

THE ROYAL ENGINEERS AND SETTLEMENT PLANNING IN THE CAPE COLONY 1806-1872: APPROACH, METHODOLOGY AND IMPACT

by

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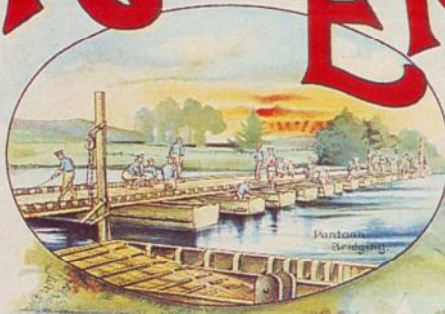


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Submitted to: Department of Town and Regional Planning,
Faculty of Engineering, Built Environment and Information
Technology
Degree: Philosophiae Doctor (Town and Regional Planning)

SUMMARY

The majority of the existing urban areas in South Africa began as colonial centres. This study seeks to evaluate the role the Royal Engineers played in the development of the Cape Colony from 1806 until the acceptance of responsible government by the Cape Colony in 1872.

The Colonial State implemented a capital works programme of staggering breadth and scale. During this time South Africa was delineated, urbanised, developed and connected to the world markets. This was achieved via a highly trained and professional military establishment; the Royal Engineers. The role of the Royal Engineers and the legacy of towns, forts and infrastructure are studied in depth in this thesis.

British imperial approach to colonial expansion and development in both a spatial and theoretical manner forms the basis of this thesis. The case study covers the Eastern Cape of South Africa. The physical and spatial development of this region are analysed in order to glean any lessons which could be learnt from the approach adopted to colonial settlement.

This Study illustrates that a small highly trained group of military engineers had a significant impact on the establishment of early towns and infrastructure in South Africa. They have left a lasting footprint on South Africa's spatial development and many of the towns and much of the infrastructure is still in use today (specifically the harbours, railways and mountain passes). The Royal Engineers' approach to development and

background training is studied and then reduced to its theoretical approach. This theoretical approach is then analysed in order to glean the lessons history can teach us about development, specifically development on 'terra nova'.

An attempt is made to extract planning theory from historical analysis of developmental elements which worked in the past. The study begins by analysing the background and training of the Royal Engineers and then moves on to assessing the spatial and physical impact their plans had on the development of South Africa. The discussion then moves beyond what the Royal Engineers did to understand how they made it happen; to arrive at a positive theory of planning or to ask when does planning work ?

The Royal Engineers were schooled in the sciences and trained to be experts in almost all things; they were the master craftsmen and skilled problem solvers of the era. The training they received at Chatham, is a very early example of professional training; it was comprehensive, high quality and practical. Those who emerged from this training carried out vast public works around the British Empire; they produced very few theories of development but they did challenge ideas. The *avant-garde* designs of some colonial towns such as Queenstown, Khartoum, Adelaide and Savannah show a desire to improve on settlement forms and to provide design solutions to urban problems.

The Royal Engineers adopted a pragmatic approach to development, they initially received a very good scientific academic training, they then learnt by example whilst serving under engineer commanders. As a unit they learnt by observation, experimentation and example. What is striking in their approach is that they saw a problem and simply went about solving it and their solutions were inevitably physical structures and infrastructure.

KEY WORDS

Royal Engineers; Queenstown; Eastern Cape; Spatial Development; Grahamstown; Simon's Town; Land tenure; town planning; King William's Town; Durban

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PROLOGUE

For me the fascination with the Planning History of South Africa began in High School, when as a family we would often take extended touring holidays via the small Karoo towns and along the Cape Coast. The small, uniform towns with their central, majestic Churches in the middle of nowhere fascinated me. Why towns began and the rationale for their establishment led me to study town planning at the University of the Witwatersrand.

As an undergraduate study I looked at the South African New Towns, which were predominantly mining towns (Cardy, 1988). Being fixed location industries, towns were laid out to house the workers; the layouts were strongly influenced by the British towns of the 'Enlightened Industrialists', Ebenezer Howard's 'Garden Cities' and the American 'New Deal Communities'. This begged the question why layouts and solutions from Britain and America worked on the arid Highveld of South Africa.

In 1991 I pursued this question further by analysing the Dutch and Afrikaans settlement patterns as a Masters dissertation (Cardy, 1991). As a British immigrant to South Africa the different culture was an interesting contrast to the tightly compact, organic layout of villages I was used to growing up in the United Kingdom. An article by Haswell (1980) listing the differences in layout between towns established by Dutch and British settlers in South Africa had prompted this in-depth study of all the early Transvaal towns. The towns of the Transvaal Republic were very uniform and all followed a very specific pattern of grid layouts with broad north-south main roads and narrower east-west cross roads, a central church, irrigation ditches, large stands and graveyards on the outskirts.

Leading on from this as a lecturer in the Department of Town and Regional Planning at the University of the Witwatersrand I wrote a number of planning history articles, one of which was about the British towns of South Africa, which was rejected by Planning History as they required street measurements, stand sizes and quantitative proof of the generalised statements. Around the same time I was first introduced to Yvonne Garson who was writing a book cataloguing the collection of Royal Engineer maps owned by the University. Colonial planning history of America, Australia and India were replete with historic designs Philadelphia, Savannah, Adelaide, Khartoum - where were the South African grand designs? The most striking layout in South Africa is Queenstown with its radial streets but

little is known of its origin other than the plan is signed by the Surveyor General Robinson (Refer to the Section C). It occurred to me that the lack of a grand planning history for South Africa may very simply be that it hasn't been written. Trips to America, Canada and Australia also helped to highlight the elements of the South African colonial situation which were unique.

Shortly after this I took up a post at the Royal Town Planning Institute in London and set about making use of the brilliant archives at the Public Records Office and British Library to satisfy the requirement for quantitative proof of development patterns. After much primary research, I found that I could not prove an absolute model or grand design. There simply were no standard street widths or stand sizes, which in itself is interesting. What did however become clear was that there were recurring themes, and key parties involved. The Royal Engineers and their work popped up in the most unlikely places. It became evident that the British military were the implementation arm of imperialism and that the Royal Engineers were the specialists. What also became overwhelmingly clear was that the Royal Engineers seemed to perform most duties and have the greatest impact in times of peace rather than war.

In order to understand the Royal Engineers as a unit as well as individuals, I spent many hours at the library of the Royal Engineers Academy in Chatham. I wanted to understand the training that equipped these men to 'layout an Empire'. What I found was an overwhelmingly scientific training of very high standard. The training of the Royal Engineers had not been looked at in any great depth specifically from the point of view of the Royal Engineers as a Colonial development agency, other than Weiler (1987) he however focused on architecture.

After the death of my first husband I returned to South Africa and finally decided to write up the story of British Imperial planning in South Africa. In this introduction I use the name South Africa loosely as obviously South Africa only existed after union in 1910 – the study analyses the Cape Colony and the Natal Colony, of what was later to become South Africa. I discuss South Africa generally (that is the geographic area which became South Africa) because the tensions between the *Boers* (farmers of Dutch descent) in the interior and the British are primary influences in the early history of the country. Many aspects of the development during this era were unique both to British Imperialism as well as unique

due to the specific conditions in South Africa. British imperial expansion did not follow a blue print and no standard design can be found; the street widths are not uniform, the stand sizes vary and policies change over time; there is however a very strong development trend generally for British imperialism and specifically a South African story born out of the unique conditions on the Southern most tip of Africa.

This study is descriptive in style as the research highlighted trends rather than absolute blue prints. The study seeks to tell a fascinating story of the settlement of South Africa, those who planned it and its lasting legacy. The study is never quantitative and absolute as the study of the history proved that it never was. South Africa developed following the broad trend of British colonialism, yet it had unique conditions which impacted on the development model. The towns may not satisfy the statisticians who wish to prove absolute patterns but they very clearly illustrate a far more subtle yet pervasive trend. Perhaps the most striking aspect of the study is the acknowledgement that the colonial development pattern is more about the evolution of the colonial free market system rather than British culture; land and development were key to colonial control – land was seen as having a monetary value as well as a means of production and so mapping, demarcation, registration of land and ownership are introduced and entrenched in the colonial system.

This study is a testament to “the endurance of the plan”, South Africa has been through two different phases of colonialism (Dutch then British), the Anglo Boer Wars, the establishment of Union, The formation of a Republic, apartheid and now post apartheid and still the towns persist – they have expanded and changed over time but the reason for their establishment was colonial and the central layouts remain relatively unchanged. Even cities like New Orleans (in America), devastated by hurricane induced floods, redeveloped on the same spot and with the same street layout, because of entrenched property rights – the colonial cadastral system is a very powerful tool (even if not always logical – perhaps New Orleans ought to have moved).

This study has however shown that the approach that the Royal Engineers adopted to development delivered. Given the pressing needs for service delivery and housing in South Africa today this study seeks to analyse this approach to glean any valuable lessons.