15</sup> Refer Fig. 5.13.1 Terrestrial biogeographic regions and national parks, In Wadley, David and W. Bill King (1993), *Reef, Range and Red Dust: The Adventure Atlas of Queensland.* Brisbane: Dept of Lands, Queensland Government, pg. 94.

<sup>16</sup> Taylor, Griffith (1955), *Australia.* 6th edition. London: Methuen / NY: E.P. Dutton. pg. 440

by many educated and less educated people that tropical climates were dangerous and unsuitable for 'white men'. This was a recurring theme in the early 20<sup>th</sup> century Australia, and elsewhere in the world.

The Aboriginal habitation of the country for thousands of years previous to this century was not mentioned by Taylor as part of his observations about human habitation in tropical lands. Indeed, as the Australian national census did not include Aboriginal and Torres Strait Islander people in their statistics until after the historic referendum of 1967, Taylor uses population records with an inbuilt inaccuracy, which he openly cited as "excluding aborigines."<sup>17</sup> Taylor's conclusion about settlement in the tropics includes this statement:

The writer believes that the white man can settle in any part of the world provided that sufficient precautions are made to counteract the natural disabilities, and provided that the advantages (economic and otherwise) are enough to attract him to the place.<sup>18</sup>

To support his views, Taylor reviewed the contemporary and recent historical writings by medical researchers, such as the influential Queensland medical practitioner (and amateur historian and conservationist), Sir Raphael Cilento. The basic opinion of both men is contained in Taylor's statement above: it is possible for 'white men' (and by extension, 'white women') to live in the tropics. Taylor mentioned more of Cilento's ideas on practical matters, such as inappropriate tight-fitting clothes and added,

Dr. Cilento's manual includes valuable data as to the special types of water-supply, houses, sewerage disposal, clothing, diet and exercise. He is strongly of the opinion that the working hours should be changed. Business should occupy the hours from 6 a.m. to 2 p.m., and from that hour the worker should be absolutely free.<sup>19</sup>

<sup>17</sup> Taylor, Griffith (1955), *Australia*. 6th edition. London: Methuen / NY: E.P. Dutton. pg. 443

<sup>18</sup> Taylor, Griffith (1955), *Australia*. 6th edition. London: Methuen / NY: E.P. Dutton. pg. 443

<sup>19</sup> Taylor, Griffith (1955), *Australia*. 6th edition. London: Methuen / NY: E.P. Dutton. pg. 449; Taylor is referring

The items mentioned here have implications for landscape design as well – because all are involved with the process of living in the tropics and sub-tropics. Working out-of-doors (such as farming or gardening) is an issue here. Cilento's 1925 booklet was referred to also in a leading modern architectural text about designing buildings in tropical Australia, where Cilento's description of climate was included:

The average Australian living in the southern fringe of the continent has frequently only the vaguest and most erroneous conception of this great portion of his natural heritage. To the great majority the word 'tropical' conjures up visions of sweltering mangrove flats, the haunts of the crocodile; of rank and steaming forests that exhale the musky odour of decaying vegetation and conceal within their leafy depths 'miasmatic' swamps; of deadly snakes and of the sulking [or skulking?] savage with his poisoned spear. In short the common idea of the tropics is a mixed impression drawn from the romantic accounts of old-time voyages (and) occasional newspaper headlines. To offset the romantic, there is the emphasis of unknown dangers and the fostered belief that the climate is one to induce constantly a maximum of heat and discomfort.<sup>20</sup>

Thanks to the efforts of people such as Cilento and Taylor, to dispel such misconceptions, Queensland is now well populated by a wide variety of human types with flourishing communities, farms and gardens. The tourist industry now proudly flaunts the climate of Queensland – from cool mountain rainforests to sunny beaches to adventuring in the red heart (outback): "Beautiful one day, perfect the next". However, this is not really a recent phenomenon. Visiting and getting to know the natural and cultural landscapes of the State has been a quest, with varying degrees

to Cilento, Raphael (1925), *The White Man in the Tropics : with especial reference to Australia and its dependencies*. Melbourne: Division of Tropical Hygiene of the Commonwealth Department of Health

<sup>20</sup> Cilento, R. W. (1925), *The White Man in the Tropics*. pp. 7-8 and 168; cited in Saini, Balwant Singh (1970), *Architecture in Tropical Australia*. Melbourne: Melbourne University Press, pg. 13



of popularity, since colonial settlers started appearing in the 1840s. When transport facilities allowed it, and sufficient leisure time and economic stability encouraged it, locals and visitors began touring Queensland in search of the scenic sights and recreational opportunities. The climate and the landscape were the elements that combined to make such trips desirable and possible.

### Shade and Sunshine in Tropical Queensland

One recurring theme among these responses to climate is the need for shade in hot climates, be they dry or wet. Some relief from high temperatures can be felt in the shade, but often the best effects are when shade and cooling breezes are combined. When temperatures reach the late 30s and into the 40s degrees Celsius, shade can mean the difference between life and death for human beings. Issues of comfort become issues of survival. Heatstroke is a real problem in warm climates: it can be fatal.<sup>21</sup> Shade is thus a vital need in hot climates rather than a mere whim of passing fashion or aesthetic fancy. The quality of shade is also of concern: dappled shade (especially from Eucalypts) is better than nothing; intensely solid shade (from densely foliated fig trees) can be very dark and cool. However, such intense shade in subtropical winters can be too cool. Deciduous trees can offer a solution here: providing shade in summer and warming sun in winter, but the range of warm climate tolerant deciduous trees is limited.<sup>22</sup>

<sup>21</sup> Probable occurrence of Heat Stroke is estimated at about 50°C (dry bulb temperature) when there is 30% relative humidity down to 42°C DBT at 65% RH and only 38°C DBT at 80% RH. Comparatively the "comfort zone" is estimated to range from 21-30°C DBT at 30% RH through to 21-26°C DBT at 65% RH. [Source: Figure 29, "Bioclimatic chart", In Koenigsberger, O.H. *et al* (1974), *Manual of tropical housing and building, Part one: Climatic design*, London: Longman, pg. 51.] Recent local research on climate and human shelter can be found in the following: Szokolay, S. V. (1990), *Climatic Design of Houses in Queensland: Final report on research project*. St Lucia: UQ Architectural Science Unit.

<sup>22</sup> Some tropical trees are deciduous due to the absence of water rather than lower temperatures. However, in northern Australia, the wet season and the hot season coincide, with the dry season and cooler temperatures

The quality and extent of sunlight in the tropics of Australia adds to the experience of the cultural landscape. Strong, glaring and burning sunlight is a typical component of summertime in the tropics. However, a welcome delight in winter in southern Queensland is the warming sun set in a cobalt blue cloudless sky: a matter of clear light and warmth, not uncomfortable heat and haze. The traditional timing of Vice-regal garden parties in Queensland (during autumn and winter) and the Brisbane Exhibition (or Ekka) in August is a reflection of seasonal character as observed since early colonial settlement. Similarly, the agricultural shows all over Queensland (and the Northern Territory) are timed to coincide with the cooler weather. They are not 'summer festivals' or even 'harvest festivals' as occur in temperate climes. The timing of these events demonstrate an acquired knowledge of climate and the possible and comfortable lifestyle activities.

As with the changes in the timing of the seasons in the southern hemisphere, there is a reversal of the orientation for the daylighting of buildings. In Europe, north-light means daylight without glaring sun and in Australia, this is reversed to become south-light. Capturing warm winter sun into the house (or on modern-day solar panels) in Queensland, entails using direct sunlight from the north. Generally, penetration of living and working spaces by direct sunlight is avoided in the Tropics at any time of the year.

Comparatively, most traditional food plants grown in kitchen gardens and orchards require as much sunlight as possible. To achieve this, north or northeast orientations were chosen to 'trap' the sun in Queensland and Australia. There is a real difference in cultivation opportunities (and thus productive success) between a shady south-facing hill and a sunny north-face. Many of the remaining pockets of rainforest and even

corresponding. Thus, whatever catalyst to leaf-drop is in operation, such trees defoliate around the middle of the calendar year.

the drier bushland forests in southeast Queensland occur where agriculture was too difficult: the dark and narrow, south-facing gullies. Similarly, residential developments in cities and towns favoured the sunnier sides of hills first with the less valuable subdivided last (they were shadier and also less ventilated by cooling breezes).

A related factor to the strong quality of sunshine in the tropics, is the perception of colour. The 'colour' white, either in flowers or on painted timber or brickwork, can be glaringly bright when in full sunlight in the tropics. The subtlety of pastel colours can be blached by the same intensity of natural light. The absence of twilight in the tropics is also relevant: sundown is a matter of no sunlight not half-light; it is dark. The luminescence of white or pale colours in half-light is rarely experienced in these climates, except for a very short time at sunset.

### Climate and Cultivation

There is an integral relationship between climate, plants and cultivation procedures, which in turn affect landscape design and the cultural landscape. The people who settled in Queensland in the 19th century can be divided into two groups: those who knew about horticulture (including those properly trained as professional horticulturists or gardeners), and those who did not have much or any experience of horticulture prior to arriving in the colony. Both groups faced problems of acclimatisation: both had to learn to make their gardens work in a strange climate. Those with some scientific training, like the professionals from the Royal Botanic Gardens, Kew or the RBG, Edinburgh or from major commercial nurseries in Britain, were the most likely to succeed in Queensland, and more likely to enjoy the discovery and experimentation processes involved. They were able to interpolate and make corrections, using logic and sound experience. They knew where to look to find advice and they knew how to keep up-to-date with the latest research findings (reference books, magazines, and personal correspondence, etc.). These people

(mostly men), were the directors/curators of botanic gardens, head gardeners and commercial nursery proprietors who serviced the developing Colony of Queensland. Talented and educated amateurs, like medical practitioners and elite private garden owners who subscribed to the Queensland Acclimatisation Society could also be included in this group. Together, these men (and the occasional woman) influenced both horticultural pursuits as well as the burgeoning variety of agricultural industries.

The more typical newcomer or settler (men, women and children), also experimented according to their limitations, taking advice from the detailed offerings in the 'Man on the Land' agricultural and gardening columns of local newspapers, by visiting their local public park or botanic garden, or by learning from their neighbours. The proliferation of agricultural advice far outweighed the meagre horticultural sources; many regional newspapers carried nothing but local agricultural news (e.g. saturated with sugar in Mackay). Only some of these ordinary people's experiences have been recorded and located so far. Letters to the newspaper revealed some of their exploits and queries. From a discussion tour arranged by the newly formed Department of Agriculture came two female voices, discussing their experiences growing fruit and flowers in Bundaberg.<sup>23</sup> Much of the relevant information comes from the knowledgeable (male) group: those who published their experiences and observations, and have left documentary evidence that can be read today. Cases such as Mrs. Maunsell and Miss Young from Bundaberg were very rare. Although, one comprehensive and pragmatic female voice of great influence was uncovered: Mrs Lance Rawson. Mina Rawson (c.1853-1933) wrote Australian Enquiry Book of Household and General Information (1894)

<sup>23</sup> Young, Miss E.M. (1891) "Flowers, a Report from the Agricultural Conference at Bundaberg," Qld Dept of Agriculture, Bulletin (10), pp. 97-100 ; and, Maunsell, Mrs. J. (1891) "Fruit and Fruit Growing, a Report from the Agricultural Conference at Bundaberg," Qld Dept of Agriculture, Bulletin (10), pp. 100-4.

based on many years experience in the 1870s and 1880s as a pioneering farmer's wife near Mackay, Maryborough and finally at Rockhampton.<sup>24</sup> The contents of this book reflect the variety of skills a pioneer required to survive; at 'Boonooroo' on the coast near Maryborough, rations were bought by boat, necessitating self-sufficiency:

Mrs. Rawson smoked and cured fish, kept cows and poultry, grew vegetables, made everything from curtains to candles, experimented with ways of using native foods (almost poisoning her family with roast ibis and serving iguana stew to unsuspecting guests), raising four young children – "and between whiles cooked, baked, boiled and fried for the household".<sup>25</sup>

In her guidebook, advice about cookery and interior decoration are as frequent as 'scientific' agricultural advice. Her gardening advice is both practical and for ornamental purposes. Rawson's inclination for experimenting and thus devising new solutions to problems in the household and the garden is marked. The influence of this work extended beyond Queensland with its Australia-wide publication. It was preceded by several other books on poultry, cookery, (or both), and household hints. While her gardening advice was not extensive, her recommendations for experimentation and adaptation set important standards for newcomers to Queensland, especially in encouraging women to be clever.

A comprehensive description of the multitude of gardening procedures that Queenslanders have used in the early days is outside the range of this study. However, one observation on gardening and the generally ignorant newcomers to Queensland was that they were easy targets for unscrupulous merchants. The

unfamiliarity of these new settlers with the capabilities of their new land and climate lead to the growing of inappropriate plants. Bonefide professional horticultural experts in the 1890s were openly criticising these merchants and advising newcomers to be wary, as Albert Bensen wrote here:

only plant those trees that your soil and climate are adapted for. Remember that the climatic conditions of this colony, with the exception of the Stanthorpe district, are altogether different to that of the colder parts of the southern colonies, and that therefore we cannot grow the same fruits here in our tropical and semi-tropical districts that are grown successfully in the south.<sup>26</sup>

Extensive advice about what can and cannot be grown in Queensland was provided in the Queensland Agricultural Journal. The primary focus for this organ of the Department of Agriculture, was naturally agriculture. However, ornamental gardening was discussed in the QAJ and this was also reported in the major newspapers.

The development of a special kind of gardening (for the shade) also provides another example of climatic understanding or misunderstanding. This concerns the real capabilities of plants advocated for growing in shade gardens. MacMahon has some decided opinions in the matter when he describes a bush-house in the Brisbane Botanic Gardens:

The first thing which will probably strike about this shade-garden is that it seems to be hardly shaded at all, and that the plants seem in some unaccountable way to be condoning for this neglect by thriving in a most remarkable manner. The fact is that nearly all the shade-gardens [bush-houses] one meets with are rendered useless by being shaded to a wholly unnatural degree. Sunlight is the life of plants. ... Do not therefore be alarmed if some of your plants curl up a little, unless you have reared them in an artificial manner to begin with. It is only when the curling and wilting goes too far that serious results are to be feared. You may

<sup>24</sup> Rawson, Mrs. Lance (1984), Australian Enquiry Book of Household and General Information: a practical guide for the cottage, villa, and bush home, (first published 1894, Pater & Knapton), facsimile ed. Kenthurst, NSW: Kangaroo Press.

<sup>25</sup> Addison, Susan and Judith McKay (19??), A Good Plain Cook: an edible history of Queensland, South Brisbane: Queensland Museum Publication. pp. 2-3. Further biographical information on Rawson is provided in this publication.

<sup>26</sup> Bensen, Albert H: "Orchard Notes for July", QAJ, V.3, July 1898, pg. 87

often see during the heat of the day the Marantas and plants of that type in this shade-garden presenting a wilted appearance, but directly the sun's rays are moderated they expand once more and are ready to absorb the cool moisture which collects on their surfaces during the night.<sup>27</sup>

Having seen too many examples of shade-loving treeferns and ground ferns dried out to yellow in full sunshine in Brisbane, it is difficult to accept MacMahon's opinion in its entirety. One can still have too much sun for plants that naturally occur in the shady understorey levels of forests, which results in leaf burning and rapid loss of water in the extreme heat of mid-summer. This is another example of the process of acclimatisation of newcomers to early Queensland.

Understanding the climate applies equally to human activities related to the growing of plants, not the least of which is building work. To appreciate the limitations of summer time in the tropics and the potential for extensive physical labours in winter, one can read this advice from Ebenezer Cowley of the Kamerunga State Nursery: "[June] This is a good month to build bush-houses in, bloodwood or bean-tree posts only being used. [July] Paint farm outbuildings... Falling scrub for further extension of agricultural areas should be performed."<sup>28</sup> The best time to undertake heavy building works or land clearing activities is in the cooler 'winter' months in the tropics. These ideas are supported by gardeners who recognise the cooler months as being the best time for active garden work, as MacMahon said: "Gardening in Queensland is a pleasure during the winter months. The tropical growth of weeds which serves to discourage the amateur during the summer has ceased, and given him a little breathing time."<sup>29</sup> Thus, by the 1890s, understanding by colonists in Queensland of human capabilities and gardening activities was

firming. Associated with these climatic perceptions are attitudes to Nature and their affect on garden design.

### Climate, Lifestyle and Shelter

The impact of climate on people, specifically the European newcomers to colonial Queensland, induced a wide variety of design responses in both landscapes and buildings (inside and outside). Due to the climatic variety across Queensland, there are correspondingly many different possible and appropriate design responses. Aspects of observing climates and experimenting with suitable human habitations in sub/tropical areas include: the development of verandahs and outdoor rooms; the creation of other shade effects using plants; and, the perception of sunshine, light and colour that effected landscape design. All these aspects relate to lifestyle and the changes made to traditional ways to better suit the new climatic circumstances, otherwise known as acclimatisation. All the requirements of living, working and recreating have to be accommodated within the limitations and opportunities provided by climate.

The nature of subtropical and tropical climates allows (even encourages) people to spend more productive and enjoyable time outside. This recognition was something newcomers to Queensland had to learn, and it usually involved major changes to their cultural traditions. Indigenous inhabitants of similar climates in the Asia-Pacific region have long known what can and can't be done by human beings outside in these hot, wet climates. In particular, they have made use of the transitional spaces between outside and inside and underneath their dwellings.

Aboriginal and Torres Strait Islander people have living and building traditions that were based on similar long-time experiences with climate, and their solutions suited each nuance of climate in Australia. Within the broad view of historian Ross Fitzgerald, some of these traditions were described, such as this one from the Gregory district: "Since north-west Queensland was subject to inundation during the Wet [season], the

<sup>27</sup> MacMahon, Philip: "Our Botanic Gardens" (No. 8) *QAJ*, V.3, December 1898, pg. 438-9

<sup>28</sup> Cowley, E: "Cultural Notes for Tropical Queensland," *QAJ*, V.2, May 1898, pg. 432 and June 1898, pg. 537.

<sup>29</sup> MacMahon, Philip: "Our Botanic Gardens" (No. 5) *QAJ*, V.2, May 1898, pg. 388

native inhabitants devised a two-storeyed gnyah to escape the rain. Fires were burned at the entrance of these huts to discourage mosquitos."<sup>30</sup> There were other approaches used by the various groups of Aboriginal and Torres Strait Islanders, including seasonal changes of their living places (based on the presence or absence of rainwater and food sources), which were in direct harmony with climate and landscape and the natural processes of life. These practices were sustainable and effective and involved the fundamental connection between Aboriginal people and the land or the water (both being in the 'outside' realm).

The relevant point here concerns the zone between inside and outside – including verandahs and under houses – which involves the development of outside spaces for various purposes that in Europe would be typically carried out inside. The useability of outside and semi-outside in most Queensland climates is one the most distinctive characteristics of our culture. The implications on gardening practices, garden design and the cultural landscape generally, are numerous.

When the first European settlers came to Queensland, they brought their buildings and gardening traditions with them and proceeded to try and recreate their homelands here. The typical punctured masonry box that is the Georgian Style of the earliest colonial times was soon found to be almost universally unsuccessful (except perhaps in Tasmania). It did not take long for architects to begin to adjust their designs to suit the local climates. In the 1820s, the verandahs of the barracks, hospital, and residences of the Moreton Bay penal colony (Brisbane-town) were not for ornamentation: they provided weather protection for the main walls and windows and acted as covered passage ways. By the middle of the 19th century, skilled architects were creating buildings that worked with the climate and

provided good ventilation, utilised shade devices of all sorts and were orientated to best effect. Conservatories with glass roofs were quickly found to be unsuitable in northern Australia, with temperatures reaching unbearable levels – suitable for propagating plants, but unsuitable for people (or plants) to reside in the long term. There were still buildings erected that did not have this sympathy and understanding of climate. It can be argued that the central design intention of the Queensland 'vernacular' of 'timber and tin' houses was to provide an affordable and livable accommodation in a hot climate.

The homestead of rural properties in Queensland was typically a self-sufficient community, with main residence, outbuildings for shearers or drovers, meat-houses, barns, smithies and even school-houses and churches. Timber construction and corrugated iron roofs, often low-slung hip shapes, were typical. Very wealthy owners, especially in the Darling Downs district, built grand mansions of stone or brick, such as Jimbour, East Talgai, and Glengallan. The cultivated gardens attached to the main house provided a refuge and necessary food (vegetables and fruit), as well as ornamental flowers. Often standing on flat plains, the homestead of the inland favoured the bunya pine (*Araucaria bidwilli*) as a tall, dark green landmark, a distinction shared in other eastern States. More specifically a Queensland phenomenon, was the inclusion as a feature specimen, of the Queensland bottletree (*Brachychiton rupestris*), a naturally occurring rainforest species of the Downs area. The tall metal windmill manufactured in Toowoomba, called 'the Southern Cross', is another rural landmark: located near homesteads and scattered over the property to provide water for the stock from Artesian supplies below ground.

Major implications for garden design and the character of urban landscapes in Queensland came from the use of detached dwellings surrounded by a yard (or garden). The terrace house is almost non-existent in

<sup>30</sup> Fitzgerald, Ross (1985), *A History of Queensland: The Dreaming to 1915*. St Lucia: UQ Press. pg. 15; The first chapter of volume 1 (pp. 3-31) is devoted to describing the culture and impacts on the environment by indigenous Australians.

the character of Queensland urban areas, and the origins for this situation can be traced back to 1885 and the Undue Subdivision of Land Act. The pattern was set, and even after that legislation was repealed in 1923, with the arguments for healthy ventilation assisting perhaps, the detached house remained the preferred model for all of Queensland, town and city alike.

### Verandahs

The blending of outdoors (garden and grounds) and indoors can be achieved through the creation of the verandah, among other things. The verandah was a well known feature in Queensland in the 1859-1939 era and has become synonymous with the so-called Queensland vernacular architecture. The warmer parts of the world all feature devices that bridge inside and outside, such as courtyards and loggia, porches and piazzas, atria and arcades found from the Mediterranean through the Middle East and India to Asia and beyond. In contrast to many of these inward-looking spaces, the verandah is something usually on the outside edges of buildings, protecting the inner rooms.

The verandah and its associated forms is a creation of dubious origin, according to the literature examined. Much has been said of the 'global' colonial community taking successful ideas from one place to another. Some have even maintained that the verandah came to Australia directly from India via the British occupation, while others believe experience in the Caribbean colonies also contributed to its introduction.<sup>31</sup> The origins of verandahs are not the issue here. However, a recent account of the verandah that related Australia was provided by architectural writer Philip Drew. He considered the inclusion of both the form and meanings associated with this kind of created space to be most important for a proper understanding, as he indicates here:

*Veranda* is much more than an architectural history. The veranda is a

source of Australian identity. More than any other people, Australians are justified in laying claim to being the people of the veranda.<sup>32</sup>

A more balanced view would acknowledge that many tropical countries have developed or acquired verandahs, in various forms to ameliorate living in hot climates (wet or dry). The use of the verandah in other climates cannot be ignored.

In a similar broadening exercise, Hudson examined "the idea that the popularity of the verandah and similar architectural features can be explained in terms of [Appleton's] prospect and refuge [theory]."<sup>33</sup> Appleton's theory is discussed in detail in the Landscape Meaning section of Chapter 5 below, but essentially contends that to humans, places are more comfortable that are high in the qualities of prospect and refuge.

As a place for living, the verandah was furnished and decorated during Victorian and Edwardian times almost as lavishly as the house interior. Of particular relevance here is the term 'verandah gardening' which pertains to the ornamental use of plants in containers (pots, hanging baskets, etc.), arranged around the verandah, often en masse on tiered stands of metal, cane or wood. Supplying these displays with fresh vegetation was the gardener's chore. Verandah gardening activities are a distinctive kind of tropical gardening, worldwide.

A variation on the standard encircling verandah is the internal 'breezeway' which can be seen in early 20th century government architect designed houses in Queensland. For instance, the third residence to be built (on the same site) for Curator of

<sup>31</sup> Hudson, Brian (1993) "The View from the Verandah: Prospect, Refuge and Leisure," *Australian Geographical Studies* 31 (1), pp. 70-78. pg. 71.

<sup>32</sup> Drew, Philip (1992), *Veranda: embracing place*. Pymble, NSW: Angus & Robertson. Preview (no page No.). 'Reliable' reasons for the differences in spelling (veranda or verandah) of this term has not been revealed in the literature. 'Verandah' is in common usage in Queensland at the present time (1990s).

<sup>33</sup> Hudson, Brian (1993) "The View from the Verandah: Prospect, Refuge and Leisure," *Australian Geographical Studies* 31 (1), pp. 70-8. pg. 71.

the Brisbane Botanic Gardens, contains such a breezeway configuration: called up as a verandah, it is open at both ends (albeit screened by lattice panel 'walls') and has the house proper on one side and the kitchen-service areas on the other.<sup>34</sup> An earlier version of the internalised verandah can be found at Nindooindah, outside Beaudesert in south-east Queensland, a house designed by architect Robin Dods also around 1909.<sup>35</sup>

By the 1890s, open areas (variations on outdoor rooms), perhaps partially screened by timber laths, were being created under the typical Queensland 'stilt' houses. These areas are similar to verandahs in being in that transitional zone between inside and outside. The uses of under-the-house were (and are) many-fold, usually featuring the laundry or wash house, but of particular relevance here are those associated with gardening. Fern houses or bush-houses were created on the outer edges, often beneath upper level verandahs. Sometimes these areas were extended out from the line of the house, protected by timber laths to roof and walls. The south side of buildings offered the greatest amount of shade and wind protection. What is particularly important is that these structures were rarely designed for any other activity but tending the plants. They were not used for outside living spaces as were verandahs (as is the glazed conservatory of Europe).

The popularity of outdoor living (especially for recreation) took time to develop, and was most evident post-WW2, with the combined effects of increased wealth and leisure time, and the influence of written works from landscape architects from California such as Garret Eckbo and Thomas Church. Their ideas became entrenched in popular house and garden-type magazines and the 'age of the barbeque' dawned. While these times are outside the real focus of this research, these circumstances demonstrate the influence of the acclimatisation effect. It is enough to

recognise the development of the outdoor living truly 'blossoming' in the 1940s and 1950s and increasing in extent until the present day. From the 1980s, the 'back deck' has been a major trend in inner city suburbia; decks are essentially wide verandahs, usually roofed and designed to accommodate entertainment and recreational activities.

### Shady Urban Open Space

In tropical and semi-tropical zones, ameliorating climate by providing shade is not only required for the domestic situation. Urban areas, with spaces where communities collect in groups or travel through, are also places that need shade. Street awnings and verandahs are part of the architectural contribution to this need. Street tree planting extends this shady protection and has been considered a climatic necessity in hot climates, of far more importance than the aesthetic rewards of leafy avenues. Shady trees in public parks are also welcomed as the effects of local climates became (and become) more familiar to newcomers. By the 1880s, schools became a focus for shade creation: large shady trees in the grounds and solid roofed shelter sheds for children to eat, rest and play under, come rain or shine. Similar designs for tram shelters in Brisbane were for the comfort of travellers, who may be effected by sweltering sun or sudden showers en route.

One of the earliest calls for shady trees comes from a report in a local newspaper in 1866, wherein the newcomer is told to forget about British climates: here there is vital need to create broad avenues of trees to protect travellers from the sun.<sup>36</sup> Almost twenty years later, eminent citizen, leading member of the Queensland Acclimatisation Society and 'amateur' botanist, Lewis Adolphus Bernays considers shade trees so important that he appends to his paper on economic botany Cultural Industries for Queensland, an essay headed "The Shade of Trees".<sup>37</sup> He begins,

<sup>34</sup> Brisbane Botanic Gardens Batch File, Q-Build Plan Rm, "Curator's Residence 1909", Dwg No. 135E-2-1

<sup>35</sup> Guest, Sarah (1990), Private Gardens in Australia, Melbourne: Lothian, pg. 27.

<sup>36</sup> Queenslander, 10 Feb 1866, pg. 12.

<sup>37</sup> Bernays, L.A. (1883) Cultural Industries for Queensland, Brisbane: Govt. Printer; "The Shade of Trees" pp. 201-8

In a country like Queensland, where the days of sunshine are so much in excess of those of cloud, and the rays of the sun for many months of the year are so fierce, the subject of planting for shade purposes is one of much interest, and no slight importance to the comfort and health of the inhabitants of all classes. It is curious enough, however, that the amount of tree-planting for this purpose which has been hitherto done is infinitesimally small, and that public interest shows little sign of turning to the subject.

Bernays continues his informative description of the current circumstances with an undisguised criticism of current practice in Queensland as being "far behind the other Australian Colonies". However he does note the local exceptions here:

I must except from the above observations the towns of Rockhampton, Maryborough, and Toowoomba. In the former the Municipal Council have expended large sums in planting the streets ... In Maryborough a commencement has been made in street planting, which gives fair promise for the future. In Toowoomba, also, several of the streets have been planted, and, upon the whole, with well-selected trees; some of these first planted already affording a grateful shade to the wayfarer.<sup>38</sup>

Bernays provides examples of successful tree planting for public benefit that had occurred in other Australian colonies and several places overseas, to help improve local practice:

Travellers in the Southern Colonies cannot fail to be struck with the immense superiority which they – especially New South Wales and Victoria – present over Queensland in this regard ... the number of public gardens and well-planted and maintained reserves throughout the colony [of Victoria] is legion. Going further afield, among the English-speaking communities, we find in the United States that the creation and maintenance of plantations and the planting of streets is regarded not only as an important but an essential function of municipal bodies ... The principal cities of

the Continent of Europe present the most perfect examples in the world of street planting. There it is the invariable practice to plant trees with the greatest care, to provide them with good soil, and to spend a great deal of money in attending to and watering them.<sup>39</sup>

The advice and information presented by Bernays was not implemented on a grand scale in Queensland, especially in Brisbane. Some of the inner city streets were planted with fig trees around this time, but due to poor species selection (*Ficus macrophylla* do not like poor stony soils, while the *Ficus benjamina* have been more successful), and subsequent roadworks, many of these trees have been lost. A lengthy quotation from 'an American writer' (who may have been Andrew Jackson Downing) was used by Bernays to support his call for more shade trees, and includes these observations:

"No one even the most ignorant," says an American writer, "can doubt that trees add to the charms of a location. In summer time they protect it from the scorching rays of the sun, and provide pleasant and cool retreats from the heat ... at the close of day, when the work is done, trees present an irresistible attraction to draw families together to sit under their shade, and exercise an undoubted influence over the mind."<sup>40</sup>

Finally, among the advice and criticism provided by Bernays was included a list of preferred and readily obtainable species, according to the author, which is remarkable for at least one particular reason.<sup>41</sup> Of the 49 species listed, 24 are of exotic origin and 25, over half, are native to Queensland. This begins to put in focus and in time, the recognition of the value of native plants for useful and ornamental purposes. Bernays' selection of plants included several species that have proven to be excellent shade and/or street trees: *Cupania anacardioides*, *Waterhousea floribunda* (syn. *Eugenia Ventenatii*), *Harpullia pendula*, *Hibiscus*

<sup>38</sup> Bernays, L.A. (1883) *Cultural Industries for Queensland*, Brisbane: Govt. Printer. pg. 202

<sup>39</sup> Bernays, L.A. (1883) *Cultural Industries for Queensland*, Brisbane: Govt. Printer. pp. 202-3

<sup>40</sup> Bernays, L.A. (1883) *Cultural Industries for Queensland*, Brisbane: Govt. Printer. pg. 204

<sup>41</sup> Bernays, L.A. (1883) *Cultural Industries for Queensland*, Brisbane: Govt. Printer. pp. 207-8



*tiliaceus* and *Lophostemon confertus* (syn. *Tristania conferta*). He also mentions *Castenospermum australe*, as well as a few exotics now thought to be close to weed status such as *Cinnamomum camphora* (syn. *Laurus camphora*) and *Schinus molle*. His inclusion of 8 fig species (3 exotic and 5 native)<sup>42</sup> is notable, as is his exclusion of the three important Queensland members of the Araucariaceae family (*Araucaria cunninghamia*, *A. bidwilli* and *Agathis robusta*). The latter may be missing because of a perception that, while being striking 'feature specimens', they are less suitable as shade trees.

Public parks were a feature of many larger urban centers from the late 19th century. Using the guidelines for Government Surveyors, Queensland urban centers were surveyed with reserves set aside for recreation, parks and gardens, and sometimes for scenic lookout or botanic garden purposes.<sup>43</sup> As the municipalities grew, some of these reserves were developed as botanic gardens or as public parks. Shade tree planting being a significant component of the development of these recreational reserves. Early efforts at town-planning and urban design in Brisbane were highlighted with the second national Town Planning Conference held there in 1918.<sup>44</sup>

<sup>42</sup> The fig tree species recommended by Bernays were: **Exotics:** *Ficus benghalensis* (Banyan tree of India), *F. religiosa* (Peepul, Sacred Fig of India) & *F. sycomorus* (Sycamore of Scripture); **Natives:** *Ficus benjamina* (Weeping Fig), *F. virens* var. *lanceolata* syn. *F. Cunninghamii* (White or Cunningham's Fig), *F. racemosa* syn. *F. glomerata* (Cluster Fig), *F. macrophylla* (Moreton Bay Fig), Small-leaved Moreton Bay Fig (*F. obliqua*) is/was not *F. rubiginosa* which is actually the Port Jackson Fig from NSW - an error by Bernays. The full list of these trees is in Appendix D.

<sup>43</sup> Walker, Meredith (1981), "Historic Towns in Queensland: An Introductory Study". Unpublished report for the National Trust of Queensland, Brisbane, Section 1.2.6 "Town Layout and Road Pattern," pp.1-9 to 1-13 and Appendices 7, 8 and 9 which are extracts from official rules and regulations issued by the Lands Department from 1878, 1890 and 1898 to guide surveyors.

<sup>44</sup> Volume of proceedings of the second Australian town planning conference and exhibition (under the official recognition of the Queensland government) Brisbane (Queensland), 30th July to 6th August, 1918. Brisbane: A.J. Cumming, Govt. printer, 1919; and, Freestone, Robert (1989), Model Communities: The Garden City Movement in Australia. Melbourne: Thomas Nelson.

These efforts included the development of several new public parks: New Farm Park, Newstead Park and a renovated Bowen Park, by then owned by the Brisbane City Council. Coinciding with these events was the influence of the Playground Association, which established specialised children's playgrounds at Paddington (1918), East Street, Fortitude Valley (1922), and at Spring Hill (1927).<sup>45</sup> The first of these playgrounds was featured at the Town Planning Conference of 1918.<sup>46</sup> These supervised playgrounds legitimised the outdoor play of children, connecting these activities with good health, sunshine, clean air and education, particularly for those in working class suburbs. Subsequently, the creation of playgrounds in public parks (unsupervised) and school grounds proliferated throughout Queensland.

## Conclusion

By the turn of the 20th century, Queenslanders had gained some two or more generations of experience (in gardening, agriculture and lifestyle) of local conditions and climates. They were becoming familiar with the opportunities and constraints of gardening in the sub/tropics. However, the effects of weeds such as the Prickly Pear, World Wars and economic Depressions stifled gardening practices in the State. Ornamental gardening was the first to suffer while vegetable and fruit gardens justified by their usefulness even in the hardest times remained as the most popular form of

<sup>45</sup> The work of Miss May Josephine Bedford in the Playground Association was influenced by American playground prototypes described in great detail in the publication by landscape architects: Leland, Arthur and Lorna Higbee Leland (1909), Playground Technique and Playcraft. Washington, DC: McGrath & National Recreation and Park Association. [Source: "Bedford Playground, Spring Hill", Dept of Environment, *Entry in the Queensland Heritage Register 601786*]

<sup>46</sup> "Children's Model Playground, Town of Ithaca [Caxton Street, Paddington]" was a plan drawn and designed by Robert Black "Authorised Surveyor & Town Engineer, July 1918" and published as part Volume of proceedings of the second Australian town planning conference and exhibition (under the official recognition of the Queensland government) Brisbane (Queensland), 30th July to 6th August, 1918. Brisbane: A.J. Cumming, Govt. printer, 1919

private garden in the early decades of the 20<sup>th</sup> century.

The availability of motor transport after WWI led to an expansion of recreational opportunities. The seaside, the mountains and the countryside were all destinations for caravanning travellers and day-trippers alike. Tourism in Queensland became a serious economic industry between the world wars, made possible by the rich variety of natural resources of beaches (surf, sand, tropical islands and coral reefs), 'jungles' (rainforests on the Atherton Tablelands, Tambourine Mountain and the Lamington Plateau) and numerous scenic waterfalls in many parts of the State. This commercial use of climate and natural resources continues at the close of the 20<sup>th</sup> century.

On the home front, gardening and outdoor living provide key examples of getting used to the sub/tropical climates. The rise in popularity of the native plants was marked during the 1970s, with ideas of bush gardens, low-maintenance gardening and water-wise approaches. This time was also the beginning of the boom in decks out the back of old timber houses: the newest version of the verandah allowing 'living outside' – the catch-cry of Queensland. The boom times of the 1980s meant rapid development of tourist resorts, golf courses, hotels and theme parks, designed by landscape architects in a semi-standardised 'International Resort' idiom (formal arrangements of palms, hedges of tropical shrubs and massed groundcovers, using a limited plant palette). At the close of the 20<sup>th</sup> century, Queensland garden design is at its most diverse: wild Cottage Gardens vie with formal gardens (Tuscan or Mediterranean themed), while Rainforest Gardens sit beside bushland regeneration schemes. But learning how to garden in the 'tropics' continues, as each new wave of newcomers (amateur and professional) is acclimatised.

