

Paper 5

A Tale of Two Maps - NSW in the 1830's by Mitchell and Dixon: Perfection, Probity and Piracy!

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ABSTRACT

Surveyor-General Thomas Livingstone Mitchell's *Map of the Nineteen Counties* is a work of singular excellence and achievement fully deserving of all of the accolades and glowing tributes showered upon it even right up until the present day. However, little is known of another brilliant map of New South Wales from the same period crafted by legendary 19th century mapmaker John Arrowsmith for one of Mitchell's assistant surveyors Robert Dixon, probably due to latter's indiscreet unauthorized private publication of this work in England provoking the formidable and lifelong wrath of his master surveyor.

The following paper will take you on a journey with these two surveyors and their survey party as they indefatigably carry out the first triangulation survey of New South Wales and then utilize the same data to pen two of the finest early cartographic works in the history of the colony but with markedly different consequences. On the one hand Mitchell's map has been universally acclaimed as a meticulous and most valuable etching of the state's first divisions into Parishes and Counties meeting the highest standards near to perfection as self-imposed by Mitchell, while on the other side of the ledger a work of similarly eminent quality and accomplishment has been cast into the mire of banishment in reprisal for Dixon's overseas publication of his work without official permission. I shall put the two works before you for your own assessment and conclude by summing up just how each of the individuals involved fared subsequent to the issuance of their great charts. Thomas Mitchell made four momentous explorations which opened up Australia for further settlement along with being a principle participant in the discovery and identification of the first Diprotodon fossil, inventing an impellor, being knighted by Queen Victoria and even mounting a duel against an opponent! While on the other hand Dixon laid out the town of Moreton Bay with two other surveyors, James Warner and Granville Stapylton, and also carried out the first triangulation survey of Queensland with many of his descendants, notable figures in the development of northern New South Wales and Queensland. The ultimate irony of the continuing feud between these two great early Australian mapping pioneers is that they were laid to rest in the same cemetery at St. Stephen's Camperdown (Sydney, Australia) within fifty (50) metres of each other, where they shall remain neighbours for eternity!

BIOGRAPHICAL NOTE

John Brock holds a Bach of Surveying (UNSW,1978), MA Egyptology (Mac. Uni.,2000) Registered Surveyor NSW (1981), Licensed Surveyor QLD (1990), Rose Atkins Assoc., Blacktown (10 years), H. Ramsay & Co., Harris Park (3 years) surveying for 33 years, **Fellow** of ISA, former Vice Pres., committee, convenor of PR & History Subcommittees ISNSW, papers to Survey Congresses in Sydney, Cairns, Perth, Newcastle, Launceston,

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A Tale of Two Maps - NSW in the 1830's by Mitchell and Dixon: Perfection, Probity and Piracy!



Introduction

The principal purpose of this paper is to compare the two wonderful maps of New South Wales prepared in the mid 1830's, one done at the hand of the NSW Surveyor-General Thomas Mitchell and the other crafted by his assistant surveyor, Robert Dixon. However, to fully appreciate these two masterpieces of early colonial cartography, I must provide you with a brief outline of the history of the period and the lives of the two great surveyors who provide the human aspect of the drama which unfolds.

Dixon and Mitchell arrive in Australia

Even before Thomas Mitchell ventured forth from England onto the soil of New South Wales to chart its virgin contours Robert Dixon was already an assistant surveyor for the existing Surveyor-General, John Joseph Molesworth Oxley. After emigrating to Van Dieman's land from Durham in England in 1821 with his step-brother, George, five years

later he moved to Sydney being appointed assistant surveyor on 1 November 1826 under Oxley.

Mitchell and his family arrived in Sydney late in 1827 to assume his appointment as Deputy Surveyor-General to Oxley, but would find himself occupying the top position in a decidedly brief expiration of time.

And so the exploring and surveys begin

During the short period of time between the arrivals of the two Survey Department men, Dixon had already explored much of the southern areas around the Illawarra District, and in September 1827 set out alone to investigate the Burratorang Valley where, completely lost for four days, came close to losing his life even before his trials with Mr. Mitchell.

As Thomas Mitchell stood with his assistant Robert Dixon on 26 May 1828 atop Mt. Jellore, his first trigonometrical summit for his great triangulation survey of New South Wales, his Surveyor-General Oxley had passed away at his Camden home, Kirkham. Having visited him six days earlier, it was only two days later on 28 May that he was to be appointed Surveyor-General of NSW, a post he would hold until his death some twenty seven and a half (27 ½) years later. Governor Ralph Darling wrote of Mitchell's commissioning: "It is to be regretted that Major Mitchell had not had more local experience before the conduct of his important Department devolved upon him; but his zeal, assiduity and professional knowledge afford me every reason to expect that the duties entrusted to him will be conducted in the absence of Mr. Oxley's services in a very satisfactory manner." These were destined to be the last kind words ever uttered by this Governor about his new Surveyor-General !

A similar fate was to befall Robert Dixon albeit at the hands of his master surveyor not long after this incident. Along with Edmund Lockyer, Mitchell was to accompany Dixon in an attempt to explore the Grose Valley near Mount Victoria, but they were repelled by the tortuously harsh country. During another unsuccessful attempt to cross this terrain in 1829, Dixon was able to make a trigonometrical survey of Mount King George, while his other work in the Blue Mountains permitted Mitchell to lay out a new line of road to Bathurst in the same year, where the currently still used Victoria Pass descends down into Little Hartley. Following a dispute with the Governor about an alternative pass of the mountains under construction at the same time, not only was the duty for Commissioner of Roads and Bridges bestowed upon Mitchell, Darling was recalled to England and replaced by Richard Bourke as the new Governor of NSW.

The Trigonometrical Survey of New South Wales

Despite a serious backlog of Crown Portion surveys for occupation by the settlers and Mitchell's driving desires for journeys of exploration for his own ambitious advancement, the new Surveyor-General was determined to carry out "The King's Instructions of 1825." Bathurst, the Secretary of State, had requested that the General Survey of the Colony be performed as a matter of priority, following the recommendation of Commissioner Bigge for the division of the Colony into counties, hundreds and parishes so as to remove the difficulties and confusion in the choice of land to reduce the build up of arrears in the Surveyor-General's Department. Due to the extensive occupation of lands without formal surveys, the Land Board also informed Governor

Darling on 11 March 1826 that “it is of paramount importance that the districts in which these lands have been granted, should be surveyed ... to prevent the greatest irregularity and confusion ...” Thus pressure was being exerted right from the top upon an under-staffed, under-supplied and over-worked Survey Department which, under Mitchell, would become one of the more powerful and productive divisions of the Colonial Government during his tenure from 1828 to 1855.

It is interesting to note that Mitchell measured two baselines in April 1828 as the foundation for his triangulation survey, each of 832 yards (760.781 metres) in length, along the sands of the shore at Botany Bay. He then used these bases to calculate a join between Sydney Lighthouse and a small hill on the south side of the bay which offered views to the peaks of Mount Jellore in the County of Camden to the south, and Mount Tomah, Mount Hay and various prominent elevations in the Blue Mountains (County of Cook). Ultimately Jellore, Mount Hay and Warrawolong (County of Northumberland) became the principal points on the triangulation, with a connection made along the way to the observatory at Parramatta by a traverse with a Gunter’s chain.

Most of this monumental survey was carried out by Mitchell’s surveyors and their draftsmen acting as assistant surveyors spending anything up to six months away surveying with circumferentor and chain, plotting their work in the field for immediate dispatch to their Surveyor-General by whatever means were available. His surveyors were Robert Dixon, Robert Hoddle, Heneage Finch, James Byrn Richards, James Ralfe, Philip Elliot, George Boyle White, John Abbott, Peter Grant Ogilvie, William Romaine Govett, Edward James Howes Knapp, John Rogers, Granville Stapylton, Henry Cavendish Danvers Butler, Felton Mathew, John Edwards, William Jacques, Francis Townsend Rusden, draftsmen – Henry Faucourt White, John McLeod, Frederick Robert D’Arcy, P.L. Bemis and R.N. Docker, with administrative help from John Thompson.

However, only one of his assistants was considered trustworthy and reliable enough to observe accurate angle observations with one of the two theodolites which Mitchell had especially made and shipped to New South Wales in 1828 by instrument manufacturer Jones of Charing Cross, England. That man was none other than Robert Dixon of whom Thomas Mitchell’s last positive remark was made in a dispatch to his Under-Secretary in September 1832 :

“Mr. Dixon has been useful in my Trigonometrical (sic) Survey he being almost the only individual on whose angles I have any reliance ... I should be unwilling in the event of any promotion to pass him over now.”

How this sentiment was to undergo a reverse metamorphosis we shall soon see, but before this I would like to give you some idea of Dixon’s activities as assistant surveyor in an extract of a letter to his commander dated 18 July 1836:

“...In the year 1831, I received instructions to proceed to the Upper Hunter River districts for the purpose of laying down the principle features in the North West Districts. I commenced by measuring a Base line on Liverpool Plains of three miles in length, from which I fixed the principle heights in that part of the Colony, and was enabled to connect these points with the former Trigonometric Survey. I then traced the whole of the dividing range from the head of the Coolahburragundy stream to Mount Royal, and thence to Mount Arthur. I then took up the survey from the head

of Page's River across Liverpool Plains to Peel's River, showing the courses of the principle Ranges and Streams in that country: after which, I laid down the Whole of the Upper Hunter's River from it's confluence with the Goulburn to it's source, including it's several branches, the Page, Kingdom Ponds, Dart Brook, with many minor tributaries and a great number of Grants and purchases thereon. I also completed a detailed survey of the country between Patrick's Plains and Muscle Brook, likewise between Lemmington and Muscle, shewing the old lines of road between those points previously to the Surveyor-General's making the new line of road from Lemmington to Muscle Brook, which line I have since surveyed. I was then engaged in the survey of the principle streams in the Counties Brisbane and Blight, viz., the Wybong, Gungah, Gummum, Bogibri, Kruf, Munmurra, Talbragar And Coolahburragundy, with the whole of the Grants and purchases on those Streams with a few exceptions ..."

Not long after this letter was written he would be back in England about to embark on an action which was to lay the foundations for a tempestuous relationship with Mitchell which would last for the rest of their lives, having a significantly negative impact on Dixon's future prospects in New South Wales.

The two maps are published

Regardless of his robust and firm demeanour, Thomas Mitchell was a man possessed of vast compassion not only for all of the convicts who took part in his arduous expeditions, but also for the aborigines and the misfortunate of society. He invoked loyalty, but spurned insubordination. To a man, bar one (on one of the expeditions for one day !), he strongly recommended that all of those convicts who took part in his expeditions receive the favourable considerations of the Governor. Of the aborigines he said that during the employment of them on surveys and explorations as guides and interpreters he had learnt to admire their "courage and resolution", "their intelligence and judgment", but most of all their "loyalty." Referring to both groups he "praised the faithfulness, courage and endurance of the convicts and aborigines who served under him on his own expeditions."

It is along these humanitarian lines that Mitchell engaged the services of a most skilled engraver named John Carmichael, bearing in mind that he was deaf and dumb at a time when equal opportunity of employment was not even a notion. Due to the shortage of such gifted artisans, compounded by the lack of funds in his Surveyor-General's Department, Mitchell not only gave Carmichael accommodation in his own home at Darlinghurst, "Craigend", he also paid him 200 pounds per year to do the engraving of the copper plates. The final cost would be 900 pounds from Mitchell's own purse and he received permission from the Secretary of State in December 1834 to publish this map (dimensions of 59.8 by 129.4 centimetres at a scale of about 1:540 000) privately in order to recover his expenditure. It would appear to have been a most prudent choice to dedicate his great map to the Right Honourable Edward Geoffrey Smith Stanley, who, just by the slightest coincidence, happened to be the Secretary of State. Unfortunately for Thomas, at 1 pound per copy, it did not seem likely that he would be accruing his 900 pounds in the near future, even when he had the retail map seller, James Gardner of Regent Street, London, republish his manuscript for sale in that city in 1834. It will be quite apparent later just how Mitchell must have reacted when Dixon had an opposing London map merchant named Joseph Cross put his alternative chart on the market in direct competition to his own work.

Upon application in May 1836 Dixon was granted two years leave on half pay, returning to England. While on the long voyage home he thought that he might as well use all of the surveying records that he had copied during the long months engaged on the trigonometrical survey of New South Wales to draw his own plan of the young colony, which he would then offer for sale in London. His work included the locations of many of the land holdings occupied in the developing land, which also served to indicate just how much more farmland was available for those who may wish to emigrate to England's new distant territory. Thus, his plan, measuring 122 by 72.5 centimetres at a scale of 1:506 880, may have been considered by some as of a more practical use than Mitchell's production which concerned itself more with the topographic detail of the area covered by the nineteen counties. Whatever varying opinions of each of the maps may have been there was one issue which was not in question, and that is that Dixon had no permission to publish his chart and was in blatant contempt of the invariable rule which permitted no officer "to publish for his own benefit, the results of any labour undertaken in pursuance of his public duties", except if you dedicate your work to the incumbent Secretary of State, it would appear ! Obviously, to reinforce his tenuous position with regard to his unauthorised distribution of his plan, Dixon must have sought some powerful connections by dedicating his map to Sir John Barrow. Alas, this was to have no influence on his furious superior when he travelled back to New South Wales in the June of 1838 !

Further conflict flares

Misinterpreting an offer from Mitchell's deputy, Perry, of an assignment in the Murrumbidgee and Riverina Districts as banishment for his impudent map publication, Dixon responded with a most discourteous letter. Perry had no choice but to suspend him without pay, pending Mitchell's return.

Dixon's offer of March 1839 to the Governor to survey the Moreton Bay District on a contract basis was accepted. Along with two other surveyors, Granville Chetwynd Stapylton and James Warner, Dixon did many surveys in the northern country including laying out a plan for the City of Brisbane, carrying out the first trigonometrical survey of Queensland and then carrying on to explore and measure the southern coastal areas of what was to become the northern state in 1859.

Continuously agitating for a promotion with a rise in salary, Dixon could not stay out of trouble with his employers. After a minor fracas involving the commandant of the Moreton Bay District, Owen Gorman, and Dixon's convict servant, John Forde, Dixon was relieved of his duty again. Before he could vindicate his actions in this incident he went ahead and published a Map of the Moreton Bay District without authority, so his dismissal was not revoked. Later on he was working on surveying railways, then with a failed gold mining venture, before succumbing to ill health leading to his death in his home at Cumberland Street, Sydney, a few days after his 58th birthday on 8 April 1858.

The independence of spirit which was so abundant in each of these two great early Australian surveyor/explorers is probably what drove them apart. Thomas Mitchell was not without his opponents and detractors during his turbulent and colourful life, especially during his time as Surveyor-General of New South Wales. He outmanoeuvred or, at least outlasted, five NSW Governors, Darling, Bourke, Gipps, Fitzroy and Denison, denying this last man the privilege of handing down his findings with relation to the inquiry into the Surveyor-General's Department by dying first. Contracting pneumonia in the southern districts between Braidwood and Berrima Mitchell died in his Sydney

harbourside home, “Carthona”, on 5 October 1855, three years prior to his nemesis, Dixon.

Glowing tributes for the Mitchell masterpiece

Even though there are not a similar number of official tributes documented for the map of Robert Dixon, his plan was nonetheless compiled utilizing the same survey data that was so painstakingly and meticulously measured by all of the survey parties under Mitchell’s command during the Trigonometrical Survey of New South Wales. In fact, as I have said, it was the accurate angle observing carried out by both Mitchell and Dixon which knitted together the precision of the network and allowed each of the maps to be plotted with such a high standard of presentation.

The following list of tributes, which pertain to the Mitchell Map of the Nineteen Counties, can also be directed to Dixon’s Map of New South Wales. On 27 August 1842 Phillip Parker King, the first Australian born Admiral of the Royal Navy, wrote of “the beautiful minute detail of the topography”, also stating that “I consider it a gem and not to be equalled in any Colony belonging to Her Majesty’s dominions”; his assistant Granville Stapylton said: “The Surveyor-General has the most correct idea of geographically laying down and ascertaining to a mathematical nicety all points of importance in a country, however extensive, provided you give him mountains of elevation from whence to draw his conclusions”; Surveyor A.W. Mullen remarked on “The marvellous accuracy of Major Mitchell’s bearings, observations and descriptions of the features of the Darling River country”; while the 1924 Surveyor-General of NSW, A.H. Chesterman noted: “The undertaking involving extensive clearing of the occupied hills in a new country with no means of rapid transit, and completed within a period of six years stands as a memorial to the zeal and assiduity of one of Australia’s best known explorers...nine hundred plans entered into the formation of the map embracing nineteen counties, the available material being reduced with almost microscopic fidelity.”

Comparing the two maps of New South Wales

Selected sections of each map have been chosen for comparison so that the viewer is enabled to make a closer inspection of each of the works. It should be noted that the 1834 Mitchell Map is orientated with north running from left to right, but for the ease of comparison I have rotated this plan 90 degrees anticlockwise which is about 20 degrees of True North. Dixon’s Map, which is always on the lower half of the page is copied in the same orientation as the original plan at approximately True North. On the first page of this paper the two maps are placed side by side with Mitchell’s Map on the left and Dixon’s on the right, but at this size it is only the brighter colours of the 1837 plan which shine brighter, as the detail is still too small for discernment.

Each enlarged section shall be studied piece by piece with some unusual features pointed out for ready identification:

(a) Sydney, Botany Bay and Parramatta (See Figure 3)

As is the standard for the Mitchell Map there is a greater emphasis on the natural topographic detail in the area, whereas the Dixon Map is more colourful and paying less representation for the hills in favour of the owners of the landholdings, such as D. Johnson, J.W. Potts (this area now called Potts Hill),

Roberts and Wentworth. Where the name “Harris” is shown to the west below the City of Parramatta was firstly owned by Surgeon John Harris who gave his name to the place in which my office is situated, Harris Park. An obsolete town name is seen where Bankstown is situated today shown as “Irishtown.”

(b) Camden (See Figure 4)

In the northern area of the upper tile the topography is shown to be quite hilly while it levels out towards Camden just south of the centre of frame. The rivers of the Nepean, Cataract and Warragamba are clearly shown on each map enlargement, but, once again, Dixon has sacrificed the hills for the land tenures particularly to the south west of the Town of Camden, with “J. and W. Macarthur” and the “Oakes Church Reserve” dominating the landscape. As before the Dixon Map is substantially more colourful than its predecessor. It is quite interesting to see the name of a village like “Vandervill” which no longer exists in that area.

(c) Upper Blue Mountains

As we proceed in a westerly direction from Sydney we reach the base of the Blue Mountains at Emu Plains just past Penrith. Once past Katoomba the area is referred to as the Upper Blue Mountains, at one time having its own local Council offices at Blackheath known by that name until the formation of the Blue Mountains City Council late in the twentieth century. Both maps bear place names at “Weatherboard Hut”, “Pulpit Hill” and “Blackheath.” The Vale of Clywd is prominent on the upper section but can be made out slightly obscured by an allotment owned by N. Norton on the lower copy. To the west of the lower map land portions take precedent along the Fish River.

(d) County of Bathurst

As is the case with the Mitchell Map there is a greater emphasis on the natural topographic detail in the area where the Dixon Map is more colourful and paying less representation for the hills in favour of the owners of the landholdings such as D. Johnson, J.W. Potts (this area now called Potts Hill), Roberts and Wentworth. Where the name “Harris” is shown to the west below the City of Parramatta was firstly owned by Surgeon John Harris who gave his name to the place in which my office is situated, Harris Park.

(e) Newcastle to Maitland

More so than any of the other section comparisons Dixon’s Map shows very conclusively the amount of land occupation present in the area between Port Hunter (Newcastle) and Maitland than the Mitchell Map. Evidently the Hunter River was a bountiful river for the farmers and there is even a holding with the name “Dixon” shown on this part of the plan in the centre to the northern end of the copy.



Figure 3. Comparing Mitchell's Map and Dixon's Map around Port Jackson and Botany Bay in enlarged sections
 (Courtesy National Library of Australia and Mitchell Library, State Library of New South Wales)

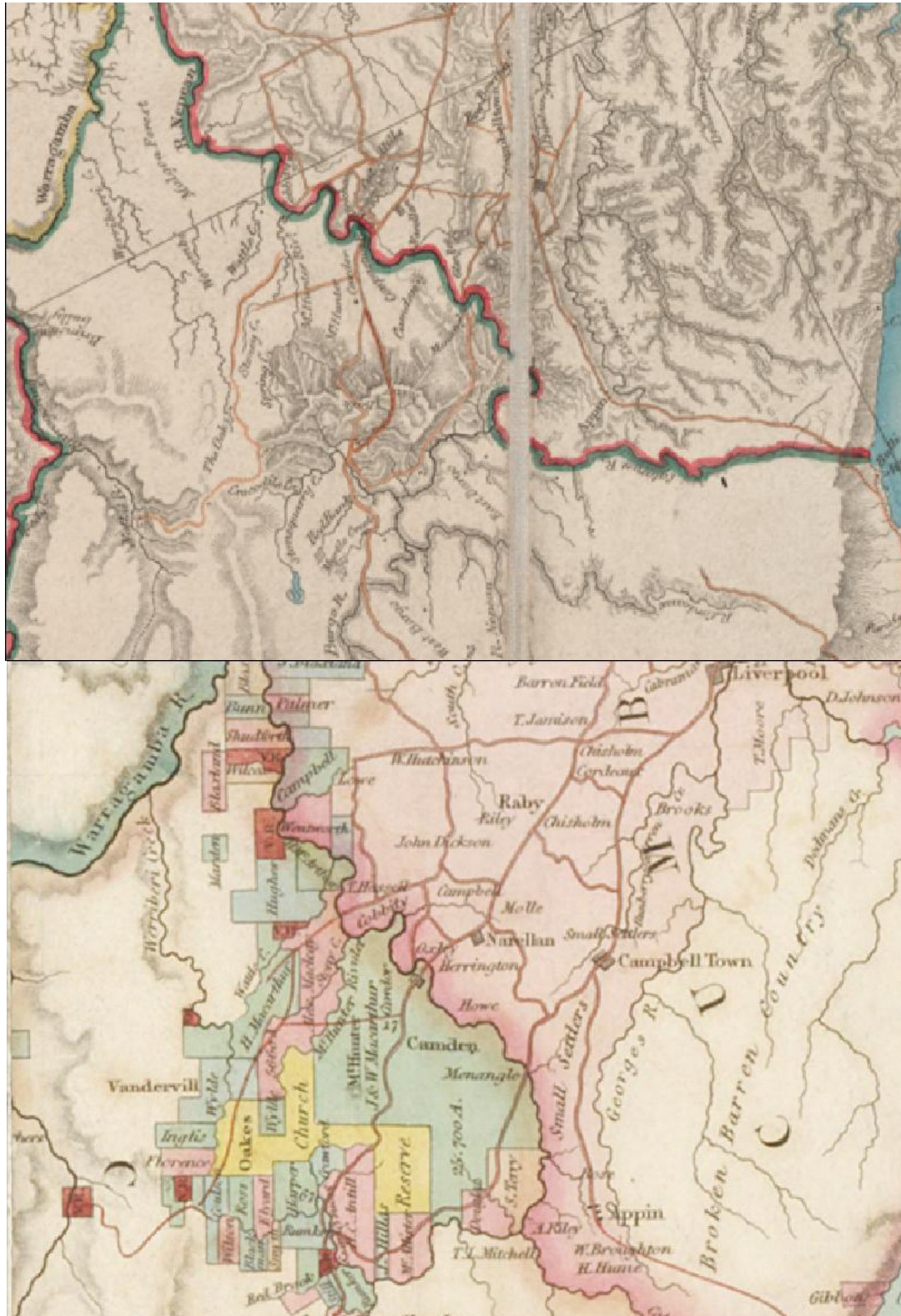


Figure 4. Comparing the maps focusing on the Camden area by enlarged sections (Courtesy National Library of Australia and Mitchell Library, State Library of New South Wales)

(f) Port Macquarie

The two parts of the maps appear to almost join as one in this curious coincidence of copying and the upper plan section concentrates more strongly on the hills and waterways while the lower copy discloses the limited number of farms nestled on each side of the Hastings River with a few on the Wilson River further northwards. On this occasion, because there were no measured properties along the lower hills, Dixon's plan mimics Mitchell's with the Brokenbago Ranges drafted onto the sheet. There is a landholding in the name of "Mitchell" in pink near the middle of the copy.

(g) Jervis Bay

Jervis Bay was earmarked to be the Port City for the Federal Capital of Australia, Canberra, around the early part of the twentieth century, and to this end the adventurous surveyor/developer Henry Ferdinand Halloran took the gamble on creating the subdivision known as "Pacific City" as a speculative preparation for this outcome. Unfortunately the promised train line connection from Sydney was abandoned and the pegged out allotments lay vacant as a ghostly symbol of poor government planning for transport infrastructure. At the time that these plans were drafted the towns of Nowra and Berry were not pronounced, but from the 180,000 acre grant bearing the names of "Berry and Wolstoncraft", it can be seen where the township of Berry was to be later occupied. In the middle of the lower plan a portion of land has been taken up by an A. Macleay on the Jervis River.

(h) Lake George (See Figure 5)

Due to the prominence of Lake George near the middle of both of these sections of the maps I have chosen to call this final slide "Lake George." In a most intriguing natural phenomenon, this apparently voluminous water feature almost disappears and reappears on a cyclical basis, and currently it cannot even be seen from the roads which traverse its perimeter. Where cattle now graze nonchalantly, only thirty years ago I remember seeing the water lapping up against the embankments. To the west of this lake about eighty years later Surveyor Charles Scrivener and his teams would be measuring and marking out the site for Australia's national capital, Canberra, after Walter Burley Griffin had been victorious in the worldwide competition to design the new city. It would seem most likely that the three hilltops shown on Dixon's plan to the south west as "One Tree Hill", "Bywong" and "Mt. Ainsley" would have at least had observations made to them during the triangulation and may have even been occupied as prime stations for measurement. Due to the extreme flatness of the general area surrounding Lake George, thus causing the slightest drop in water level to result in a massive subsidence of the waterline, it was used to establish a baseline in 1867 by the Government Astronomer and Deputy Surveyor-General, Philip Francis Adams, for which some of the stone monuments still exist today.



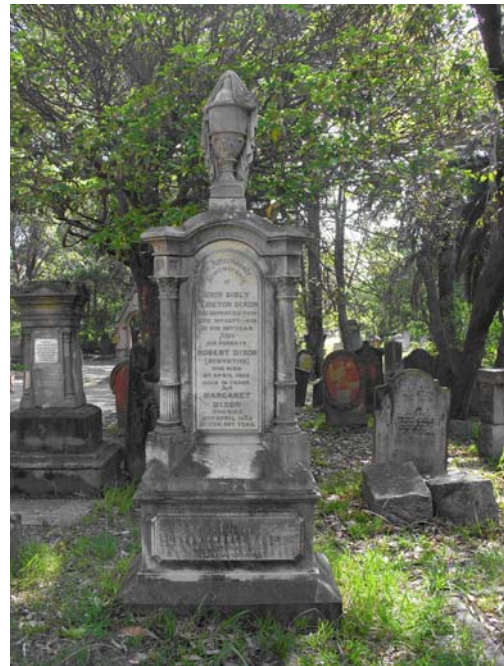
Figure 5. Comparing the maps in the vicinity of Lake George (not far where the Australian Capital City of Canberra would be located some 80 years later) in enlarged sections
(Courtesy National Library of Australia and Mitchell Library, State Library of New South Wales)

Conclusion

Whatever personal differences may have existed between these two early Australian surveyors there is no doubt as to their determination, toughness, skill and ability. To have carried out such lengthy and arduous expeditions into undeveloped parts of New South Wales, while at all times not neglecting the precise attention to detail that these men and their surveying teams did in the early years of 1828 to 1834, was a feat deserving of the highest praise. Their combined cartographic prowess was the best of its time and these two most brilliant maps are testimony to that. So I prefer to regard each of these men as great surveyors and, not to reserve all of the praiseworthy quotations for Mitchell, may I cite that the Australian Dictionary of Biography which ranks him “high among early surveyors and explorers.”

After a lifetime of personal differences, along with joint and individual achievements, it is the ultimate in dramatic Shakespearean irony that Thomas Mitchell and Robert Dixon are buried about 55 metres apart in the St. Stephen’s Cemetery at Camperdown in Sydney forever to be neighbours peacefully !

Right: Dixon’s Grave.
Below: Mitchell’s Grave



DEDICATION: This paper is dedicated to Robert Dixon and all of those other lesser known surveyors and explorers whose tireless feats of heroism have formed the personality of the Australians of today.

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ADB stands for The Australian Dictionary of Biography