eColenso

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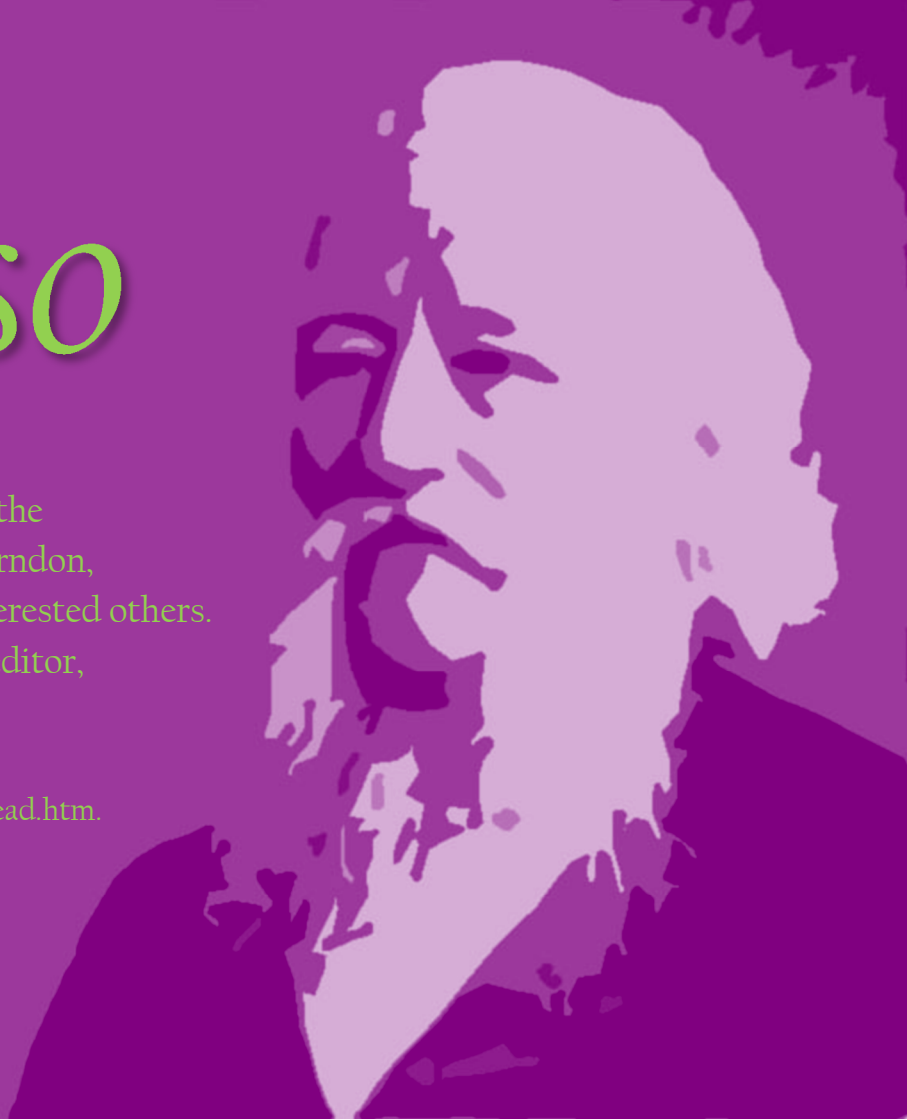

The New Zealand polymath—Colenso and his contemporaries

National Library of New Zealand, Molesworth St, Wellington 16–19 November 2016

Wednesday 16th 5.30pm opening and panel discussion.
Dabbling dilettantes and renaissance men: colonial polymaths and New Zealand's science culture.

Thursday 17th & Friday 18th 9am to 5pm presentations.
An exciting range of papers has been offered, presenting work on Thomas Kirk, Henry Honor, FE Maning, Thomas Cheeseman, Josephine Gordon Rich, William Henry Skinner, Emily Cumming Harris, George Rusden, Miss Jelly and Augustus Hamilton, WW Smith, Julius von Haast, Suzanne Aubert, Elsdon Best, Robert Gilles. There will be discussions on Māori oral tradition and traditional ecological knowledge.

Thursday evening: conference dinner at the Backbencher .

There will be papers on Bishop John Colenso, William Colenso's typecases, his scientific achievements, his rehabilitation as a cleric, his relationships in the Victorian republic of letters, a look at some of his surviving ephemera—and Peter Wells will speak on Colenso's mission house as a lost bicultural treasure.

Saturday 19th: there will be a field trip to the Wairarapa—to Brancepeth, a colonial homestead and gardens east of Masterton, one of Wairarapa's grandest and most treasured historic sites. We plan to follow this with seeking wild native orchids (some described by Colenso) at a Wairarapa site.

Look for notice of earlybird registration in eColenso for August.

Sir John Frances Julius von Haast (seated) and his taxidermist, Frederick Fuller, circa 1866, with moa bones. Taken by Alfred Charles Barker in Barker's front garden. (http://mp.natlib.govt.nz/detail/?id=5460) Reference Number: PAColl-5381-01

Contents

Supplement: Kessock House for sale

Allan L Mackenzie, the owner, emailed, "I thought the society might be interested in some up to date pictures of the house, so attach the brochure. Ridley Latimer Colenso built the Edwardian extension in the Arts and Crafts style. The house had hitherto been a small Victorian house sitting above the village of North Kessock. His initials and those of his wife were carved by the builders into the ornate front elevation stonework and also appear in the stained glass designs in the main Hall."

Colenso's first foray into Zoological Taxonomy

by Clem Earp

Colenso's published contributions to botany are well known, and begin following his journey to the East Cape and beyond in the summer of 1841–1842. His account of that journey was published first in Sir William Hooker's *London Journal of Botany*, then as a slightly longer version in the *Tasmanian Journal of Natural Science*, also available as a separate pamphlet;[1] and the journey also resulted in two taxonomic papers on ferns, also published in the *Tasmanian Journal*.

What is often overlooked[2] is that the longer versions of the story of his journey contain two formal taxonomic descriptions of new spe-

1. Colenso, 'Memoranda of an Excursion, made in the Northern Island of New Zealand in the summer of 1841–2; intended as a contribution towards the ascertaining of the Natural Productions of the New Zealand Groupe: with particular reference to their Botany'. *Tasmanian Journal of Natural Science, Agriculture, Statistics, etc* vol. 2: 210–234, 241–308. Also printed separately by the Launceston Examiner, see text.

2. Colenso was evidently anxious that these new species not be overlooked. He included them verbatim, with citations, in an annotated version of his Waikaremoana journey: 'Notes and Reminiscences of Early Crossings of the romantically situated Lake Waikaremoana, County of Hawke's Bay, of its Neighbouring Country, and of its peculiar Botany; performed in the Years 1841 and 1843.' *Transactions of the New Zealand Institute* vol. 27 (1894) 359–382.

cies in the Animal Kingdom. One was of the living freshwater bivalve mollusc which he called *Unio waikarense*, and one was of a fossil marine brachiopod he called *Terebratula tayloriana.* What is the status of these species at the present day?

The act of publication

The naming of new species of animals is nowadays regulated by the International Code of Zoological Nomenclature (ICZN). This Code is retrospective (although it makes some allowances for past practices), and it does apply to Colenso's species.

A new species must be published in conformity with the ICZN. 'Published' means not merely printed, but actually distributed by sale or free gift.

There is no doubt Colenso's publication of the species in the *Tasmanian Journal of Natural Science* (at least) meets the prima facie criteria for validity under the ICZN. The journal was clearly published in the ICZN sense by the Tasmanian Society. The species were named in the Linnean format and a clear description given in each case; there is no requirement for the description to have been given in Latin, or any type specimen designated (the latter is mandatory for new species described today).

One question remains to be answered: as a matter of record, which was the first publication, the one in the *Tasmanian Journal*, or the separate pamphlet?

The ICZN states (Article 21.2) the date of publication is that specified in the work, in the absence of evidence to the contrary. Unfortunately, there can be many reasons why the specified date may be incorrect. Some are accidental: a holdup between printer and publisher, for example. Some, regrettably, are deliberate – an attempt to gain priority over rivals.

Colenso's species descriptions appear in volume 2, number 9 of the *Tasmanian Journal*. This bears the date April 1845. Regrettably, there is no evidence that it was actually issued then. The earliest reference to it having been published is 5 June 1845.[3]

What, then, of the separate, which bears the date 1844? Colenso had apparently requested, in a letter dated 20 March 1843 to John Gell, secretary of the Tasmanian Society, that his description of the journey (and other papers) be printed and bound separately at his expense so that he could distribute them to his friends, meaning that he would be the 'publisher'. This may have been done at some time in 1844, but Colenso (much to his frustration) did not receive these copies until December 1847.[4]

It seems unlikely that any were distributed by the Tasmanian Society, as they were paid for by Colenso and were therefore his property; he had given no instruction to do so and in any case they were to be distributed as papers in the *Journal*. The earliest publication date, therefore, is the date when Colenso received the copies and was able to distribute them, i.e. December 1847. This would constitute the required 'evidence to the contrary' as to date of publication under the ICZN.

The *Tasmanian Journal* paper therefore has precedence over the separate pamphlet and the publication date of the two species is 1845, between 30 April[5] and 5 June.

3. NJB Plomley, 'The Tasmanian Journal of Natural Science'. *Papers and Proceedings of the Royal Society of Tasmania* 109 (1969) 13–15+errata.

4. I St George, 'The Tasmanian connection', *eColenso* v. 7 no. 1 (2016) p. 6.

5. According to the ICZN, if the month of publication is specified but not the day, the date is taken to be the last of that month.

Unio waikarense

Colenso obtained this freshwater mussel from Lake Waikaremoana in late December 1841. Prior to his discovery, no description of any New Zealand freshwater mussel had been published, although it had also been collected by Ernst Dieffenbach just a year or so before.

Dieffenbach's collection was examined by John Gray, Keeper of Zoology at the British Museum, who gave scientific descriptions of two species, which were published in the second volume of Dieffenbach's *Travels in New Zealand*.[6] The species were named by Gray, *Unio menziesii* and *U. aucklandica*, and as publication was in 1843, these would have priority over Colenso's.

Recent research using DNA analysis has found there are only 3 species of freshwater mussel in New Zealand, and in the Hawkes Bay district there only occurs one of these. This is one of Gray's species, now known as *Echyridella menziesii* (Gray), and *Unio waikarense* Colenso has therefore been accepted as a later synonym of this.[7]

The shell figured here is the lectotype of *Unio waikarense*, collected by Colenso in 1841. Now in the collections at Te Papa Tongarewa/Museum of New Zealand (reg. no. M.000331), images reproduced here by Creative Commons licence (CC BY-NC-ND).

6. JE Gray in E. Dieffenbach, *Travels in New Zealand*, vol. 2, p. 257.

7. BA Marshall, MC Fenwick & PA Ritchie, 'New Zealand Recent Hyriidae (Mollusca: Bivalvia: Unionida)'. *Molluscan Research* 34 (2014) 181–200.

Terebratula tayloriana

This was a fossil brachiopod which Colenso found, with other fossil shells, at the waterfall at Te Reinga on the Hangaroa River, Hawkes Bay.

The subsequent treatment of Colenso's species is convoluted, and perhaps illustrates the vagaries of palaeontology. Terebratulid species tend to look very similar to one another: similar size, shape, shell ornament and structure. This can lead to misidentifications.[8] I'll just mention a few.

Hutton[9] identified Colenso's species with *Terebratula gravida*, described by Austrian palaeontologist Edward Suess from specimens collected by Hochstetter during the *Novara* Expedition in the late 1850s. The species was considered to characterise the Oamaru Formation, Early to Mid-Miocene in age (regardless of the fact that neither Colenso's nor Hochstetter's specimens came from anywhere near Oamaru).

The shell figured here is the holotype of *Neothyris obtusa* Thomson, 1920, collected 1877, Te Whaka Range, W of Pohui, NW of Napier, New Zealand. Te Papa Tongarewa/Museum of New Zealand (reg. no. BR.001272), images reproduced here by Creative Commons licence (CC BY-NC-ND). It would be similar to, if not identical with, the shells seen by Colenso.

8. Those interested in the sort of heavily numerical statistical analysis required to separate *Neothyris* species these days should see the paper by AE Aldridge, 'Shape variation of Neothyris (Brachiopoda, Terebratellinae)', p. 115–122 in *Brachiopods through Time: Proceedings of the 2nd International Brachiopod Conference*, published by Belkema, Rotterdam, 1991.

9. FW Hutton, 'Revision of the Tertiary Brachiopoda of New Zealand'. *Transactions and proceedings of the New Zealand Institute*, vol. 37 (1904): 474–481.

Allen's revision[10] did not mention Colenso's species, but treated *gravida* as a synonym of *Liothyrella boehmi*. This latter species is now considered[11] to be an adult form of *Liothyrella concentrica*, the latter name having priority. Confusion reigned[12] because first the *Novara* specimens in Vienna could not be located, and then later when they were, the collection locality also could not be found. It is now known that Hochstetter collected his specimens from the Papakura Limestone south of Auckland, which is indeed of Miocene age.[13]

However, the limestone in Hawke's Bay, around Titiokura and Whakapunake, where Colenso collected, is significantly younger than Miocene. Hutton's identification can't be correct, and the subsequent *gravida*/*boehmi*/*concentrica* synonymy falls down where Colenso's species is concerned.

The only recent geological study to specifically mention Te Reinga appears to be that by Jared Jiang, a student at Waikato University.[14] He identified the rocks there as being the Tahaenui Limestone of mid-Pliocene age (3.0–3.5 million years). This contains the terebratulid *Neothyris* aff. *obtusa*, which is probably what Colenso collected.

The species was first described from the Titiokura Limestone by Thomson.[15] The qualification 'aff.' means that the Tahaenui Limestone form is similar to this species but perhaps not quite the same, and may after future research (and number crunching) be designated a new species. The Titiokura and Tahaenui limestones are almost the same age, as shown by the presence in both of the scallop *Phialopecten marwicki*, which was presumably the 'Pecten' fossil noted by Colenso.

Unfortunately for Colenso, the name *Terebratula tayloriana* had already been used by another author, the same year he discovered his species. Isaac Lea, an American palaeontologist, had used the name for a Cuban species,[16] and has priority over Colenso.

I doubt whether Colenso would have been too disappointed over the loss of the name. He named the species after his then friend, the Rev. Richard Taylor. But after Colenso's fall from grace, they became bitter enemies,[17] so perhaps it was all for the best.

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10. RS Allen, 'The Genus *Liothyrella* (Brachiopoda) in New Zealand'. *Transactions of the Royal Society of New Zealand* vol. 63 (1934)

11. EW Dawson, *The Cenozoic Brachiopoda of New Zealand*, p. 25. Oceanographic Institute of New Zealand, 1990. This is the most recent explicit reference to Colenso's species, but relied on the correctness of Hutton's identification.

12. I have not bothered to mention a host of other generic names to which the *concentrica* species has been assigned.

13. BC Waterhouse, 'Notes from the New Zealand Geological Survey—8'. *New Zealand Journal of Geology and Geophysics* vol. 17 (1974) 487-490.

14. J Jiang, *Stratigraphy and sedimentology of Pliocene limestones, Wairoa district, northern Hawke's Bay*. Unpublished MSc thesis, Waikato Univerisity, 2011. Te Reinga is covered on p. 130.

15. JA Thomson, 'Appendix I. *Neothyris obtusa* sp. nov.', *New Zealand Geological Survey Bulletin* vol. 21 (1920) 81. Thomson also thought *N. obtusa* might possibly be the same as *Neothyris ovalis*, still living on the continental shelf around New Zealand, but that idea is not supported today. For further information, see EW Dawson, op. cit. p. 59–60, and more recent papers such as that of AE Aldridge, op. cit.

16. I Lea, 'Notice of the Oolitic Formation in America, with Descriptions of some of its Organic Remains'. *Transactions of the American Philosophical Society* vol. 7(ns) (1841) 251–260.

17. See Colenso, 'On the Moa', *Transactions of the New Zealand Institute* vol. 12 (1879), Appendix II p. 106–107 (especially the last footnote on p. 107) where amongst a number of sharp criticisms of Taylor he wistfully recollects naming this species after him, as a proof of their one-time friendship.

William Colenso and the Promotion of Science in Hawke's Bay

By Elizabeth Pishief PhD (1998, revised 2016)

William Colenso was born in Penzance, Cornwall, in 1811, and died in Napier, New Zealand in 1899. He was an internationally renowned botanist and wrote a number of important papers on a wide variety of scientific topics. In 1886 he was rewarded for his labours by being elected a Fellow of the Royal Society of England, the third New Zealander after Julius von Haast and James Hector.[1] Colenso played an important and very influential role in the development of a scientific community in Hawke's Bay in the latter quarter of the nineteenth century. He advocated the teaching of science in schools; was a founding member and key figure in the Hawke's Bay Philosophical Institute; wrote and read many scientific papers; promoted science and the establishment of a natural history museum; and supported the scientific endeavours of other people in Hawke's Bay.

From his youth Colenso had been interested in all branches of natural history studying the local flora and fauna of his native Cornwall and reading papers to a local society in Penzance before he left Cornwall.[2] In 1834 Colenso came to New Zealand to become the first printer for the Church Missionary Society's mission at the Bay of Islands.[3] He was fortunate to meet Charles Darwin in 1835 when the *Beagle* briefly called in at the Bay of Islands. During 1838 Allan Cunningham, the New South Wales government botanist who spent six months in New Zealand gave him some systematic training in botany. In 1841 he met Joseph Dalton Hooker who was with Sir James Clark Ross's Antarctic Expedition and to whose father, Sir William Hooker, then Professor of Botany at Glasgow, Colenso had been sending botanical specimens. This meeting with Hooker was the catalyst that started Colenso's outstanding career as a botanist. Colenso accompanied Hooker on many botanical expeditions and afterwards corresponded with him for fifty years and sent thousands of plant specimens to the Hookers at Kew, including hundreds of new species; 26 of which were named for Colenso himself. When the first volume of *Flora Novae Zelandiae* was published in 1853 the Hookers placed Colenso first in their dedication, which was a tribute to a man whose "evangelism in spreading knowledge of the natural world had, by then, become more important than his evangelism of the spiritual".[4]

In 30 December 1844 Colenso, his wife Elizabeth, and their baby daughter Fanny, came to Hawke's Bay to establish Hawke's Bay's first Mission Station at Waitangi, Awatoto, near Clive. Colenso had made several journeys of exploration prior to his coming to Hawke's Bay, and his first attempt to cross the Ruahine Range was made just a month after arriving in the region. The Ruahine journeys are the best evidence of his capacity and achievements as both the most effective and wide-ranging of all the missionary explorers and as a pioneering botanist, the first and best of his time.[5]

1. Simon Nathan, "William Colenso FRS" in *e-Colenso, Newsletter June 2012*, p. 10

2. Colenso was an overseas member of the Penzance Natural History Society which was founded after he left England, but it is probable that the papers he prepared were given to the local Mechanics Institute. Personal Communication Ian St George, 12 June 2016

3. Philip Temple. *New Zealand Explorers: Great Voyages of Discovery*, "The Missionary: William Colenso and the Ruahine," Christchurch, London: Whitcoulls, 1985. p.12.

4. Ibid, p.15.

5. Ibid, p.17.

On 14 September 1874 a public meeting was held in the Provincial Council Chambers in Napier chaired by J. D. Ormond the Superintendent of Hawke's Bay Province. At this meeting it was resolved: "that it is highly expedient to form, under the New Zealand Institute Act of 1867, a branch society or institute for the province of Hawke's Bay that is called the Hawke's Bay Philosophical Institute." The resolution was moved by Mr. Colenso, seconded by Mr. Kinross and carried unanimously.[6] This society was founded for the advancement of science, literature, and art, as well as for the development of the resources of the colony.[7] Colenso was appointed to act as honorary secretary and treasurer *pro tem* for the purpose of better making known and carrying out the objectives of the Hawke's Bay Philosophical Institute. His main duty was to draw up and get printed a suitable Circular and to circulate it throughout the Province.[8] This was the beginning of his long and active service to the only scientific organisation in Hawke's Bay.

The election of officers was made at the second meeting in October 1874. J. D. Ormond was elected President, William Williams, Bishop of Waiapu, Vice-President, and William Colenso became Honorary Secretary and Treasurer. In March 1875 the Constitution and Rules were adopted unanimously at a general meeting, but it was nearly a year later, in February 1876, before the society began to organise itself. At this meeting it was resolved that a third of the annual revenue (£20) should be granted for the purchase of books for the formation of a scientific library. Colenso was to draw up a list of scientific books of reference and lay it before the Council at the next meeting. Three books were chosen in October and the authorities in Wellington were asked to supply, free of cost, the several scientific books published by the General Government. Colenso also proposed that the parent institution should be thanked for their donation of the first seven volumes of the *Transactions of the New Zealand Institute*.[9]

It was not until 13 August 1877 that papers were first read at an Ordinary Meeting of the Institute. On this evening Colenso read three papers: "On certain circumstances but little known in connection with Captain Cook's discovery of New Zealand," "On metamorphosis and development of one of our large New Zealand butterflies *Danais Berenica*—or a closely allied species," and, "On Sydney Parkinson, the first Artist who had visited New Zealand."[10] This was the beginning of Colenso's remarkable contribution to the monthly meetings, which consisted of lectures and exhibits of natural history specimens. He was the driving force behind the Hawke's Bay Philosophical Institute for the first ten years of its existence and arranged the meetings, chose most of the books, and gave many of the talks on a wide range of topics.[11] Many of the papers that Colenso prepared for the Philosophical Institute were published in the *Transactions and Proceedings of the New Zealand Institute.* Observations on all aspects of natural history from insect metamorphosis, lizards, moa, and new plant species were carefully recorded. He remained an influential and tireless worker for science, and the Philosophical Institute for the remainder of his life. As Susan Sheets-Pyenson notes:

> The classifiers, compilers and collectors who dominated Natural History during the nineteenth century were responsible for the

6. Hawke's Bay Philosophical Institute: *Minute Book*, Vol. 1., (HBPIMB). 14 September 1874.

7. Hawke's Bay Philosophical Institute. *Constitution and Rules of the Hawke's Bay Philosophical Institute*. Napier: Dinwiddie, Morrison and Co., 1875, p.5.

8. HBPIMB 1, 14 September 1874.

9. HBPIMB: 19/10/1874; 11/3/1875; 30/10/1875.

10. Ibid, 13/8/1877.

11. Elizabeth Pishief, *A Provincial Expression of International Ideas: The Development of the Hawke's Bay Art Gallery and Museum 1859-1940.* Palmerston North: Massey University, unpublished research paper, 1990, p.18.

growth of the 'museum movement', which became so powerful during the decades leading up to 1900.[12]

Colenso belongs firmly in this Victorian tradition. He was instrumental in obtaining the services of Augustus Hamilton as Honorary Curator of the Hawke's Bay Philosophical Institute's museum. The establishment of a natural history museum was an essential requirement for a scientific society like the Philosophical Institute. Hamilton had been attending the Institute's meetings for several years prior to his becoming a member and the curator of the museum.[13]

Colenso had encouraged the collection of natural history specimens for the Philosophical Institute's museum for several years before Hamilton's appointment. Each year in his report he would allude to the variety of interesting specimens that had been received from different members and exhibited at the ordinary meetings, but urge people to send in more. "Natural specimens of all kinds, (particularly of the smaller plants, reptiles, insects, spiders, and shells), are still great desiderata."[14]

> It is hoped that as every year this branch of the N.Z. Institute grows and increases in the number of its Members, they will also severally do something in the way of collecting and preserving natural specimens for *their* Museum. The Hon. Secretary will thankfully receive any and all specimens of every kind, which Members and their friends may send to him.[15]

In later reports Colenso advised members how to preserve small living zoological specimens or plants when they discovered them, and the best method of forwarding such specimens. He also offered to scientifically name any collections of ferns that members wanted to send him.[16]

Once the museum collection was being developed and run by Augustus Hamilton the members of the Philosophical Institute perceived the need for a purpose-built museum. However, the erection of a museum never seemed to get beyond setting up committees and discussing the need for such a building. Hamilton left Hawke's Bay in 1890, and the museum slowly started to deteriorate for a number of reasons, including the changing emphasis in science—away from natural history; the Long Depression; the lack of a curator with Hamilton's skills and calibre. Nevertheless, in June 1896, William Colenso, offered £1,500, and a free site for a museum, provided a further £2,500 was raised before the end of the year. But as only a paltry £163 was raised Colenso withdrew his generous offer and the opportunity to build a museum was lost. Colenso perceived the poor response to his offer to be an indication of a lack of interest in science.[17]

12. Susan Sheets-Pyenson, *Cathedrals of Science: The Development of Colonial Natural History Museums during the Late Nineteenth Century*. Quebec: McGill-Queen's University Press, 1988, p.4.

13. Elizabeth Pishief, *Augustus Hamilton: Appropriation, Ownership and Authority,* MA Thesis, Massey University, 1998, p.46.

14. Hawke's Bay Philosophical Institute. *Report of the Hawke's Bay Philosophical Institute (founded September 14th, 1874) for the Year ending 31st January, 1881; with a List of Office-bearers and Members for the Year 1881,* Napier: R.C. Harding, 1881. p.5.

15. Ibid.

16. Hawke's Bay Philosophical Institute. *Report of the Hawke's Bay Philosophical Institute (founded September 14th, 1874,) for the Year ending 31st January, 1882; with a List of Office-bearers and Members for the Year 1882*, Napier: R.C. Harding, 1882. p.7.

17. A.G. Bagnall & G.C. Petersen, William Colenso Printer Missionary, Botanist Explorer Politician, His Life and Journeys, Wellington: A.H. & A.W. Reed, pp.435-6.

It was because of Colenso that a vital and successful Philosophical Institute developed. His role is clearly indicated by the lack of activity in the first three years of the society's existence when Colenso had a full-time position as the Inspector of Schools for the Hawke's Bay Provincial Council, which necessitated many days spent away from Napier.

When Colenso had become Inspector of Schools in July 1872 he decided to do more than simply police the regulations of the 1873 Hawke's Bay Education Act*;* he tried to ensure that Hawke's Bay children received a 'quality' education. He was determined to raise local teaching standards, and visited schools as frequently as possible so that he could "support every truly honest teacher who is *striving to do his (sic) duty* to the scholars under his care to the utmost of his ability." [18]

During his years as Inspector Colenso encouraged the teaching of subjects other than the 'three R's', especially geography and science. He reported warmly on the use of wall maps and specimen tables, and expressed pleasure when he saw sewing, knitting and crocheting being taught.[19] He was an advocate for the teaching of Technical Science by which he meant "…carpentering, black and tin-smithing, shoe-making and tailoring, …"[20] He encouraged attendance at school by offering prizes of various kinds. In 1873 when the Provincial Council granted his request for twenty-five pounds annually with which to purchase end-of-year school prizes, he set aside ten pounds of it for attendance and meritorious behaviour awards. To foster a love of science he offered prizes of his own including, in 1875, "twelve cash prizes, six of which are to be for natural history collections of not less than one hundred specimens."[21]

Colenso maintained his interest in the importance of the teaching of science throughout his life. He explained that a scientific education was:

> …the teaching of the power of observing; the teaching of accuracy; …
>
> The first thing to learn is the power of observing; the power of seeing things in their relations to other things and the modifications they might undergo; this, though a difficult thing, is attainable. Science teaches not only to observe, but how to record facts, and how to arrive at general conclusions upon facts.[22]

Colenso believed firmly that it was important for teachers to be both knowledgeable and enthusiastic about science teachers, for he was certain:

> … of there being unknown mines of ore among them [the pupils], which only require to be worked; or, in other words, hidden minds of thought—living embryos shut up in their mental eggs, awaiting perchance some kind foster-parent to timely incubate and evolve them."[23]

He advocated the teaching of Māori and the establishment of a Māori or Polynesian Chair in the New Zealand University for the

18. Kay Matthews, *Behind Every School: The History of the Hawke's Bay Education Board.* Napier: Hawke's Bay Education Board, 1988, p.3.

19. Ibid, p.4.

20. William Colenso, F.R.S., F.L.S., etc., Hawke's Bay Philosophical Institute: *Anniversary Address by the President,* Delivered to the Members of the Society, at the Opening Meeting of the Session, 1888-9, Napier: R.C. Harding, 1888, p.16.

21. Matthews, 1988, p.6.

22. William Colenso, Hawke's Bay Philosophical Institute: *Anniversary Address by the President,* Delivered to the Members of the Society, at the Opening Meeting of the Session, 1888-9, Napier: R.C. Harding, 1888, p.12.

23. Ibid, p. 10.

general welfare and advance of the colony, and to conserve the language and preserve the "fast fleeting relics of the past." He mentioned that at the time [1888] there was not one school in the colony teaching Māori.[24]

William Colenso was the most significant scientist to work in Hawke's Bay during the nineteenth century. He was the unchallenged New Zealand authority on botany during the middle to later part of the nineteenth century with both a national and an international reputation as a scientist. He wrote many important papers on a number of scientific topics in addition to his invaluable botanical studies. Yet he constantly promoted science at all levels of the community, encouraging school children, interested adults and academic scientists to investigate the world around them. The Hawke's Bay Philosophical Institute owed its successful existence to the untiring labours of Colenso. But the Institute was also Colenso's inspiration, and the forum for his many papers, the club where he met and encouraged local scientists, and the place where he was able to promote science in Hawke's Bay.

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24. Ibid, p.29

Colenso's part in the Bishop's census

The *Turnbull Library Record* (2016; 48: 6–19) contained an account by Simon Chapple entitled "From missionary counts to the first official Māori census of 1858". In it he referred to an 1846 census which, Bishop Selwyn claimed, contained "the names of 35,000 men, women, and children in the tribes south of Auckland". Chapple referred to part of this in the Alexander Turnbull Library (Micro-MS-0800-0878).

William Colenso, deacon at Ahuriri, contributed to the census, an "onerous task", occupying some days between April and December 1846 (see box). Starting 18 August he made a journey down the coast, round Cape Palliser to Te Kopi, up the Wairarapa plain to Te Kaikokirikiri (Masterton), then north via the Bush to Te Hawera (Eketahuna), Manawatu river, Waipukurau, arriving home on 7 October.

Presumably he derived the census data from his school and church attendance records (a "heterogenous mass of papers") and from counts made on that journey—a task that would be natural to an obsessive man like Colenso.

A clean copy of the work was sent to his Archdeacon, William Williams, who made his own compilation. The surviving originals containing the bare numbers are in the Auckland Museum library. Fortunately Williams's tally is complete, with total males 1360 and females 1151. Colenso's last page has survived with total males 1360 and females 1152: the counts on his surviving pages total 580 and 489, so about half of his original tallies are missing.

Clearly much more has been lost: Williams refers to "Pages 45 & 55 of Mr Colenso's M.S." and mentions the discrepancy of one person between his and Colenso's tallies, naming her as Hariata Ngawaka (so the original manuscript may have named them all).

These surviving counts of the Ngatikahungunu in Hawke's Bay and the Wairarapa at the time are the best available and demonstrate how few there were and how widely diverse were their hapu origins.

Transcriptions are on the next few pages.

Colenso's journal entries referring to the 1846 census

***April** 16th. Busy writing—making out Census of the district for the Bishop (a heavy task,)….*

***July** 15–18. Engaged …in getting ready my heterogenous mass of papers preparatory to making out a Census, &c., for the Bishop.*

***August** 4–7. Engaged in making out Census, &c.*

11–14. Engaged upon Census—a very onerous task.

***October** 13th. Closely engaged all day upon Census.*

15. Engaged upon Census.

16. Occupied upon Census.

20. Morning, engaged upon Census:

22…. Engaged upon Census.

23. Occupied upon Census.

24. About Census—

26. Afternoon… making Enquiries concerning Census &c., &c.—

27. On Census.

28. Upon Census.

***November** 3rd. On Census.*

11. Occupied on Census.

12. Engaged on Census.

18. Occupied with Census, & completed it!! a very heavy and trying task.—

***December** 12. Morning Prayers & School—writing—sent Census papers to the Bishop.*

Colenso's lists

Tribe Ngatikahungunu

		MALES			FEMALES			TOTAL		
PLACE	HAPU	NUMBER	BAPTIZED	CONFIRMED	NUMBER	BAPTIZED	CONFIRMED	POPULATION	BAPTIZED	CONFIRMED
Porangahau & Pakuku	Te Aitangawhare	1	1	1	1	1	1	2	2	2
	Ngatikurumokihi	1						1		
	Ngatihamiti	9	6	3	10	7	1	19	13	4
	Ngaitetu	4	4	2	7	7		11	11	2
	Ngatimanuwhiri	1	1		7	2	1			
	Ngatirangiwawahia	2	2		3					
	Ngaitahu	1	1							
	Ngatiporou	1								
	Hamua	1			2	2				
Mataikona, Wareama, and neighbourhood	Ngatipohoi	30	18	10	13	4		43	22	10
	Ngaitetu	18	12	5	17	8	2	35	20	7
	Ngatituranga	11	5	1	13	3		24	8	1
	Ngaiteao	12	11	2	7	6		19	17	2
	Hamua	29	7		25	6	1	54	13	1
	Ngatihengia	1	1	1	2	2	1	3	3	2
	Ngaitahu	2								
	Ngatiwhatuiapiti	1								
Wareama & neighbd. and other villages to Cape Palliser. Pahawa, Waraurangi, Oroi, Huariki, &c	Ngatirongomaiaia	29	14	1	26	12	1	55	26	2
Waraurangi, Pahawa &c	Ngatimahu	23	6		23	9		46	15	

	Ngatihinewaka	15	6		13	3		28	9	
	Ngatikahukuranui	14	6		9	4		23	10	
	Ngatimaru	19	9	2	20	12	5	39	21	7
Te Kopi, Tauanui, Te Upokokirikiri	Te Matemahue	28	16	4	24	15	4	52	31	8
	Te Kirikowhata	40	30	1	38	25		78	55	1
	Ngatiruatapu	8	3	3	5	1		13	4	
Tauanui, Otaraia, and Wairarapa	Ngaitahu	60	33	14	36	13	4	96	46	18
	Ngatikahukuranui	20	8	2	13			33		2
	Ngatimaru				1	1				
Wairarapa, Kaikokirikiri & neighbd.	Te Purupuwha	13	3		18	4		31	7	
	Ngatikaingoke	19	8	2	10	3		29	11	2
	Ngatikaingaahe	20	15	4	13	10	1	33	?	5
	Te Matehau	17	9		17	4		34	13	
	Ngatiwhakarere	25	9		19	5		44	14	
	Ngatiaomataura	10	8		7			17	8	
	Hamua	14	6	1	5	4		19	10	1
	Ngaitahu	1	1		2	2				
	Ngatiwhakaaue	1	1							
	Ngatitehina	8			1					
	Ngatihorahanga	3			3					
	Ngatipehi	9			4					
	Ngatitutaiaroa	28	6	2	21	8		49	14	2
	Not named but most probably Ngatitutaiaroa									

Wairarapa, Te Hawera. Hautotara & neighbd. Heretaunga	Ngatipohoi	1	1	1						
	Ngatipoto	7	5		5	3		12	8	
	Hamua	21	2		11			32	2	
	Ngatitutaiaroa	4			5			9		
	Ngatimutuahi	2			11	1		13	1	
	Ngatingaweke	1	1							
	Ngatipakapaka	16	11	2	12	1		28	12	2
	Ngaitekura				1					
	Ngapuhi				1	1				
	Ngatihori				1	1				
	Ngatikurukuru				1	1				
	Ngatirangikoiaanake				1					
	Total males	**1360**		Total females	**1152**					

580 of the 1360 men and boys and 489 of the 1152 women and girls are accounted for in the columns above, but are accounted for in Williams's lists. The missing Colenso's originals are those from Hawke's Bay and the villages of the Ruahine and Napier-Taupo regions.

Williams's compilation from Colenso's lists.

Church Register of Native Population
1846

Archdeaconry of Waiapu. Archdeacon The Ven. William Williams
District of Ahuriri Resident Missionary Revd. W. Colenso

I. TRIBE Ngatikahungunu

				MALE			FEMALE			TOTAL	
No	PLACE	HAPU	NUMBER	BAPTIZED	CONFIRMED	ADMITTED TO COMMUNION	BAPTIZED	CONFIRMED	POPULATION	BAPTIZED	CONFIRMED
1	Te Kopi			65	29		47	15		112	44
2	Ruamahanga			53			17			70	
3	Oroi			6			1			7	
4	Huariki			2			1			3	
5	Mataikona			32	27		9	5		41	32
6	Pahawa			9			5			14	
7	Te Takapau			4						4	
8	Wharaurangi			3						3	
9	Porangahau			45	31		17	7		62	38
10	Waimarama			24			13			37	
11	Ahuriri			116			63			179	
12	Tarawera			6			4			10	
		Tl		**365**	**87**		**177**	**27**		**542**	**114**

Tribe Ngatikahungunu

		MALES			FEMALES			TOTAL		
PLACE	HAPU	NUMBER	BAPTIZED	CONFIRMED	NUMBER	BAPTIZED	CONF'D	POPULATION	BAPTIZED	CONFIRMED
Aropauanui	Ngatirangirangi	15	7	3	15	6		30	13	3
"	Ngatimoe	18	2		14	1		22	3	
Tangoio	Ngatirauiri	27	7	2	25	3	1	52	10	3
"	Ngatikurumokihi	39	3	1	30	6	1	69	9	2
"	Ngatitu	23	15	3	24	10	1	47	25	4
"	Ngaitangaroa	3	2	1	1	1		4	3	1
Tarawera &c	Ngatihineuru	67	4		72	2		139	6	
"	Ngatimawete	13	4	1	20	1	1	33	5	2
Waiohingaanga	Ngatihikawera	5			7			12		
"	Ngatimatepu	30	7	2	21	2	1	51	9	3
"	Ngatikaihaere	3	1		4			7	1	
"	Ngatihinepare	48	24	13	44	19	5	92	43	18
Poraiti &c.	Ngatiparau	31	11	5	28	6	2	58	17	7
Te Awapuni, Te Ngaare &c	Ngatihori	23	11	5	19	6	1	42	17	6
"	Ngatirangikoiaanake	43	8	1	35	5	1	78	13	2
"	Ngatirua	7	4	3	4	1	1	11	5	4
Wairua, Te Awanga &c	Ngatimatehaere	37	3	1	28	1	1	65	4	2
	Ngatipoporo	15	6	4	13	6	3	28	12	7
	Te Paneiri	7	2	2	5	1	1	12	3	3
		454	**121**	**47**	**409**	**20**	**20**	**863**	**198**	**67**

Tribe Ngatikahungunu

		MALES			FEMALES			TOTAL		
PLACE	HAPU	NUMBER	BAPTIZED	CONFIRMED	NUMBER	BAPTIZED	CONFIRMED	POPULATION	BAPTIZED	CONFIRMED
		454	**121**	**47**	**409**	**77**	**20**	**863**	**198**	**67**
Te Ngaaue, Poukawa &c	Ngatikuia	3	3	3				3	3	3
Tauanui, Otaraia and Wairarapa	Ngaitahu	73	39	16	42	16		115	55	21
Te Rotoatara, Patangata and Waimarama	Ngai-temanawhakawa	24	9	13	15	6	5	39	15	4
Te Ngaaue, Kohinurakau &c.	Ngatipahauwera	4			9		1	13		
"	Ngatitamatera	1	1	1				1	1	1
"	Ngatiwhakaaue	2	2	1				2	2	1
"	Ngatimutuahi	6	4	1	15	3		21	7	1
"	Ngaitama	1	1		3	1		4	2	1
Te Ngaaue, Kohinurakau &c.	Ngaitekura	28	20	13	25	12	4	53	32	17
Waraurangi, Pahawa &c	Ngatimahu	23	6		24	9		47	15	
Rotoatara, Patangata, Waimarama &c	Ngatikurukuru	46	22	1	60	17	8	106	39	19
Te Ngaaue, Kohinurakau &c.	Ngatiawa				2	1	1	2	1	1
"	Ngatihine	1						1		
Waipukurau & neighbd.	Ngaitewhatuiapiti	88	45	5	75	29	1	163	74	6
" with Eparaima	Ngatingaweke	25	18	9	16	9	2	41	27	11
"	Ngatimatekato	18	11	2	14	4	2	32	15	4
"	Ngatihurihanga o te rangi	2	1	1	2	2		4	3	1
Rotoatara, Patangata, Waimarama &c	Ngatiraukawa	1	1	1				1	1	1
		800	**304**	**114**	**711**	**45**	**45**	**1511**	**490**	**159**

Tribe Ngatikahungunu

		MALES			FEMALES			TOTAL		
PLACE	HAPU	NUMBER	BAPTIZED	CONFIRMED	NUMBER	BAPTIZED	CONFIRMED	POPULATION	BAPTIZED	CONFIRMED
		800	**304**	**114**	**711**	**186**	**45**	**1511**	**490**	**159**
"	Ngatirongowhakaaue	1	1	1				1	1	1
"	Ngatikahungunu	1	1	1				1	1	1
Waimarama, Manawarakau, Porangahau	Ngaitamatera	12	1	1	5			17	1	1
"	Ngatipahoro	28	19	11	21	12	3	49	31	14
"	Ngatingarengare	5	4	4	5	2		10	6	4
Tauanui, Otaraia and Wairarapa	Ngatihikahukuranui	39	18	4	24	5		63	23	4
Porangahau & Pakuku	Te Aitangawhare	1	1	1	1	1	1	2	2	2
"	Ngatihamiti	9	6	3	10	7	1	19	13	4
Mataikona, Wareama & neighbd.	Ngaitetu	22	16	7	24	15	2	46	31	9
Porangahau & Pakuku	Ngatimanuwhiri	1	1		7	2	1	8	3	1
"	Ngatirangiwawahia	2	2		3			5	2	
"	Ngatiporou	1						1		
Mataikona, Wareama & neighbd	Hamua	65	15	1	43	12	1	108	27	2
"	Ngatipohoe	31	19	11	13	4		44	23	11
"	Ngatituranga	11	5	1	13	3		24	8	1
"	Ngaiteao	12	11	2	7	6		19	17	2
"	Ngatihengia	1	1	1	2	2	1	3	3	2
Wareama & neighbd. to Cape Palliser. Pahawa &c—	Ngatirongomaiaia	29	14	1	26	12	1	55	26	2
		1071	**439**	**164**	**915**	**269**	**56**	**1986**	**708**	**220**

Tribe Ngatikahungunu

		MALES			FEMALES			TOTAL		
PLACE	HAPU	NUMBER	BAPTIZED	CONFIRMED	NUMBER	BAPTIZED	CONFIRMED	POPULATION	BAPTIZED	CONFIRMED
		1071	**439**	**164**	**915**	**269**	**56**	**1986**	**708**	**220**
Waraurangi, Pahawa, &c	Ngatihinewaka	15	6		13	3		28	9	
"	Ngatimaru	19	9	2	21	13	5	40	22	7
Te Kopi, Tauanui, Te Upokokirikiri	Te Matemahue	28	16	4	24	15	4	52	31	8
"	Te Kirikowhatu	40	30	1	38	25		78	55	1
"	Ngatiruatapu	8	3	3	5	1		13	4	3
Wairarapa, Kaikokirikiri &c	Te Parupuwha	131	3		18	4		31	7	
"	Ngatikaingoke	9	8	2	10	3		29	11	2
"	Ngatikaingaahi	20	15	4	13	10	1	33	25	5
"	Te Matehau	17	9		17	4		34	13	
"	Ngatiwhakarere	25	9		19	5		44	14	
"	Ngatiaomataura	10	8		7			17	8	
"	Ngatitehina	8			1			9		
"	Ngatohorahanga	3			3			6		
"	Ngatipehi	9			4			13		
Wairarapa, Te Hawera,	Ngatitutaiaroa &c	32	6	2	25	7		57	13	2
Hautotara &c	Ngatipoto	7	5		5	3		12	8	
"	Ngatipakapaka	16	11	2	12	1		28	12	2
"	Ngapuhi				1	1		1	1	
		1360	**577**	**184**	**1151***	**364**	**66**	**2511**	**941**	**250**

* The deficiency of 1 accounted for in Pages 45 & 55 of Mr Colenso's Ms. "Hariata Ngawaka"