



# Deccan Queen

## A Spatial Analysis of Poona in the Nineteenth and Early Twentieth Centuries

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Volume 1  
Part 1: Contexts

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*'The insight this had given him into the possibly important part played in Anglo-Indian history by an incipient, intermittent or chronic diarrhoea in the bowels of the raj was one of the few definite academic advantages he felt he had gained by coming to India.'*

**Paul Scott, *A Division of the Spoils*, Granada, Frogmore, 1979.**

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## Note on Terminology

In this dissertation the term '*Anglo-Indian*' has been used to refer to members of British metropolitan society resident (on a temporary basis) in India. *Domiciled European* is the term used to refer to ethnic Britons who settled on a permanent basis in India. *Anglo-Indian* (sans inverted commas) has been used to refer to members of what was once termed the 'Eurasian' community.

In the post-colonial period many of the place-names used by the British have been 'indianised' - Bombay to Mumbai and Madras to Chennai for example. The city the British knew as Poona has since been renamed 'Pune'. In order to remain consistent the city is referred to as 'Poona' during the era of British rule (to 1947). After Independence the city is referred to as 'Pune' (despite the fact that the change of spelling did not occur in 1947 itself). Similarly the nearby British era settlement of Kirkee is termed Khadki post-1947 and Indo-British Bombay is termed Mumbai from the same year.

## Introduction

The central concern of this dissertation is segregation; the form of segregation the British imposed upon the urban environment of its Indian possessions, and in particular how this system functioned in the British culture areas of the city of Poona. The vast documentary record of the British Indian Empire reveals much about the manner in which the British social and urban system operated. That the British sought to impose a social segregation reflected in the urban environment is not questioned, after all even the names of the enclaves that composed mofussil Indo-British settlements, the ‘military cantonment’, the ‘civil lines’ and the ‘native city’ indicate the division of the urban environment on both racial and functional lines.

Although the urban and architectural remnants of the Indian Empire obviously demarcate between that which was ostensibly ‘Indian’ and that which was perceived as ‘British’, the manner in which the system of social segregation was imposed upon both populations and the rationale behind racial and functional segregation is no longer explicit long after the dissolution of the Imperial system. Unlike South Africa, where racial segregation was mediated and imposed by legislation, in the subcontinent the division of the population into racial and functional communities was achieved by less formal means.

The major aim of this thesis is therefore to explore the physical organisation and demography of Poona (representing in this case an exemplar of a mofussil<sup>1</sup> Indo-British settlement) utilising primary sources that have hitherto not been rigorously analysed. A traditional exploration of issues concerning segregation would likely depend upon the *Census of India*, the most logical and easily accessible comprehensive source of demographic data concerning settlements in India. The *published* statistics available in the *Census* cannot, however, be utilised to investigate spatial structure of Poona, (or any city for that matter) in a fine-grained way; at the scale of the street or block, since census tables compare settlements to other settlements, districts to districts or province to province and do not normally break down individual cities into their constituent suburbs or streets. Despite this drawback the *Census* is useful in exploring the demography of the total population of a

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<sup>1</sup> An inland or plain area.

city-site, and also for comparing the demography of one settlement to another.

In order to provide a fine ‘resolution’ the analysis in this thesis is based upon uniting selected cartographic resources describing Poona with the demographic resources represented by selected, extant address directories for three target years (1876-9, 1905 and 1924) via a *Geographical Information System* (GIS).

This methodology originally derives from the ‘neighbourhood archaeology’ approach developed within the discipline of Historical Archaeology, and the specific design of the databases and GIS model utilised in this dissertation has already been applied in an (earlier) project undertaken by this author to the Rocks locality in the city of Sydney<sup>2</sup>. The analysis of the city operates at the macro urban scale (in contrast with the more usual down-scale archaeological intervention represented by the ‘houseslot’ excavation), utilising the historical maps incorporated into the GIS models as a defacto ‘archaeological’ record that describes the up-scale physical organisation of the case-study city to an adequate degree of accuracy. The process of model creation and the theoretical adaptation of the methodology from its original form have been extensively discussed in *Chapter 4*.

This suite of three models has been designed to detect correspondence (or non-correspondence) between the historically defined ‘tripartite’ plan model (the outline of which discussed in *Chapter 1*) that has traditionally been used to describe the spatial organisation of Indo-British settlements in the mofussil and the actual demographic and spatial nature of a specific settlement - in this instance the case-study site of Poona. The segregative qualities of the tripartite plan (that divided cities into ‘native city’, civil lines and military cantonment) could not have been applied in an absolute or inflexible fashion without destabilising British colonial society. The continued governance of the Indian Empire, the smooth operation of British residential enclaves and even the functioning of the bungalow-compounds of individual elite British households depended upon Indian soldiers, Indian clerks, Indian traders and Indian domestic staff, rendering interaction between racial and (occupationally based) functional groups essential.

There are therefore broad grounds to suggest that although the tripartite-plan template might have been broadly imposed upon Indo-British settlement sites in the mofussil, that

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<sup>2</sup> Mullen, Wayne, *Just Who are the People in your Neighbourhood*, Unpublished Honours Thesis, University of Sydney, 1993.

spatial or demographic solutions had to be found that would foster interaction between the groups ostensibly separated by the urban plan, while maintaining the overall pattern and therefore symbolic meaning of segregation. Interesting areas of non-correspondence between the historically defined abstract tripartite plan and the actual socio-spatial organisation of Poona has been revealed by analysis of the GIS models.

Another issue concerning the degree of correspondence or non-correspondence between qualitative and quantitative historical data-sets arises in addition to the aim discussed above. The British authorities engaged in a process of sanitary reform, particularly from the mid-nineteenth century after the 'Mutiny' revealed that the poor health and high mortality rates among British soldiers stationed in India resulted in the poor operational effectiveness of European regiments. Due to the environmental theories of disease causation and control prevalent at the time, environmental solutions were sought for perceived environmental problems and public health reaction to this crisis primarily involved architecture and town planning.

Planning and architectural design conventions were developed and legislation enacted that sought to improve the health, prevent disease and reduce high mortality rates of the British population resident in India. It is relatively easy to distil from the relevant legislation, royal commissions and medical reports the manner in which governmental authorities hoped that the built environment would be altered by application of contemporary public health theories. The degree to which public health theories or legislation actually impacted upon the fabric and attendant demography of tripartite plan cities has not, however, been clear.

The central and provincial governments had enormous power to dictate the location and appearance of the British sectors of Indo-British settlements, yet this power was not absolute, given that government did not possess limitless financial resources. The channelling of bureaucratic power into matters of actual planning and design (as compared to more amorphous area of regulation) was strong where the bureaucracy maintained budgetary control over architectural or town planning projects. Government could, consequently, most strongly intervene in the public sphere; the design of public buildings or in the design of military accommodation (barracks) for the British other ranks. The government did not attempt to assume overall construction responsibility for the residential accommodation of the majority of the British population, preferring the more economical measure of allowing Indian

developers to construct rental accommodation for officers and administrators.

The GIS models of Poona have been used to assess, where possible and appropriate (given the nature of the data collected), the influence on the urban environment of the various public health Acts, regulations and planning/design conventions informed by the then dominant miasmatic theory. The analysis demonstrates that although miasmatic theories of disease causation did influence several scales and areas of urban development within the city, this influence was not evenly observable across the British culture area of the settlement. There was consequently noticeable non-correspondence between the intention of contemporary public health theories and appropriate design covenants and the socio-spatial organisation of the city.

Although the three models have been used to generate the results of the spatial and demographic ‘survey’ of the city, they also represent independent research tools that exist to be used by those interested in the research of the urban environment of colonial India, or those examining issues of inter or intra-imperial urban study.

### ***Historiography of the Built Environment of Colonial India***

The history of the British presence in India is a subject that has attracted far more academic attention than the history of what the British *built* in India or the material remains that they left behind in the subcontinent once the Raj was dissolved.

British colonial architecture, whether despised or liked has always occupied an equivocal position in India as an architecture of colonialism and therefore an architecture of the coloniser. Even amongst the British, Indian colonial architecture was never conceived or perceived of as ‘great’, was often dismissed as merely competent, and at worst was denounced as derivative or confused in its identity (a criticism particularly made of the indo-saracenic style). In addition, some of the more humble and utilitarian constructions were hardly considered architecture at all by those who promoted the discipline as an art-form as distinct from the more prosaic act of mere ‘building’. Thankfully as the reality and memory of empire have faded, efforts have been made to protect the significant architectural legacy of the British in India.

### ***Literature Review***

Perhaps the first real attempt at a critical ‘analysis’ of British colonial architecture in India aimed at the wider metropolitan public comprised the final chapter in the *History of the Modern Styles of Architecture* written by James Fergusson in 1873, a book published over two centuries after the first permanent British presence in the subcontinent.<sup>3</sup>

Until recently no extensive body of literature concerning Indo-British<sup>4</sup> architecture or the spatial morphology of Indo-British city-sites existed. Indeed for a long period after Fergusson’s effort very little was written pertaining to Indo-British architecture or town planning excepting those professional articles that appeared in British and Indian journals such as *The Bombay Builder*, *The Transactions* of the Royal Institute of British Architects or internal papers originating from the Indian PWD or similar bureaucracies.

This paucity existed for a number of reasons. Although the British were present in India from the seventeenth until the mid-twentieth century, the British originally had little faith in the tenure of their territorial rule in the subcontinent. Consequently, many of the structures and settlements that they built were of a somewhat transient nature and were termed *cutcha* (neither constructed out of the most durable of materials or with posterity in mind). The apparent transience of the built environment was mirrored by the equal transience of the local British population. India was never a settler colony in the manner of British territories with temperate climates, and British residents usually only remained in India for limited tours of duty. In addition much colonial architecture in India was utilitarian in nature, and its design was mostly in the hands of British amateurs, Indian builders, or most commonly military engineers. Professional architects were rare, and those who did establish practices in India were mostly confined to the Presidency Towns of Bombay, Calcutta and Madras.

If the history colonial Indian architecture has only made a belated impact upon academic discourse, the history and archaeology of colonial town planning in India has excited even less interest until the very recent past. With the decay of the European colonial empires it was perhaps inevitable that academic interest would eventually focus upon the physical remnants of European imperialism in the subcontinent. Thankfully the ongoing development of colonial and post-colonial studies has eventuated in a relative explosion of

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<sup>3</sup> Fergusson, James, *History of the Modern Styles of Architecture*, John Murray, London, 1873.

<sup>4</sup> The terms ‘Indo-British’ and ‘Anglo-Indian’ have been used interchangeably in this text.



research.

Breaking the long silence after Fergusson's chapter on Indian colonial architecture Sten Nilsson helped push the study of European architecture and settlements in India into the mainstream of academia with his, *European Architecture in India 1750-1850*<sup>5</sup>. This work covers the development of colonial architectural styles and includes an interesting case study of one of the (often forgotten) Danish settlements in India, in this case 'Tranquebar'. In the period between Fergusson and Nilsson the silence was not absolute with regard to 'Anglo-Indian' architecture and town planning. It was only academia that had not as yet brought the subject to prominence and there had always existed a degree of interest concerning British India that emanated from the those persons in Britain who had had careers there (many of whom published their memoirs) or their families. It was from such interested amateur historians that books such as *Ooty Preserved*<sup>6</sup>, a monograph describing a British hill station in the Nilgiris, were published.

### ***Historical Sources***<sup>7</sup>

*The Census of India* and the regional censuses form a solid statistical base from which to draw data for a study concerning urbanisation in India. *The Imperial Census of India* has been utilised for those Census deciles that come closest to the period under examination. The target years for this thesis, (1876-)1879, 1905 and 1924 sit relatively close to the census years 1871, 1901 and 1921 respectively. Reference to census data has always been made with care, bearing in mind that the *Census*, although thorough, and purportedly an exercise in the objective enumeration of the population incorporates its own biases and ambiguities. Papers such as *Age and Empire in the Indian Census*<sup>8</sup> admirably describe the systems utilised by actuaries to 'smooth' unruly data derived from questions posed to a semi-literate populace.

In addition to the comprehensive and indispensable *Census of India*, the major

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<sup>5</sup> Nilsson, Sten, *European Architecture in India 1750-1850*, Faber and Faber, London, 1968.

<sup>6</sup> Panter-Downes, M., *Ooty Preserved: A Victorian Hill Station in India*, Hamish Hamilton, London, 1967.

<sup>7</sup> Here praise should be given to the British Library and Albertine Gaur for the excellent collection of papers published as *South Asian Studies*, that discuss categories of South Asian materials available in the British Library in particular and in the UK in general. (Gaur, Albertine, *South Asian Studies*, British Library Occasional Papers 7, British Library, London, 1986).

<sup>8</sup> Alborn, Timothy L., 'Age and Empire in the Indian Census', *Journal of Interdisciplinary History*, Vol. 30, (Continued Overleaf)

primary sources underpinning this analysis are demographic and cartographic in nature. Two maps form the basis of the GIS models of Poona as developed; *D11:34 Poona 1 1879* (*British Library*), and *D11: 34 Poona 2 1905-6*, both of which are held within the collections of the India Office Library and Records in London. The demographic primary data incorporated into the GIS models upon is derived from address directories; the *Guide to Poona and Kirkee for the Season 1876*<sup>9</sup>, *Thacker's Indian Directory 1905, Embracing the Whole of British India and Native States...*<sup>10</sup> and *The Times of India Calendar and Directory for 1924*.<sup>11</sup>

A number of other historical sources proved indispensable. *Parliamentary Paper XIX, 1863, (Report of Commissioners inquiring into the Sanitary State of the Army in India)* with its brief to describe in detail the conditions of military life in the British Indian Empire is probably the most comprehensive and important of these.<sup>12</sup> The Report comprises a treasure-trove of architectural and planning data and incorporates abstracts describing physical conditions in every operational military station in India at that time in addition to publishing plans of a range of structures built therein.

The *Gazetteers of India* (provincial and Imperial) are another important source of useful data, providing historical information describing virtually every aspect of British possessions in India, including the populace, economy, climate, aspects of ecology and history. In particular the, *Bombay Presidency Gazetteer*<sup>13</sup> from 1885, and the 1886 and 1909 editions of the *Imperial Gazetteer of India*<sup>14</sup> have been utilised for data concerning the history of the population of the Poona City and District.

The Indian Medical Department published many reports containing statistics quantifying the health of the British and military populations, as well as the physical

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No. 1, 1999, pp. 61-89.

<sup>9</sup> Treacher and Co. Ltd., *Guide to Poona and Kirkee for the Season 1876*, Treacher and Co. Ltd. Poona, 1876.

<sup>10</sup> Thacker, Spink and Co., *Thacker's Indian Directory 1905, Embracing the Whole of British India and Native States...*, Thacker, Spink and Co., Calcutta, 1905.

<sup>11</sup> The Times of India, *The Times of India Calendar and Directory for 1924*, The Times of India, Bombay, 1924.

<sup>12</sup> Herbert, Sidney, (British Parliamentary Papers, XIX, 1863), *Report of Commissioners inquiring into the Sanitary State of the Army in India*, Vol. XIX, Pt 1, House of Commons, London, 1863.

<sup>13</sup> Government of the Bombay Presidency, *Gazetteer, Bombay Presidency*, Vol. XVIII, Pt. ii, Government Central Press, Bombay, 1885.

<sup>14</sup> Hunter, W.W., Director General of Statistics, *The Imperial Gazetteer of India*, Vol. XI, HMSO, London, 1886. Government of India, *The Imperial Gazetteer of India*, The Clarendon Press, Oxford, 1909.

conditions within specific military cantonments. The most useful of the many IMD publications that concentrate upon the city of Poona are Leith's *Report on the Sanitary Condition of the Bombay Army*<sup>15</sup>, and the *Report on the Sanitary State of the City of Poona*.<sup>16</sup> Both documents describe in detail conditions in the lines in Poona and the regimental health of both British Other Ranks and the Officer class resident in the military cantonment.

A valuable documentary survival from the early colonial period prior to the conquest of Poona by British forces are the extant records from the British Residency in Poona. A portion of the correspondence from the Residency has been published as part of *English Records of Maratha History*.<sup>17</sup> Correspondence and dispatches originating higher-up in the administrative hierarchy concerning the British position in Poona have also survived and are accessible and these include despatches to (and from) the Governor General.<sup>18</sup>

Documents of state, including treaties and legislation were of particular interest. Aitchison's, *A Collection of Treaties, Engagements and Sanads Relating to India and Neighbouring Countries*<sup>19</sup> represents a useful compilation of the treaties ratified between the British and indigenous Indian powers, including those Anglo-Maratha treaties that illuminate the changing relationship between the Maratha and British polities. On the legislative front several *Acts* explicitly sought to regulate public health and consequently the Indo-British built environment (see *Chapter 3*) in particular the *Cantonment and Contagious Diseases Acts*<sup>20</sup> which established a regulatory public health framework for military cantonments. Legislation derived from 'central' Indian sources can be located in the *All India Reports*.

*Hansard* transcripts from the Houses of Commons and Lords at the Imperial Parliament at Westminster represent an important source that can be used to examine

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<sup>15</sup> Leith, A.H., *Report on the Sanitary Condition of the Bombay Army*, IMD, Bombay, 1864.

<sup>16</sup> Leith, A.H., 'Report on the Sanitary State of the City of Poona...with Rough notes by Maj. T. Martin', *Selections from the Records of the Bombay Government*, New series, No. 79, Bombay, 1864.

<sup>17</sup> Sardesai, G.S., (ed.), *English Records of Maratha History, Poona Residency Correspondence*, Vol. 13 [Poona Affairs (Elphinstone's Embassy) (Part II, 1816-1818)], Government Central Press, Bombay, 1958.

<sup>18</sup> Martin, R.M., (ed.), *The Despatches, Minutes and Correspondence of the Marquis Wellesley*, Vol. III, William Allen, London, 1837.

<sup>19</sup> Aitchison, C.U., *A Collection of Treaties, Engagements and Sanads Relating to India and Neighbouring Countries*, Vol. VII, Pt. i, Government of India, Calcutta, 1931.

<sup>20</sup> *Contagious Diseases and Cantonment Act*, Vol. LXXVI, 1888, folio 185ff.

metropolitan attitudes concerning the British Imperial expansion in India. Although British Parliamentary interest in the Empire has been described as lacklustre, there was often opposition in the Imperial Parliament to expansions of British interests and possessions overseas. Debates were recorded in *Hansard* that are of particular interest, especially those concerning conflicts such as the Anglo-Maratha Wars, and the ratification of treaties undertaken by the British in India.

Less formal historical sources also survive, including the recorded oral histories of certain (ex-)members of ‘Anglo-Indian’ community. The Imperial War Museum in London holds a collection of such recordings, and a similar sequence of recordings formed the basis of Allen’s excellent populist book *Plain Tales From the Raj*.<sup>21</sup> Oral histories (which of course only describe the terminal portion of British rule in the subcontinent) remain valuable since they not only record the recollections of the elite, but cover (in the cases listed above at least) an entire cross section of ‘Anglo-Indian’ society. Furthermore, some researchers pose questions to interviewees regarding personal or contentious matters including homosexuality and prostitution, matters that remain difficult to research utilising more formal and traditional historical documents.

### ***Contextual Sources***

#### *Architecture*

Although there is no scope to describe in a few paragraphs all of the recently published works concerning the colonial architecture of India, a short summary has been attempted. One of the works of great utility with respect to this study is Peter Scriver’s doctoral thesis, *Rationalisation, Standardisation and Control in Design*<sup>22</sup>, in which he attempts to trace the drive toward architectural standardisation developed by the British bureaucracy in India. As part of his effort the researcher accessed the records of the Indian Public Works Department, and has published many maps and plans that would not otherwise be readily accessible.

Another indispensable text is Samita Gupta’s *Architecture and the Raj*<sup>23</sup> which

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<sup>21</sup> Allen, C., (ed.), *Plain Tales From the Raj*, Futura, London, 1976.

<sup>22</sup> Scriver, P., *Rationalisation, Standardisation and Control in Design*, Unpublished PhD Thesis, Delft, 1995.

<sup>23</sup> Gupta, Samita, *Architecture and the Raj*, BR Publishing Corp., Delhi, 1985.

particularly concerns itself with the regional styles of architecture developed in Western India and the Deccan, the region that encompasses the case-study site for this dissertation. Although Maratha architectural styles in Poona form a minor (descriptive) part of this thesis, the subject has been examined, and here reference to Mate's *Maratha Architecture*<sup>24</sup> should be made.

Unlike many British publications of the era, the *Journal of the Royal Institute of British Architects* and in addition the same organisation's *Transactions* paid due attention to the works of Indian colleagues, publishing papers such as 'Architecture in India'<sup>25</sup> and 'The Modern Barrack, Its Plan and Construction'.<sup>26</sup> Another British publication, *The Builder* also sought to cover architectural issues of the day that were of concern in British India including 'the question' of Barracks and Health in India. The equivalent publication produced within 'Anglo-Indian' professional architectural circles, *The Bombay Builder* proved highly useful. The journal's base in Bombay and its Indian focus meant that British architectural additions to Poona were well covered.

#### *Town Planning/ Colonial Cities /Urbanisation*

The category of 'colonial city' is one that has only recently been perceived as of theoretical interest; constructed and analysed by academia despite the fact that urban agglomerations influenced or founded as part of the European imperial expansion have existed for over half a millennium. Even as late as 1980 an academic could quite baldly state;

'The history of urbanisation in India: Has such a field even developed yet? Experts have asserted it has not-or, at least, nearly not.'<sup>27</sup>

Starting from Redfield and Singer's attempt to define the colonial city in the 50s<sup>28</sup> there has since been a great deal of academic debate concerning the role, function and ordering of the colonial urban environment. Pertinent to this study, Anthony King in *Urbanism, Colonialism*

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<sup>24</sup> Mate, M.S., *Maratha Architecture: 1650-1850AD*, University of Poona, Poona, 1959.

<sup>25</sup> Begg, John, 'Architecture in India', *RIBA Journal*, Vol. XXVII, No. 14, 29 May, 1920, pp. 333-349.

<sup>26</sup> Bell, E.I., 'The Modern Barrack, Its Plan and Construction', *TRIBA*, 1880-81, London, 1881, pp. 15-40.

<sup>27</sup> Spodek, H., 'Studying the History of Urbanization in India', *Journal of Urban History*, Vol. 6, No. 3., May 1980, p. 251.

<sup>28</sup> Redfield, R. and Singer, M., 'The Cultural Role of Cities', *Economic Development and Cultural Change*, Vol. 8, No. 1, 1954.

and the World Economy<sup>29</sup> makes an attempt to clarify the concept of colonial city and synthesise and summarise the many definitions and characteristics of this broad category of city.

Mudbiri's *The Town and the Raj*<sup>30</sup> is one of the few monographs that takes as its explicit subject urbanisation in Colonial India. *The City in Indian History*<sup>31</sup> is another that seeks to address the subject of Indian urbanisation during the colonial period, although its true brief is wider, its contributors dealing with earlier and purely indigenous forms of urbanisation. Grewal's *Urban Morphology Under Colonial Rule*<sup>32</sup> is a paper that provides a good summary of the 'tripartite' town plan propagated by the British in India.

As a rule much of the research concerning colonial urbanisation in India concentrates upon the 'Presidency Towns'; the cities of Bombay, Madras and Calcutta, which, due to their dominance in terms of size and economic importance, tend to eclipse or obscure the role and nature of smaller settlements. *The Indian Metropolis*<sup>33</sup> for example focuses upon these three pre-eminent mercantile cities along with New Delhi, later the capital of British India. The available research papers demonstrate a similar focus upon the major port cities; *Discovering the Mercantile City in South Asia*<sup>34</sup> uses Calcutta as an example, whilst *Colonial Urbanism*<sup>35</sup> takes Madras as its exemplar.

Chattopadhyay's paper *Blurring Boundaries* presents an analysis of residence and street plans in Calcutta that is of particular interest.<sup>36</sup> She asserts that racial divisions within Calcutta between the "White" and "Black" Towns were fluid in character and that the divisions themselves "...rest upon scant evidence, [and] on a static reading of urban

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<sup>29</sup> King, A.D., *Urbanism, Colonialism and the World Economy*, Routledge, London, 1990.

<sup>30</sup> Mudbidri, A.G., 'The Town and the Raj', *Sociological Publications in Honour of Doctor K. Ishwaran*, Reliance Publishing, New Delhi, Vol. IX, 1992.

<sup>31</sup> Banga, Indu, (ed.), *The City in Indian History*, Manohar, New Delhi, 1994.

<sup>32</sup> Grewal, Reeta, 'Urban Morphology Under Colonial Rule', in Banga, Indu, (ed.), *The City in Indian History*, Manohar, New Delhi 1994.

<sup>33</sup> Evenson, Norma, *The Indian Metropolis: A View Towards the West*, Yale University Press, New Haven, 1989.

<sup>34</sup> Hornsby, S.J., 'Discovering the Mercantile City in South Asia: The Example of Early Nineteenth Century Calcutta', *Journal of Historical Geography*, Vol. 23, No. 2, 1997, pp. 135-150.

<sup>35</sup> Neild, S.M., 'Colonial Urbanism: The Development of Madras City in the Eighteenth and Nineteenth Centuries', *Modern Asian Studies*, Vol. 13, No. 2, 1979, pp.217-246.

<sup>36</sup> Chattopadhyay, S., 'Blurring Boundaries: The Limits of "White Town" in Colonial Calcutta', *Journal of the Society of Architectural Historians*, Vol. 59, No. 2, 2000, p.154.

plans (a reluctance to move between the city scale and the architectural scale)...<sup>37</sup> Her analysis suggests that the city and residential scale boundaries imposed by the British that were designed to separate races were significantly porous, conclusions potentially applicable to settlements in the mofussil as well as in the Presidency Towns.

The morphology of those mofussil sites where British ‘suburban’ enclaves were appended to pre-existing Indian settlements was very different to the urban environment in the older Presidency capitals, where British settlement was concentrated in a (once) fortified core that was surrounded by an expansive (and expanding) indigenous hinterland. One of course cannot discuss the study of the Indo-British urban environment and particularly study of mofussil sites without paying further tribute to the research of Anthony King. Above all it is King’s work that provided a coherent theoretical basis from which investigation of the Indo-British urban environment could proceed away from a solely descriptive historiography through his attempts to explain spatial patterning within Indo-British cities. It was King, for example, who extensively analysed the British attempt to reduce morbidity and mortality rates by modifying the man-environment relationship in their stations. His efforts have in particular stressed the connection of abstract public health theories to settlement and architectural forms in British India.<sup>38</sup>

In *Colonial Urban Development: Culture Social Power and Environment*,<sup>39</sup> King includes a detailed case study of the development of Delhi as capital of British India. Since this particular case-study provided much of the inspiration for this dissertation it is worthwhile making a slight digression and quoting from the relevant points in his text;

‘Because of the inter-locking of racial, social and occupation indices of stratification, a clear pattern of social and racial segregation was established throughout the city [Delhi]. Beginning at Government House, this followed an anti-clockwise direction running around the centre and finishing on the boundaries of Paharganj. It began as white (or pink) at Government House, continued - with the addition of some acculturated, senior Indians - as white round the south side of

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<sup>37</sup> Chattopadhyay, S., ‘Blurring Boundaries: The Limits of “White Town” in Colonial Calcutta’, *Journal of the Society of Architectural Historians*, Vol. 59, No. 2, 2000, p.155.

<sup>38</sup> King, Anthony D., *Colonial Urban Development: Culture Social Power and Environment*, Routledge Kegan and Paul, London, 1976.

<sup>39</sup> King, Anthony D., *Colonial Urban Development: Culture Social Power and Environment*, Routledge (Continued Overleaf)

Kingsway, became increasingly brown on the north side of the city until, with the addition of European and Anglo-Indian clerks in the north-west, it shaded fully into brown in the Indian clerks' quarters, and into darker shades with the peons' and sweepers section to their north. Symbolically, the Anglo-Indians...were located outside the walls of the indigenous city and on the perimeter of the imperial capital.<sup>40</sup>

The above quote primarily addresses the matter of race, however, more is stated concerning occupation and status below.

'Taking the numbered ranks [of occupation] indicated in the "Warrant of Precedence" and plotting these against residential allocation, some insight can be gained into the relative social status of each road in the new imperial city...In this way the roads can be ranked, with reasonable accuracy, throughout most of the capital area...

In many cases persons of equivalent rank, working in the same department, lived in the same block of accommodation. Status consciousness and the symbols by which it was known were as visible as in the traditional caste-community of the indigenous village.<sup>41</sup>

Delhi can be interpreted as a distillation of the long-established British settlement system in India of cantonment, civil lines and 'native city'. The new Imperial capital had to serve, and was populated administrators used to this system which categorised, stratified and segregated residents in terms of race and occupation.

In (New) Delhi - a settlement planned by government fiat and quickly constructed - 'rules' reifying patterns of status and race were rigidly hard-wired into the built-environment and applied to residential allocation. In the older and technically unplanned stations of mofussil India, were similarly stark patterns of status and race equally visible? One would expect the enclaves of 'tripartite' settlements to be strongly segregated and stratified but does this presumption represent a demographic and physical reality or not?

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Kegan and Paul, London, 1976.

<sup>40</sup> King, Anthony D., *Colonial Urban Development: Culture Social Power and Environment*, Routledge Kegan and Paul, London, 1976, p.250-251.

<sup>41</sup> King, Anthony D., *Colonial Urban Development: Culture Social Power and Environment*, Routledge (Continued Overleaf)



These were the questions that originally formed the basis for this study of the city of Poona.

King has analysed the Indo-British built environment at scales smaller than that of the holistic settlement. *The Bungalow*<sup>42</sup> for example takes this example of Indo-British residential architectural innovation and traces its development, its dissemination throughout the world, and its consequent impact as a global residential archetype. Another strand of his research investigates the westernisation of indigenous Indian architectural domestic forms, a process that led to the increasing specialisation of residential spaces.<sup>43</sup>

### *Military History*

There has never been a shortage of military histories written about the British Empire in India. The Empire was itself a military construct, and the majority of British residents in India were consequently members of the armed forces, many of whom wrote memoirs of their careers in the subcontinent. The shelves of many (older) libraries are crowded with tales of adventure (many best forgotten) written by senior officers reminiscing about their subaltern years (Churchill was one such author, describing his life as an officer in India, including time spent in Poona in his *Early Life*<sup>44</sup>). Much of the military history that is has been written could be categorised as regimental history, personal remembrance, or even as battles or campaigns history. Histories of this kind can of course be of use, and campaign and battle histories have been referred to in order to garner an understanding of the various Anglo-Maratha Wars and of the battles, (such as the Battle of Kirkee) that took place as part of those campaigns. *A Local History of Poona and its Battlefields*<sup>45</sup>, represents perhaps the best mechanical and graphic descriptions of the battles that took place in and around the case-study city.

Several thorough histories of the Indian Army, the Company Army and the British Army in India have been written including *The Military System of India*<sup>46</sup>, *The Indian Army:*

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Kegan and Paul, London, 1976, p.251-253.

<sup>42</sup> King, Anthony D., *The Bungalow: The Production of a Global Culture*, Routledge Kegan and Paul, London, 1984.

<sup>43</sup> See King, Anthony D., 'The Westernisation of Domestic Architecture in India', *Art and Archaeology Research Papers*, June 1977, pp. 32-41.

<sup>44</sup> Churchill, Winston S., *My Early Life*, Fontana, Glasgow, 1963.

<sup>45</sup> Shakespear, Col. L.W., *A Local History of Poona and its Battlefields*, Macmillan, London, 1916.

<sup>46</sup> Saxena, K., *The Military System of India 1850-1900*, Sterling Publishers, New Delhi, 1974.

*The Garrison of British Imperial India*<sup>47</sup> and Mollo's *The Indian Army*<sup>48</sup>. These three monographs are primarily administrative or institutional histories. Social histories of the Indian and British Armies that take a less formal approach and concentrate on the lifestyle of British soldiers and officers and upon the role of the army as a social organisation include *For Queen and Country*<sup>49</sup>, although descriptions or analyses of the lifeways of the (unglamorous) British other rank in India remain a rarity.

#### *Maratha History and the History of Poona*

Ironically, probably the best English language history of the Maratha peoples remains Grant Duff's *A History of the Mahrattas*<sup>50</sup> written in 1826. This statement intends no insult to contemporary students of Maratha history, merely that as author Grant Duff had access to documents no longer extant that chronicle British-Maratha relations, including those lost in the destruction of the Poona Residency. Furthermore Duff was present at the Residency with Mountstuart Elphinstone during the Third Anglo-Maratha War and the author of this particular chronicle was therefore an eyewitness to at least some of the events described therein. His *History* bears the impact of this experience. Elphinstone himself, as Resident and later Commissioner in Poona, was a major political figure of the period and has been the subject of a number of studies including Choksey's *Mountstuart Elphinstone*,<sup>51</sup> and Varma's *Mountstuart Elphinstone in Maharashtra*.<sup>52</sup> Another monograph, *The Military System of the Marathas*<sup>53</sup> includes an interesting chapter concerning the role of (non-official and official) British officers and European trained soldiers as part of indigenous Maratha armies.

Very few works deal explicitly with the urban history of the city of Poona alone. Meera Kosambi has written an (unpublished) comparative study of the cities of Bombay and

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<sup>47</sup> Heathcote, T.A., *The Indian Army: The Garrison of British Imperial India, 1822-1922*, Wren Publishing, Melbourne, 1974.

<sup>48</sup> Mollo, Boris, *The British Army from Old Photographs*, J.M. Dent & Sons, London, 1975.

<sup>49</sup> Farwell, Byron, *For Queen and Country: A Social History of the Victorian and Edwardian Army*, Allen Lane, London, 1987.

<sup>50</sup> Grant Duff, James, *A History of the Mahrattas*, Longman Rees Orme Brown and Green, London, 1826.

<sup>51</sup> Choksey, R.D., *Mountstuart Elphinstone*, Popular Prakashan Press, Bombay, 1971, pp.170-191.

<sup>52</sup> Varma, S.V., *Mountstuart Elphinstone in Maharashtra: A Study of the Territories Conquered from the Peshwas*, K.P. Bagchi and Co., Calcutta, 1981.

<sup>53</sup> Sen, S.N., *The Military System of the Marathas*, Orient Longmans, Calcutta, 1958.

Poona (entitled *Bombay and Poona: A Socio-Ecological Study of Two Indian Cities, 1650-1900*)<sup>54</sup>. Although her work represents a thorough analysis of the colonial city of Poona, her data is primarily derived from the *Census of India*, in comparison with the methodology utilised in this dissertation which depends upon demographic data primarily derived from address directories. Another, earlier study of Poona is Gadgil's *Poona, A Socioeconomic Survey*.<sup>55</sup> Published in two parts this work comprises a thorough analysis of the historical demography of the historical core of the city of Poona, and it is to this work that reference was made in order to confirm the Peth boundaries of the late nineteenth and early twentieth century city. Gokhale's, *Poona in the Eighteenth Century*<sup>56</sup> is another indispensable aid to the study of Poona, it focusing particularly upon historical Poona prior to the British conquest of the city.

Although there is perhaps a shortage of academic history that takes Poona as its subject, a number of publications including travel guides and amateur histories fill the vacuum. The *History of Poona Cantonment*<sup>57</sup> published by Moledina (with the assistance and at the suggestion of members of the 'Poona and Kirkee Cantonments Citizens' Association') is the best of these 'amateur' histories. *A Handbook of Poona*<sup>58</sup>, an early travel guide designed for visitors to the city, *Poona in Bygone Days*<sup>59</sup>, the 1930s souvenir conference travel guide *Bombay-Poona*<sup>60</sup>, and even parts of the hagiographic *The Life of Sir Jamsetjee Jeejeebhoy*<sup>61</sup> (useful for descriptions of the public infrastructure that the baronet sponsored or donated) all prove useful as 'municipal' histories of the city that deal with the past at the scale of the street and of the individual building. All of these publications provide small details concerning local myths, localities and landmarks, data not available from traditional academic sources.

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<sup>54</sup> Kosambi, M., *Bombay and Poona: A Socio-Ecological Study of Two Indian Cities, 1650-1900*, Unpublished PhD Thesis, University of Stockholm, Stockholm, 1980.

<sup>55</sup> Gadgil, D.R., *Poona, A Socioeconomic Survey Part I*, Poona, 1945, Gadgil, D.R., *Poona, A Socioeconomic Survey Part II*, Poona, 1952.

<sup>56</sup> Gokhale, B.G., *Poona in the Eighteenth Century*, Oxford University Press, Delhi, 1988.

<sup>57</sup> Moledina, M.H., *History of Poona Cantonment 1818-1953*. Poona and Kirkee Cantonments', Poona Citizens Assoc', Poona, 1953.

<sup>58</sup> Wadekar, D.D., and Kale, D.V., (eds.), *A Handbook of Poona*, Kesari Mahratta Trust, Poona, 1934.

<sup>59</sup> Parasnis, D.B., *Poona in Bygone Days*, The Times Press, Bombay, 1921.

<sup>60</sup> Indian Science Congress, *Bombay-Poona- A Souvenir of the 21<sup>st</sup> Meeting of the Indian Science Congress...*, The Aryabhushan Press, Poona, 1934.

<sup>61</sup> Wadia, J.H., *The Life of Sir Jamsetjee Jeejeebhoy*, Sir J.J. Parsee Benevolent Institution, Bombay, 1950.

### *Case Studies*

Many case studies of Indo-British settlements have been written, although most of these are histories of the Presidency Towns of Bombay Calcutta and Madras such as Tindall's *City of Gold*<sup>62</sup> which concentrates upon Bombay. Outside of this triumvirate several important case studies or city histories have been published. One of the most interesting of these is Oldenburg's *The Making of Colonial Lucknow* a case-study that traces the development of this major Indian city with firm reference to British attempts to impose a sanitary regime. A more recent contribution has been a city history of colonial Karachi. *The Dual City*<sup>63</sup> traces the history of Karachi during the colonial period, but it remains quite a traditional city history being primarily descriptive in nature and running no particular theoretical line, although it does publish a number of very interesting and detailed historical maps.

Whilst not case studies in the sense of the other works listed above, Dane Kennedy's *The Magic Mountains*<sup>64</sup> and Vikram Bhatt's *Resorts of the Raj*<sup>65</sup> both deal with the history of British Hill Stations in India, another of the 'categories' of settlement (the military cantonment is one other) developed in India by the British. The Hill Station is a subject that deserves further exploration by academicians. The British did not merely build Hill Stations; residential retreats built high in the mountains in India alone. British Hill Stations appeared in African colonies and even in China, although little research has been carried out upon similarities between widely dispersed colonial Hill Stations and their Indian progenitors.

Very few publications deal with other categories of settlement, although Jacobs' *Cantonments in India*<sup>66</sup> focuses upon the military cantonment, even though the author takes a legalistic rather than a social or architectural approach to the analysis of their growth.

### *Medical Geography*

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<sup>62</sup> Tindall, Gillian, *City of Gold: The Biography of Bombay*, Maurice Temple Smith Ltd., London, 1982.

<sup>63</sup> Lari, Mihail and Yasmeen, *The Dual City: Karachi During the Raj*, Oxford University Press, Karachi, 1996.

<sup>64</sup> Kennedy, Dane Keith, *The Magic Mountains: Hill Stations and the British Raj*, University of California Press, Berkeley, 1996.

<sup>65</sup> Bhatt, Vikram, *Resorts of the Raj: The Hill Stations of India*, Grantha Corp, Middletown, 1998.

<sup>66</sup> Jacob, T. *Cantonments in India: Evolution and Growth*, Reliance Publishing House, New Delhi, 1994.

Several additional fields of research have direct impact upon the issues addressed in this thesis. One such nexus concerns the medical geography of colonial India, a field that has attracted increasing interest. Harrison is an important researcher in this field and his, *Public Health and British India: Anglo Indian Preventative Medicine 1859-1914*<sup>67</sup>, is essential to understand the impact of public health in the later imperial period upon ‘Anglo Indian’ society and the urban environments that the British created in the subcontinent. A later publication by the same author *Climates and Constitutions*<sup>68</sup> covers the same topic for the earlier colonial period; from the seventeenth century to the mid-nineteenth century. Both of these works are important for an understanding of the links that nineteenth century medicine made between environment, race and disease.

In her research papers *Imperial Health in British India*<sup>69</sup> and *Public Health and Medical Research in India*<sup>70</sup> Ramasubban presents the view that British (Western) medicine concentrated only on the British community housed in the Presidency Towns, cantonments, civil lines and hill stations and had little impact on the wider Indian populace. The size of the army consequently gave it a central position with respect to health policy in the Indian Empire. Arnold, in *Colonizing the Body*,<sup>71</sup> takes a more cautious position. While he concedes that prior to 1914 Western medicine impacted most on the European population and the army, he also warns that “...this enclavism can easily be overstated.”<sup>72</sup> Like Chattopadhyay, Arnold sees the boundaries between the Indian and British communities as permeable and flexible, that the “colonial process” could not be divided neatly and depended upon interaction between the rulers and the ruled.

Kumar is also concerned with the subject of the medical establishment in India during the colonial period. In *Medicine and the Raj*<sup>73</sup> he does not concentrate upon the

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<sup>67</sup> Harrison, Mark, *Public Health and British India: Anglo Indian Preventative Medicine 1859-1914*, Cambridge University Press, Cambridge, 1994.

<sup>68</sup> Harrison, Mark, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India 1600-1850*, Oxford University Press, New Delhi, 1999.

<sup>69</sup> Ramasubban, Radhika, ‘Imperial Health in British India: 1857-1900’, in Macleod, Roy, and Lewis, Milton, (eds.), *Disease, Medicine and Empire*, Routledge, London, 1988, pp. 38-60.

<sup>70</sup> Ramasubban, Radhika, ‘Public Health and Medical Research in India: Their Origins Under the Impact of British Colonial Policy’, *SAREC, R.4.*, SAREC, 1982.

<sup>71</sup> Arnold, D., *Colonizing the Body*, University of California Press, Berkeley, 1993.

<sup>72</sup> Arnold, D., *Colonizing the Body*, University of California Press, Berkeley, 1993, p.291

<sup>73</sup> Kumar, Anil, *Medicine and the Raj: British Medical Policy in India, 1835-1911*, Sage Publications, New Delhi, 1998.

nexus of climate/environment, race and disease as does Harrison, examining instead the development of the medical bureaucracy, the education of medical specialists and the treatments developed for different afflictions.

Ballhatchet and Hyams are two authors who have produced innovative and sometimes controversial research pertaining to the study of British stations in India. Both move beyond a narrow and particularist history of architecture and planning in India, and are also concerned with medical geography, although that interest is not expressed in the more literal approach of Harrison. Ballhatchet, in *Race, Sex and Class under the Raj*<sup>74</sup>, presents an exploration of British sexuality in India, with reference of course to the *Cantonments and Contagious Diseases Acts* and importantly to prostitution and the strange institution of the lock hospital. Hyam's approach in *Empire and Sexuality: The British Experience*<sup>75</sup>, is similar although the treatment in this case covers the British Empire as an entity rather focusing entirely upon British possessions in India. It should not be forgotten that the Indian experience of the local *Cantonment and Contagious Diseases Acts* was prefigured and mirrored in the metropole where similar *Contagious Diseases Acts* were passed in the 1860s. Papers such as *A Private Contagious Diseases Act*<sup>76</sup> deal with the British application of laws that sought to regulate public health and prostitution.

### *Social Life*

Metropolitan and provincial newspapers from both the nineteenth and early twentieth century form a strong basis for the exploration of social attitudes to political events, as well as insight into the colonial Indian social life. Important publications from the London such as *The Times* or even the *Illustrated London News* would certainly publish articles and commentaries upon major political Indian events in particular durbars or wars. The major colonial papers such as *The Times of India* provide a more consistent window into the general nature of British (colonial) social life and the important political events of the day. The newspapers of the Bombay Presidency and the minor provincial papers provide the most

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<sup>74</sup> Ballhatchet, Kenneth, *Race, Sex and Class under the Raj*, Weidenfeld and Nicolson, London, 1980.

<sup>75</sup> Hyam, Ronald, *Empire and Sexuality: The British Experience*, Manchester University Press, Manchester, 1990.

<sup>76</sup> Howell, P., 'A Private Contagious Diseases Act: Prostitution and Public Space in Victorian Cambridge', *Journal of Historical Geography*, Vol. 26, No. 3, 2000, pp. 376-402.

interesting insights into Poona itself, not solely because of journalistic content, but also because of print-advertising which represents an historical resource in its own right. The main newspapers that covered Poona affairs in detail included the *Mahratta* and particularly *The Poona Observer*.

Satirical publications, particularly Atkinson's *Curry and Rice*, provide another view of British society in India. Such satires were usually written by 'insiders' who possessed intimate knowledge of the 'Anglo-Indian' way of life and could therefore self-criticise the social system of which they were once a part. *Curry and Rice* criticises in a humorous fashion virtually every facet of the British lifestyle in India, and represents but one example of the genre of 'Anglo-Indian' satirical literature (the 'Nabobs' were often the early subjects of such ridicule).<sup>77</sup>

The memoirs written by 'Old India Hands'; ex-Governors and officials, memsahibs, soldiers, tourists and even those persons with memories of an 'Indian' childhood come into their own as records of the British social milieu in India as it was experienced by individuals. The number of such autobiographical works written is incalculable, yet no matter how evocative or execrable such works are, all reveal something of the 'Anglo-Indian' way of life. One hard task has been to review available unindexed memoirs for those that discuss Poona in particular. The memoirs and 'travelogues' that have proved most useful include *Camp and Cantonment*<sup>78</sup>; a record of the recollections of Mrs Leopold Paget concerning her stay in the Military Cantonment of Poona. Similarly, the renowned Bishop Reginald Heber wrote extensive reports concerning his travels and the portion of his diary that deals with his visit to Poona has been published in *Bishop Heber in Northern India*<sup>79</sup>.

The role played by women in British India has not been ignored by researchers. *Women of the Regiment*<sup>80</sup> is a monograph of some importance, for, although it does not address India specifically, it does deal with an area often ignored; the role of women and marriage in the British Army during the Victorian period. Many other works deal more specifically with the role women played in 'Anglo-Indian' society including *The Dust in*

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<sup>77</sup> See the watercolours of Sir Charles D'Oyly from the 1820s.

<sup>78</sup> Paget, Mrs. Leopold, *Camp and Cantonment*, Longman Roberts and Green, London, 1865.

<sup>79</sup> Laird, M.A., (ed.), *Bishop Heber in Northern India: Selections from Heber's Journal*, Cambridge University Press, Cambridge, 1971.

<sup>80</sup> Trustram, Myna, *Women of the Regiment: Marriage and the Victorian Army*, Cambridge University Press, (Continued Overleaf)

*the Balance*<sup>81</sup> *Women of the Raj*<sup>82</sup> and *The White Woman's Other Burden*<sup>83</sup>.

### **Chapter Structure**

*Part 1* of this thesis examines the town-planning, architectural and the legislative and medical contexts within which British military and civil stations in India operated. This section primarily represents a discussion of the issues pertinent to questions raised in the subsequent case-study of the city of Poona presented in *Part 2*. *Part 1* in addition serves a more general role. The GIS system that models the 'British culture area' and part of the old city of Poona (the Civil Lines, the Military Cantonment the Sadr Bazar and part of the 'Native City') represents a stand-alone research tool that exists to be used - not only to address those questions posed in this dissertation, but also by other researchers analysing the urban environment of colonial India, or more generally by those interested in issues concerning inter or intra-imperial urban comparisons. A major function of *Part 1* is consequently to provide a contextual base for those (disregarding the specifics of the case study presented in this volume) who wish to use the GIS model of Poona for their own purpose and who may not therefore have intensive knowledge of the Indian colonial urban environment. *Chapter 1* describes the spatial morphology of Indo-British settlements in the mofussil and *Chapter 2* the architecture of the Raj with specific reference to the development of the military barrack and to that of the residential form of the bungalow. *Chapter 3* discusses theories of public health and the impact of such theories upon legislated public health interventions, settlement morphology and architectural design.

As alluded to above, *Part 2* comprises a case-study; an analysis of the city of Poona in the 19<sup>th</sup> and early 20<sup>th</sup> centuries, that concentrates particularly upon demography and spatial organisation of the 'British culture area' of the station. The first chapter of this section, *Chapter 4*, describes the theory and methodology of the case study with particular reference to the design of the GIS models that form the basis of the analysis. This also provides a review of archaeological literature not addressed in this *Introduction*. The succeeding two

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Cambridge, 1984.

<sup>81</sup> Barr, Pat, *The Dust in the Balance: British Women in India*, Hamish Hamilton, London, 1989.

<sup>82</sup> MacMillan, Margaret, *Women of the Raj*, Thames and Hudson, London, 1988.

<sup>83</sup> Jayawardena, Kumari, *The White Woman's Other Burden: Western Women and South Asia During British*  
(Continued Overleaf)



chapters (*Chapter 5* and *Chapter 6*) comprise a specific site history of Poona; the former a history of the city prior to the British conquest, the latter dealing with the post-conquest period to Indian Independence in 1947.

*Chapter 7* provides a short history of the structure of British society and the ‘Anglo-Indian’ way of life. It could initially appear that this discussion would be more appropriately placed in *Part 1* (the section designed to provide general context for the analytical models analysed in *Part 2*) however, this social history has been especially tailored utilising primary historical documents that specifically describe British life in the city of Poona itself, and therefore the chapter properly takes its place as part of the site specific ‘case-study’.

The final two chapters (*Chapter 8* and *Chapter 9*) present the results of the analysis of the data compiled for this dissertation. *Chapter 8* represents an analysis of the compiled address directory data considered separately from the cartographic-spatial data encoded in the GIS models and compared (where appropriate) with *Census* material. The last chapter represents the analysis of the three target-year GIS models (for the years 1876-9, 1905 and 1924) of the city of Poona along with the conclusions that can be drawn from both analyses.

The first two appendices to *Volume 1* assist in the description and explication of the rationale behind the database utilised to store data drawn from address directories. *Appendix 1* provides definitions of the variables utilised in the database. *Appendix 2* concentrates specifically upon the variable of ‘socioeconomic status’ and the scaling system utilised to describe the relative status of household heads resident in the city. *Appendix 3* represents a glossary of useful terms.

*Volume 2 (Appendix 4)* is the last part of this thesis and takes the form of a catalogue in which are listed and described most of the major architectural landmarks and British era buildings in the Military Cantonment and the Civil Lines of Poona. Several structures on the outskirts of the Poona conurbation and in the ‘Native City’ have also been described. *Volume 2* is designed as an aid for the reader. Where any major British-era structure in Poona is mentioned in the text of *Volume 1*, an in-text reference is given to that structure’s catalogue entry, to which the reader may refer for further information and images.