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## Building and Living North of the 28<sup>th</sup> Parallel: Climate, Character and the Queensland House

In the 1860s, William Coote (1822-98) argued for an architecture that was specific to the climatic requirements of the region. Seeking to enhance the comfort and salubrity of the Queensland house, Coote suggested strategies for increased ventilation, improved shade and better sanitation. His goal was to remove the “inmate” of the Queensland house from the climatic conditions (heat, humidity and contaminated atmosphere) that had come to be associated with disease, enervation, and degeneration in the world’s [sub]tropical regions. Equating the Queensland house with the “low dark wooden shanty”, Coote also linked the climatic improvement of such spaces with the elevation of the Queensland population, as aiding the intellectual and moral advancement of the colony. Central to Coote’s thesis was the incorporation of taste and refinement into his project of climatic building; the necessity to generate spaces that were not only comfortable but also enjoyable and delightful.

In this paper it is argued that Coote’s thesis demonstrates a lingering anxiety in nineteenth century Queensland that linked the moral and intellectual character of the Queensland citizen to climatic influences. It also questioned the continuing settlement of Queensland and the ability of settler communities to acclimatise or move north of the 28<sup>th</sup> parallel. This anxiety, it is suggested, reveals itself not only in Coote’s attempt to remove the individual from the climatic conditions (heat and humidity) that had come to be associated with disease and discomfort within the tropics but also his desire to minimize those qualities of modern life, such as indulgent living, that enhanced the individual’s susceptibility to climatic influence. Fundamental to this debate was a series of concerns surrounding the settler’s acclimatisation to the [sub]tropics, the decline that was felt to accompany this process, and an assumed loss of the characteristics that were believed to distinguish white people from other races.

## Introduction

"If, ... the white man can become acclimatised physically, it is absolutely certain that, by the exercise of that very will which has grown strong by the struggle of our ancestors, we are in a position to bend the new climate to our service, to rise above whatever temptation it holds for us, and to grow yet stronger in the conquest."<sup>1</sup>

In November of 1860, William Coote (1822-98), a newly arrived architect to the colony of Queensland, presented a lecture to the South Brisbane Mechanics Institute titled "New Homes for a New Country."<sup>2</sup> Here, the architect questions the colony's reliance on British models of housing. Contrasting the temperate seasons in Britain with those of Queensland he also considered the problem "analogically," examining examples from countries with comparable climates including "Africa, Italy and the warmer parts of Europe." The desired comfort and salubrity of the Queensland dwelling could only be achieved if the architect or builder adapted his design to the climatic conditions of the new colony.<sup>3</sup> The consideration of "climate in the erection of dwelling places," however, held for Coote an additional interest. It would also "promot[e] the progress of [the] people" and "educat[e] the young" by removing them from "course (sic) coarse? and demoralising indulgences."<sup>4</sup>

In 1862, Coote revisited this idea in a second lecture presented to the Queensland Philosophical (later Royal) Society under the title "The Influence of Climate on Our Domestic Architecture."<sup>5</sup> Associating the discomfort of Queensland's domestic architecture, and specifically the housing for Brisbane's working population, with sensations of the "low dark wooden shanty," the architect, once again, linked the climatic improvement of such a spaces with the character of the building's occupants.

He who is accustomed to the highest species of enjoyment is restless until it is attained. The man who can get nothing but dirt and darkness becomes habituated to them as part of the conditions of existence. He can be none the better for his species of training, the probability is that he may

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1 "Climate and Character," *The Brisbane Courier*, February 8, 1896, 4.

2 No complete record of Coote's lecture survives and knowledge of this event is dependent on a report published in the local paper: "Local Intelligence," *The Moreton Bay Courier*, Tuesday 6 November 1860, 2. It is interesting to note that despite Coote's recent arrival in Queensland (July 1860), he was a founding member of the South Brisbane Mechanics Institute and became president of the Institute in 1862. In that same year, Coote set up practice in Brisbane as an architect and civil engineer. He first came to Queensland in July 1860 to lecture on the Victorian gold discoveries and their contribution to the colonies. London born, Coote arrived in the Australian colonies in 1852 where he found employment as an architect and surveyor in Van Diemen's Land and Victoria prior to his move to Queensland. Donald Watson and Judith McKay, *Queensland Architects of the 19th Century* (Brisbane: Queensland Museum, 1994), 41-42.

3 "Local Intelligence," 2.

4 "Local Intelligence," 2.

5 "The Influence of Climate on our Domestic Architecture, Paper read by Mr. W. Coote, at the Monthly meeting of the Queensland Philosophical Society, Brisbane, 4 November 1862," *Transactions of the Philosophical Society of Queensland* (1859-72), vol. 1, 1-7.

be worse. If there is degradation in such a progress we may fairly enough infer that the opposite directions tend to elevation.<sup>6</sup>

Going on to suggest that the course of civilisation had historically “enforce[d]” [this] inference,<sup>7</sup> Coote argued the need to develop within Queensland a “very different style of dwelling” that was distinctly “characteristic of our time and locality.” Linking this new architecture to the “comfort - enjoyment - even intellectual progress” of the young colony, he also urged the immediate commencement of this process of architectural and cultural improvement.<sup>8</sup>

In this paper, the rationale underpinning Coote’s attachment of climate to character is considered. The context for his thesis, it is argued, was a lingering anxiety within the colony regarding the susceptibility of the white settler to negative influences associated with the [sub]tropics. A suspicion of the tropical has a long history in Western thought.<sup>9</sup> In the nineteenth century these ideas grew in prominence in the discourses surrounding the ‘Course of Civilisation’<sup>10</sup> and were also fundamental to, and contested by, Victorian theories of race and the associated idea of biological difference.<sup>11</sup> Inherent to both discourses was the belief that settlement in the [sub]tropics by the European colonist would result in eventual acclimatisation, subsequent degeneration and the permanent loss of attributes that were at the time believed to define the white race. Attaching climate to the problem of character in his discussion of the Queensland house Coote not only demonstrates an awareness of these debates, but his focus on the problems of architectural taste, colour and delight reveals a strategy of reform focused on climatic susceptibility and its reduction.

## Climatic anxieties

On August 30, 1860, a “Lecture on Climate” was presented to the Brisbane School of Arts. Attributed to Dr. Barton (no additional information is given regarding the author’s identity), the lecture preceded Coote’s presentation on architecture by two months. Barton defined his subject as the study of climate itself - “the prevailing state of the atmosphere of any region with respect to heat, cold, moisture [and] winds” - and the methods by which such phenomena were measured. “The consideration of this subject - the atmosphere which we breathe, and in which, and by which, we

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6 Coote, “The Influence of Climate on our Domestic Architecture,” 1

7 Coote, “The Influence of Climate on our Domestic Architecture,” 1.

8 Coote, “The Influence of Climate on our Domestic Architecture,” 7.

9 For a history of these ideas see Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850* (New York: Oxford University Press, 1999); and David Walker, “The Curse of the Tropics,” in *A Change in the Weather: Climate and Culture in Australia*, ed. Tim Sherratt, Tom Griffith and Libby Robin (Canberra: National Museum of Australia Press, 2005), 96.

10 See Henry Thomas Buckle, *History of Civilization in England*, 3 vols. (London: Grant Richards, reprinted 1903-4). Originally published 1857.

11 Edward Beasley, *The Victorian Reinvention of Race: New Racisms and the Problem of Grouping in Humans Sciences* (New York: Routledge, 2010).

live - should," Barton observed, "be interesting to all."<sup>12</sup> Prior to his discussion, Barton acknowledged an alternative approach to the study of climate that was common to the nineteenth century. Climate was in this instance connected to physical appearance and character, both moral and intellectual, rather than scientific measure and instrumentation. He noted:

"It would be pleasant and profitable to dwell somewhat upon the moral effects of climate; to trace traits of national character or disposition, or valour or peculiarities of physical conformation, to the climate and neighbourhood in which they have been noticed; for we know that man, unlike animals, can exist in almost any clime in the globe, - under the burning sunshine of the tropics, and amid the perpetual and profound frost of the polar regions; and that these different degrees of external temperature impress peculiar physical characters upon those who are subject to them. Towards the poles man becomes stunted, both in mind and body. The ordinary stature of the Samoyedes, we read, seldom exceeds four or five feet, and their whole exterior corresponds with their dwarfish size. On the other hand, we know that the functions of the body are developed and ripened faster, under the stimulus of the sun, as we approach the equator; though we must remember considerable heat acting for a long time together, has an exhausting and depressing effect upon the animal functions - the nervous system - causing languor and lassitude, want of energy, and disinclination to exertions, both bodily and mental."<sup>13</sup>

Barton's comments regarding the "sun" and its stimulus of conditions "exhausting and depressing" must have resonated with his Brisbane audience. "For let it be remembered", Coote observed only two months later, "that with us it is not a hot atmosphere, but a hot sun which is so hard to bear; [thus] shade and coolness are almost synonymous terms."<sup>14</sup> Barton's later observation that "a temperate climate" was more "congenial to high mental attainments, and indeed to the most perfect development of the species"; would also have been unsettling for the residents of the subtropical colony.<sup>15</sup> He, however, may have redeemed himself by describing the climate of Queensland in a more positive light. Identified by Barton as "genial", he went on to observe that "persons ... particularly those who have arrived at, or passed, [their] middle age, in the more inhospitable climate of Britain, often have their health and vigour surprisingly renewed" within the colony. This optimistic turn was, however, tempered by the following observation regarding the prevalence or "atmospheric causes" of disease - ague, fever, chronic rheumatism and influenza - within the colony. The former, he explained, can be attributed to the "exhalation of vegetable miasma" and "undue exposure to wet and night air". The latter to some "unknown state of the atmosphere causing at first an ordinary cold which soon became infectious and epidemic."<sup>16</sup>

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12 Dr Barton, "Lecture on Climate," *The Moreton Bay Courier*, 30 August 1860, 4.

13 Barton, "Lecture on Climate," 4.

14 Coote, "The Influence of Climate on our Domestic Architecture," 2.

15 Barton, "Lecture on Climate," 4.

16 Barton, "Lecture on Climate," 4.

Barton's mixed response to Queensland's climate, and the anxious tone it frequently returned to, was not uncommon. A paper presented to the Royal Society in January 1896, titled "The Queensland Climate, Its Effects on Europeans", demonstrates that such sentiments were maintained up to the close of the century. Like Barton before him, Taylor ultimately concluded that Queensland's climate was amenable to white settlement. He observed, however, that this would be at the expense of short-term effects and that the settler would need to undertake a period of acclimatisation: "as time goes on and the people adapt themselves and their surroundings more and more to its nature, the enervating tendency of the hot months will be much mitigated, and the race will not suffer in either physique or mental ability."<sup>17</sup> Taylor went on to identify Queensland's climate as having a "stimulating effect on the mental faculties" of the colony's youth.<sup>18</sup> But he also warned that an over-stimulated child would result in a burnt out and "dull" adult, a conclusion that supported a thesis of enervation rather than refuted it.<sup>19</sup> Such comments were also set against the observation that children also suffered from the "enervating effects of a hot moist climate". Equally mixed sentiments inform his observations on "Exercise". Attributing the colony's climate to a generation of "well developed athletic young men", and as offering "every inducement for outdoor exercise", its influence on women was presented less favourably. "The climate does not appear to exercise the same healthy, invigorating effect on them but on the contrary seems to have an enervating one."<sup>20</sup> It is perhaps with the women of the Queensland in mind that Taylor goes on to recommend a reduction in the colony's consumption of tea. Described by Taylor as a "nervous stimulant", he also argued that the habit, often acquired in childhood, was making "serious inroads upon the health of many."<sup>21</sup>

The suitability of Queensland's climate to European settlement was also considered in "Climate and Character", (1896) a commentary published in the *Brisbane Courier* written in response to Taylor's earlier lecture.<sup>22</sup> Anonymous in its authorship, the report questioned the continuing settlement of Queensland by northern European migrants, describing this diaspora as an "experiment of momentous character". Identifying the "problem" as the "influence of a climate subtropical to tropical on a race migrating from a climate temperate to cold", it is also asked whether "so great a transition can be made without more or less influencing the characteristics of the race?" "Do the

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17 Dr. Taylor, "The Queensland Climate, Its Effects on Europeans," *The Brisbane Courier*, 27 January 1896, 6. Taylor was the retiring president of the society at the time of the lecture.

18 In this regard, Taylor recalls the earlier writings of the English historian Henry Thomas Buckle and the German naturalist Alexander von Humboldt. Both identified the tropics with the stimulation of the imagination and as sites of artist invention and innovation. Buckle, however, argued that the tropical context encouraged an imbalance, where an "enflamed imagination overrode reason and encouraged "superstition", blinded "judgment" and circumscribed "originality" in the educated classes. Buckle's thesis, developed in his 3-volume *History of Civilization in England*, was first published in 1857, three years before Coote's first lecture. Humboldt was writing in the late 1840s. See Buckle, *The History of Civilization in England*, 1: 86; Alexander von Humboldt *Cosmos: A Sketch of the Physical Description of the Universe*, trans. E.C. Otté (London: Henry G Bohn, 1845-62), vol. 1, 5-6.

19 Taylor, "The Queensland Climate, Its Effects on Europeans," 6.

20 Taylor, "The Queensland Climate, Its Effects on Europeans," 6.

21 Taylor, "The Queensland Climate, Its Effects on Europeans," 6.

22 "Climate and Character," *The Brisbane Courier*, 8 February 1896, 4.

new conditions contain promise of higher attainment or menace of deterioration?"<sup>23</sup> Acknowledging Taylor's proposition that climate functioned as a "stimulating rather than enervating" influence, one that promised to accelerate physical and mental development, the impact of warmer climates on the moral and volitional side of human nature, remained, for the author, unanswered. This, it was noted, was of a particular concern for Queensland. While the "bulk of Australia lies between parallels 35 and 15; the whole of Queensland is north of the 28th parallel; and the Tropic of Capricorn strikes the coast at Keppel Bay [approximately halfway up the Queensland coast]."

"The general position is clear enough to show the momentous character of the experiment made by a people coming chiefly from between the 50th and 60th parallels of North latitude. Can so great a transition be made? And will the influence be for the better or for the worse?"<sup>24</sup>

The conviction that the tropics posed dangers for white settlement has a long history in Western thought. The historiography on the "degenerative tropics" is also comprehensive and wide ranging and cannot be revisited in this paper due to time and size constraints.<sup>25</sup> An important aspect of the nineteenth century debate, however, is the overlap or intersection of this body of thought with the Victorian "reinvention" of race. Locating racial difference in biological attributes that were identified as innate and fixed (and thus unaffected by external influences) the Victorian theorist of race contested earlier constructs in which racial difference was attributed to external factors such as geography, climate or food availability. Buckle (1857), for example, attributed the variation in appearance and character of races found in the tropics to the abundance and availability of fruit (a consequence of climate) within these regions. These were contrasted with cold climate population who, it was argued, required large quantities of protein and animal fat to survive. As David Walker has already argued, the "skills to hunt, outwit and subdue wild animals for their food" were viewed by Buckle to be greater than those "needed to wrestle a banana into submission."<sup>26</sup>

The historian, and many of his contemporaries, used such differences in environmental circumstance to explain the variations they believed existed across the races. The identification of racial difference with external influences was, however, problematic in that it suggested a paradigm that was dynamic and open to continuing change. Underpinning an environmental thesis of race was the (monogenetic) understanding that all men had their origins in a single (commonly divine) origin.<sup>27</sup> Attributing variation, a process that had resulted in the different races, to geographical

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23 "Climate and Character," 4.

24 "Climate and Character," 4.

25 For comprehensive histories of such sentiments within Australia see David Walker, "Curse of the Tropics," 91-96. For studies on climate theory beyond Australia, see: C. J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley, CA: University of California Press, 1967); Stephen Frenkel, "Geography, Empire, and Environmental Determinism," *American Geographical Society* 82, no. 2 (1992): 143-53; Mark Harrison, *Climates and Constitutions*; J. W. Johnson, "Of Differing Ages and Climes," *Journal of the History of Ideas* 21, no. 4 (1960): 465-80; Richard Peet, "The Social Origins of Environmental Determinism," *Annals of the Association of American Geographers* 75, no. 3 (1985): 309-33.

26 Buckle, *History of Civilization in England*, I: chapter 2; Walker, "Curse of the Tropics," 92.

27 Harrison, *Climates and Constitutions*, 11.

and climatic contexts, also suggested that such change could not only continue or progress but also be reversed if the environmental circumstances were altered. Just as the French naturalist, the Comte de Buffon, believed that “Negroes” would lose most of their distinguishing characteristics [and be subject to improving influences] if removed to a colder climate, it was also assumed that the European in the tropics would succumb to its degenerative influences and ultimately lose those characteristics that were used to define the white race.<sup>28</sup> The idea of acclimatisation and settlement, the adaptation to new and foreign climates, was thus complicated by an additional concern for racial integrity and its maintenance.

The complications posed by a climatic theory of racial difference for ideas of acclimatisation and colonial settlement are considered by Mark Harrison in *Climates & Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850* (1999). The impact of the Indian climate on the European settler was initially viewed, Harrison has argued, in a positive light. If the colonist could survive his or her initial years in the country it was assumed that he or she could go on to enjoy a state of health that was comparable to those who had remained in Britain. It was also argued that the high death rate amongst Europeans within India could be reduced if the colonist “took care to avoid a lifestyle of excessive consumption and exercise.”<sup>29</sup>

By the mid-nineteenth century, however, this view had altered radically. It was now argued that a young man or woman who sailed for India would return, if at all, a shadow of their former self. “Although most Europeans believed they would never become fully ‘Indian’ many feared a long residence in India would lead to a loss of attributes which had distinguished the Imperial race. They would become neither European nor Indian, but a kind of hybrid, inferior to both.”<sup>30</sup> Seeking to counter the full effects of the continent’s climate and to minimise its impact on the European body, the British sought out sites that were more salubrious. Located in the cooler hill stations or coastal resorts these were viewed primarily as remedial, a type of medical topography that offered temporary relief from the continent’s climate.<sup>31</sup>

Harrison attributes the changing attitude to the shifting circumstances that informed the British presence within the continent. Initially viewed by the English as a place for trade, settlement within the sub-continent was generally viewed as short term. Following a period of working for the company, the individual could return home for periods of rejuvenation. As British interests turned to territorial expansion and colonisation, a new commitment to long-term settlement limited such remedial interludes. It was however feared an unmediated exposure to the Indian climate would catalyse change to the European physique and character and that over time these would become

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28 Harrison, *Climates and Constitutions*, 13

29 Harrison, *Climates and Constitutions*, 3-9.

30 Harrison, *Climates and Constitutions*, 19.

31 Harrison, *Climates and Constitutions*, 19-20.



permanent. The characteristics which were thought at the time to distinguish the British settler from the Indian 'native', were now believed to be at risk of being lost.<sup>32</sup>

Similar experiences appear to have informed the British colonisation of North America. The ideas of acclimatisation and the settler's susceptibility to climatic influence, as Jan Golinski has demonstrated in *British Weather and the Climate of Enlightenment* (2007), was viewed by eighteenth and nineteenth century writers as fundamental to the health, welfare and prosperity of the American population. Such concerns emerge in the writings of the Scottish physician Lionel Chalmers who in an *Account of the Weather and Diseases of South Carolina* (1776) identified the "unhealthy aspects of the Charleston milieu" with the regions "marshes ... unwholesome fogs and dews, and the seasonal hazards of heat waves, tornadoes, and hurricanes."<sup>33</sup> Rather than removing the colonists to more salubrious ground, the strategy favoured in India, Chalmers advocated improvement; the clearing of forests, the drainage of swamps and the bringing of land under cultivation. In this regard Chalmers drew upon a British tradition of environmental intervention that was centred on the improvement of the healthiness of the atmosphere. As Golinski has suggested:

"Settler and observers in many British possessions shared the belief that clearing forests and marshes would improve the quality of the local air. In the homeland, the fact the climate was seen as a gift of providence did not mean it could not be improved; in many colonial settlements, it was thought that it should be."<sup>34</sup>

Other strategies, Golinski has demonstrated, were developed to minimize the individual's susceptibility to climatic influence. These ranged from the modification of clothes, so that they were more suited to the climate, to the avoidance of vigorous exercise and increase luxury and consumption. Of particular concern in the American colonies was the excessive drinking of tea and coffee (a concern that is repeated in Queensland by Taylor). Viewed as stimulants for the nervous system, and a possible counter measure to the effects of tropical enervation, it was argued that both beverages "cannot fail in having ill consequences in *some* constitutions, particularly during the relaxing heat of summer."<sup>35</sup>

Golinski has suggested that such strategies mirror a moralizing tendency in the British discourse on public health, which, along with the consumption of coffee and tea, also targeted the wearing of fashionable clothing, dancing and congregating in crowded rooms. In the early eighteenth century, climatic susceptibility was not only seen as a problem for the tropics but also emerged as a widespread social problem in Britain. The prevailing dullness and dampness [in Britain] was

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32 Harrison, *Climates and Constitutions*, 16-19.

33 Lionel Chalmers, *An Account of the Weather and Diseases of South Carolina* (London: Edward and Charles Dillely, 1776), 10; cited Jan Golinski, *British Weather and the Climate of the Enlightenment* (Chicago & London: The University of Chicago Press, 2007), 187.

34 Golinski, *British Weather and the Climate of the Enlightenment*, 190.

35 Chalmers, *An Account of the Weather and Diseases of South Carolina*, 35; cited by Golinski, *British Weather and the Climate of the Enlightenment, 186-87*. Taylor, "The Queensland Climate, Its Effects on Europeans," 6.

seen as having a depressing effect on the spirits of the population and to be contributing to a rise in Melancholia. Medical writers argued that luxuries associated with the modern lifestyle, including fashionable clothing, indoor entertainment, and the consumption of caffeinated beverages increased the population's susceptibility to such influences. "The diseases of the air", Golinski concludes, "were also, to some extent, diseases of modern life."<sup>36</sup> The focus of this discourse, it is worth noting, often settled on the activities and character of women and their domestic domains. William Currie, a Philadelphia physician writing in the 1790s, declared that women's illnesses were due to drinking too much tea, breathing the air of confined spaces, frequently changing their dress, and the "alternate vicissitudes from heat to cold, to which fashion, and the love of pleasure, expose them."<sup>37</sup> When placed within the context of the tropics, these concerns were often exaggerated and heightened. As Golinski has noted:

"Writers on climate and character generally agreed that hot weather lessened the inhibitions on sensuality and the other passions. In this respect, "relaxation" was both a physiological and a moral problem. The same circumstances that would loosen the bodily fibres and expand the fluids would also reduce conscious restraints on feelings and behaviour. It was therefore felt to be important to uphold rigid moral standards. A number of writers on tropical medicine emphasized this imperative."<sup>38</sup>

## The Queensland House: Comfort, Salubrity and Improvement

Limiting the occupant's susceptibility to negative climatic influences in an attempt to maintain the racial integrity of the occupant appears to be the motive informing Coote's discussion of domestic architecture in Queensland. This is suggested by his focus on not only the expected themes of ventilation and cooling, although these are discussed, but on the improvement, elevation and architectural taste of the Queensland house.

Two strategies appear to be at work in Coote's thesis. The first is a desire to remove the occupant (and the Queensland citizen more generally) from the very conditions (heat, humidity, poor drainage and atmospheric contamination) that generate tropical pathologies. A second, upon which the remainder of this paper focuses, is the emphasis Coote gave to the idea of "taste and refinement." Consciously avoiding the idea of style, the architect turned to local materials and the introduction of colour to the Queensland home (and architecture more generally). Representing an economic use of common materials to "serve the purpose of the more costly,"<sup>39</sup> Coote's thesis also recalls the avoidance of "modern indulgences" - including fashion or style - to minimize the individual's

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36 Golinski, *British Weather and the Climate of the Enlightenment*, 138.

37 William Currie, *An Historical Account of the Climates and the Diseases of the United States of America, and the Remedies and Methods of Treatment Which Have Been Found Most Useful and Efficacious* (Philadelphia: T. Dobson, 1792), 112, 116; cited in Golinski, *British Weather and the Climate of the Enlightenment*, 187.

38 Golinski, *British Weather and the Climate of the Enlightenment*, 188.

39 Coote, "The Influence of Climate on our Domestic Architecture," 5.

susceptibility to climatic influences. The idea of practical building was a focus of later Australian writings that considered the connection between a climatic architecture and a national style. Within this discourse, to build climatically was to be build truthfully; a thesis that allowed the architect to locate beauty and architectural expression in the making and materials of the artefact.<sup>40</sup> Situating Coote's utilitarianism within the broader discourse surrounding Queensland's climate, an alternative and more pessimistic concern is, however, suggested.

A large segment of Coote's essay is dedicated to the problem of physical comfort and salubrity; the removal of climatic conditions that threatened the occupant's health. Much of his interest settles on ventilation and atmospheric purity, shade and protection from the sun, and drainage and sanitation - environmental interventions that had long defined climatic improvement in both Britain and its colonies. Identifying "space, shade and adaptation of the materials around us to the wants we feel" as a primary aim of the Queensland home, Coote argued "direct rays should be kept from the walls and ceilings of [all] apartments."<sup>41</sup> Spacious rooms that were well ventilated, with a minimum of two walls exposed to the external atmosphere, were also a priority.

"We lay down as a fundamental rule that space is a primary condition, we do so because without it we cannot secure that easy circulation of air which, with us, is a necessity. Every room should, if possible, have two of its sides external and easy access to the atmosphere; the huddling of apartments on the English model, in a square box form, is the worst possible arrangement that can be adopted, carried to its climax in that detestable terrace system which ought to be forbidden by municipal enactment? For comfort and equally for health in this climate, every dwelling house should be detached."<sup>42</sup>

Recalling the modern association of crowding and atmospheric contamination, Coote stipulated the ideal size of rooms in accordance with the number of occupants and the volume of air they could reasonably maintain. A bedroom for a single occupant should be able to contain 1200 cubic feet of air and equal 12 feet long, 10 feet wide and 10 feet high. A living room, due to its higher occupancy rate, would ideally be 18 feet long by 13 feet wide and 10 feet high and capable of containing 2400 cubic feet of air.<sup>43</sup> Any deduction from such dimensions, Coote argued, would represent "a false economy - resulting in close and badly arranged apartments, consequent ill health, doctors, and doctor bills." An increase, however, would tend to improve "enjoyment".<sup>44</sup>

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40 Nahum Barnet, "Climatic Architecture," *Victorian Review* 7, no. 37 (1882): 41; Wilson Dobbs, "An Australian Style of Architecture," *Australasian Builder and Contractor News* (28 February 1891).

41 Coote, "The Influence of Climate on our Domestic Architecture," 2.

42 Coote, "The Influence of Climate on our Domestic Architecture," 2. In 1885, the *Undue subdivision of Land Prevention Act* was enacted as a public health and anti-slum ordinance. Setting as a minimum a frontage of approx. 10 metres for each residential block, the Act effectively "outlawed" the construction of terraces in Queensland. Coote's call for space and circulation in domestic housing in order to address the climatic concerns faced when building within the colony provides a context for the Act.

43 Coote, "The Influence of Climate on our Domestic Architecture," 2.

44 Coote, "The Influence of Climate on our Domestic Architecture," 2.

Preferring brick to timber, the most accessible building material in Queensland at the time, but acknowledging the difficulties in securing quantities of appropriate quality, Coote went on to suggest a half-timbered solution for the Queensland house, in which wooden frames were in-filled with brick and other appropriate materials. Avoiding the warping effect that occurred when timber framing was exposed to Queensland' "scorching sun", such an approach would, in Coote's view, produce a far better effect and be "more useful in securing an equable temperature within the dwelling." Unlike the single skin of Queensland's timber house - the half-timbered solution also generated "interspaces" or membranes that were suitable for filling with light materials.<sup>45</sup> Seeking to maximize shade and ventilation (and thus air quality), Coote also considered the benefits of the courtyard plan, a model that could be associated with Algiers, Rome, and Spain; nations distinct in "religion, in manners ... and characteristics." He noted:

The general plan might present the outline of a square, divided by the central hall in its front lines; by side passages at its first junctional angles; the kitchen at the corner separated by an open kind of store from the rest of the house; and the rear, where site was confined, not filled in with rooms, but crossed by a broad verandah connecting the two wings.<sup>46</sup>

The advantages presented by such a scheme were multiple. The courtyard plan offered the occupant flexibility in layout and aspect. The ease of rearranging living, sleeping and work spaces around the court in accordance to the characteristics of the site and prevailing breezes maximised aspect and air circulation. It also enabled each room to have a least two walls exposed to the external atmosphere once again aiding cross ventilation and cooling. While the living areas might occupy the front areas of the house and the bedrooms the sides, the kitchen could be sequestered by itself at the left hand angle of the court and its heat quarantined from the other rooms by large halls or open spaces. This had a dual advantage. It integrated the kitchen into the main body of the house but continued to maintain a sense of separation and limited heat radiation.

Suitable to both single storey and two storey applications, the courtyard plan also offered varying scales and economies. Acknowledging the openness of the plan to the addition of an upper storey, its appeal for Coote rested with its capacity to afford the average family ample accommodation at ground level. Allowing an avoidance of stairs and upper rooms, both of which were difficult to ventilate and cool, it also minimised the risk of defective building and the loss of life in the event of fire.<sup>47</sup> The veranda and interior court also extended opportunities for outdoor living that were both private and sheltered from the hot sun yet exposed to cooling breezes. If correctly orientated, views could be taken advantage of. When absent, as in most suburban houses, the court "rendered

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45 Coote, "The Influence of Climate on our Domestic Architecture," 5.

46 Coote, "The Influence of Climate on our Domestic Architecture," 4.

47 Coote, "The Influence of Climate on our Domestic Architecture," 5.

refreshingly to the eye [as] cool, shady, and airy”, offered a pleasant outlook for all adjoining rooms.<sup>48</sup>

Finally, Coote also suggested the interior court be transformed into a single bed planted with covering flowers. “Any of the ground creepers - especially the verbena - will afford green leaves, and scarlet and lilac, and white, and almost every variety of colour, from which may spring the rose in its infinite variety.”<sup>49</sup> Enhancing opportunities for ventilation, shade and outlook, the courtyard plan also demonstrated Coote’s desire to enhance the experience of the space; to elevate and remove the occupant from the “low dark and wooden shanty” and to invert the negative experiences that were associated with a hot climate.

“I remember reading some time back a traveller’s ecstatic description of such an interior as I have mentioned. It was in Algiers. He was tired with the heat and choked with the dust; when, passing through a gateway, he found himself suddenly in the cool delicious shade of a small quadrangular verandahed space, within which a scarlet blossom tree lighted up the centre, and gave that pleasure to the eye which the gurgling of a small fountain by it afforded to the ear. It was worthwhile being hot and dusty to feel the relief of such a scene.”<sup>50</sup>

Drawing attention to contemporary debates surrounding the supply of water for the City of Brisbane, Coote regretfully acknowledged, “there is little chance of fountains here”<sup>51</sup>

Coote’s ambition to delight the eye and to generate redemptive spaces is also evident in his lengthy and detailed discussion of colour. “To the tropical eye”, Coote observed, “colour is the banquet”. Denying this feast was to miss “half the enjoyments of life that sight can give.”<sup>52</sup> Drawing attention to the dominance of “greys, drabs and browns” in Brisbane’s architecture, the use of strong colour in both domestic and public schemes had the potential to modify the region’s strong light, to “relieve the eye and ... lighten the monotony of form.”<sup>53</sup> Colour could be added to a scheme, via the strategic use of materials, the careful and controlled application of paint, and, more interestingly, by the strategic incorporation of landscape or plantings.

“It is not necessary to be gaudy in the application of colour, or otherwise a barber’s pole would be a choice of art. But let us conceive what might be done with a verandahed wall of the kind I have mentioned. The brick - I take it for economy’s sake - would be the common dull red and grey, which might be in alternate layers. The hardwood framing would to a certain extent, contrast with and lighten this. But if you want the perfection of the obtainable effect you must have a green. Now, green as a mass in colour, is not always desirable, and therefore don’t employ a painter. Plant by your verandah-posts such creepers as, with broad green leaves, will give you flowers of a violet or

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48 Coote, “The Influence of Climate on our Domestic Architecture,” 4.

49 Coote, “The Influence of Climate on our Domestic Architecture,” 7.

50 Coote, “The Influence of Climate on our Domestic Architecture,” 7.

51 Coote, “The Influence of Climate on our Domestic Architecture,” 7.

52 Coote, “The Influence of Climate on our Domestic Architecture,” 5.

53 Coote, “The Influence of Climate on our Domestic Architecture,” 5.

purple hue, and you may get an effect of colour such as the best flower-painter might envy. There is no kind of surface colour can give you that choice variety of tint which the light and shade playing on leaves afford. Then put a thin line of vermilion on the chamfered edges of your upright wall posts - not verandah-posts - and of the window and door frames, and the little common corridor will glow with life."<sup>54</sup>

The employment of local materials, such as Moreton Bay pine and the local cedar was also recommended. The use of such materials, with minimal embellishment added by the painter-decorator, would once again enliven a room and delight the eye. Drawing attention to the common use of tongue and groove boarding for both ceilings and interior walls, Coote explored the benefits of the adding of colour to such an arrangement. He suggested:

"If you desire liveliness run a vermilion or full green line on them. They will give space to your room. If a graver tone is desired, a neat chocolate brown is well, and will connect the colour of the cedar and pine better. Enliven your cornice and your door architraves, in either case with bright red, but most sparingly. If you can afford a thin line of gold on your cornices, do so. Then lay on three coats of good clear varnish, and your room dressed in its own materials, will light up into life, and reflect gladness from every wall. And mind, here you have only the commonest material used in the most economical manner."<sup>55</sup>

Coote's discussion on colour can be linked to his interest in the "necessity" of taste and refinement and its addition to the colony's domestic architecture. "As to the dwellings in which we live, it is surely no libel to say that in nine cases out of ten taste and comfort are equally set at defiance. Yet the home in which the greater part of our existence is spent would repay the attention paid to rendering it pleasant as well as convenient."<sup>56</sup> Coote's interest in taste appears to be motivated by a desire to remove the "inmate" of the Queensland house from influences that he described as demoralising and indulgent,<sup>57</sup> attributes of colonial (and for that matter modern) life which were believed to enhance the individual's susceptibility to climatic influence.<sup>58</sup> Important in this regard is Coote's interest in avoiding the introduction of 'style' into the Queensland home. Coote favoured the style of "Venetian Italian", which with "little modification", he suggested, "would form a graceful and admirable style for [Queensland's] purposes." Observing however that the colony has little access to the skilled labour and materials that were required for such work, he suggested that local architects and builders should instead concentrate on the "methods by which very common materials may be made to serve all the useful purposes of the more costly."<sup>59</sup> "Let everything be as plain and simple in form as the greatest utilitarian could wish, and still you may have a [house] front that it

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54 Coote, "The Influence of Climate on our Domestic Architecture," 6.

55 Coote, "The Influence of Climate on our Domestic Architecture," 6.

56 Coote, "The Influence of Climate on our Domestic Architecture," 6.

57 "Local Intelligence," *The Moreton Bay Courier*, Tuesday 6 November 1860, 2.

58 Golinski, *British Weather and the Climate of the Enlightenment*, 138.

59 Coote, "The Influence of Climate on our Domestic Architecture," 5.

will be a constant pleasure to live within. And to live pleasantly is not a mean object to set before ourselves.”<sup>60</sup>

To build climatically, was thus for Coote also a desire to build simply and practically. This association is maintained by a number of later architects who write on climatic architecture and an Australian nationalism. In 1882, the architect Nahum Barnet (1855-1931), writing for the *Victorian Review* located an architecture that was “indigenous” to Australia in the problem of “climatic building,” one that responded “consistently” and “truthfully” to its immediate environmental circumstances. Disassociating climatic architecture from a professional or learned practice, one based on training or cultivation, Barnet also attached the climatic to the practical and utilitarian. It is “sad to think”, the architect observed,

“that the uncivilised or semi-educated architect should be more consistent than his cultured brother; yet this fact is verified in the first instance by the untutored Indian, who builds his house climatically with a flat roof, over which he distributes reeds and grass, the material tending in a great measure to cool the atmosphere of the interior, and to render the outline agreeable to the eye and in harmony with the rich undergrowth and jungle that skirts his dwelling.”<sup>61</sup>

Classifying the architect of his own day as one concerned primarily with fashion and style, he also suggested that they lacked an appropriate interest in climatic design or the problems of comfort. Indifferent to “the fierce January heat, the sweeping showers of April, or the soothing rain of August” they would rather “suffer martyrdom than ... disturb the projection of [their] Palladian cornice or demolish the snout of [their] Gothic gargoyle.”<sup>62</sup> For Barnet the truth and consistency that could be attached to climatic building ensured both its capacity for beauty and architectural status. Quoting Ruskin, the “prince of all truths”, Barnet argued that the “highest art of all kind is that which conveys the most truth.”<sup>63</sup> Situating Barnet’s and Coote’s practice of honest building within the debate on climatic influence and improvement, an alternative motive for their respective practices presents itself; minimising the colonist’s exposure not only to the physical discomforts and pathologies associated with tropical and subtropical regions but also those qualities of colonial and modern life that were believed to enhance the individual’s susceptibility to such climatic influences. To build simply and economically, would, as Coote suggested, remove the colonist from “coarse and demoralising indulgences.”<sup>64</sup>

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60 Coote, “The Influence of Climate on our Domestic Architecture,” 6. It is unclear whether Coote employed the courtyard plan in his own work. Coote designed and built the first Town Hall for Brisbane (1863-66). In 1867 he also designed 7 houses for A.J. Hockings at South Brisbane. Today the author has yet to find any records relating to these houses.

61 Barnet, “Climatic Architecture,” *Victorian Review*, 7: 37 (1882): 41.

62 Barnet, “Climatic Architecture,” 41.

63 Barnet, “Climatic Architecture,” 41.

64 “Local Intelligence,” 2.

## Conclusion

The interest of Coote's lectures lies in the insights they offer into the problem of building climatically within the young colony of Queensland. They demonstrate an early recognition of the inappropriateness and replication of British models and styles and a willingness to look to analogous countries, such as Algeria, for alternative solutions. They reveal an early concern for the physical comfort of the occupant of the Queensland house and an interest in the salubrity of the colony's architecture. Concerned primarily with the problems of heat (or shade) and ventilation (contaminated atmosphere), Coote's interest also extended to the visual delight offered by the incorporation of colour and landscape into the Queensland house and the benefits of sheltered outdoor or courtyard living. The latter is achieved by Coote's immediate contemporaries in the elevated timber house; the open space beneath offering a retreat for working class families from the heat and humidity of the interior (and often badly ventilated) spaces above. The veranda, commonly surrounding three sides of the middle class home, offered a more sophisticated equivalent. The courtyard house was, however, not embraced until the first-half of the twentieth century, where it was again offered as a solution to the climatic conditions of Queensland and Australia more generally.<sup>65</sup>

Yet the real interest of Coote's thesis is found in his attachment of a climatic architecture to a project of social and moral improvement; the necessity of liberating the "inmate" of the Queensland house from the "low dark wooden shanty" and removing him from "demoralising indulgences". Moving beyond considerations of comfort and salubrity the architect also positioned issues of architectural delight and pleasant living as central to the question of climatic building. Recalling the association of modern living, fashion, and luxury to enhanced climatic susceptibility, and seeking to avoid these, Coote's discussion settled on the pragmatic use of colour and local materials within the Queensland house, to demonstrate a thesis of practical and economic building and the necessary avoidance of European styles. In making these divergences Coote's thesis also speaks to a lingering anxiety within Queensland concerned with the European's susceptibility to climatic influence, the consequences of acclimatisation or long term settlement of the [sub]tropics, and the decline, degeneration and loss of racial integrity these had long suggested.

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<sup>65</sup> See for example Hardy Wilson's plan for Celestion, Pymble, Sydney, 1926, <http://trove.nla.gov.au/version/42102179>; and Karl Langer's *Subtropical Housing* (Brisbane: University of Queensland, 1944).