Charles Cornwallis Michell (1793 - 1851)
Pioneer Cape military cartographer

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ABSTRACT

Charles Michell was appointed as the first Surveyor-General and Civil Engineer of the Cape Colony in 1828, after service in the Peninsular War. One of his more important instructions from the Colonial Office was to frame an accurate map of the Colony, particularly its boundaries. The purpose of this paper is to describe in greater detail Michell's contribution to the mapping of Southern Africa during his twenty-year term of office.

Although he had been trained as a military surveyor as an officer in the Royal Artillery, as a cartographer Michell appears to have been almost entirely self-taught. Also, his dual position meant that his many duties as Civil Engineer often deflected him from his cartographic and survey work. In the circumstances, as at the date of his retirement no comprehensive and accurate map of the Colony had been completed. He was, however, able to produce no less than 23 maps of portions of South Africa and Mocambique. Some of these related to the Sixth Frontier War (1834-35) and the boundary changes which followed and were drawn for the use of government. Others were for the use of prominent visitors to the colony and expeditions into the interior. This paper will discuss and illustrate some of the more important of these, which situate Michell as one of the foremost military cartographers at the Cape during the first half of the nineteenth century.

INTRODUCTION

Charles Cornwallis Michell, the first Surveyor-General and Civil Engineer of the Cape Colony was born into a prominent West Country family in Exeter on 29 March 1793. His middle name was not Cornwallis at all, but Collier. Exactly when and why he reinvented himself by adapting the more euphonic and grandiloquent “Cornwallis”, we do not know, but he had done so by the end of the Napoleonic Wars. This change – trivial in itself – provides a key to his character. He constantly sought the limelight. As his erstwhile brother-in-arms in the Peninsula War, Sir Harry Smith, once said of him: “He is always wrapt up in the heroics – fame is everything”. This trait – or shortcoming – meant that he was always willing to immerse himself in new initiatives which might put his name prominently before the public. It would also in part explain why he was prepared to endure severe privations and extremes of climate travelling the length and breadth of the Cape Colony on his numerous surveying expeditions - undertakings which ultimately cost him his health and, finally, his life.
The Michell family had little money – Charles’ grandfather Thomas squandered most of it – but there were strong connections with the armed services. His father, Sampson Michell, was a lieutenant in the Royal Navy and subsequently an admiral in the Portuguese service, while his younger brother, Frederick, likewise had a successful career in the Royal Navy. More importantly, a cousin on his mother’s side was Major-General Rufane Donkin who, between 1820-21, was Acting Governor of the Cape Colony and after whose deceased wife the present city of Port Elizabeth is named. There seems little doubt that it was Donkin’s influence that in 1828 secured for Michell the newly-created post at the Cape.

The Cape of Good Hope Colony, to give it its correct designation, was settled by the Dutch in 1652. During the Napoleonic Wars it was occupied by the English in 1795, handed back to the Batavian Republic (as Holland had become) in 1803, and re-occupied in 1806. This became permanent by the Peace of Paris in 1814. Large-scale English immigration, particularly in 1819-20, gave impetus to a growing demand for reform of colonial institutions and, between 1823 and 1826, commissioners of enquiry visited the Cape from England. One of their many recommendations was the creation of the post of Surveyor-General, which they stated to be one “to which we attach considerable importance”. In their report to the Colonial Secretary, Earl Bathurst, dated 6 September 1826, they urged that the new appointee should be a man “theoretically and practically conversant with his profession” and was to be given a salary of £800 per year. A deputy surveyor-general should be stationed in the Eastern Province at an annual salary of £400. All the necessary surveying instruments were to be furnished at public expense and their travelling expenses defrayed.

The Surveyor-General’s duties were extensive. As stated by the Commissioners:

“it will devolve on this officer to superintend the detailed surveys that will require to be made of the several divisions of the colony; to ascertain the qualifications of the surveyors; to prepare instructions, and to prescribe forms for their guidance; to give his authority for their charges, after an examination and approval of their journals and field-books, which should be transmitted to him; to regulate the order in which the surveys should be undertaken; to compile the materials thus collected, in his office, and with the assistance of a draughtsman, to prepare a map of the

Figure 1 Charles Cornwallis Michell (1793-1851)
colonist … His attention will be directed to the improvement of the passes and roads, and to the measurements of the roads throughout the colony in British statute miles … Lastly, it will be an important duty devolving upon the surveyor-general, with the assistance of his deputy in the eastern province, to cause a survey to be made of the boundary of the colony, and to define the limits with an accuracy that has not been hitherto observed.”

It was also expected that, in order to correct the erroneous surveys that had been made and to obtain the services of competent persons as land surveyors, a school of instruction under his superintendence was to be established as:

“…a means of enabling the young colonist to acquire the necessary information to qualify them to act as surveyors; at present they have no means of obtaining such instruction, and their surveys have been for the most part very defective, while the expenses devolving upon the public have been very considerable.”

If this were not enough, the Surveyor-General was, along with the Colonial Treasurer and the Auditor-General, to be a member of the Land Board, which was to receive the reports of civil commissioners on their inspection of Crown Lands within their district, and to report to the Government on such land, as well as on the applicants for grants or leases.

The recommendations of the commissioners were not, however, implemented to the letter. In the first place, for reasons of economy, the surveyor-general’s salary was reduced to £700 and his office was combined with that of civil engineer and superintendent of public works. Secondly, two persons, an assistant surveyor-general and an assistant civil engineer, were to be appointed to assist Michell with his duties. Finally, it was decided that the assistant surveyor-general would be stationed in Cape Town and not in the Eastern Cape. This, it was hoped, would make for greater control and also make it easier for him to relieve his chief when the latter was absent from office. But as it turned out, the combining of these two offices, each a full-time position in itself, in a colony as vast as that of the Cape, not only served to impair Michell’s efficiency, but also placed a well-nigh intolerable burden upon him. Michell’s failure to achieve more in the cartographic field – one for which he was eminently suited – should be viewed against this background. In the circumstances it was perhaps astounding that he was able to carry out as much as he did.

**ATTEMPTS TO FURNISH ACCURATE MAPS**

When the British occupied the Cape for the first time in 1785, they searched in vain for reliable maps of the coastline of the colony and of the interior itself supposing, wrongly, that no such maps existed. As (Sir) John Barrow, the private secretary to the governor, Lord Macartney, wrote: “There was not a survey of one of the bays that could be depended on, except one of Table Bay …not a single map that took in one tenth part of the colony.” An extensive collection of such maps did exist, however, made during the governorship of Cornelis van de Graaff (1785-1791) – himself an engineer-officer in the Dutch army – but who, exercising remarkable foresight of the coming war with England, removed virtually all of them to Holland when his term of office ended. Here they remained, unknown, until their chance discovery in October 1950. A further important collection of about 100 maps and plans of the Cape housed in Cape Town Castle appear to have been removed in 1795 by the Dutch commander of the garrison, Colonel Robert Jacob Gordon, to prevent them from falling into the hands of the English. After his suicide, they were taken from the Cape by his widow and are now in the Gordon Collection of the Rijksmuseum in Amsterdam. Barrow, himself a trained surveyor and navigator, produced a tolerable map of the colony in 1800. He was followed by other explorers/travellers such as Lichtenstein (1803-06), Campbell (1815), Latrobe (1818), Burchell (1822)...
and Thompson (1827). But as Liebenberg notes, these were small-scale maps and of limited use; moreover, the surveying and mapping techniques employed to compile them were crude.

More exact was the mapping carried out by the British military surveyors. Upon the first occupation of the Cape, a small number of Royal Engineers were sent out to perform fortifications and coastal surveys and to compile plans and maps necessary for the defence of the colony. Pre-eminent amongst these was Lieutenant James Carmichael Smyth, who on the second British occupation in 1806 became captain commanding the Engineers. He and a colleague, Captain Henry Smart (who replaced him in 1808) initiated a number of surveys in the south-western Cape. In 1819 the steadily growing need for the fortification of the eastern frontier against the Xhosa resulted in five Royal Engineer officers being brought to the colony under the command of Major William Cuthbert Holloway (later Elphinstone-Holloway). In August that same year, following upon instructions by the Governor, Lord Charles Somerset, a general trigonometrical survey of the colony commenced under Holloway’s supervision, in the Eastern Cape. In 1820 the acting Governor, Donkin, placed the survey on a proper financial footing when he gave an instruction that the sum of £300 was to be charged in the annual estimates of the Engineer Department for this purpose. Donkin also shifted the aim of the survey from the Eastern Cape to the north. Whereas the Great Fish River had been the eastern boundary since 1778, that to the north was unclear. In June 1821 Donkin wrote to the colonial secretary, Earl Bathurst, that the survey’s aim was to “lay the foundations of a map of this colony … and to ascertain … a precise and proper boundary line to the northward …”. The survey proceeded in a rather desultory manner - largely, it seems, due to a shortage of finance and of trained staff - until 1825. By that year it appeared that some 55 000 square miles – or one third of the colony’s area - had been surveyed of which only 4 626 square miles had been compiled into a general plan on the scale of 4 miles to an inch. Then the Inspector-General of Fortifications intervened, objecting to the Board of Ordnance that the annual sum of £300 “had no relation to works or repairs”. The work was accordingly suspended. A plea the following year by acting Governor Bourke to permit the survey to resume at an annual cost of £500 was unsuccessful.20

Michell himself was not, despite erroneous assertions by certain leading writers, a Royal Engineer, but a major in the Royal Artillery. His private notebooks and journals show that he was, however, well-versed in drawing, in mathematics and in trigonometry and was a competent surveyor and cartographer. Despite the suspension of Holloway’s survey, and heedless of the fact that it was the Colonial Office itself which had brought this undertaking to a halt, its requests for accurate maps and other geographical information continued unabated. In 1829 yet another such request was received. Michell was now actually presented by the Colonial Office with a skeleton map of the Cape Colony and requested to “mark thereupon the division of the several districts and the boundaries of the Colony” as “much inconvenience has been felt here from the want of a correct map …”23 Michell acceded to this request as best as he could, but in reporting back to the government secretary in Cape Town stated “I see many inaccuracies thro’-out this map, and [have] to state my regret that … I cannot … rectify them”. On 28 February 1831 he returned the skeleton map to the Cape government so that it could be forwarded to London.25 To date, no trace of this map has been found in the British National Archives, and the extent to which it may have contributed to, or influenced, John Arrowsmith’s well-known map of 1834 – the very first showing comprehensive geographical information on the interior of Southern Africa – must remain speculative.26 A map of Southern Africa by the Cape merchant, author and politician, John Centlivres Chase (1795-1877), which “filled up at least 100 000 square miles hitherto a perfect blank”, had been forwarded to the Colonial Office in London only four days before that of Michell. We know that the Colonial Office permitted Arrowsmith to use Chase’s material for his own map – albeit without the latter’s consent or even the slightest acknowledgement of his contribution. In the circumstances it would seem that Michell’s partly completed skeleton map was simply discarded as being of little, or no, use.
Michell’s inability to furnish the Colonial Office with the information it requested, appears to have brought home to it the desirability of continuing the general trigonometrical survey of the Colony which had been halted in 1825. Also, in India, what was termed the Great Trigonometrical Survey which had been established in 1817 by the Governor-General, Lord Hastings, had entered a new period of growth with the appointment of George Everest as surveyor-general of India in 1830.\textsuperscript{29} In December 1832, following upon a request by the Secretary for Colonies the previous year, Michell submitted to the government secretary at the Cape two estimates – one for completing the survey on the lines carried out under Holloway and another one with he himself or the assistant surveyor-general undertaking it. According to Michell’s calculations, as approximately 10 000 square miles had been surveyed at a cost of £3 000 and there were 110 000 square miles between the river Keiskamma and the colony’s northern boundary, it would take £30 000 to complete the work as planned by Holloway. Michell calculated that if he or his assistant, on the other hand, were to undertake the task, working eight months each year, it could be done at an annual cost of £200 only.\textsuperscript{30} In submitting these estimates, Michell had some harsh criticism not of Holloway directly, but of the officers and men under his command:

“I do not think that the plan upon which the survey was conducted was a good one – there appears to have been no connection between the tracts of country allotted to the different officers to Survey, hence the almost useless-ness of the disjointed portions actually executed, particularly as not a single point seems to have had its geographical situation determined by observation.

There appeared to be no uniformity in their manner of surveying; some really surveyed, while others were content with mere Military Sketching, with Paces and pocket Sextant. It is therefore a fortunate circumstance that the work stopped where it did, for they never would have succeeded putting together work of such different character, without forcing to make it fit – the pocket Sextant is unadjustable in a country like this – nothing but the Theodolite will do here, and that must be a good one. Some of the Officers employed, paid most attention to the correctness of their triangles, but failed altogether in representing the features of the Country – all drew in different styles and the consequence would have been, that the draughtsman employed to compile a map, from such heterogeneous materials, must of necessity (unless he were intimately aware of what each person meant to represent in his share of the work) substitute a great deal from his own imagination to make a connected looking thing of it.”

After proposing that he should proceed on survey for one season only (six to eight months) in order to gauge the total time necessary to complete it, Michell concluded by stating that:

“...we have as yet no defined boundary on the North and it must therefore be very difficult to determine whether lands applied for are or are not in the Colony, whether Crimes (in those regions) were committed within or without the Colony – whether certain Boors (sic) can, or cannot, claim a right to protection from the Colony. A survey would determine all this besides affording an intimate acquaintance with all lands as yet unoccupied …”\textsuperscript{31}

Two weeks later Michell’s proposal was forwarded to the Colonial Secretary by the Governor, Sir Lowry Cole, who recommended “that it would be advisable to try the experiment ...it appearing to me the most feasible and least expensive mode of attaining an object so desirable ...”.\textsuperscript{32} There then followed bureaucratic delays of one and a half years – partly the result of the assistant surveyor-general’s absence in the Eastern Cape\textsuperscript{33} – before Michell was in a position to commence his survey. In October 1834 he set off for the Tsitsikamma region of the south-western Cape some 500 kilometres from Cape Town. Virtually nothing was achieved by this, the second attempt at a trigonometrical survey of the colony, as in the closing days of the year, the Sixth Frontier War (1834-35) broke out and Michell hastened to the Eastern Cape to lend what assistance he could. After the conclusion of the war in June the following year, events overtook the trigonometrical survey as we shall see, and it was
not continued. It was only after the arrival of (Sir) David Gill at the Cape as H.M. Astronomer in 1879 that a gridiron network of trigonometrical chains covering the whole of South Africa was achieved and the basis laid for large-scale maps of South Africa to be drawn.  

MICHELL’S EARLY MAPS

Although Michell, as we have seen, was unable to supply the Colonial Office with its desired map of the whole of the colony he was nevertheless able, during his first decade in office, to draw a number of more minor maps of portions of the Cape. Whilst the purpose of some of these is unknown, others were intended for the use of official or quasi-official expeditions into the interior, while a few appear to have been published merely for general information.

1. The Harold Strange Library of African Studies, Johannesburg, owns a manuscript map entitled “Sketch of the Colony of the Cape of Good Hope” (see Figure 1) and signed merely “C.C.M. S.G.” (for “Charles Cornwallis Michell, Surveyor-General”). It is undated, but can with confidence be placed as circa 1830 as the boundary of the colony extends only as far as the Keiskamma River in the east, that is, including the so-called “Ceded Territory” between it and the Great Fish River (see below). Certainly, the absence of King William’s Town and the various forts established in the area to the west of the Kei River, which became known as the Province of Queen Adelaide, dates it to the period before the Sixth Frontier War. The map, which is on card, measures 59 x 44 cm and comprises fifteen rectangular jointed portions, enabling it to be folded for carrying or storage into a rectangle approximately 12 x 14,5 cm. It is tempting to speculate that this map is a copy made by Michell of the “skeleton map” sent out for completion by the Colonial Office in 1829. It is perhaps significant that Michell entitled it a “Sketch” rather than a “map” of the Colony; moreover, apart from noting the various divisions of the colony and the main rivers and mountain ranges, the interior is virtually a blank, save that a road linking Cape Town and the principal towns, including Beaufort (West), Graaff-Reinet and Somerset (East) has been drawn in. This is probably the very route taken by Sir Lowry Cole - whom Michell accompanied - on his visit to the Eastern Frontier in 1829.

Figure 1: “Sketch of the Colony of the Cape of Good Hope”, circa 1830 (Harold Strange Library, Johannesburg, S Map 912(687) "1830").
2. A second map, which must also date from circa 1830, is “The Ceded Territory Surveyed by Lts Hope & Pettingall R.E. Reduced & Engraved by Maj. Chs C. Michell Surveyor General & C. Engineer”, a copy of which is in the British National Archives (see Figure 3). It measures 11 x 16 cm and is on a scale of about 85 miles to one inch. The so-called “ceded territory” came into existence in October 1819 when, after the conclusion of the Fifth Frontier War, the Governor, Lord Charles Somerset, visited the frontier and held talks with Ngqika (Gaika), paramount chief of the Rharhabe, at the Mgwangqa River. This resulted in the area between the Great Fish and Keiskamma rivers being ceded to the British Government. Whether this territory was to be a “neutral” one, or a no-man’s land, in the sense that it was to be a buffer-zone not available for white settlement, became a matter of some controversy, especially as the treaty of cession was not reduced to writing. Lieutenants J.J. Hope and F.W. Pettingal were competent Royal Engineer surveyors; their work appears to have been part of the ill-fated trigonometrical survey of 1819-25.

3. In 1830 Michell executed a “Sketch of a small part of the Colony of The Cape of Good Hope”, which was published in the South African Directory, Almanac and Advertiser for the year 1831. This small map, confined by the size of the publication, measures only 15 x 9 cm and shows the area from Bok Bay in the north to Caledon in the east, and inland as far as Worcester. It is not possible to determine the scale. The map, despite the paucity of information given, displays certain features.

Figure 3  Map of the Ceded Territory surveyed by Lieutenants Hope and Pettingal, reduced and engraved by Michell, circa 1830.
which would have been of interest to Michell, including the village of Rondebosch, five miles from Cape Town, where he built his first home and the Sir Lowry’s and Houw Hoek mountain passes, which he designed. In the note accompanying the map the publisher stated:

“For the accompanying engraving ... the compiler is indebted to Major Michell, by whom not only the Drawing, but also the Engraving, was executed. The plate had not unfortunately the advantage of being wrought off by a professional copper-plate printer; still the impressions indicate the great neatness and delicacy of the engraving. It is chiefly designed for the use of those numerous parties which, at certain periods of the year, make excursions through those parts of the country which are thus traced. Had time and other circumstances permitted, it was the compiler’s intention to have given a map of the whole Settlement”.

4. A year later, Michell had found the time to draw and engrave the anticipated “Map of the whole Settlement”. This appeared in Greig’s South African Directory, Almanac and Advertiser for the year 1833 (see Figure 4). It was slightly larger than its predecessor, measuring 17 x 10 cm and showed the whole colony from its northernmost boundary, terminating at the Koussie (Buffalo) River on the Atlantic, eastwards across to the Orange River and then down the Stormberg spruit to the Keiskamma River, taking in the “ceded territory” (see 2. above). All the principal towns, villages, rivers, mountain ranges and missionary institutions were depicted. It was stated to be “Engraved by C.C. Michell Surv’ Gen’ but was probably drawn by him as well, using both his personal knowledge and details taken from other maps available to him, such as those of Sidney Hall and Aaron and Samuel Attowsmith, both published in 1828, although it was far less detailed than either of these – constraints of size being a factor here. The map suffered from inaccuracies all too common in those of its day: Cape Agulhas is placed well to the east of longitude 20° E on which it lies, whilst the northernmost end of
Saldanha Bay is placed south of latitude 33° S, which in fact bisects it. Despite its deficiencies, the map must have proved popular, as it was reprinted in the Almanac for 1833.

MAPS FOR OFFICIAL EXPEDITIONS

As has been mentioned above, between 1829 and 1837 Michell was responsible for drafting or advising upon no less than five maps for official and quasi-official expeditions into the interior of the colony. Three of these maps are known to exist today. Firstly, there are two sketch maps used by the Governor, Sir Lowry Cole, on his expedition to the Eastern Frontier during September and November, 1829 now in the British National Archives. A strong attribution of these maps to Michell can be made, as will be discussed below. Secondly, in July 1833, Michell undertook to prepare a map for Dr (later Sir) Andrew Smith’s “Cape of Good Hope Association for Exploring Central Africa” which mounted an expedition for the scientific exploration of the region beyond the northern boundary of the Colony, between the years 1834 and 1836. Although there is no reason to doubt that Michell provided such a map, no trace of it has been found in the voluminous Andrew Smith papers, particularly those in the South African Museum, Cape Town. Then in 1836, and again in 1837, due to his by then extensive knowledge of the topography of the Colony and the best routes to take in order to explore its towns and natural features, Michell was called upon to advise two eminent visitors to the Cape, Sir John Franklin and Lord Elphinstone. Franklin (1786-1847), as is well-known, was subsequently to achieve fame as an Arctic explorer and was ultimately to lose his life in seeking the north-west passage. In 1836 he was appointed as governor of Van Diemen’s Land (Tasmania) and accompanied by Lady Franklin – herself a noted traveller – arrived in Cape Town en route to his new posting. According to Lady Herschel, the Franklins “managed to see every place in a fortnight that was worth seeing within 100 miles”. In this they were greatly assisted by Michell who, so Lady Franklin noted in her journal, “approved & slightly altered” the list of each day’s route and the places they were to sleep at. The following year the newly-appointed governor of Madras, Lord Elphinstone (1807-1860) called in at Table Bay and Michell drew a map of the Western Cape for a tour he intended undertaking (see 7. below).

5. Sir Lowry Cole’s visit to the Eastern Frontier lasted some three months and was the most extensive tour of the colony undertaken by any British governor to date. His motive was to familiarise himself with conditions in the colony generally and especially on the frontier where rumours of an imminent invasion by the Xhosa were rife. Michell accompanied Cole as part of his suite. The British National Archives possesses two unsigned and undated maps taken from the Sir Lowry Cole papers, which appear to relate to this expedition. The first and larger, measuring 94 x 17 cm, depicts the coast and immediate hinterland from Cape Agulhas in the west to Algoa Bay in the east. The names of bays, rivers and mountains are shown, as well as towns and other landmarks such as “Mr Rex – Melkhout Kr(aal)”. The map is unsigned, but can with confidence be ascribed to Michell, as he was the only surveyor and cartographer to accompany the expedition. Moreover, there is occasional use of the - by then antiquated - long or medial “S” which was a peculiarity of his handwriting, as well as of the phrase “falls into” when describing the course of the tributary of a river (see 8. below).

6. The second map, taking up roughly the centre of a sheet measuring 21 x 32 cm, shows the area surrounding Grahamstown and Fort Beaufort, with daily route proposals – obviously drawn up for the Governor’s use. Here again, the handwriting bears a close resemblance to that of Michell.

Symposium on “Shifting Boundaries”: Cartography of the 19th and 20th Centuries. ICA Commission on the History of Cartography
7. The Elphinstone map, inscribed “Rough Sketch of the Country thro’ which the Right Honble. Lord Elphinstone proposes making a tour” measures 34.5 x 24.5 cm and is to be found in the William Fehr Collection, Cape Town. (see Figure 5). It is signed “Chas. C. Michell, Surveyor General” and although undated, can be ascribed to 1837, which was when John, 13th Lord Elphinstone in the Scottish peerage, was appointed Governor of Madras. The map is in pen and brown wash with a compass indicator and scale of miles. It indicates the few reliable roads of the day. Although his route is not marked out, it is likely that Elphinstone would have travelled from Cape Town across the Cape Flats (“Downs”) and over Sir Lowry’s and Houw Hoek passes to the mineral baths at Caledon and from thence to the Moravian mission station at Genadendal, over the Fransch Hoek pass to Paarl, and then back to Cape Town.

![Figure 5 Map prepared for Lord Elphinstone’s Tour of the Cape Colony, 1837 (William Fehr Collection, Cape Town)](image)

**THE SIXTH FRONTIER WAR AND ITS AFTERMATH**

The outbreak of the Sixth Frontier War (also known as the War of Hintsa, after the paramount chief of the Xhosa, who was shot dead in controversial circumstances when escaping whilst a prisoner of war) began with the invasion into the Colony of some 15 000 Xhosa warriors just before Christmas 1834. Michell at once abandoned the general trigonometrical survey in the south-western Cape and made for first Port Elizabeth and then Graham’s Town in order to render what assistance he could offer. In the result, he was appointed Assistant Quartermaster General to the Forces. Once the invaders had been repulsed, he took part in the invasion of Hintsa’s territory beyond the Kei River, attached to the 1st division of the army, under the command of the governor, Sir Benjamin D’Urban. A map by him shows the army’s route and another the country in which the war was conducted. In June 1835 after the territory lying between the river Keiskamma and the river Kei had been annexed to the Colony by D’Urban, Michell drew a map of the Province of Queen Adelaide, as it was named. Then, after the British Government renounced the annexation in December 1835 and decided that a series of defensive treaties should be concluded with the Xhosa living within the “ceded” or neutral territory (see 2.
above), Michell drew a map of the various tribal boundaries there. Finally, he also drew and engraved maps to illustrate the books of two friends: Robert Godlonton’s Narrative of the Irruption of the Kafir Hordes (1836) and James Edward Alexander’s Narrative of a Campaign in Kaffir-land (1837).

8. The largest map of the campaign executed by Michell is the “Military Sketch of the Route of the 1\textsuperscript{st} Division of the Army which invaded Caffirland in 1835 under the command of …. Major Genl Sir Benjamin D’Urban KCB …”\textsuperscript{53} This manuscript, which is in colour, measures 65 x 28 cm and is on the scale of 4 miles to one inch (see Figure 6). While it is essentially a route-map intended to indicate the advance into Hintsa’s country and the “bivouacs” (or temporary encampments) of the division on the return, it also refers to various natural features such as Gordon Hill at the confluence of the Great Kei and Kabousie rivers, which Michell describe as “a very remarkable feature seen at a great distance, both from the Eastward & Westw’d of it”. We know from J.E. Alexander’s Narrative that at the end of May 1835, Michell was putting the finishing touches to this map.\textsuperscript{54} Its accuracy and historical interest is such that it has been employed in the standard cartographic guide for research into the Eastern Cape frontier zone.\textsuperscript{55}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure6.png}
\caption{“Military Sketch of the Route of the …Army which invaded Caffirland in 1835” (BNA MPG /953).}
\end{figure}

9. A second map, which appears to have been closely associated with the first, was one prepared by Michell at the outset of the campaign for the governor’s personal use. We know from Michell’s private journal that on 30 March D’Urban told him of the “manoeuvres”, i.e. route, which the troops would be making.\textsuperscript{56} On 17 April there is a further reference in his journal to “the map of the country-side”.\textsuperscript{57} This cannot be (8) above, as that was prepared only in May, after the campaign had concluded. The original of this map has disappeared, but a recent chance search by Liebenberg in the archives of the South African National Defence Force in Pretoria has brought to light what could well be a copy of the original.\textsuperscript{58} It is entitled “Military Sketch of the Country over which the Operations of the War of 1835 were conducted – The Amatola Basin by Cap’ C.L. Stretch and the remainder by Major C.C. Michell in the Campaign of 1835”. It is on the scale of four miles to the inch. A manuscript annotation states that it was “copied from Col. Michell’s sketch” by F. Drummond Jervois of the Royal Engineers. Lieutenant (later Lieut-General Sir) William Francis Drummond Jervois (1821-1897), the noted engineer and, later, colonial governor, was posted to the Eastern frontier of the Cape Colony in 1841.\textsuperscript{59} Michell’s map must have been copied some time after this date and could have been used for Jervois’
Military Sketch of British Kaffraria, published by John Arrowsmith in 1850. Collaboration between Michell and colleagues such as the government land surveyor Charles Lennox Stretch (1797-1882) in undertaking military mapping was not unusual. The map’s title bears this out.

10. The British National Archives (File CO. 48/161, p. 365) contains a small hand-drawn map in ink entitled “Outline Sketch of the Colony of the Cape of Good Hope shewing the situation and extent of the New Territory annexed to H.M.’s Colonial Dominions by Proclamation” 10 May 1835 and now become the Province of Queen Adelaide”. The map contains no scale or compass indicator and the title is itself misleading, as it is not an outline of the whole colony, but of the eastern portion only, from Port Elizabeth in the west to the Bashee River in the east, and Graaff-Reinet and the Stoomberg mountains in the north. The map is unsigned, but the handwriting – despite some calligraphic flourishes – resembles that of Michell. His authorship is, however, put beyond all doubt by the published version, which appeared in the British Parliamentary Papers. There it is superimposed on an outline of the whole colony depicting the eleven districts into which it was divided and signed “C.C. Michell Surv’ Gen”. The manuscript map must be that referred to in Michell’s journal, where he noted on 8 June “Govr. desires two more copies of map of Colony, including Qn. A’s Province”.

11. The fourth map connected with the campaign and its aftermath known to have been executed by Michell is the “Sketch of the Country ceded to the Amakosas and of the Sub division of the same between the Frontier Tribes of that Nation, as executed by order of Government in June 1837”, now in the Cape Archives Depot. It measures 36 x 47 cm and as with most of Michell’s maps, is on the scale of four miles to one inch. There is a compass indicator. Various colours depict the lands allocated to the tribes for settlement, as well as the area demarcated “Colonial Ground”. The original of this map has not yet been traced; the copy in the Cape Archives was made by the Cape Surveyor-General’s Office in 1929 from a tracing annexed to a report of a select committee of the Cape Parliament relating to lands in the Ceded Territory (1855). As with the route map of the 1st Division of the Army (see 8. above) this map has likewise been used as source material for Sir Andries Stockenström’s treaty system (1836-44) in the leading work on the historical cartography of the Eastern Cape.

12. In 1835 the polemicist and editor of the Graham’s Town Journal, Robert Godlonton (1794-1884) published Part I of a book on the background to the Sixth Frontier War, from the settlers’ point of view. Entitled Introductory Remarks to a Narrative of the Irruption of the Kafir Hordes, it, unusually, contained no map of the area – although Parts II and III, published the following year, contained a map of Port Natal by the cartographer John Centlivres Chase. Subscribers must have felt the need for a map, as one copy now in the National Library of South Africa, Cape Town, has Michell’s map of the Cape Colony, which had been published in the Cape of Good Hope Almanacs for 1832 and 1833, bound in as a frontispiece. When in 1836 the main work, entitled A Narrative of the Irruption of the Kafir Hordes into the Eastern Province was published, a small map measuring 16 x 10 cm entitled “District of Albany and adjacent country overrun by the Kafirs – 1834-35” appeared opposite the title page. It bore no name or date and oddly enough, no acknowledgement to the author appeared in the preface. According to one writer on Grahamstown printings up to the year 1900, it was an early copperplate and likely to have been the work of Michell, but there was no definite proof. Michell’s unpublished Journal of the Frontier War however shows that he was indeed the artist and engraver, as the identical map, in watercolour, appears there. This is obviously the original from which the copper engraving was made. On 20 August Michell noted that he had made up a letter “to Mr. Godlonton & plate”. Five days later he “sent off a large parcel containing also the copperplate to Wm Smith of Gs Town”. Then on 19 October he received a letter from Godlonton “with copy of map” probably a proof pulled from the copperplate, as Michell would have had no means at his disposal of printing any, while on survey.

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Finally, in 1835 Michell drew two small maps to illustrate the book of James Edward Alexander, his future son-in-law, entitled Excursions in Western Africa and Narrative of a Campaign in Kafirland. The first, opposite page 1 of Volume I, is entitled “Sketch Map of the West Coast of Africa” and measures 10 x 12 cm. It is signed “C.C. Michell del.” It depicts the principal capes and rivers on the West African coast and cannot be reckoned a significant contribution to cartography. The second, opposite page 320 of the same volume, measures 16 x 9.5 cm and is entitled “Sketch Map of the Eastern Frontier”. The features displayed are very much the same as those on the Godlonton map of the district of Albany (see 12. above) although the scale is slightly smaller and the features were finely depicted probably because both it and the map of the West Coast were engraved in England. Michell also contributed other illustrations to this work, but these are beyond the scope of this paper.

LATER CARTOGRAPHY

After the era of the Frontier War, Michell produced little of cartographic importance until the late 1840s. One reason seems to have been two lengthy spells of furlough in England for family reasons, between 1838 and 1841. Another was probably his preoccupation with the construction of roads, mountain passes and lighthouses, which economic and fiscal reforms implemented by John Montagu, the newly-appointed government secretary, now made possible. During these, his final, years at the Cape he was however responsible for a map of Moçambique (in French); of the new northern boundary of the Cape Colony after its extension in December 1847; and the furnishing of material to the London cartographer, John Arrowsmith, for his well-known maps of the Eastern frontier and “Kafirland” compiled in 1847, 1848 and 1851. Also, although the map has not survived, we know that Michell—himself an amateur geologist—assisted his subordinate, the road engineer and pioneer South African geologist Andrew Geddes Bain in his attempt to construct a geological map of the Colony. In a letter written from the Mostert’s Hoek (which was to become the site of Michell’s Pass) about 60 miles north-east of Cape Town, Bain wrote:

“To facilitate this great undertaking, Colonel Michell, our Surveyor-General, has kindly had a topographical map on a large scale constructed for me in his office, which I am now employed upon in filling up geologically. This, with several extensive sections upon which I am also engaged, will make the work of great interest to geologists…”

15. The British National Archives has a copy of a printed map measuring 30 x 29 cm entitled “Limite des possessions Anglaises et Portugaises dans L’Afrique Australe par Charles C. Michell Lieutenant colonel inspecteur general des terres du Cap de Bonne Espérance 1843” (see Figure 7). The map is virtually an outline; apart from Port Natal and the Bay of Lourenço Marques no natural features are depicted, while the boundary between the two countries’ possessions does not appear to have been drawn with reference to any identifiable points. All in all, the purpose of this map is somewhat of a mystery, as are Michell’s sources of information. He certainly never had occasion to visit the area in question.

16. Whereas the eastern boundary of the Cape Colony had been clearly defined since the eighteenth century, this was not the case with the boundary to the north. Here the absence of natural features made it well-nigh impossible to determine whether certain farms, for which grants had been applied for, lay within or beyond the colonial boundaries. Between 1822 and 1824 a Lieutenant Bonamy, of the Royal Engineers, carried out a fresh delineation which became operative in September 1824. This, however, failed to curb the drift of colonists beyond the boundary and in 1846 the colonial government, prompted by the discovery of copper deposits in Namaqualand, began to consider a possible extension. A report was obtained from Michell, who in pointing out anomalies in the existing boundary, added that as the
area had no well-defined connecting features “it follows that every magistrate having to determine whether a crime has been committed within or beyond the colony, would need to be an accomplished topographer, travelling with all the means and appliances of his profession”. This of itself, according to Michell, was a sufficient reason why “a proper and well-defined line of frontier should be laid down”, the left bank of the Orange River being the obvious choice.\textsuperscript{79} His recommendation was adopted by Sir Harry Smith’s proclamation of 17 December, 1847.\textsuperscript{80} Michell’s report was accompanied by a map, “Colony of the Cape of Good Hope as it will be after the adoption of The New Boundary”. It measures 38 x 24 cm and is on a scale of about 75 miles to an inch.\textsuperscript{81} It shows the old and new boundaries, as well as the former “Ceded Orange River being the obvious choice.\textsuperscript{82} His recommendation was adopted by Sir Harry Smith’s proclamation of 17 December, 1847.\textsuperscript{83} Michell’s report was accompanied by a map, “Colony of the Cape of Good Hope as it will be after the adoption of The New Boundary”. It measures 38 x 24 cm and is on a scale of about 75 miles to an inch.\textsuperscript{84} It shows the old and new boundaries, as well as the former “Ceded Territory” between the Great Fish and Keiskamma rivers and the new Colony of British Kaffraria between the Keiskamma and the Kei, annexed on 23 December 1847.\textsuperscript{85}

![Figure 7 Michell’s map of the limits of the English and Portuguese possessions in south-east Africa, 1843 (BNA FO925/984).](image)

17. In 1847 John Arrowsmith published his well-known map of the Eastern Frontier and followed this up with new editions in 1848 and 1851. The impetus for these maps was doubtless the outbreak of two major periods of hostility there: The Seventh Frontier War (also called the “War of the Axe”) (1846-48) and the Eight Frontier War (1850-53). Arrowsmith’s first map was published on 4 January 1847 and is entitled “Eastern Frontier of the Colony of the Cape of Good Hope, (and part of Kafirland) from Algoa Bay to the Great Kei River”. It was stated to be drawn “chiefly from M.S. Surveys & Sketches communicated by Lt Col Michell Surv’ Gen’ of the Colony”. The map measures 60 x 49 cm and is on a scale of about 8 miles to the inch (see Figure 8).\textsuperscript{86} It was the most detailed and accurate map of the Frontier published to date and included the districts of Cradock, Somerset, Uitenhage and Albany, as well as the “Ceded Territory” and the principal tribes to the south-east of the Keiskamma River.

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18. A revised and up-dated edition of the map was published on 4 June 1848, with the same title. This now showed the newly-proclaimed Crown Colony of British Kaffraria (see 6. above), the port of East London (called “London” on the map) which had been named by Government Notice dated 28 November, 1847, and the Colony of Natal. Michell’s assistance was again acknowledged in the same terms. It should be mentioned that in 1850 the cartographer Henry Hall of the Royal Engineer’s Department produced a manuscript map of South Africa in which the work of Michell in the Eastern Province was acknowledged.

19. Finally, on 4 June 1851, another edition of the map was produced by Arrowsmith, bearing a number of new names and towns. London, for example, is altered to East London (the name of the present city) and – doubtless with an eye to recent interest in the Seventh Frontier War – “Sir P. Maitland’s Camp 1846” and “Colonel Somerset’s Camp 1847” are inserted in the region of the Kei River. A small but significant alteration to the acknowledgements in the title now also appears: the communications now are said to be by “Lt Col Michell late Surv’ Gen’ of the Colony and Capt Wm. F. Drummond Jervois Roy. Eng.”. Michell had not lived to see this, his last, contribution to the cartography of the Cape Colony, as, not yet fifty-eight years old, he had died at Eltham, Kent on 28 March, 1851.

**Figure 8** Arrowsmith’s map of the Eastern Cape Frontier (published 4 January 1847) as it appears in BPP, vol 21, opposite p. 200.

**CONCLUSION**

In the field of Southern African cartography Michell cannot claim to share the eminence of persons such as John Arrowsmith or Henry Hall, to name but two. In the absence of an accurate trigonometrical survey of the Cape, the prospect of producing, in Michell’s words “even a tolerably correct map of the Symposium on “Shifting Boundaries”: Cartography of the 19th and 20th Centuries. ICA Commission on the History of Cartography
Colony was minimal. As we have seen, Colonel Holloway’s initial efforts here were suspended due to lack of funds. Michell’s attempt to revive it in the early 1830s was almost immediately interrupted by the Sixth Frontier War, after which it was rapidly overtaken by political developments in the Eastern Province compounded by his own ill-health. Then, in the 1840s, when the financial position of the colony had improved due to the reforms of John Montagu, Michell’s talents were diverted to the design and construction of roads, mountain passes, lighthouses and harbours, for which he is chiefly remembered today. Had the Colonial Office in London not combined the two offices of surveyor-general and civil engineer (they were at last separated after Michell’s departure) Michell might well have been able to devote much more of his time to the duties of the former, including surveying and cartography. Due to political and financial constraints this was not to be, but his achievements in the cartographic field, especially as one of the pioneers of military cartography in South Africa, remain as a worthy memorial to him.

ENDNOTES

2 This is the name by which he was baptized in St Thomas’ Church, Exeter on 5 April 1793; see F.G. Richings, The Life and Work of Charles Michell, op. cit., p. 20.
3 Harry Smith to Juana Smith, 16 March 1835, cited in Richings, supra, p. 86.
4 In April 1838 Michell sailed for England on leave of absence, partly due to failing health. He returned to the Cape in October 1839 but, eight years later, in December 1847, suffered a near-fatal stroke. He never fully recovered and died in England on 28 March, 1851. See Richings, supra, pp. 116, 180, 186.
7 Ibid., pp. 495-496.
8 Ibid., p. 496.
11 A selection was published in Holland in 1952 to commemorate the tercentenary of the landing of Jan van Riebeeck at the Cape, with a trilingual introduction and commentary in Dutch, Afrikaans and (somewhat opaque) English. See C. Koeman (ed.). 1952. Tabulae Geographicae Coloniae Bonae Spei. Amsterdam, esp. at pages 15 and 29.


These, comprising twenty-three bound volumes and a collection of letters and other memorabilia in the possession of a descendant, will hereafter be collectively referred to as the “Michell papers”.


Cape Archives Depot, GH 1/72, General Despatches: Murray to Cole, 4 January 1829, no. 1060.

Cape Archives Depot, SG 1/1/3/1, Michell to Bell, 28 February 1831.


Ibid.


Cape Archives Depot, CO 403/ 154, Michell to Bell, 6 December 1832.

*op. cit.*

Cape Archives Depot, GH 23/10, Cole to Goderich, 20 December 1832, p. 69.


Harold Strange Library, Johannesburg, reference S Map 912(687) "1830".


*ibid.*, p. 22 and the authorities cited.


It was, ironically, the dismissal by Franklin of his colonial secretary, John Montagu, which led to the latter’s appointment to the Cape in 1843. His reform of the Cape’s administration and finances was to enable Michell at long last to carry out some important road, mountain pass and lighthouse schemes; see J.J. Breitenbach. 1960. “The Development of the Secretaryship to the Government at the Cape of Good Hope under John Montagu,


50 William Fehr Collection, catalogue E. 42.


56 Michell papers, Frontier War Journal, 30 March 1835.


63 Michell papers, Frontier War Journal, 8 June 1835.

64 Cape Archives Depot, M 1/562.


66 Graham’s Town: Meurant and Godlonton, Part I (1835), Parts II and III (1836).


68 See (4) above.

69 See P.W. Laidler. 1935. *The pre-Victoria Products of the Cape Press, 1796-1837*. Johannesburg, p. 85. The National Library of South Africa possesses a further copy of the Introductory Remarks (Catalogued at AC 968.605 GOD) with an unitled and unsigned map of the Eastern Frontier measuring 34 x 27 cm, bound in as a frontispiece. This was reproduced in monochrome in the 1965 facsimile reprint of the Narrative and the Introductory Remarks by C. Struik, Cape Town. The possibility exists that this map is by Michell, but a close comparison of the handwriting with that on a known map by him remains to be done.


71 Michell papers, Frontier War Journal, 1835. The map measures 16 x 9.5 cm.

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