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Hochstetter's missing rocks – the Kirk to Haast letter, 1869

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Abstract

In 1859 Ferdinand Hochstetter (1829–1884) donated geological specimens from his work in the Auckland Province to the Auckland Museum. A short letter from Thomas Kirk to Julius Haast in 1869 inquiring about the specimens gives us a clear insight into the perilous state of the fledgling Auckland Museum 17 years after its formation in 1852 and 10 years after Hochstetter had left New Zealand. A background of the events leading up to the letter, its relationship to Hochstetter's time in Auckland, the Hochstetter - Heaphy controversy, early Museum curators and the sad fate of the specimens are discussed.

Keywords

Hochstetter, Haast, Heaphy, Auckland Museum early history and curators.

INTRODUCTION

On the 22 December 1858 the young 29-year-old German geologist Dr Christian Gottlieb Ferdinand Hochstetter (who was later knighted and became Dr Ferdinand Ritter von Hochstetter) arrived in Auckland, aboard the Austrian Imperial Navy frigate SMS *Novara*. He would have had no idea that he was to spend the next nine months in New Zealand and the enormous impact he would subsequently have on our geological and natural history knowledge. The *Novara* was on a research voyage which circum-navigated the globe from 1857–1859. Very soon after arriving in Auckland Hochstetter was effectively “loaned” by the Austrian Government to the Provincial Government of Auckland to carry out geological work in the Province (and later to the Nelson Provincial Government). The extent of the considerable resources put at Hochstetter’s disposal and the value placed on his work by the Provincial Government is exemplified in a catalogue of the “Expenses of the Geological Survey of the Auckland Province” (AWMM MS-18). This catalogue is worthy of further research. The *Novara* and crew subsequently sailed on without him and Hochstetter found his own way home later via Australia. Much has been written about his time in New Zealand and his contributions (e.g., Kermodé 1992, Nolden 2007, Johnston & Nolden 2011, Johnston, Nolden & Hoke 2012). Shortly after arriving Hochstetter met another German, Johann Franz Julius Haast (later Sir Julius von Haast, 1822–1887), who had arrived in New Zealand only the day before Hochstetter and became his lifelong friend (Nolden, 2013).

Almost immediately after taking up accommodation at Claremont House in Princes Street Hochstetter set

about acquiring specimens and a letter he wrote to Edward William Stafford (then Colonial Secretary and later three times Premier of New Zealand) was published. He wrote

With a view to make my stay in New Zealand as conducive as possible to a more complete acquaintance with the Natural History of the country than has hitherto been attainable, I have the honor to suggest that it would be desirable that public notice should be given to the inhabitants of the Colony, that I shall be happy to receive specimens illustrative of any branch of Natural History from every part of New Zealand, together with information relative to the locality from whence obtained and any other remarks that may be thought likely to render the scientific examination more perfect. By sending such specimens in duplicate the donors would enable me to transmit one set to Europe for the purposes of the Expedition to which I belong and to leave the other here as a nucleus for a New Zealand Museum - every specimen in which being numbered to correspond with those sent home. The future Report of the Expedition would enable the colonists to identify them and to learn all that had been ascertained in reference to them by the united labours of men eminent in their respective branches of science in Europe.’ (New Zealander, 1859a).

The history of geology at the Auckland Museum has been documented by Alan Mason (Mason, 1996, 1999, 2001) and the Museum’s early history and curators by former Museum Director Stuart Park (Park, 1998). As noted by Mason (1996) at this stage Hochstetter did not appear to know the Auckland Museum existed and this

probably reflects the low profile it already had by this time. The Museum's perilous state then is also evidenced by letters to the papers about access and visiting hours (see Park 1998, p. 30).

In the next few months after a lot of field work in the Auckland area, Hochstetter and his party (including Haast and Captain George Drummond Hay) covered a tremendous amount of ground completing a big circuit south of Auckland, down the west coast (e.g., to Raglan, Kawhia), across to the Central North Island (e.g., Taupo-Rotorua area, Tarawera) and then back up the east coast through the Bay of Plenty.

Specimens from this expedition were added to those already collected by Hochstetter in the immediate Auckland area and also from the Coromandel. Before going south to work in the Nelson Province Hochstetter donated a duplicate set of material from his explorations to the Auckland Museum. He had rectified his early lack of knowledge of the Museum's existence when writing a letter, published in the *New Zealander*, to the Superintendent of Auckland Province, John Williamson 'I have also the pleasure to inform you that I have arranged a duplicate collection of geological specimens and fossils, which I have obtained during my exploration of this Province, and this collection I have now the great pleasure to hand over to your Honor for the Auckland Museum.' (New Zealander, 1859d).

In July 1859 Williamson wrote a testimonial for Hochstetter published in the *New Zealander* and he significantly refers to 'the valuable collection of Minerals he has placed in my charge for our Provincial Museum' (see Park, 1998 p. 31). There was also a lavish testimonial ceremony in the Hall of the Mechanics Institute in Chancery Street (see Pulman's 1863 map, Section 4, Allotment 26) presided over by Williamson and attended by some 70 people (Nelson Examiner and New Zealand Chronicle 1859b). The entry fee was Gentlemen 10/-, Ladies 5/- (New Zealander, 1859c). Following Hochstetter's reply and thanks to the addresses by Williamson and Colonel Thomas Rawlings Mould he was also addressed and thanked by Ngāti Whātua chief Pāora Tūhaere. In turn Hochstetter gave an extensive reply in apparently fluent Māori (Nelson Examiner and New Zealand Chronicle 1859b). Among other gifts, Heaphy presented Hochstetter with a water colour of Lake Rotomahana 'Te Tarata'.

THE LETTER

In April 1869 Thomas Kirk (1828–1898), then Secretary of the Auckland Institute and Curator of the Auckland Museum, wrote an intriguing and puzzling letter (Fig. 1) to Julius Haast at the Canterbury Museum. The one-page document (AWMM MUS-1995-38-155) is an early example of paper conservation in that it has handwriting from three people on it. First, Kirk in a demanding tone; then overwritten by Haast, a terse and pointed reply and finally, on the reverse, a denial by Charles Heaphy (1820–1881). Some of the handwriting is difficult to read, particularly the scrawl by Heaphy but an attempted transcription follows:

Kirk to Haast

Auckland Institute
April 6, 1869

Dear Sir,

I am instructed by the Council of the Institute to enquire if you can furnish any information respecting certain geological and other specimens collected by Dr Hochstetter for the Auckland Museum and which are supposed to have been committed to your care. The said specimens are not in the Museum nor is any mention of their actual presentation to be found in the books.

Believe me Dear Sir.

Yours sincerely,
Thomas Kirk
Secretary.

Dr Haast F.L.S [Fellow of the Linnean Society] etc.

Haast to Kirk

The specimens were left in a cottage furnished by the Provincial Gov ?? [Government] close to Mr Winch's boarding house, when we, Dr Hochstetter and myself, left Auckland. They were as far as I can remember given in charge of Mr Heaphy.

J. Haast
Chch [Christchurch] 1 May, 1869.

Heaphy

This is entirely erroneous as regards myself. The Museum was under the charge of General Government officers. I was in Provincial ?Government. I think they were left for the Museum.

Charles Heaphy (no date).

CLAREMONT HOUSE

'Winch's boarding house' mentioned by Haast in the letter above is notable. Charles Winch and his wife ran the Claremont Boarding House (spelt Clermont by Hochstetter below) which was on the corner of present-day Kitchener Street and Princes Street (see Pulman, 1863, Section 4, Allotment 18), diagonally opposite Old Government House which was built in 1856 in the now Auckland University grounds. Hochstetter (1867, p. 14) wrote

After the departure of the Novara I had taken up spacious and comfortable quarters in the so-called Clermont-House, Princes Street with Mr. Winchy an ever obliging and complaisant host. A large saloon-like apartment with a commanding view over a large portion of the lower town with the harbour as far as the wood-clad Titirangi Range ... the Government fitted up a neat little house close by for my museum. It was open to the public at all times on my return from excursions

J. Haast

Auckland Institute
 April 6 1869

Dear Sir

I am a member of the
 Council of the Institute &
 enquire if you can furnish
 any information respecting
 certain geological and other
 specimens collected by
 Dr. Hochstetter for the
 Auckland Museum and
 which are supposed to have
 been nominated to your
 care. The same specimens
 are not in the Museum
 nor is any mention of them
 actual proceedings to be
 found in the books.

Yours sincerely
 J. Haast F.L.S. &c

Secretary

This is entirely erroneous as regards
 myself. The museum was under
 the charge of J. M. P. &
 officers I was in P.M.
 summer. I think they
 were left for the
 Museum.

J. Haast

Figure 1. Correspondence between Thomas Kirk and Julius Haast, April 1869. Heaphy's comment and signature on the reverse. (AWMM MUS-1995-38-155).

Park (1998, p. 31) speculates that this nearby ‘neat little house’ supplied by the Provincial Government and the Auckland Museum in Grafton Road are one and the same. It is possible but then Hochstetter refers to ‘my museum’ not ‘the museum’.

The history of the Claremont House site is as follows:

- In 1842 the site was occupied by the ‘Old’ Royal Hotel (see O’Mealy, 1842). It was built in 1841 by Dr Samuel Allen Wood (1813–1884) who later also built the Masonic Hotel next door (see Fig. 2).
- By 1850 the former ‘Wood’s’ Royal Hotel is described as being the residence of Major-General Pitt of the 58th Regiment, with a sentry-box outside (see Fig. 2, John Williams, 1850) and later was the Imperial Officers Mess.
- In 1859 Claremont (Clermont) House was a boarding establishment run by Charles Winch and his wife. Newspaper advertisements at that time sometimes refer to ‘Mrs Winch’s boarding house’. From March 1860, after the death of his wife, Charles continued to run it (New Zealander, 1860a). It is unclear whether a Charles Winch who had a watch and jewellery shop in nearby Shortland Street is the same person.
- In 1866 a ‘New Family Hotel’ is to be built on the site of the former Claremont House (Daily Southern Cross, 1866). It is described in great detail in the newspaper article.

- In 1867 the ‘New’ Royal Hotel was completed. It is a brick building with ‘two facades faced with cement in imitation of stone’ (Daily Southern Cross, 1866).
- Very quickly it apparently became the Provincial Council Building (Mason, 1996). The Auckland Museum was given a ‘large room in the new building’ from May 1867 (Park, 1998, p. 27) and until 1869 this was the second site of the Auckland Museum. Later there was a third site in the dilapidated old Prince’s Street Post Office. This building is possibly just visible in a sketch from the same viewpoint as Williams (1850) by Robert Henry Wynyard (1849). The third building on the right. The fourth and penultimate move in 1876 was into a purpose built Museum near the corner of Eden Crescent and Princes Street (see Pulman, 1863, Section 7, Allotments 1&2) and this included the old Post Office site (see Wolfe, 2001 for details). However, it should be noted that another (earlier?) Post Office site is shown by John Bonfield O’Mealy (1842) next to Wood’s Royal Hotel (later Claremont House).
- In 1869 the Royal Hotel/Provincial Council Building became the Northern Club which it still is today.

It is an odd coincidence that in 1867 the Auckland Museum should be located at the site where Hochstetter had stayed, where his workspace once was and very near to where Hochstetter’s own ‘museum’ had been in 1859.



Figure 2. Sketch of Princes Street in 1850 by John Williams. Looking north near the intersection with present day Kitchener Street and Waterloo Quadrant. From top left to right is Woods Royal Hotel (later Claremont House), the residence of Major-General Pitt at that time (note sentry box), the Royal Masonic Hotel, the Union Bank of Australia (with flag) and St Pauls Church at the end of the street (with the permission of the Turnbull Library).

WHO KNEW?

It seems very strange that Kirk (and the Institute) could be so ignorant of the state of the Museum's collections and why was he writing to Haast in such an accusatory tone when there were others in Auckland who had direct knowledge? First let's examine who he could/should have asked first and what existing Museum documents Kirk could have looked at.

Those he should have talked to include John Alexander Smith, Charles Heaphy, George Eliott Eliott, Elwin Brodie Dickson, E. Watkins, Thomas Francis Winstanley and Captain Frederick Wollaston Hutton.

John Alexander Smith (1814–1889)

Park (1998) has written a very detailed account of Smith. The tiny Auckland Museum established by Smith (a merchant) opened in 1852. It remained at its first location in Grafton Road, a stone's throw from the basalt walls of the Auckland Barracks, until 1867 (see Powell *et al.* 1967, Park, 1998). To be more precise the Daily Southern Cross (1867) states "...the wooden one-storied building erected between allotments 5 and 6 of a subdivision of lot 21, section 9 of the town or city of Auckland...." (see Pulman's 1863 map). Smith left Auckland for Napier in 1857 and handed over administration of the Museum to George Eliott Eliott on the 4 September 1857 (Park, 1998 p. 19). Although he does not overlap with Hochstetter being in Auckland he could have been asked about the state of the Museum up to 1857. The last entry by Smith in the original Museum catalogue (AWMM MUS-2015-1, p. 50) is the 3 August 1857. Then there is a gap of more than two years until the 17 March 1860 when Elwin Dickson was appointed curator. So Hochstetter's donation of specimens in 1859 is not recorded at all.

Charles Heaphy (1820–1881)

Heaphy was of course well known to Hochstetter and Haast. He would have known what was going on at the Museum since he donated items himself and he and his wife were regular visitors (Auckland Museum visitor book AWMM MUS-1995-4-2). It seems extremely unlikely he would not have known where Hochstetter's rocks were, or had been, since he used other resources such as maps and papers left by Hochstetter for his own benefit. Haast is adamant that Heaphy was asked to look out for them and that this subsequent lack of care relates to the Hochstetter-Heaphy controversy discussed below.

George Eliott Eliott (1817–1901)

Eliott was Chief Clerk in the Colonial Secretary's Office. He was effectively in charge of the Museum from late 1857. He doesn't seem very interested in the Museum (e.g., the gap in the original Museum catalogue mentioned above) and even tried to palm it off to the Mechanics Institute at one stage. In 1860, on the pretext that the Museum building was going to be required for other purposes, he wrote to the President of the Auckland Mechanics Institute trying to pass over the contents of the Museum (except the books) with conditions to the

Mechanics Institute (AWMM MUS-1995-2-3, see also Park 1998, pp. 23–24). Nothing came of this but it is clear the Museum was in trouble at this time.

Elwin Brodie Dickson (1828–1891)

Dickson was a Clerk in the Post Office and was appointed Honorary Curator by Eliott in August 1859 and served until September 1864. However, it appears that his wife Emma did most of the day-to-day chores. Park (1998, p. 25) thought that Emma Dickson could be considered New Zealand's first female curator. This period is critical to Kirk's enquiry. Importantly in 1861 Dickson tells us where Hochstetter's specimens were and writes of a lack of resources, dilapidated conditions and neglect when he took over in 1859 (see AWMM MUS-1995-2-3). In this report to the 'Superintendent' he wrote of a need to "rescue the Museum—too valuable a collection to be lightly abandoned—from the state of torpor to which the neglect of the public has lately consigned it". When he started he found collections had been "totally neglected for a considerable period, and the moths had made sad havoc amongst them". Among the few additions in the previous two and a half years he noted

the beautiful series of fossil shells presented by the Gentlemen of the scientific expedition which visited this Colony in the Imp. R. Austrian frigate "Novara" – a case of books which accompanied the above, from the same donors; a considerable number of Geological Specimens obtained by Dr. Ferdinand Hochstetter during his subsequent stay in this Province... the geological collections of Dr. Hochstetter, above mentioned, remain packed away in the cases in which they were removed hither. These being of necessity bulky, and not very attractive to a general public, it was deemed better to keep unopened, as they would thereby sustain no damage.

This optimism was almost certainly unfounded as moth larvae and silverfish love labels. With labels destroyed the specimens would be useless without a catalogue and numbering on them (see below also). He wrote again in 1876 in a similar vein (see Park, 1998, pp. 24–25).

An article in the Daily Southern Cross (1863) expressed further concern about the state of the Museum and the fate of Dr Hochstetter's and other specimens. 'Many specimens for want of accommodation remain unpacked in their cases'. Interestingly a catalogue thought to have been presented by Hochstetter is mentioned but apparently not seen at this time. Dickson remained as Curator until September 1864 and in October 1864 became Chief Postmaster in New Plymouth (Park, 1998 pp. 24–25).

E. Watkins (??-??)

Watkins is a bit of a mystery. We know he replaced Dickson who describes him as 'a gentleman of ill-health' (Park, 1998 pp. 24–25) and that he didn't stay very long (?six months). The original Museum Catalogue (AWMM MUS-2015-1) under 'Contributions since November 1,

1864' says E. Watkins, Curator. The same page records the purchase and donation by the 'General Government of New Zealand' of two volumes of Hochstetter's work, acknowledged in the Southern Cross newspaper on the 16 November 1865. They were described as 'Voyage of the Austrian frigate Novara' and the 'Geology of Auckland and Nelson' (Provinces). It is not clear if the latter were the original Austrian versions or the translation from the German by Aucklander, and friend of Hochstetter, Dr Carl Frank Fischer (?–1893). This was published by Fischer's brother-in-law and fellow Queen Street homoeopathist, Theodore DeLattre, and was commonly advertised for sale in Auckland at the time (e.g., Daily Southern Cross, 1864a). The Museum visitor book (AWMM MUS-1995-4-2) for November 1864 is also headed 'E. Watkins, Hon Curator'. Incidentally this page of the visitors book is signed twice by Charles Heaphy and once by his wife.

An interesting unsigned draft letter or report presumed to have been written by Watkins in November 1864 provides valuable collection insights (AWMM MUS-1995-2-7). The handwriting is not Dickson's if a comparison is made with Dickson's application for the position of Curator in 1873 (AWMM MUS-1995-9). For example, the capital A's are very different. The report confirms Watkins began as Curator on the 28 September 1864 and attempts to describe "the present state" of the Museum. He states that in addition to the specimens and objects on display there were "4 cases of mineralogical specimens, 4 cases of shells, 2 cases various curiosities" etc. He examined the contents of all the cases. Regarding the "mineralogical specimens" some were labelled with names, others had numbers relating to a catalogue with data. Many had no descriptive labels at all. He "unpacked two boxes of stones which had apparently been lying for a long time unopened on the Museum floor, one of which contained specimens collected by Dr Hochstetter. I found that although each stone had evidently originally been carefully labelled with a description and locality where found the majority of such labels through the ravages of moths or insects were either entirely destroyed or made illegible, rendering the specimens almost, if not quite, useless." This is the last time Hochstetter's specimens are mentioned and the answers Kirk needed were in Museum letter book (AWMM MUS-1995-2-3), this letter (AWMM MUS-1995-2-7) and other reports the whole time. It is sadly ironic that Watkins' report is made at the same time as the Hochstetter - Heaphy controversy is going on (see below) and that within a couple of years of him leaving Auckland Hochstetter's rocks, which clearly had had good data, were unrecoverable because of serious neglect. The catalogue referred to above may have recorded Hochstetter's specimens but that too has been lost it seems.

Thomas Francis Winstanley (1832–1894)

In July 1865 the Museum visitor book (AWMM MUS-1995-4-2) is ruled off and the name 'T.F. Winstanley, Curator' appears. Winstanley's appointment is noted at the same time in the Daily Southern Cross newspaper (Daily Southern Cross, 1865a). Also published in July 1865 was a detailed account of the contents of the Auckland Museum, its state and Winstanley's appointment (Daily

Southern Cross, 1865b). There was absolutely no mention of Hochstetter's donation or indeed the material donated by the *Novara* Expedition (books and fossils). Like Watkins very little is known about Winstanley and he was Honorary Curator from July 1865 to January 1867.

Captain Frederick Wollaston Hutton (1836–1905).

Hutton was a geologist and scientist of great versatility who came to New Zealand in 1866. He went on to hold many posts including the Curator of the Otago Museum and was Professor of Biology with responsibility for Geology and Palaeontology at Canterbury College. After the death of Haast in 1887 he became Curator of the Canterbury Museum (Parton, 1993). A New Zealand Herald article noted Hutton's appointment as Honorary Curator of Auckland Museum in 1867 and the move of the Museum to its second location, a room in the new Provincial Council Building (later Northern Club), the former Claremont House site, on the corner of Princes and Kitchener Streets (New Zealand Herald, 1867a). The Herald in June 1867 records Hutton hard at work in the Museum and mentions 'a case of Tertiary fossils from the Vienna Basin, presented by Dr Hochstetter.' (New Zealand Herald, 1867b).

The fossils are presumed to be those donated to the Museum by the *Novara* Expedition in 1859 (see Dickson, 1861–AWMM MUS-1995-2-3) and not a separate more recent donation from Hochstetter. This beautiful collection with many original labels is still held in the Palaeontology Collections of the Auckland War Memorial Museum (e.g., lots AWMM MA34174, MA34204, MA34223, MA34534, MA35546, MA35561) and is the subject of ongoing research. The hundreds of specimens come from the collections of the Austrian Kaiserlich Königlichen Geologischen Reichsanstalt (Imperial Royal Geological Institute) who often prepared such collections for exchange (e.g., Hörnes, 1852). The Nelson Museum received a similar collection, delivered by Hector in 1868 (Nelson Evening Mail, 1868), but this was from Hochstetter himself who was then Professor of Mineralogy and Geology at the Polytechnic Institution of Vienna and had connections. This collection now appears to have been lost or discarded (personal enquiries).

Information about Hutton's time in Auckland can be found in his letters to Hector (see Mason, 1999. James Hector Papers, Hocken Library MS443). Hutton was clearly very frustrated by the ongoing lack of resources and funding available to him to improve the Museum and halt its decline (Mason, 1999, p. 26). This is perhaps exemplified in a letter to Hector from January 1869

I hear that the Canterbury Government have voted 1200 pounds to build a museum and make Haast curator. I wish I could get the semi-educated drunkards who govern up here to do the same. (Mason, 1999, p. 17).

Hutton with Thomas Bannatyne Gillies (1828–1889) was pivotal in the formation of the Auckland Philosophical Society in November 1867 (see New Zealand Herald, 1867c) which then became the Auckland Institute in March 1868. The Provincial Government transferred control of

the Museum to the Institute in 1869 (Mason, 1999, p. 17) which saw the formation of the Auckland Institute and Museum. Of the eight papers on geology presented to the Auckland Institute from 1868–1870 five were by Hutton (Mason, 1999). Hutton's association with the Museum and the Institute apparently ended in 1871 when he moved to Wellington (Campbell, 1984, p. 27) which represented a great loss to the Auckland Province and the Museum.

THE HOCHSTETTER-HEAPHY CONTROVERSY

Much has been written on this subject (e.g., Mason, 2002 and 2003, Lowe, 2010, Hayward *et al.* 2011, Schoeman, 2012, Grenfell, 2013). In 1860 Heaphy's paper 'On the volcanic country of Auckland, New Zealand' (Heaphy, 1860) was published and his 'Geological Map of the Province of Auckland' (geology of the upper half of the North Island) was exhibited at the International Exhibition in London in 1862. In a footnote to his 'Geologisch-topographischer Atlas von Neu-Seeland' (Hochstetter and Petermann, 1863) Hochstetter complained about Heaphy's use of his intellectual property in these publications without acknowledgement. The issue first came to the attention of New Zealand colonists when Fischer's English translation was published in 1864 (Hochstetter and Petermann, 1864). The Daily Southern Cross newspaper published a positive review of Fischer's version and also drew attention to Hochstetter's footnote on p. 50 about Heaphy (Daily Southern Cross, 1864b). This sparked a lot of jingoistic writing and opinion in New Zealand newspapers of the day for quite some time. It was the verdict of the cycloptic colonial correspondents that Hochstetter was the plagiarist. Carmia Schoeman's paper is a particularly good summary of the facts (Schoeman, 2012). Mason (2003) clearly considered Hochstetter to be a plagiarist and some (e.g., Hayward *et al.* 2011, p. 40) have sought to excuse Heaphy's actions because he was worried Hochstetter was not going to acknowledge his contributions. Schoeman (2012) is correct that both these views are wrong. Johnston and Nolden (2011, p. 267) are correct that it all 'suggests a certain deviousness on Heaphy's part'. Iain Sharp in his biography of Heaphy states 'He [Heaphy] was simultaneously ambitious and servile, duplicitous and honourable, a pragmatist and a dreamer, an optimist and a disappointed man.' (Sharp, 2008, p. 209).

It is clear that while Hochstetter was in the Auckland Province he had a lot to do with Heaphy and was on friendly terms from the first week of his arrival (e.g., Schoeman, 2012). However, Hochstetter was completely blindsided when shortly after his return to Austria Heaphy's 1860 paper on the Auckland Volcanic field was published. The manuscript of this paper must have been sent to London while Hochstetter was still in New Zealand but he had no knowledge of it. Contrary to what is often believed there is no acknowledgment of Hochstetter's contributions to the paper's contents by Heaphy himself. An acknowledgement is made by the editor of the journal and appended to the paper (see Heaphy, 1860, Schoeman, 2012). The editor perhaps suspected the work was not entirely Heaphy's.

When Heaphy exhibited a 'Geological Map of the Province of Auckland' at the 1862 International

Exhibition in London it was apparently again without any acknowledgement of Hochstetter and clearly using his work. In 1864 Heaphy had his friend E. King (who was the Hon. Sec. New Zealand International Exhibition Commissioners, 1862) write a letter (among others solicited by Heaphy to support him) which was published in the *New Zealander* (New Zealander, 1864b) stating that Heaphy had acknowledged Hochstetter's contributions to him. While that may be true it doesn't mean that acknowledgement ultimately appeared on anything presented at the Exhibition in London. Otherwise, why would Hochstetter react in such a way? Since no copy of the International Exhibition map seems to exist, we will probably never know. Heaphy however did have a track record of not putting acknowledgements on his maps (see below).

Heaphy was a surveyor and landscape artist, not a geologist. His 1860 paper is garbled and the map rudimentary, especially when compared with Hochstetter and Petermann's 1863 map of Auckland's geology (Hochstetter & Petermann, 1863). Heaphy's 1857 map of the geology of part of the Coromandel area is not much better and also shows a lack of geological knowledge (Heaphy, 1857). A very interesting copy of this map, heavily annotated with handwritten notes in German, is held by the Humboldt University, Berlin. A digital copy is available through the National Library (see Heaphy 1857 reference). The original map (and another of the Wellington region) was probably taken from New Zealand to Vienna by Hochstetter and later taken to Humboldt University in Berlin by Albrecht Penckin 1906 (see the National Library website referred to). New Zealand's Hochstetter expert Dr Sascha Nolden was consulted and he believes the handwritten annotations and corrections are Hochstetter's (Sascha Nolden pers. comm.). Hochstetter and Haast visited the Coromandel with Heaphy in June 1859 and a chromolithograph in Hochstetter (1864, p. 89) of the basalt cliffs at Cathedral Rock (Moturoa), Great Mercury Island is derived from a sketch by Heaphy and acknowledged as such by Hochstetter. However, Hochstetter does not describe going to Great Mercury himself. But having seen the geology of the island myself his accurate comments in German about the geology and topography of the Mercury Islands are intriguing. They may simply be Hochstetter perceptively interpreting the observations of others.

An 1858 tracing, supposedly of Heaphy's 1857 map of the Auckland District showing the location of some Auckland volcanoes, has been attributed to Auckland Museum Curator at the time Elwin B. Dickson (Dickson, c. 1858). The veracity of the tracing is important since no original of the Heaphy 1857 map, which supposedly formed the basis of his 1860 map (Heaphy, 1860), is known. Thus, the tracing has been used as evidence of Heaphy's work prior to Hochstetter (e.g. Mason, 2002). However, the handwriting and signature on the map tracing are clearly not Dickson's. For example, if a comparison is made with Dickson's report in 1861 (see AWMM MUS-1995-2-3) and his job application for the position of Curator in 1873 mentioned above (AWMM MUS-1995-9) the signature is very different, the capitals A and G are very different and so on. So it is a moot

point that the tracing is by Dickson. Also in question is whether the tracing is of an early Heaphy or Hochstetter map. It is important to note that the coastal outline is the same as used by Heaphy, 1860 (unacknowledged) and Hochstetter, 1863 (acknowledged) and is derived from the surveys of Stokes and Drury (see further below). If it is a tracing of Heaphy's 1857 map (which Heaphy says was the basis for his 1860 paper) is it only a partial tracing or Heaphy's 1857 map was very inaccurate and many centres were not recognised by him? What is missing are volcanoes such as the Domain, Albert Park, Taylors Hill, Glover Park, Browns Island, Onepoto, Tank Farm, Panmure Basin, Gloucester Park etc. Strikingly, four of the above are explosion or maar craters lacking scoria cones or lava flows. This type of volcano was well known to Hochstetter who had studied the similar basaltic Eifel Volcanic Field in the German Rhine Valley where maars (e.g., Laacher See) were already well understood. Heaphy was probably unaware the Auckland examples represented volcanic centres. This is a factor in terms of who copied who. Alternatively, remembering the map is said to be 'c. 1858' the tracing may be a partial tracing of some of Hochstetter's work in 1858–59. The area to focus on is a line south of Mt Mangere. There are depressions outlined just southeast of Mt Mangere, just northeast of Waitomokia and in the area just north of Crater Hill near Kohuora. These were mapped to be maar or 'tuffcraters' on Hochstetter and Petermann's 1863 map—incorrectly it turns out for all except Kohuora. Heaphy also indicates Kohuora itself. The other area to look at is around Otuaata. The tracing clearly indicates four volcanic centres but on Heaphy's 1860 map it says 'Not examined' with two numbers and a few meaningless scattered dots. Hochstetter and Petermann's 1863 map has four volcanic centres and they name Pukeiti, Otuaata and Mangataketake.

In June 1859 Hochstetter gave a long and detailed public lecture (chaired by Heaphy) to a packed audience. This was published at the time (e.g., Nelson Examiner and New Zealand Chronicle, 1859a) and also in Hochstetter and Petermann (1863, 1864). In it he acknowledged the generous help and valuable information he had received from the Auckland community and beyond in general, and in particular from 'my friends, the Rev. A.G. Purchas and Mr C. Heaphy'. Heaphy is also specifically acknowledged elsewhere in the lecture and as well for the presence of Heaphy illustrations on the walls of the lecture room. Hochstetter also acknowledged previous work such as that by Dieffenbach and Dana. One work he could have acknowledged (if he was aware of it) was that of Frederick Septimus Peppercorne (1852). But there can be no doubt he gave extensive acknowledgements all round before going onto the actual content of his lecture.

After the lecture Heaphy as chairman thanked Hochstetter for the lecture (New Zealander, 1859b). His opening words are telling.

Dr. Hochstetter, your excellent lecture of this evening—the scientific portion of which I am not able adequately to appreciate [underlined by Grenfell]—

has confirmed an interest on places and objects around us, with which we are familiar as with "Household words", but whose History in the Past required to be traced by the pen of the Geologist. Wherever your descriptions are read—and I trust that you will allow your lecture to be printed by the Institute—they will command the deep attention of the scientific world.

So here Heaphy himself recognises that he is no geologist. It is also interesting to compare the public lectures of Heaphy in 1860 and 1865 with Hochstetter's 1859 published lecture. Although we don't have the full text of Heaphy's lectures (only reports such as in the New Zealander, 1860b and Daily Southern Cross, 1865c) it is clear they 'borrowed' from Hochstetter's in terms of structure and content with no apparent acknowledgement. At the same time he introduced some strange concepts. For example, the lack of fossils in the Tertiary of the Auckland area (although it is hard to understand why the highly fossiliferous basal Waitemata Group rocks at Waiheke, Matheson's Bay and Kawau were not known about) is explained by the contemporaneous volcanism making the environment too poisonous.

During the controversy a letter to the New Zealander by Heaphy in 1864 criticises Hochstetter for many things including not acknowledging the work of others (including himself) but notably the work of Provincial Government employees Mr Toyle and Mr Boulton (a surveyor) who had been put at Hochstetter's disposal by the Government (New Zealander, 1864a). In the same letter he is forced to retract some of the accusations he made earlier about Hochstetter. The accusations regarding Hochstetter not acknowledging Provincial Government employees by Heaphy are a classic case of the 'The pot calling the kettle black'. You will find no acknowledgement of the work or assistance of others on any Heaphy map. For example, maps of the 'geology' of Wellington, Coromandel and the Auckland district acknowledge no-one but he must have had assistance. Heaphy does not even acknowledge the fact that the coastal, river and estuary outlines and some topographic details he used were the work of British naval surveyors such as Captain J. Lort Stokes and Commander Byron Drury. In contrast Hochstetter does acknowledge Stokes and Drury on his 1864 Auckland District map (Hochstetter and Petermann 1863). As noted above Hochstetter was generous in his acknowledgement of others while in Auckland and Nelson. It is true that after 1860 Heaphy was not popular with Hochstetter but to his credit Hochstetter's New Zealand publications continue to acknowledge his contributions (e.g., Hochstetter 1864, p. 89, Hochstetter, 1867—List of Illustrations XIV, XV.).

It is interesting that at the October 1868 meeting of the Institute Council Hutton proposed that Hochstetter be made the first Honorary member of the Institute (Daily Southern Cross, 1868). It was seconded by the Provincial Superintendent Thomas Bannatyne Gillies (1828–1889). Gillies said 'it was doing honour to themselves more than to the doctor.' One wonders what Heaphy, an Institute member, thought about it.

CONCLUSION

It is hoped that future research will find the duplicates of Hochstetter's specimens in Vienna collections. The loss of Hochstetter's donation of early, unique material which clearly had good data is tragic. Kirk's April 1869 letter was undoubtedly at least eight years too late and addressed to the wrong person(s). By 1861 Dickson's report (AWMM MUS-1995-2-3) clearly indicates that even then the contents of the Museum were in serious danger. Heaphy's denial of Haast's clear statement that Hochstetter's specimens were left 'in charge of Mr Heaphy' is weak given that he was supposed to be Hochstetter's friend, a frequent visitor to the Museum and donated material himself. The conditions at the Museum simply could not have escaped his attention.

Shoeman (2012, p.29) may be correct that it is pointless to take sides in the Heaphy-Hochstetter controversy in the absence of the original Heaphy 1857 Auckland map. The Dickson map tracing (Dickson, c.1858) discussed above is not useful to the debate. However, other evidence that he could be devious and duplicitous (Sharp, 2008, Johnston and Nolden, 2011) and Heaphy's demonstrated hypocrisy regarding acknowledging others is evidence of a flawed character. Hochstetter on the other hand generally acknowledged his success in New Zealand relied heavily on the assistance of others and was highly respected for the rest of his life. An example of a prominent Auckland who remained a lifelong friend is the polymath the Rev. Dr Arthur Guyon Purchas (see Grenfell, 2022). But perhaps the most important question is— if Heaphy was such a good friend of Hochstetter, why would he send his paper (published in 1860) to the Geological Society, London in 1859, while Hochstetter was still in New Zealand without telling him? The Hochstetter-Heaphy controversy and the fate of Hochstetter's specimens are clearly linked.

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