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Contents

The Hochstetter – Heaphy controversy and the mapping of the Auckland Volcanic Field

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Front cover: Detail from Ferdinand Hochstetter, *Sketch of the Geological Formation of the Auckland District by Dr Hochstetter. Member of the Scientific & Geological Institution Vienna. Scale 1 inch to the Mile*, 1859, manuscript map, pencil, ink and watercolour, 1260 x 1120 mm (Auckland War Memorial Museum).

Back cover: Detail from Charles Heaphy, *Sketch of the Geological Formation of the Auckland District*, 1859, manuscript map, pencil, ink and watercolour, 1000 x 830 mm (Geological Society of London LDGSL/209).

The Hochstetter – Heaphy controversy and the mapping of the Auckland Volcanic Field

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Introduction

This year marks 160 years since one of the earliest public geoscience controversies in New Zealand erupted in the local media in 1864. First discussed by Heinrich von Haast (1864-1953) in the biography of his father Sir Julius von Haast (1822-1887) using newspapers and letters to his father as sources; but the subject is buried within the depths of the thousand-page volume (Haast 1948: 363-365). Alan Mason (1923-2014) reviewed and investigated this intellectual property dispute between Ferdinand von Hochstetter (1829-1884; Fig. 1) and Charles Heaphy (1820-1881; Fig. 2), which is known as the ‘Hochstetter – Heaphy controversy’, and reported on it in this journal (Mason 2002, 2003). The cartographic aspect of Mason’s review was partly based on a manuscript tracing by Elwin Brodie Dickson (1828-1891) of an early version of Heaphy’s map of the Auckland Volcanic Field, held in the collections of the Alexander Turnbull Library (Dickson 1858), and a copy of Hochstetter’s map left in Auckland in 1859 and now held in the library of Auckland Museum (Hochstetter 1859a). Mason concluded “Hopefully, the story is not yet finished.” (2003: 39).



Fig. 1 (left): Ferdinand Hochstetter, by Bruno Lancel Hamel, 1859 (Auckland War Memorial Museum PH-ALB-84-p5-1).

Fig. 2 (right): Charles Heaphy, photographer unknown, 1860s (Auckland Libraries Heritage Collections 589-432).

In 2008, with the sesquicentennial of the arrival of Hochstetter in New Zealand, a special session at ‘Geosciences 08’, the Annual Conference of the Geological Society of New Zealand, provided an opportunity for Bruce Hayward to join forces with Mason and present a paper titled “Did Hochstetter plagiarise Heaphy’s map of the Auckland Volcanoes?” (Hayward and Mason 2008). This unpublished conference talk provided much of the material used (as pers. comms.) by David Lowe (2010) in summarising the controversy as understood then.

In 2011 Mike Johnston and Sascha Nolden reviewed both the literature and unpublished sources currently available at the time to present a fuller story, and described the controversy as “a regrettable public disagreement” (Johnston and Nolden 2011: 263-271). But it was Carmia Schoeman who first reviewed all the available sources in detail and then presented a well-argued and documented case with some carefully considered conclusions (Schoeman 2012). However, the case was not closed as there was still missing evidence, as Schoeman stated “Locating the original map [Heaphy sent to London], if it is still extant, is crucial in making an informed comparison” (Schoeman 2012: 28).

A decade after Mason’s second article, in 2013 Hugh Grenfell revisited the subject and presented equally well documented and argued conclusions, but without being aware of the Schoeman publication and some of the unpublished archival sources available at that time. Grenfell introduced the paper saying, “I hope to provide facts that Hochstetter was not a plagiarist” (Grenfell 2013: 15). What Grenfell demonstrated is that the apparent similarity between the cartographic products of two people preparing maps of geological surveys, did not infer acts of plagiarism on the part of either party, as such similarity was due to the use of the same base map produced by the Auckland Survey Office. This was something that Haast already pointed out in his letter to the editor of the *Lyttelton Times*, dated 10 September 1864 (Appendix 2), when he noted that similarities between Hochstetter’s and Heaphy’s maps could be explained by “both having had as ground plan for their work the official topographical maps of the district in question.” Later August Petermann (1822-1878), in preparing Hochstetter’s maps for publication in Gotha, used the Admiralty charts for coastal outlines, waterways and the locations of volcanoes, and duly acknowledged these surveys.

Since then, another ten years have passed, and during 2023, two items have been published which were not known to be extant when Mason was first writing on the subject and introducing it as a topic in the history of New Zealand science. Both items provide additional information that calls for a re-examination of what is one of the earliest controversies in the history of New Zealand geological studies. These two items are the recently published annotated English translation of Hochstetter’s Auckland diary (Nolden and Hayward 2023), and the first published reproduction of the original manuscript map of the geology of Auckland District initially prepared by Heaphy in 1857 “(corrected to Feb 1859)”, as submitted by him in 1859 to the Geological Society of London (Fig. 3; Nolden and Hayward 2023: 20). It should be noted that only the central portion of this large format colour manuscript map was originally published as a black and white lithograph (Heaphy 1860: plate XII).



Fig. 3: Charles Heaphy, *Sketch of the Geological Formation of the Auckland District*, 1859, manuscript map with volcanoes numbered (Geological Society of London LDGSL/209).

A third item that Mason and Grenfell were unaware to be extant, was an unpublished letter to the editor of the Auckland newspaper *The New Zealander* by Hochstetter dated 15 November 1864 (Nolden 2013: 116-117 footnote 498; Appendix 1) in which he rebutted the claims of Heaphy and Auckland correspondents that he had plagiarised Heaphy's map of the Auckland Volcanic Field. Mason had found a reference to this letter to the editor in Heinrich von Haast's biography of his father, Sir Julius von Haast (Haast 1948: 363-365), where the source

of information was a letter from Hochstetter to Haast dated 20 November 1864 (Nolden 2013: 111). But Mason “searched the columns of *The New Zealander* from August 1864 until May 1865 and [could not] find the reply that Hochstetter claims that he had sent to the newspaper” (Mason 2003: 33).

As we now know, the letter remained unpublished as it was withheld by Hochstetter’s friend Carl Frank Fischer (d. 1893; Fig. 4) in Auckland. Fortunately, however, the manuscript draft letter (Appendix 1) was found by Nolden among Hochstetter’s papers in 2010 and forms part of what is now known as the Hochstetter Collection Basel. It is also worth noting that a number of original annotated New Zealand newspaper clippings from the *Lyttelton Times*, *The New Zealander*, and *The Daily Southern Cross* (Appendix 2), relating to the controversy, which had been sent to Hochstetter in Vienna by Fischer and Haast, were also found in the Hochstetter Collection Basel, now in the custody of the Natural History Museum Vienna.



Fig. 4 (left): Carl Frank Fischer. Carte de visite portrait photograph by John Hubert Newman, Sydney, 1873 (Hochstetter Collection Basel HCB 5.2.F9).

Fig. 5 (right): Julius von Haast. Carte de visite portrait photograph by Nelson King Cherrill, Christchurch, 1880 (Hochstetter Collection Basel HCB 5.2.H1).

The controversy

The controversy emerged through a footnote added by Hochstetter in the original German version of the first New Zealand atlas, which was published by Hochstetter and Petermann (1863). Having received one of the first copies to reach New Zealand, Haast (Fig. 5) made this available for review by the *Lyttelton Times* newspaper, resulting in the first public mention of the accusation of ‘piracy’ in the review headed “Geological Atlas of New Zealand”. The review gives a description of the contents of the German edition of the atlas in

some detail, and states: “The third map is that of the Isthmus of Auckland, shewing with great clearness the extent of volcanic country and the peculiar volcanic hills which stand like a skin eruption on the level surface. This is the map which Mr. Charles Heaphy of Auckland is accused of having pirated from Dr. von Hochstetter’s copy in his charge, and sent to the Geographical [sic] Society of London as his own.” (*Lyttelton Times*, 28 May 1864: 4).

It is worth noting here that many months later, Heaphy, in one of his many communications to newspaper editors, dated 22 August 1864, eventually corrected this error, and clarified that it was the *Geological Society* of London and not the *Geographical Society* he had sent his map and ‘essay’ to (*The New Zealander*, 3 September 1864: 2). But this early mention in May based on the German edition of the atlas does not appear to have been brought to Heaphy’s attention at the time and did not result in immediate public debate, and therefore does not mark the beginning of the controversy, although it is part of the genesis.

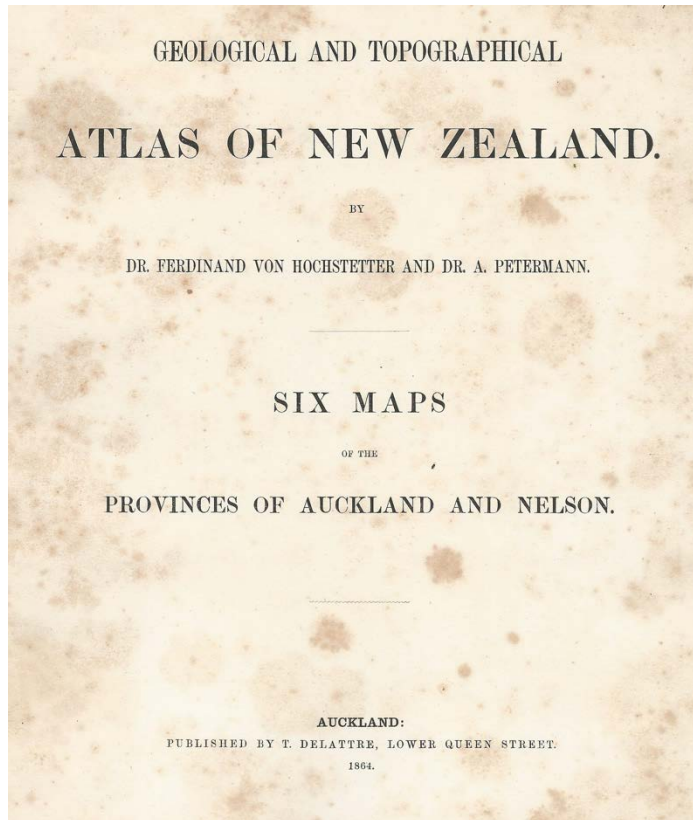
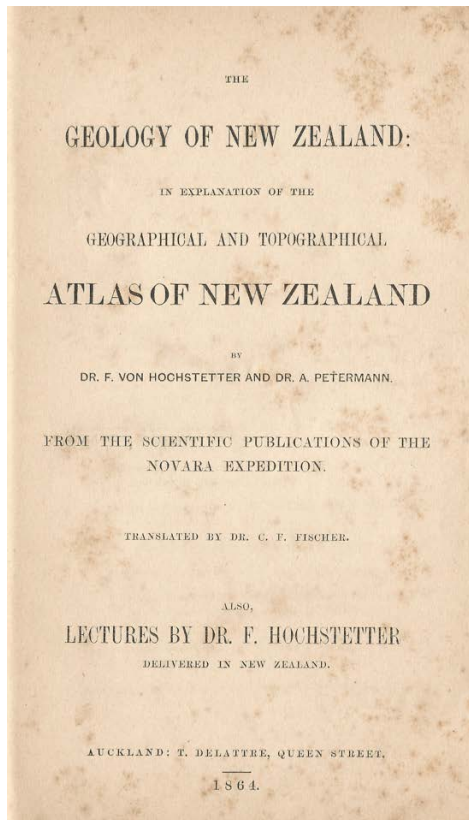


Fig. 6: Title page of *The Geology of New Zealand*. Carl Frank Fischer translated, compiled and published the book in Auckland in 1864 (Hochstetter and Petermann 1864a).

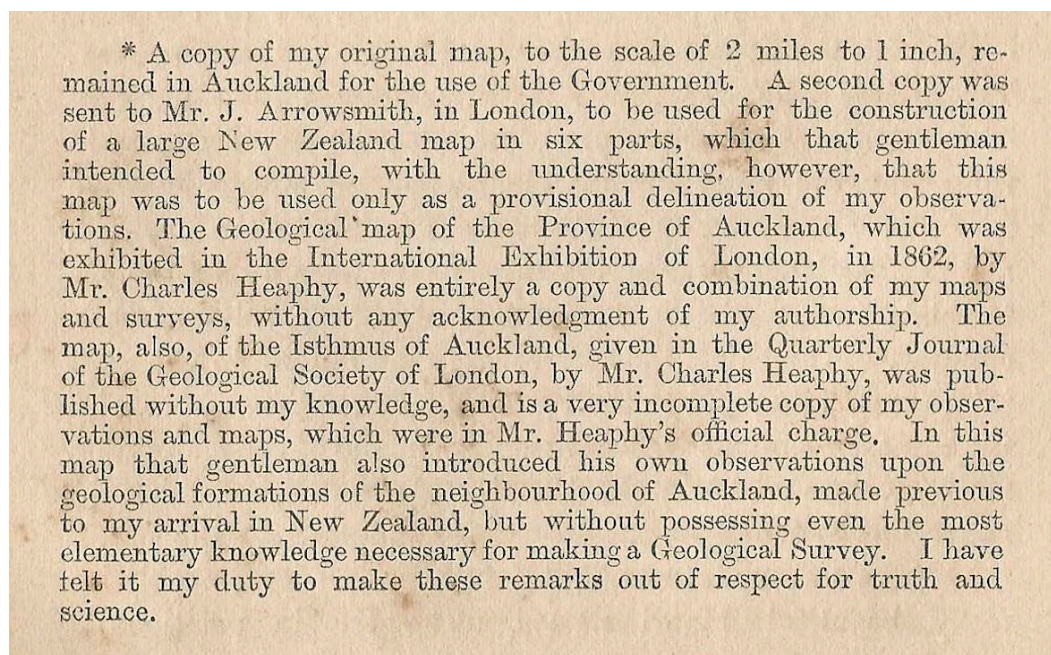
Fig. 7: Title page of the English edition of the *Geological and Topographical Atlas of New Zealand* published in Auckland in 1864, but comprising maps printed in Gotha (Hochstetter and Petermann 1864b).

A number of copies of the German edition ended up on the New Zealand market and some of these were embellished with specially printed English translations of the titles and legends, tipped in on the individual maps. Carl Fischer then prepared a translation of the introductory text and appended the full text of Hochstetter’s 1859 Auckland and Nelson lectures to

produce a standalone volume with the title *The Geology of New Zealand* (Fig. 6; Hochstetter and Petermann 1864a) to complement the English edition of the *Geological and Topographical Atlas of New Zealand*, comprising only the six maps printed in Gotha, and published in Auckland in August 1864 (Fig. 7; Hochstetter and Petermann 1864b).

Fischer translated everything diligently, including the accusatory footnote, which appears on page 50 of the volume (Fig. 8). In the footnote, Hochstetter recorded his protest note comprising complaints relating to two maps:

A copy of my original map, to the scale of 2 miles to 1 inch, remained in Auckland for the use of the Government. A second copy was sent to Mr. J. Arrowsmith, in London, to be used for the construction of a large New Zealand map in six parts, which that gentleman intended to compile, with the understanding, however, that this map was to be used only as a provisional delineation of my observations. The Geological Map of the Province of Auckland, which was exhibited in the International Exhibition of London, in 1862, by Mr. Charles Heaphy, was entirely a copy and combination of my maps and surveys, without any acknowledgment of my authorship. The map, also, of the Isthmus of Auckland, given in the Quarterly Journal of the Geological Society of London, by Mr. Charles Heaphy, was published without my knowledge, and is a very incomplete copy of my observations and maps, which were in Mr. Heaphy's official charge. In this map that gentleman also introduced his own observations upon the geological formations of the neighbourhood of Auckland, made previous to my arrival in New Zealand, but without possessing even the most elementary knowledge necessary for making a Geological Survey. I have felt it my duty to make these remarks out of respect for truth and science. (Hochstetter and Petermann 1864a: 50 footnote).



* A copy of my original map, to the scale of 2 miles to 1 inch, remained in Auckland for the use of the Government. A second copy was sent to Mr. J. Arrowsmith, in London, to be used for the construction of a large New Zealand map in six parts, which that gentleman intended to compile, with the understanding, however, that this map was to be used only as a provisional delineation of my observations. The Geological map of the Province of Auckland, which was exhibited in the International Exhibition of London, in 1862, by Mr. Charles Heaphy, was entirely a copy and combination of my maps and surveys, without any acknowledgment of my authorship. The map, also, of the Isthmus of Auckland, given in the Quarterly Journal of the Geological Society of London, by Mr. Charles Heaphy, was published without my knowledge, and is a very incomplete copy of my observations and maps, which were in Mr. Heaphy's official charge. In this map that gentleman also introduced his own observations upon the geological formations of the neighbourhood of Auckland, made previous to my arrival in New Zealand, but without possessing even the most elementary knowledge necessary for making a Geological Survey. I have felt it my duty to make these remarks out of respect for truth and science.

Fig. 8: The English version of the footnote, as translated by Carl Frank Fischer (Hochstetter and Petermann 1864a: 50).

Both of the major newspapers of Auckland, *The New Zealander* and *Daily Southern Cross*, devoted generous amounts of column space to the controversy, giving publicity to the newly published English edition of the atlas, and the book, which was described in one brief review in the *New Zealand Herald* as “a valuable appendix” to the former (*New Zealand Herald*, 8 August 1864: 3). The volume of text was entirely printed in Auckland and was completed and published before the printed maps for the atlas reached Auckland. The geological volume was advertised as available for sale from 9 August, but it would appear that Fischer only advertised in *The New Zealander* and the *Government Gazette*. The footnote, effectively accusing Heaphy of plagiarism, gave rise to an intense debate conducted in the form of newspaper editorials and letters to the editor.

The publication of the volume entitled *The Geology of New Zealand* as compiled by Fischer also gave rise to a detailed review of Hochstetter’s lecture on the “Geology of Auckland” as reproduced in that book. Therefore, the contribution of Hochstetter’s geological work in the province of Auckland some five years earlier was still seen for its value and the review confirms that his reputation was very much intact just prior to the controversy erupting. The review concludes “We are much indebted to the valuable little work lately published by Dr. Fischer”, and in closing states “We can strongly recommend this book to our readers, who will find in it much interesting and useful information.” (*The New Zealander*, 18 August 1864: 2).

Heaphy soon gathered supporting letters from staff at the Auckland Survey Office and associated government offices (Appendix 2) and with these persuaded the editors of the Auckland newspapers to side with him. He had a distinct advantage over the distant Hochstetter, who was in Vienna and considerably hindered by the delay in communications via postal routes between Europe and New Zealand, which took about 10 to 12 weeks each way at the time. Heaphy was a very well-established person in Auckland who had received honourable mentions in the local press earlier that year for his bravery (during active military service at Mangapiko Stream on 11 February 1864) and could therefore count on local support from fellow colonists as he defended the charges and launched his counter-attack against Hochstetter.

Hochstetter was still well remembered and respected in Auckland but only two of his close German-born friends with whom he had remained in regular contact by correspondence were prepared to publicly defend his reputation. Fischer had a vested interest in protecting the reputation of Hochstetter, not only as his friend, but also the leading author of the atlas and geological volume he had personally invested in and published. Julius Haast, although a very loyal friend of Hochstetter’s, was in Christchurch by this time and therefore more removed from the public debate centred around Heaphy in Auckland. In contrast to Fischer, Haast did not choose to risk his own reputation by publicly entering the fray and defending Hochstetter, instead resorting to only publishing a single letter to the editor under the pseudonym of ‘Fair Play’ (Haast 1864: 5; Haast 1948: 364; Mason 2003: 34).

The public controversy conducted in the newspapers, beginning with an editorial in *The New Zealander* on 27 August and ending with a letter to the editor of the *Lyttelton Times* on 15

September 1864 (Appendix 2), was intense but short-lived, as both sides likely saw reason to rest their case and allow the matter to die down. Heaphy may have realised that he had overreached with his retaliatory accusations, some of which proved to be unsubstantiated and therefore indefensible. Hochstetter's advocates in New Zealand, especially Fischer, determined that it was in the best interest of longer term aims and ambitions, including the much-needed New Zealand government support for the printing of an English edition of Hochstetter's major work on New Zealand, to let this one go.

After the controversy in the newspapers had already come to a close in New Zealand, due to the delay in postal communications, Hochstetter, in a letter to Haast dated 21 October 1864 wrote, "Be so kind as to let me know straight away if Heaphy publishes anything in the newspapers against my comments." (Nolden 2013: 109). Further letters reveal that Hochstetter had been fairly oblivious to what had gone on in the New Zealand newspapers until it was over, but he must have been grateful to his friends Fischer and Haast for their efforts. In a letter dated 20 November 1864 he wrote to Haast:

the last New Zealand newspapers brought me Heaphy's meanness under the title Major Heaphy and Dr Hochstetter. Lies from beginning to end; positively lies. I soon wrote a reply and sent it to the Editor of the 'New Zealander'. The matter is quite disagreeable to me and if I had known that Fischer was going to translate the text of the Atlas, then I would have written to him asking him to suppress the section against Heaphy, as one wants to avoid scandals with people of that nature at all cost. He does not hesitate to lie, saying I did not use his name in connection with the woodcuts and illustrations, and yet every illustration that stems from his hand is published under his name. He claims I copied his map of Auckland and Nelson! He does not hesitate to write that he mentioned me when he published the map of Auckland and cites a comment by Sir Charles Lyell on his essay, in order to protect my scientific property against his silence. I will send you a copy of my reply by next mail, but I hope that Fischer has already replied in response to this personal libel against me." (Nolden 2013: 111).

So, while Hochstetter never got to have a say in the newspaper controversy, as his only letter to the editor, sent via Fischer, was withheld, Hochstetter does seem to have eventually come to accept this decision. When he wrote to Haast on 20 May 1865 he still had some doubts, saying:

Fischer, as he writes, did not have my reply published, as the matter has now gone totally to sleep, and he did not want to stir it up again now, just at the very moment when the matter of the subsidy is supposed to be passed in parliament. I don't know if he was right, but I can't influence the matter anymore now, however I will insert a reply on a loose sheet in the English edition. (Nolden 2013: 116-117).

By the time the English edition (Hochstetter 1867) was published in Stuttgart with the support of a generous subscription from the New Zealand government, no reply was included. On the same day Hochstetter wrote to Fischer stating that he agreed with his decision and thanked him, saying, "I share your view on the Heaphy matter, and thank you

for your friendly advice. Haast will, however, not agree that my reply was not published, but I cannot possibly assess the circumstances from here.” (Nolden 2013: 117 footnote 499).

Having previously reviewed the original published newspaper sources, correspondence and secondary literature, new sources in the form of Hochstetter’s original Auckland Diary and Heaphy’s original 1859 manuscript map of the Auckland Volcanic Field, along with the withheld, and therefore unpublished, Hochstetter letter to the editor and the 1859 manuscript map of the geology of the Auckland District by Hochstetter, are available for a reconsideration of those aspects of the controversy pertaining to these sources.

Additionally, our research has only found definitive evidence that Hochstetter deposited two completed maps of larger parts of the province when he left Auckland in July 1859. These were his 1859 manuscript map titled *Sketch of the geological formation of Auckland District* (Fig. 9) and a topographical map of the southern part of the Auckland province, which Hochstetter described as the “2 miles to 1 inch” map that “remained in Auckland for the use of the Government” in the footnote in which he accused Heaphy of plagiarism. The latter has not been located nor is there any known extant copy, but it would very likely have been similar to the map produced by Petermann in Gotha (Fig. 10) and used in the final published state to illustrate Hochstetter’s books *Neu-Seeland* (1863) and *New Zealand* (1867). There is no official record of other material left behind in the form of duplicates or originals of field maps, sketches and diagrams prepared by or for Hochstetter, nor of the written “observations” he left behind, except in the form of his published lecture.

Geological map in the London International Exhibition of 1862

Neither Hochstetter nor Heaphy attended the London International Exhibition of Industry and Art (1 May to 15 November 1862) and Hochstetter’s accusation was based on what was reported to him. Subsequently, a letter from Edward King (1825-1865), the Honorary Secretary of the Auckland Commission of the International Exhibition of 1862, published in an Auckland newspaper, noted that “I remember your acknowledgment, on your geological plan of the Province of Auckland, of the parts copied from Dr. Hochstetter’s plan of the geology of the district.” (Mason 2002: 37).

Hochstetter, without having seen the actual map that was exhibited in London, but now presumed lost, considered himself the main contributor to this map of the Province of Auckland, presuming it to be very similar in extent and coverage to his map (Fig. 10) that was also published in English as *The Southern Part of the Province of Auckland* (Hochstetter and Petermann 1864b: plate 2). Hochstetter’s unpublished letter (Appendix 1) refers to his being “the real Author of the principal part of the map”, which would indicate he acknowledged that regions he had not visited may have been included in the exhibition map.

When defending the charges brought against him by Fischer in a letter published on 5 September, Heaphy (6 September 1864 in *The New Zealander*) eventually acknowledged that “my map, embodying a good deal of his [Hochstetter’s] work, appeared in the Exhibition in 1862.” But continued on the defensive when he argued “It is absurd, Mr. Editor, to suppose



Fig. 9: Ferdinand Hochstetter, *Sketch of the Geological Formation of the Auckland District* by Dr Hochstetter. Member of the Scientific & Geological Institution Vienna. Scale 1 inch to the Mile, 1859, manuscript map, pencil, ink and watercolour, 1260 x 1120 mm. Drawn by William Boulton. (Auckland War Memorial Museum).



Fig. 10: Ferdinand von Hochstetter, *Der Südliche Theil der Provinz Auckland in Neu-Seeland*. Gotha: Justus Perthes, 1863. Unpublished proof print (Hochstetter Collection Basel HCB 3.2.20).

that after a lapse of two or three years we were not to be allowed here to make use of an exploration that had cost us many hundreds of pounds of Auckland money. It would have been as absurd if I had sent to the Exhibition of 1862 my map of the Province, and have omitted the part that Dr. Hochstetter had explored.” (Heaphy 1864: 5).

Heaphy used the fact that Hochstetter had not visited all parts of the province covered in the map as his first line of defence: “It is known to all here that Dr. Hochstetter never visited any part of this province to the north of the Waiwherawhera, to the south of Kawhia and Taupo, or to the east of Maketu, in the Bay of Plenty. He never set his foot on White Island, on the Great Barrier Island, or the Island of Kawau, nor saw anything of the copper lodes of the district. He knew nothing of the volcanic countries of the Bay of Islands and Wangarei – each as interesting as that of Auckland – and of course knew nothing about the Wairoa, river of Kaipara, of Hokianga or Mongonui, nor was he ever on the Eastern Coast, or on Mount Egmont. My map was of this province and Taranaki, and included these. How, therefore, Dr. Hochstetter can claim that my plan was ‘entirely a copy’ of his, I am at a loss to understand.” (*Daily Southern Cross*, 29 August 1864)

The other line of defence Heaphy used, as noted above, was to suggest that as the government had funded Hochstetter’s survey, he considered he had a right to make use of it, once Hochstetter had returned to Europe and tabled the results. On 6 September 1864 in his letter to *The New Zealander* (Appendix 2) Heaphy wrote that before August 1860 Hochstetter “had placed his maps before the Geological and Geographical Societies of London, and the learned bodies on the Continent.” This was in part a reference to Hochstetter’s in-person presentation of two papers at the thirtieth meeting of the British Association for the Advancement of Science, held at Oxford University in June and July 1860. These were in the geology section: “Remarks on the Geology of New Zealand, illustrated by Geological Maps, Drawings, and Photographs” and in the geography and ethnology section: “A New Map of the Interior of the Northern Island of New Zealand, constructed during an Inland Journey in 1859” (British Association 1861: 81, 162).

Official correspondence (held in the Hochstetter Collection Basel) provides a clear insight into the conditions Hochstetter, as a member of the *Novara* expedition, had imposed on the access and re-use of one of his maps, which presumably would have applied to all maps and other material that remained in the custody of Heaphy in Auckland. On submitting a map to the Colonial and Provincial Government, one week prior to his departure from Auckland, Hochstetter stated in a cover letter dated 20 July 1859:

Sir, I have now great pleasure in forwarding to His Excellency the Governor through you a topographical map of the Southern part of the Province of Auckland, which I have just completed so far, as regards the principal outlines. After His Excellency has inspected it, I shall feel obliged, by your forwarding the map to His Honor the Superintendent of Auckland.

I have at the same time to request, that as the map is not yet completed in detail for publication, and as the first authorized publication should emanate under the sanction of

the Austrian Novara-Expedition, any copies may be confined for the present for the private use of the Colonial and Provincial Government.

The reply from William Gisborne (1825-1898), Under Secretary, dated Colonial Secretary's Office, Auckland, 23 July 1859, and addressed to Hochstetter in Auckland, stated:

Sir, I am directed to acknowledge the receipt of your letter of the 20th instant, and to return to you the thanks of the Government for the very valuable topographical map enclosed therein of the Southern part of the Province of Auckland.

Your wishes respecting the transmission of this map to His Honor the Superintendent of Auckland, and its subsequent return to your address at Sydney shall be complied with.

So clearly Hochstetter had come to an understanding with the Auckland provincial government regarding the copy of this topographical map which remained in Auckland, and the government respected his wishes. It would therefore also seem likely that Hochstetter's original map was eventually returned to him in Sydney, after being copied for "the private use" of the government.

But given how particular Hochstetter was, how did the copy noted above end up being sent to London for the benefit of the cartographer John Arrowsmith (1790-1873)? This becomes apparent from another official letter from Henry John Tancred (1816-1884), Secretary for Crown Lands, in a letter addressed from the Crown Lands Office, Auckland, dated 20 December 1859 to Hochstetter at the Imperial Royal Academy of Sciences in Vienna:

Sir, I have the honor to inform you that application has been made by Mr. Arrowsmith, Publisher, 10 Soho Square, London, for information respecting the Geography of this Colony, and for Copies of any Maps in the possession of the Government which would tend to facilitate the execution of a Map now [page 2] in course of preparation by that Gentleman.

I need not remark to you how much new and valuable information towards that object would be obtainable from the Map prepared by you of the Waikato, Taupo and Rotorua Districts, after your visit to them in the earlier part of this year; did not your request, that the first publication of that Map might take place under the auspices of the Novara Expedition, preclude me from allowing Mr. Arrowsmith the use of your Materials.

I have [page 3] I have therefore to request that you would yourself kindly transmit this information to Mr. Arrowsmith, should such a course meet with the sanctions of the Imperial Royal Government.

With this view I have caused a tracing of the Map in question to be prepared, which I enclose to you herewith; in order, (should this suggestion be accepted by you,) for its transmission to Mr. Arrowsmith from yourself.

The recipient annotations reveal that the letter was received in Vienna on 13 March and that Hochstetter wrote to Arrowsmith in London on 16 March 1860.

Returning to the matter of the London International Exhibition, what really riled Hochstetter, as he expressed in his unpublished letter, and clearly the cause of his indignant displeasure, is

the fact that Heaphy “the copier has received the medal!”. This would likely have been exacerbated by the way in which the exhibition catalogue and jury decisions were presented, starkly contrasting the way Hochstetter’s work in Auckland versus Nelson were treated:

Mr. Heaphy, of Auckland, contributes a geological map of the province, with some interesting drawings of very remarkable hot springs and other volcanic phenomena, and a general illustrative collection of rocks.

The Provincial Government of Nelson have also sent a collection, principally of gold and coal, but accompanied by a valuable map, the work of Doctor Hochstetter, geologist, who sailed in the Austrian frigate Novara, on her exploring voyage. Medals were awarded to both of these exhibitors (Knight 1865: 44)

The formal citation for the medals awarded in Class I. Mining, Quarrying, Metallurgy, and Mineral Products was: “Heaphy, C.: For his collections, and geological map of Auckland, and his drawings of volcanic rocks and hot springs.” and “Nelson Government: For their collection, and the production of the geological map by Mr. Hochstetter.” (Otago Daily Times, 14 May 1864: 5).

Thus, the Nelson Provincial Government sent Hochstetter’s map to London for exhibition and also received a medal, and the map was described as being made by Hochstetter. Although Hochstetter presumed the Auckland map was based largely on the results of his survey in the Province of Auckland, it was clearly compiled by Heaphy from his own observations, as well as those of Hochstetter and likely other informants. The associated drawings of hot springs, i.e. Pink and White Terraces at Lake Rotomahana, by Heaphy, would have been based on material supplied to him by Hochstetter and the collection of rocks also likely included duplicates entrusted to Heaphy by Hochstetter.

Therefore it may be concluded that Heaphy’s contribution to the exhibition in London had substantially benefitted from the work of Hochstetter, as Heaphy himself belatedly acknowledged, and that Heaphy should have more prominently stated this considerable contribution, so that Hochstetter would have received rightful credit at least as a mention in the catalogue entry. However, it is also worth noting that there were 113 exhibitors from New Zealand, but “Unlike the other Australian colonies, no special or descriptive catalogue of the collection is published.” (Knight 1865: 42).

Heaphy, as Provincial Surveyor, and at the time still on very friendly terms with Hochstetter, had access to copies of the maps that Hochstetter had left behind with the Provincial Government of Auckland, as the commissioners of his field survey work. Although the Auckland Provincial Government may have been entitled to exhibit the map in London, Heaphy would not have automatically been vested with the authority to assert sole authorship of it, even if a derivative copy or compilation drafted by a member of his staff in the Survey Office were exhibited.

Heaphy's illustrated paper published by the Geological Society of London in 1860

In 1859, soon after Hochstetter had left Auckland on 28 July, Heaphy sent a manuscript together with seven watercolour sketches and a large manuscript map to the Geological Society of London. The paper was presented by the president John Phillips (1800-1874) at a meeting in London on 30 November 1859. The manuscript map of the Auckland Volcanic Field was titled "Sketch of the geological formation of the Auckland District. By C. Heaphy 1857. (corrected up to February 1859)" (Fig. 3). The published smaller central portion of that map (Fig. 11) titled "I. Geological Sketch-map of the Auckland District. By C. Heaphy, 1857. (Corrected to Feb^y 1859)", paired with "II. Outline-map of the North Island, New Zealand; showing some of the Geological Features, especially the volcanic", was published under the collective title of "Sketch maps, illustrative of the Volcanic Phenomena of the Auckland District, by C. Heaphy, 1859." (Fig. 12; Heaphy 1860: plate XII).

At the end of Heaphy's published paper there are two appended sections by the editor of the journal titled "Notes on the Fossils" which lists some of the specimens sent to London by Heaphy, and "Notes on the Plates XII. & XIII." (Heaphy 1860: 251-252). According to Hochstetter's unpublished letter, he was aware that these sections were added by the editor. The first section lists fossils and their source locations, and it is apparent that some of these came from locations visited by Hochstetter without Heaphy. The second editorial note states, "The corrections here alluded to have arisen from observations made during the progress of Dr. F. Hochstetter's geological survey of the Auckland District. It is expected that a more complete description of the volcanic and geological features of this and other parts of New Zealand will be supplied in the scientific publications of the Austrian "Novara" Expedition, by Dr. F. Hochstetter, the Geologist of the expedition who remained in New Zealand, at the expense of the Provincial Government of Auckland, for the purpose of making a geological survey of the province." (Heaphy 1860: 251).

Some previous commentators on the Hochstetter – Heaphy controversy have assumed these explanatory notes were written by Heaphy, despite their being clearly signed off by Thomas Rupert Jones (1819-1911), editor of the *Quarterly Journal of the Geological Society*. But for those who missed this detail in the fray of the controversy, Hochstetter, in his unpublished letter to the editor of *The New Zealander* newspaper (Appendix 1), clarified that "this remark does not originate from Mr. Heaphy, but that my friends Sir Charles Lyell – at that time President of the Geological Society in London, and Mr. T. R. Jones – by this addition protected my scientific property against Mr. Heaphy's silence." Here Hochstetter was obviously confused as Lyell was a former president of the society in 1849-1851.

Grenfell (2013) rightly stated that "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 [...]. The Editor perhaps suspected the work was not entirely Heaphy's." (Grenfell 2013: 37).



Fig. 11. Central detail from Charles Heaphy, *Sketch of the Geological Formation of the Auckland District*, 1859 (Fig. 3), gridded in pencil for reduction in scale as reproduced in Heaphy (1860: plate XII; Fig. 12) (Geological Society of London LDGSL/209).

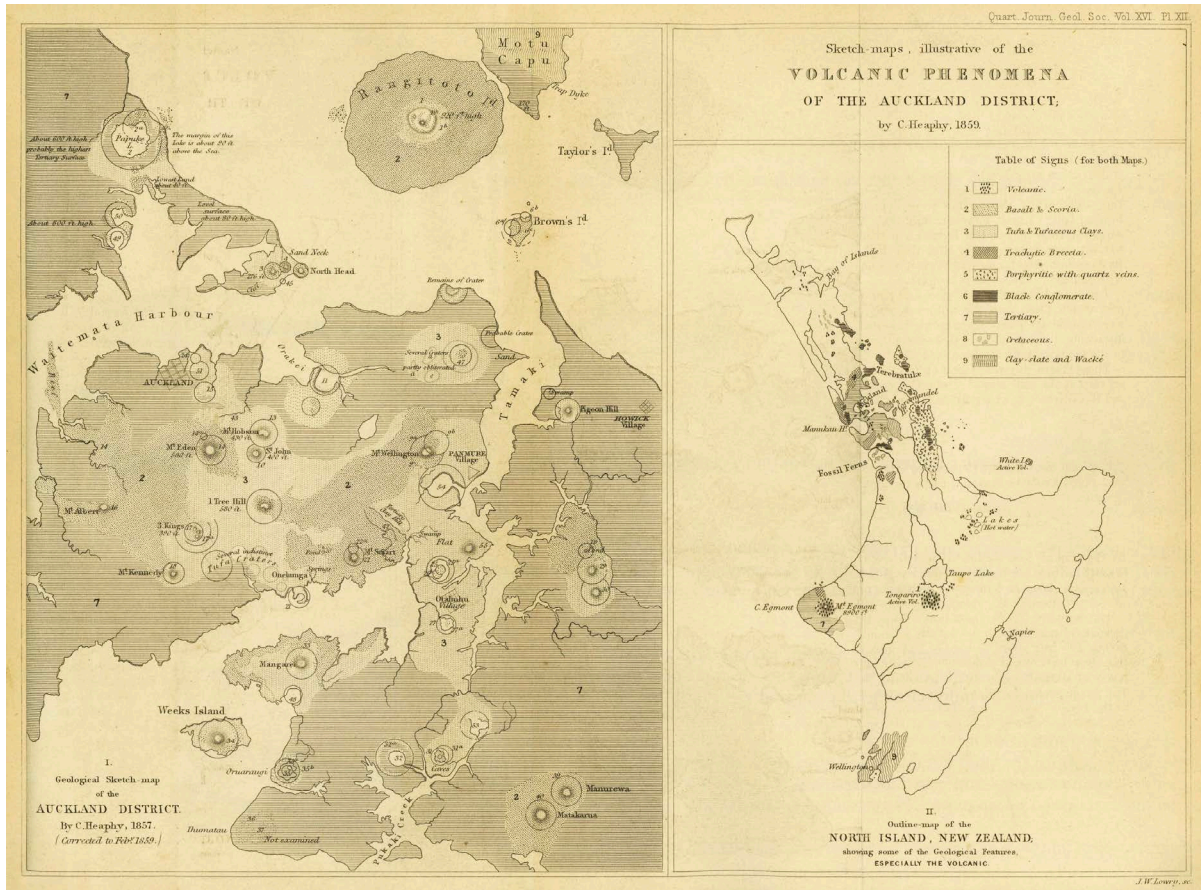


Fig. 12: The published plate prepared by engraver Joseph Wilson Lowry reproducing the two maps submitted by Heaphy with his paper in 1859 (Heaphy 1860: plate XII). (Reproduction courtesy of GeoSphere Austria, Vienna).

In his unpublished letter, Hochstetter states that “In the year 1860, on my return from New Zealand to London, my friend Mr. T. R. Jones, secretary of the Geological Society – showed me a manuscript from Mr. Heaphy on the volcanic country of Auckland, with a map and illustrations”. One might ask why Hochstetter did not try to stop its publication if he believed it to be “a very incomplete copy of my observations and map” as he claimed in his footnote (Hochstetter and Petermann 1863; 1864a: 50). Indeed, the editor’s note added to Heaphy (1860) following Hochstetter’s visit in June or July 1860 does not match the later claim of plagiarism made by Hochstetter (1864a).

There are two possibilities to explain the above:

1. Heaphy was essentially correct that the map he submitted was the one he had compiled in 1857 with some updating by him as a result of the limited field work he had undertaken *with* Hochstetter. Heaphy’s statement that his map was “updated to February 1859” could have been referring to his field work on the North Shore with Hochstetter in that month (Nolden and Hayward 2023) or to Hochstetter finishing his Auckland field work in that month. All previous commentators have assumed the latter.

2. Hochstetter (1863) was correct in claiming Heaphy's published map (1860) was "a very incomplete copy of my observations and map."

This investigation now looks at what might be the truth in each of these two counter possibilities, using the newly available original material – Hochstetter's Auckland diary and Heaphy's geological manuscript map of Auckland (Fig 3; Heaphy 1859), and the first detailed examination of the manuscript copy prepared by William Boulton of Hochstetter's map of the geology of Auckland (Fig. 9; Hochstetter 1859a), which he left in Auckland with the Survey Office and Heaphy in 1859.

Hochstetter's use of Heaphy's 1857 map

Heaphy's 1857 map as displayed in the Auckland Mechanics' Institute and subsequently borrowed and traced by Hochstetter, was the most up-to-date and readily available map of Auckland's volcanoes when Hochstetter arrived in Auckland. Presumably it was built on written observations of earlier European naturalists such as Ernst Dieffenbach (1811-1855; 1843) and Frederick Septimus Peppercorne (1813-1882; Grenfell and Heath 2023), and published Admiralty charts e.g. *Manukau Harbour* (Admiralty 1853; detail Fig. 13) and *Entrances to Auckland Harbour* (Admiralty 1857; detail Fig. 14), as well as Heaphy's own surveys and observations.



Fig. 13: Detail from Admiralty chart no. 2726 *Manukau Harbour*, featuring Mount Albert in the top left, Mount Wellington in top right.



Fig. 14: Detail from Admiralty chart no. 1896 *Entrances to Auckland Harbour*, 1849-55, showing the representation of topography with Rangitoto in the north and One Tree Hill in the south.

The Admiralty charts would have provided Hochstetter, and later Petermann, with sufficient topographic and survey data to generate Hochstetter’s map of the isthmus of Auckland (Fig. 15) without copying Heaphy’s map, but there is no doubt that Hochstetter made use of Heaphy’s map during his visit. A closer look at two examples of Admiralty charts from the period show the well-developed cartographic record of some of the topography with volcanic cones and craters featuring prominently as would be expected.

In his unpublished letter to the editor, Hochstetter wrote “For the geological survey of this District, the attempts made by Mr. Heaphy in the year 1857 [were] of no use whatever to me – these attempts having been made without the most necessary geological knowledge”. However, the entries in Hochstetter’s diary would suggest otherwise (see below). Until now, it has not been possible to rigorously assess how much use Hochstetter made of Heaphy’s existing map of Auckland’s geology whilst undertaking detailed field work from December 1858 to February 1859, which was the basis for his much-acclaimed geological map of the volcanoes of Auckland (Fig. 15; Hochstetter 1865). All that was previously available of Heaphy’s 1857, pre-Hochstetter map of Auckland’s volcanoes was an untitled tracing supposedly of it by Dickson (1858) as presented in Mason (2003). The attribution and authenticity of this tracing has been disputed by Schoeman (2012) and Grenfell (2013). Authentic or not, this tracing is remarkably similar to, but lacks some of the detail of, the map Heaphy submitted to London in 1859. This suggests that it may very likely have been a tracing of the original 1857 Heaphy map, prior to it being updated to February 1859.

In a letter to *The New Zealander* newspaper dated 20 August 1864 (Appendix 2) Horatio Nelson Warner (1819-1906), Deputy Waste Land Commissioner, stated that Heaphy’s 1857 map which was hanging on the wall at the Mechanics’ Institute “had been borrowed by the Doctor [Hochstetter] for his information and actually formed the nucleus of all of his work, in this locality, however much he may have added to it.” In a letter to the *Daily Southern Cross* dated 22 August 1864 (Appendix 2), Heaphy wrote “Dr Hochstetter on his arrival here immediately obtained from the reading room of the institute my map, and taking it to the survey office and to his own residence, made use of it as the basis of his own map, the outlines and important features on which were traced from it.” The contents of Hochstetter’s Auckland diary are consistent with the above. Although he does not mention it in his diary, it would seem likely that Hochstetter may have taken this tracing, or relevant parts of it, with him in the field around Auckland.

In his diary (Nolden and Hayward 2023) Hochstetter consistently refers to visiting each of the volcanoes of Auckland using “Heaphy’s volcano numbers”. It is clear that Hochstetter organised his field work to visit all the known volcanoes using Heaphy’s existing map and also added extra volcanoes when he came across them. Hochstetter refers to volcanoes numbered 1 to 40 and these match the majority of the numbers on Heaphy’s submitted manuscript map (Fig. 3; Nolden and Hayward 2023: 20). In his diary, Hochstetter seems to accept all of Heaphy’s numbered volcanoes, except for the two collapsed lava caves in Onehunga that Heaphy inferred were craters.

Heaphy’s 1860 map of Auckland volcanoes

Heaphy’s map, submitted to London in 1859, has volcanoes numbered up to 55, although eight numbers in this sequence are missing (12, 23, 26, 38, 41, 44, 46, 52). While missing on the published black and white lithograph (Fig. 12), number 52 (Glover Park) is present on the coloured manuscript map (Fig. 11) submitted in 1859. Heaphy must have added twelve volcano numbers in the range 41-55 to his map after it was traced by Hochstetter, but before

he sent his map off to London. Were all these a result of Hochstetter's field work, as implied by Hochstetter?

Here we investigate this possibility, referring to Heaphy's (1859, 1860) additional numbered volcanoes, and those on Hochstetter's (1865) published map:

41. Number not used on Heaphy's map.
42. Located over lava flows at Penrose; not on Hochstetter's map; believed by Heaphy (1860) to be an example of lava welling out of a vent.
43. Located over lava flow at Newmarket; not on Hochstetter's map; possibly an example of Heaphy's (1860: 246-247) recognition of a vent that only erupted lava, same as 42.
44. Number not used on Heaphy's map.
45. Duder's Hill; visited by Hochstetter and Heaphy together in February 1859; referred to as Heaphy's no. 3a in Hochstetter's diary, and subsequently renumbered by Heaphy (1860).
46. Pukekiwiriki/Red Hill, Papakura in the South Auckland Volcanic Field; not shown on Hochstetter's map as it does not extend that far south.
47. Taurere/Taylor's Hill; not referred to by number by Hochstetter and not present on the tracing of Heaphy's 1857 map; Heaphy was not with Hochstetter when the geologist visited this; this volcano may have been added by Heaphy using Hochstetter's work.
48. Mangere Lagoon; referred to as Heaphy's no. 33c in Hochstetter's diary, and subsequently renumbered by Heaphy (1860).
- 49-50. Onepoto Basin and Tank Farm; not visited by Hochstetter; nor shown as volcanoes on the tracing of Heaphy's 1857 map, but shown as tuff craters on Hochstetter's February 1859 manuscript map of the volcanoes of the North Shore (Nolden and Hayward 2023: 113 Figure 68); sketched after his visit to Devonport and Lake Pupuke with Heaphy on 5-7 February 1859. There are several possible explanations for this: Heaphy could have discovered their volcanic nature since his 1857 map was drafted and informed Hochstetter of their apparent volcanic origins while on the North Shore, or one or other or both may have recognised their breached volcanic crater shape on the Admiralty chart.
51. Albert Park hill; not shown on Hochstetter's map as a volcano. Hochstetter's Albert Park Volcano is located on the lower western slopes of the hill and was also present as no. 24 on Heaphy's map used by Hochstetter.
52. Whakamuhu/Glover Park; not referred to by number by Hochstetter and not present on the tracing of Heaphy's 1857 map; Heaphy was not with Hochstetter when the geologist visited it; this volcano may have been added by Heaphy using Hochstetter's work.
53. Kohuora; outline drawn on Heaphy's 1857 map, but not numbered there (Mason 2003) and probably the outline comes direct from the base map used. This could have been copied from Hochstetter's work as he recognised it as his volcano number 48.

54. Panmure Basin; referred to as Heaphy's no. 23 in Hochstetter's diary, and subsequently renumbered by Heaphy (1860).

55. McLennan Hills; referred to as Heaphy's no. 25a in Hochstetter's diary, and subsequently renumbered by Heaphy (1860).

Hochstetter's numbered volcanoes (1862, 1865)

Based on this analysis, it may be concluded that Heaphy (1859, 1860) recognised and numbered 48 volcanoes on his map but referred to "as many as 62" in his published paper (1860: 243). The number 62 was probably taken from Hochstetter's work and does not necessarily mean that Heaphy had recognised or mapped the additions. Five of Heaphy's mapped volcanoes were not recognised as Auckland volcanoes by Hochstetter (1865) (Fig. 13) nor are they recognised today. These are numbers 20 (Hochstetter's Pond, Onehunga), 42, 43, 46 and 51 (above). Hochstetter (1862) recognised and numbered 63 volcanoes (Fig. 16; Nolden and Hayward 2023: back cover). If Heaphy was plagiarising aspects of Hochstetter's map, why did he not include these additional 20 volcanoes on the map he submitted for publication? Based on the annotated numbers on Hochstetter's 1862 published map (Fig. 16), these are:

11-13. Top of Khyber Pass-Grafton area, shown as three small cones; not recognised today.

24. Cornwall Park Avenue, Epsom, swamp shown as tuff crater; not recognised today.

26. Maungarahiri/Little Rangitoto; shown as a volcano on Heaphy's (1859, 1860) maps but not numbered.

29. Glendowie valley mouth; draped in tuff and shown as a possible tuff crater; shown on Heaphy's maps but not numbered, replaced with words "probable crater"; not recognised today.

35-40. Six small tuff craters where swampy depressions existed; marked on Heaphy's maps as "several indistinct tufa craters"; not recognised today (Hayward and Kenny 2013).

47, 49, 52. 55. Four tuff craters where large swamps are present on the Manukau lowlands; not shown on Heaphy's maps; not recognised today (Hayward 2013).

57. Boultons Hill, shown as lava flows surrounding three low cones; this peninsula is coloured as volcanic ash on Heaphy's map. In his diary, Hochstetter makes no mention of visiting this area (Nolden and Hayward 2023) and probably saw it from nearby Māngere Mountain and misplotted its location. The next peninsula west is composed of basalt lava with an undulating surface that could have been interpreted as a volcanic centre although it is not recognised as such today (Hayward 2013).

61. Maungataketake/Elletts Mountain; "not examined" written here on Heaphy's (1859, 1860) maps.

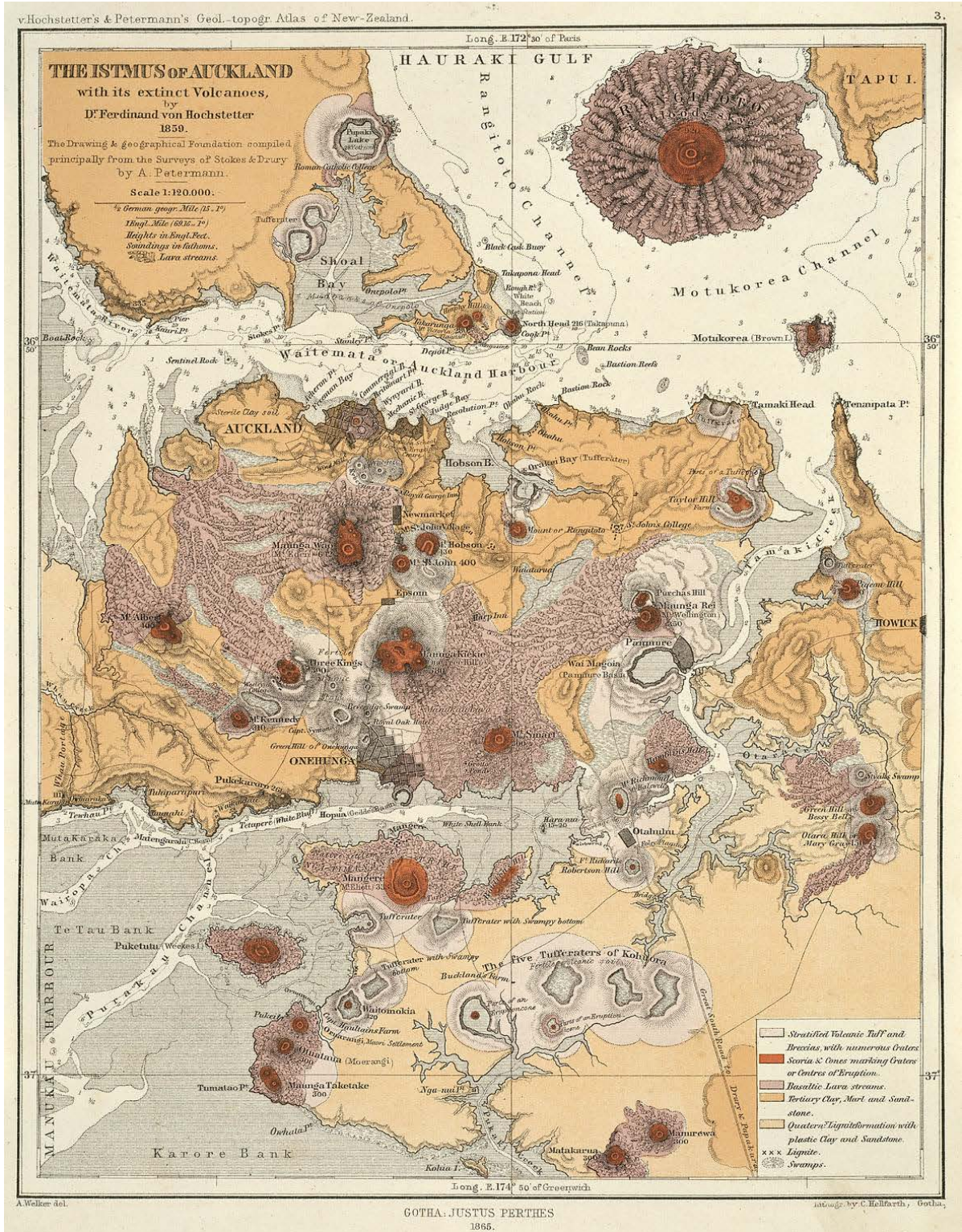


Fig. 15: Ferdinand von Hochstetter, *The Ist[h]mus of Auckland with its extinct Volcanoes*, Gotha: Justus Perthes, 1865. Hochstetter’s geological map of Auckland as published in the English edition of the atlas of New Zealand, showing the geological colouring (Hochstetter 1865).



Fig. 16: Hochstetter's 1862 published topographical map of Auckland, lacking the geological colouring of the later versions, with annotated manuscript numbering of the volcanoes (Hochstetter (1862) annotated copy in Hochstetter Collection Basel HCB 3.2.17).

So, although Heaphy did not allocate numbers to some of the above additions of Hochstetter, he did note the probable occurrence of eight of them (Glendowie, Royal Oak craters, Maungataketake) on his map. Only one of these (Maungataketake) is now recognised as a volcano. All of the other nine volcanoes recognised by Hochstetter but not shown or mentioned on Heaphy’s map (Khyber Pass, Epsom, Manukau lowlands, Boultons Hill) also have subsequently been shown not to be volcanoes. Hochstetter (1864) in referring to his inferred tuff craters around Royal Oak, wrote, “An eye little practised in geology could however recognise in the characteristic terrain little more than an undulating very fertile land, with odd swamps and shallow ponds in the hollows. Only after more scrupulous observation can the circular arrangement of the hills be recognised and the conclusion drawn that this terrain is made up of numbers of tuff cones.” (Fleming 1959: 199). One could speculate that he was referring to Heaphy as an “eye little practised in geology” and the fact that he had not recognised any of the Royal Oak craters before Hochstetter’s arrival. All are now inferred to have been swamps trapped in ash-mantled depressions on the irregular surface of Maungakiekie lava flows (Hayward and Kenny 2013).

Worth noting is that Hochstetter followed Heaphy’s 1857 map in recognising a small crater (7) in the tuff ring of Pigeon Mountain (8) as a separate volcano (Fig. 17). Today this small crater is inferred to have been formed by a phreatic (steam) eruption and is not counted as one of Auckland’s volcanoes (e.g., Hayward 2019). In a similar manner, both Hochstetter (1865) and Heaphy (1860) numbered Duders Hill, Devonport, as a separate volcano. Today it is discounted and inferred to have been scoria from the cone of Mount Victoria rafted to this locality by lava flows from the breached crater (Hayward 2019). Hochstetter also appears to have followed Heaphy in incorrectly recognising a small cone in the middle of Pukaki Lagoon crater.



Fig. 17: Detail from Heaphy’s 1859 manuscript map (Fig. 3) showing the volcanoes identified (numbered) and inferred (unnumbered) in the area around the mouth of the Tamaki River (Geological Society of London LDGSL/209).

Additional vents on Heaphy's map

Also of note is that on Heaphy's 1859 map (published 1860) he often labelled separate vents or landforms (tuff crater, scoria cone) of one volcano with small letters (e.g., 33a, b, c). He was not copying Hochstetter in this as the latter did not use this technique. These volcanoes are:

2. Pupuke Volcano with two craters 2 and 2a; recognised as such today.
6. Motukorea/Browns Island with two extra vents shown (a, b); not recognised today.
9. Maungarei/Mount Wellington with two extra vents (tuff craters with central scoria cones) to the north (a, b); 9a is not recognised today and 9b (Te Tauoma/Purchas Hill) was counted as a separate volcano by Hochstetter (21). Today Maungarei/Mount Wellington and Te Tauoma/Purchas Hill are counted separately but both have the same eruption age and most would conclude they are the early and later parts of one volcano.
14. Maungawhau/Mount Eden with two vents; as recognised today. In Heaphy's (1860: figure 6) N-S cross-section seemingly of this volcano he shows five "lateral craters", which in today's understanding (Hayward and Carr 2014) correspond to the four high points on the double scoria cone plus Te Pou Hawaiki. Te Pou Hawaiki is counted as a separate volcano today but is likely related to the Maungawhau eruption. Neither Heaphy nor Hochstetter show Te Pou Hawaiki on their maps.
17. Three Kings with two numbers corresponding to the tuff crater (a) and the central cones (17); as recognised today.
22. Rarotonga/Mount Smart with a large cone and much smaller vent (22a), which Hochstetter (1864; Fleming 1959: 194) identified as "a deep funnel-shaped hole formed by collapse of a lava cave".
25. Otahuhu/Mount Richmond with two overlapping scoria cones (25, 25b) and tuff crater (a); recognised today although the cone vents are more complicated.
27. Mount Robertson/Sturges Park with central scoria cone (27) inside a tuff crater (a); as recognised today.
31. Crater Hill with a cone (b) inside a double tuff crater (31, 31a). The double nature of the tuff ring is not recognised today.
32. Pukaki Lagoon with small cone (32) inside tuff crater (32a); not recognised today.
35. Waitomokia, with two cones (35, 35a) inside a tuff crater (b); recognised today with three small central scoria cones.
47. Taurere/Taylors Hill with three "partly obscured tuff craters" (a, b, c) to the west (Fig.17); not recognised today nor shown on Hochstetter's map.

Heaphy (1860) and Hochstetter (1865) recognised more volcanoes than we do today (Table 1), but in addition there are six currently recognised volcanoes (Hayward 2019) that neither Hochstetter nor Heaphy (1859, 1860) noted: Hampton Park, Pukewairiki, Boggust, Cemetery,

Puhinui and Ash Hill. Heaphy and Hochstetter have 44 of today’s volcanoes in common, with Heaphy (1860, figure 6) also possibly having recognised Te Pou Hawaiki and Hochstetter having recognised Maungataketake/Elletts Mountain.

Table 1: Comparison of numbers of volcanoes recognised by Heaphy (1859, 1860), Hochstetter (1862, 1865) and today (Hayward 2019).

	Heaphy	Hochstetter	Today
Volcanoes identified	50-62	63	53
Identified volcanoes not recognised today	5	18	
Identified volcanoes recognised today	45	45	

Comparison of other non-volcanic aspects of Heaphy’s and Hochstetter’s 1859 maps

At the time of the 1864 controversy, a number of non-geological colleagues of Heaphy in Auckland wrote to the local newspapers that Hochstetter clearly plagiarised Heaphy’s 1857 map in part because both maps showed the Kumeu River in the northwest vanishing before reaching the edge of the map (Mason 2002, 2003). In this instance Heaphy’s colleagues were presumably comparing the one mile to the inch map that Hochstetter left in Auckland for the Provincial Government in 1859 with Heaphy’s 1857 map in the Mechanics Institute. Mason (2003) had found Hochstetter’s 1859 map in the Auckland Museum and published a copy of a small part of it. The complete map is published here for the first time (Fig. 9), and is used here for comparison with Heaphy’s 1859 manuscript map, the one he submitted to the Geological Society of London. Like Grenfell (2013), the authors do not consider the vanishing Kumeu River on both to be plagiarism at all but purely a consequence of them both using the same base map.

The large water-colour manuscript map by Hochstetter now in Auckland Museum is labelled *Sketch of the Geological Formation of the Auckland District* (Fig. 9). Apparently it is a duplicate map that was prepared by William Boulton under the direction of Hochstetter in 1859. The original map was taken away by Hochstetter and this only extant copy remained in Auckland. Boulton was a surveyor, draftsman and skilled calligrapher employed by the Auckland Survey Office at the time, and he had been allocated to help Hochstetter during his visit by the Provincial Council. Thus, Heaphy would have been fully aware of this map as it was produced and would have had free access to it before and after Hochstetter left Auckland at the end of July 1859. Incidentally Heaphy’s map that was presented to the Mechanic’s Institute in 1857 and borrowed by Hochstetter, as well as Heaphy’s 1859 map both had the same title as Hochstetter’s 1859 map. All three maps were drafted on the same base map of the local Auckland Survey Office. Hochstetter’s 1859 map was most probably the one he showed at his lecture on the geology of Auckland Province, chaired by Charles Heaphy, at the Mechanic’s Institute on 24 June 1859 (Hochstetter 1859b).

Changes between Hochstetter's 1859 geological map of Auckland and the later published ones (Hochstetter 1862, 1865) include: replacement of base map; removal of a crater shown and labelled north of Castor Bay (North Shore); modification of the shapes of his inferred swamp craters on the Manukau lowlands and many of the other volcanoes; addition of four volcanoes in the vicinity of the Domain; addition of Te Hopua crater and a small cone inside Pukaki crater; change to the outcrop extent of lava flows from Mt Albert and Mt Eden. Removal of the outcrop of "Auckland sandstone and marl" from Motutapu.

The outcrop distribution of the basement greywacke (Waipapa Terrane) differs between the two authors' maps, with each showing different outcrop patterns for these rocks beneath Waitemata Sandstone on the western side of Motutapu Island. There is no record of Hochstetter having visited this island. Heaphy's map only shows the basement outcropping on the mainland along a 3-4 km strip south from Maraetai, whereas Hochstetter's 1859 map extends this outcrop southward to include Duders Peninsula, the Whitford Hills and western Hunua Range, some of which he visited with Alfred Buckland (1825-1903) on 21-23 February 1859. Hochstetter also shows both basement rocks and Waitemata Sandstone outcropping on Motuihe Island whereas on Heaphy's 1859 map this is left uncoloured.

Heaphy's rough rendition of the eastern extent of the "trachytic breccia" of the Waitakere Ranges is quite different from the more definitive inferred contact shown by Hochstetter. In the southeast, Heaphy's representation of the extent of mid-Tertiary coal and limestone is extremely rudimentary, whereas Hochstetter's 1859 geological mapping of the area was far more precise and correct (Nolden & Hayward 2023: 37).

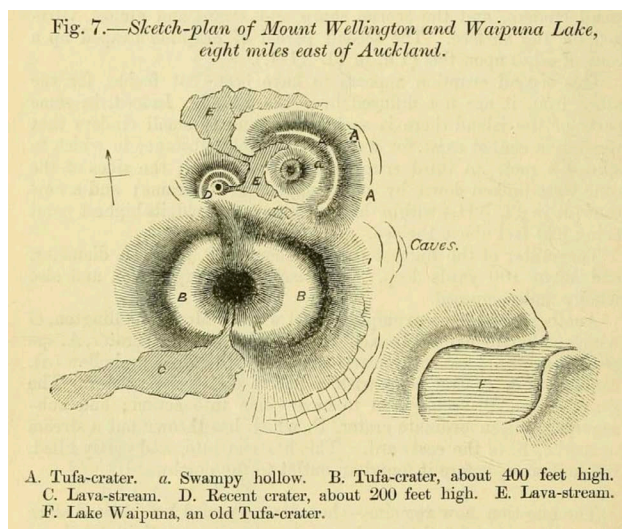


Fig. 18 (left): Charles Heaphy's published plan of Maungarei/Mount Wellington volcano and Panmure Basin labelled as Lake Waipuna (Heaphy 1860: 250).

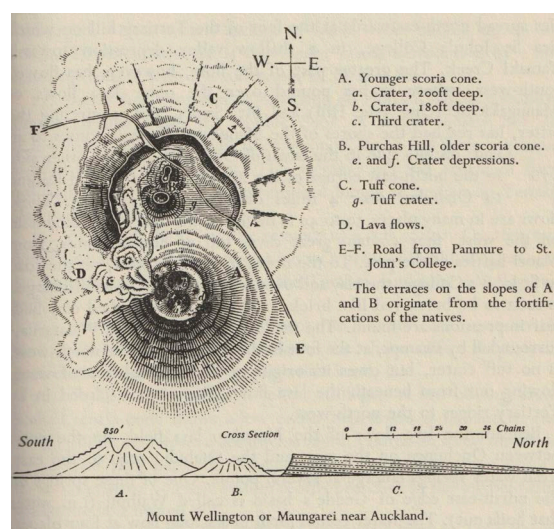


Fig. 19 (right): Hochstetter's published 1864 plan of Maungarei/Mount Wellington, redrawn and lithographed from a plan by Heaphy made at the request of Hochstetter (Fleming 1959: 195).

Thus, Heaphy does not appear to have copied and improved his map based on most aspects of Hochstetter's work, even though he would have had ample opportunity to have done so. In

his public lecture on 24 June 1859, Hochstetter acknowledged Heaphy for preparing many fine drawings and thanked him for producing the beautiful, surveyed plan of Maungarei/Mount Wellington, but in spite of this, Heaphy submitted his pre-Hochstetter, extremely rough and rather inaccurate plan of that volcano for publication (Fig. 18; Heaphy 1860: figure 7). Heaphy would have been well aware that this rough plan was incorrect and that he had produced a much more accurate plan for Hochstetter (Fig. 19).

Comparing the legends of the Heaphy (1859) map (Fig. 20) and Hochstetter (1859a) map prepared during his stay in Auckland (Fig. 21), it is clear that Heaphy copied few if any items from Hochstetter’s map. Terms used by Heaphy, but not by Hochstetter include: basaltic and scoriaceous streams [for basaltic lava streams], tufa and tuffaceous clays [for basaltic ash and tuffe], wacke [for clay slate], and trap dykes [?].

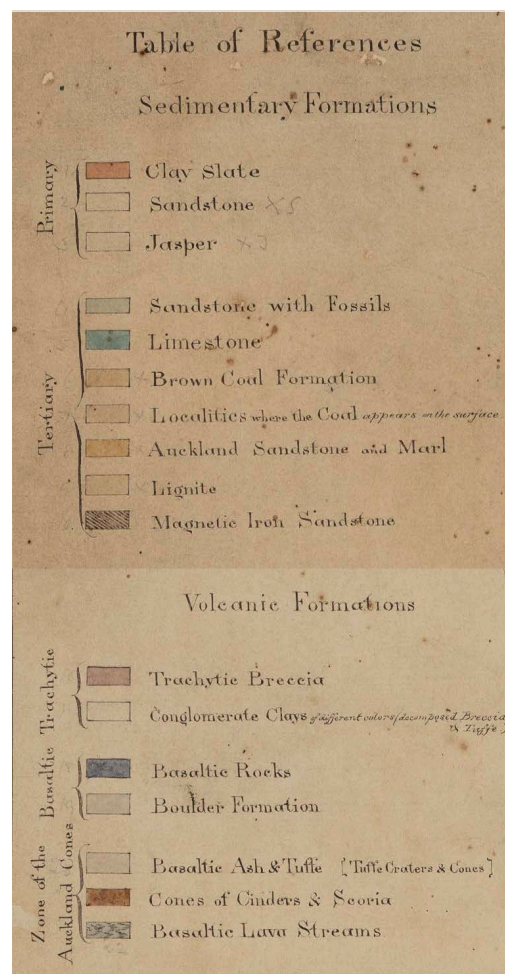
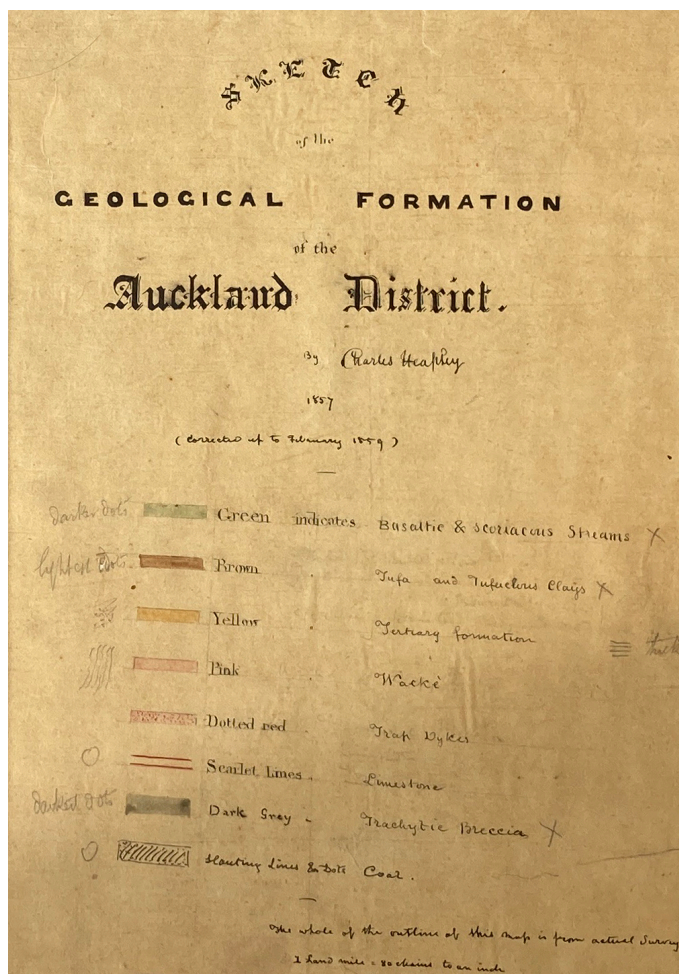


Fig. 20 (left): Title and legend from Heaphy’s 1859 manuscript map: *Sketch of the Geological Formation of the Auckland District* (Geological Society of London LDGSL/209).

Fig. 21 (right): Details of legend from Hochstetter’s 1859 manuscript map: *Sketch of the Geological Formation of the Auckland District* (Auckland War Memorial Museum).

Comparison of Heaphy's and Hochstetter's geological ideas

Heaphy (1860) presented his account in terms of four “classes” of volcanic eruptions in the Auckland region, starting with the trachytes of the Waitakere Ranges and Waitemata Basin [Parnell Grits] and finishing with class 4 [Auckland volcanoes]. He divided this latter class into three subclasses:

1. “tufa craters”, which he recognised are often filled with water, ashes or a lava stream from a central cone.
2. “basaltic and scoriaceous eruptions” [= lava flows] “of a sluggish nature (wellingsout), which have caused but little elevation, and no cone.” He stated that often he could not determine where the centre of many of these eruptions might be, but numbered two as volcanoes on his map (42, 43 – Penrose and Newmarket). He also illustrated “concentric markings on the surface of a cooled mass of lava” (Heaphy 1860: figure 4), which in today's terms would be referred to as pahoehoe.
3. “cones with cups”, which referred to all the scoria cones, some of which he described in detail.

Hochstetter's ideas on the geology and volcanic history of Auckland may have evolved in the time between his field work in 1859 and publication in 1864, so we refer to his narrative given in the 24 June 1859 public lecture in Auckland as being the account that Heaphy would have been acquainted with before he submitted his paper to London. In summary, Hochstetter inferred that the “tuff craters or tuff cones” of Auckland were erupted under the sea, and that “The isthmus of Auckland was slowly raised above the sea and then more recent eruptions took place by which the cones of scoria [...] and great outpourings of lava took place.” “In general, the scoria cones rise from the centre of the tuff-craters” but occasionally “break through the margin”. He described the various sizes and shapes of the scoria cones and inferred that “the cones of scoria were once higher, but on the cessation of volcanic action they sunk down in cooling, and some entirely disappeared.” He concluded by describing “pear-shaped volcanic bombs” that “received their shape from their rotatory motion through the air, and caves that “are the result of great bubbles in the lava streams” generated by “gases and vapour as the hot mass rolled onward over marshy plains.” (Hochstetter 1859b).

Discussion and conclusions

As outlined above, Heaphy's and Hochstetter's descriptions of Auckland's volcanoes and how each inferred they were formed are so different that it is clear that Heaphy made no substantive attempt to update his manuscript text, which must have existed prior to Hochstetter's arrival (although there is no direct record of this). Here we agree with Heaphy in his letter to the *Daily Southern Cross*, dated 20 August 1864 (appendix 2) where he said: “In regard to the publication in the ‘Quarterly Journal of the Geological Society,’ I may state that anyone who will take the trouble to read the paper there printed, along with Dr. Hochstetter's” (presumably Hochstetter's published 1859 Auckland lecture) “will find that so far from my having copied his observations, I have expressed other and most opposite views on many important points.” Clearly Heaphy was not a trained geologist, but his

original account and map of Auckland geology and volcanoes is remarkably good for a self-taught, avocational geology enthusiast of that time.

In his unpublished letter (Appendix 1) Hochstetter also complained that “the suite of specimens that Mr. Heaphy had sent [to the Geological Society of London] at the same time, contained all the duplicates that I had given Mr. Heaphy out of my own collection, and notwithstanding my name was not mentioned with one syllable!” Grenfell (2023) wrote extensively about the suite of numbered duplicate specimens left by Hochstetter for the Auckland Museum and the controversy. In 1869, Thomas Kirk (1828-1898), Secretary of Auckland Institute and Museum, wrote to Julius Haast at Canterbury Museum asking where the Hochstetter geological collection might be. Haast emphatically replied that when Hochstetter left Auckland the rocks were “given in charge of Mr Heaphy”. This statement by Haast was denied by Heaphy as “entirely erroneous as regards myself” (Grenfell 2023).

Nowhere can we find mention that Hochstetter made more than one set of duplicate geological specimens – one intended for the Museum to hold on behalf of the Provincial Government and one for Heaphy. Thus we have to conclude that most, if not all, of the specimens Heaphy sent to the Geological Society of London in 1859 and maybe also to the 1862 exhibition, without acknowledgement of their collector, were from Hochstetter’s duplicates left in his care. Grenfell (2023) found evidence that several boxes of Hochstetter’s rocks were in the Auckland Museum, but not catalogued, in the early 1860s. This does not preclude Heaphy from having extracted select specimens to send away before they were deposited in the Museum. No specimens are now known to exist (Grenfell 2023). There is no excuse though for Heaphy not acknowledging Hochstetter for the rocks collected by him, which he sent overseas under his own name.

Hochstetter was clearly also displeased when he heard that Heaphy had presented what Hochstetter presumed was a compilation of his own maps of the Auckland Province at the International Exhibition of London in 1862, and had received a medal for it. In response to this, as noted previously, Hochstetter criticised Heaphy in a footnote added to the original German version of the atlas by Hochstetter and Petermann (1863). In this footnote he asserted that Heaphy had published in the *Quarterly Journal of the Geological Society* (1860) “a very incomplete copy of my observations and maps” of the geology of the Auckland Isthmus and volcanoes, mixed with Heaphy’s own observations made prior to 1859 (Hochstetter and Petermann 1864a). He also asserted that Heaphy lacked “even the most elementary knowledge necessary for making a Geological Survey.”

The recent publication of an annotated English translation of Hochstetter’s Auckland diary and the original geological manuscript map submitted by Heaphy for publication soon after Hochstetter left Auckland, allow a more rigorous assessment of Hochstetter’s claim of plagiarism than Mason (2002, 2003) or Hayward and Mason (2008) were able to achieve. Hochstetter’s assertion that Heaphy submitted for publication an incomplete copy of his Auckland Isthmus map, does not withstand the close scrutiny of the detailed volcano-by-volcano analysis presented here.

Heaphy stated that his published 1860 map was his 1857 map corrected to February 1859. Although the editor of the *Quarterly Journal* noted that the corrections arose “from observations made during the progress of Dr. Hochstetter’s geological survey,” only a few significant corrections that could have come from Hochstetter are readily apparent, in spite of Heaphy having had ample opportunity to make such amendments and enhancements. Examples may be the recognition of Duder’s Hill as a separate volcano, the recognition of Kohuora crater and the existence of a probable crater in Glendowie. The clearest evidence of Hochstetter’s work being used by Heaphy is the scribbled addition of the words “several indistinct tufa craters” over the top of four indistinct circles near Royal Oak on Heaphy’s manuscript map of 1859 (Fig. 22). Heaphy definitely added 13 more numbers to volcanoes shown on that map, but detailed analysis suggests that most of these were not as a result of Hochstetter’s work. Heaphy may have added Whakamuhu/Glover Park and Taurere/Taylor’s Hill as volcanoes based directly on Hochstetter’s observations, but even this is uncertain. By 1859, Heaphy had visited this area, as he recognises “several craters partly obliterated” just west of Taurere/Taylor’s Hill (Fig. 17) that were not noted by Hochstetter.

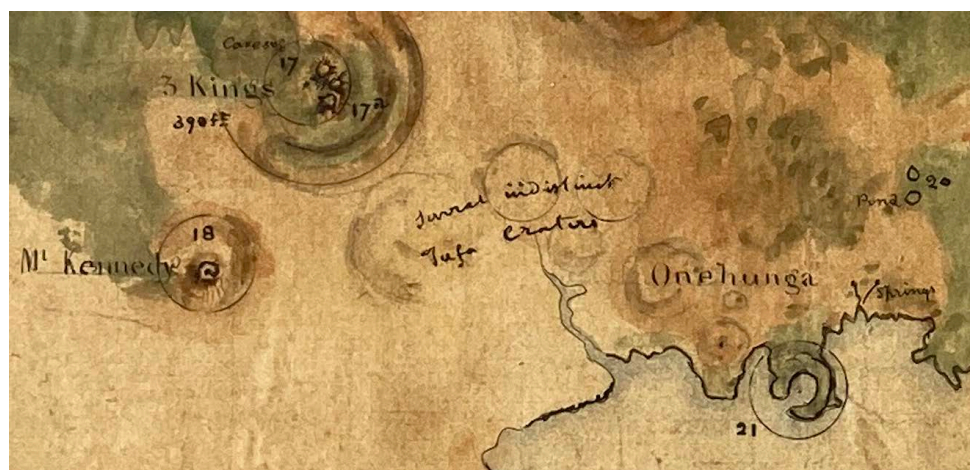


Fig. 22: Detail from Heaphy’s 1859 manuscript map (Fig. 3) showing area near Royal Oak labelled “Several indistinct Tufa Craters” (Geological Society of London LDGSL/209).

Much of the detail on Heaphy’s map that does not appear on Hochstetter’s map (e.g., the extra vents, outcrop of greywacke, etc.) indicate that Heaphy was far from “lacking the most elementary knowledge” of geology as claimed by Hochstetter. Taken at face value, our analysis shows that Heaphy’s recognition of Auckland’s volcanoes was closer to that of today than was Hochstetter’s. One hardly needs to state the obvious, however, that Heaphy’s map of 1859 is, as stated on his original title, a “Sketch of the Geological Formation of the Auckland District”, whereas Hochstetter’s 1865 map (Fig. 15) is a beautiful, professional geological map with far more precise and accurate representation of most of the volcanic cones, lava flows and their overlapping contacts with the underlying Waitemata Sandstones. Furthermore, the volcano-by-volcano analysis confirms that Hochstetter did not plagiarise aspects of Heaphy’s 1857 map when he produced his map of the Auckland Volcanic Field.

The question remains, why did Heaphy submit his 1857 map and text for publication in London and not tell his friend Hochstetter of his intention to do so, as he must have sent it off soon after Hochstetter left Auckland?

New Zealand newspaper editorials of the day indicate that Heaphy had received due credit for his pre-Hochstetter Auckland studies, or been “amply repaid for [his] past labours”, as we read shortly after Hochstetter presented his Auckland lecture:

Dr. Hochstetter throughout his lecture gave due credit to those who had preceded him in the geological exploration of the Province of Auckland, whether as professors or as amateurs; and Messrs Heaphy and Purchas – two geological amateurs to whom this Province is greatly indebted, both for their personal ‘guesses after truth’ and the aid they have given Dr. Hochstetter in his exploration of a large part of this singularly interesting Province – will feel themselves amply repaid for their past labours by having their names for the future associated with that of Ferdinand Hochstetter in the Geological History of New Zealand. (*The New Zealander*, 29 June 1859: 3).

This local recognition may not have been enough for the ambitious Heaphy who craved recognition of his talents and achievements back home in England (e.g. Sharp 2008). He therefore decided to submit his 1857 map (with a few corrections) and article for publication in London before Hochstetter’s work came out. Even during Hochstetter’s visit, Heaphy probably realised that all of his pre-Hochstetter observations around Auckland were going to be published in, or usurped by, Hochstetter’s map and geological account without Heaphy receiving the credit or accolades overseas that he believed he deserved. Although a good friend to Hochstetter during his visit, it would not be out of character for him (according to his biographer, Sharp 2008) not to tell Hochstetter he was planning to send his updated 1857 map and article for publication before Hochstetter’s work was published.

In spite of this, based on the present analyses it may be concluded that Heaphy’s (1860) map and article should still be rightly credited just to him. As a courtesy he might have told Hochstetter of his intention to submit it for publication as his failure to do this was one of two actions that affronted Hochstetter. Regardless, it may be suggested that Hochstetter did not give sufficient acknowledgment to Heaphy in his publication of the map of the volcanoes of Auckland. Based on the highly developed state of Heaphy’s 1859 manuscript map, today, authorship of Hochstetter’s published map would likely be given jointly to Hochstetter and Heaphy, with Hochstetter the senior author.

However, Heaphy’s submission of a geological map of Auckland Province (that it would seem he compiled) and specimens to the 1862 London Exhibition under only his own name in order to further his reputation, is consistent with his other actions and lapses of judgement. Clearly Hochstetter deserved to be given more prominent credit, possibly as a co-author of that map. Unfortunately, the long-term outcome of this controversy was also predictable, and the two former friends never communicated again.

Acknowledgements

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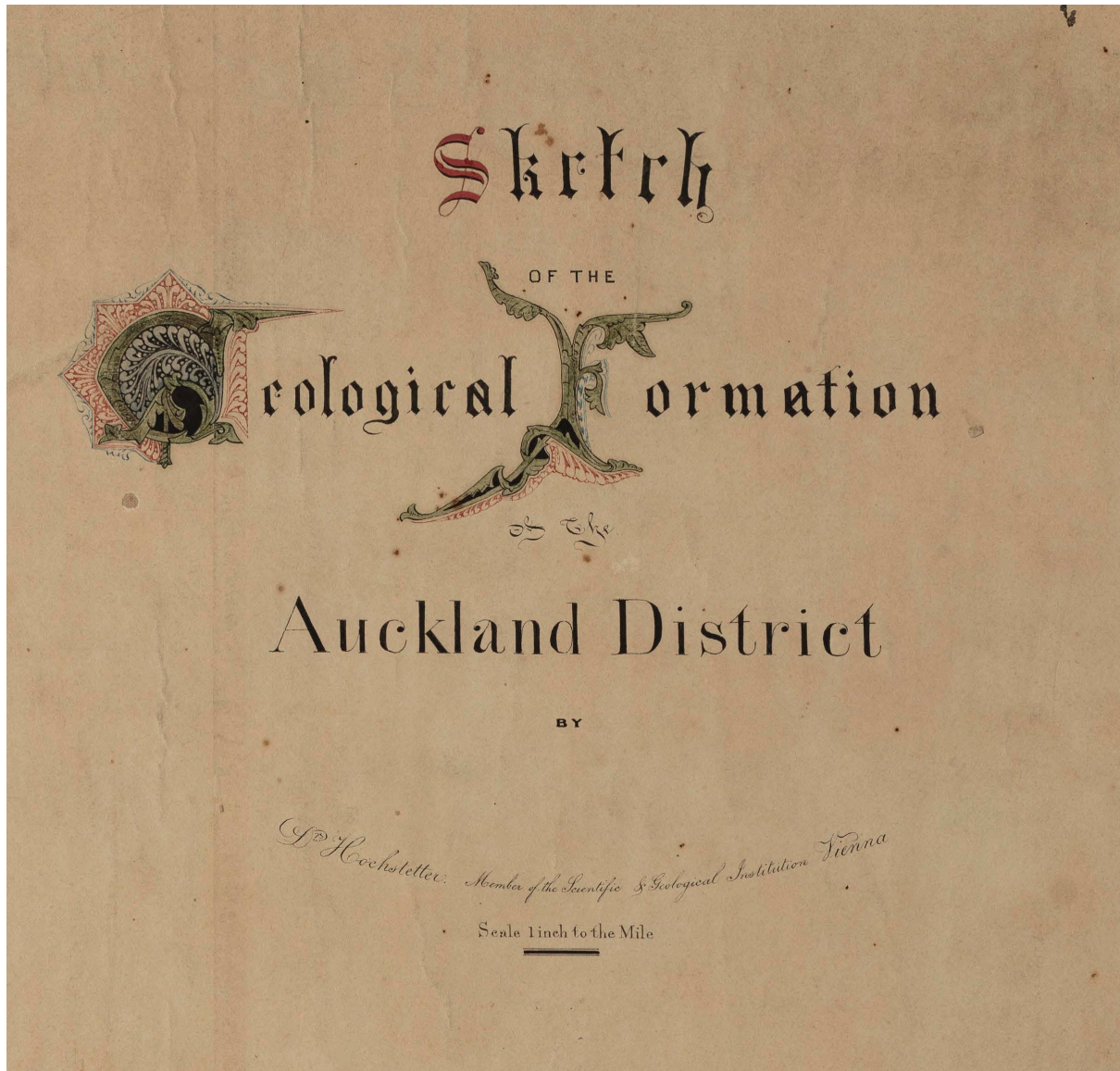


Fig. 23: *Sketch of the Geological Formation of the Auckland District by Dr Hochstetter. Member of the Scientific & Geological Institution Vienna. Scale 1 inch to the Mile. Title detail from Fig. 9, showing the fine calligraphy by William Boulton who prepared this copy of Hochstetter's map in 1859 (Auckland War Memorial Museum).*

Appendix 1

English language draft of letter by Hochstetter (Fig. 24) sent on 20 November 1864 to Carl Frank Fischer in Auckland, regarding what he referred to as the “Heaphy Contra”, intended as a Letter to the Editor of the *New Zealander* newspaper, but withheld by the recipient and never published:

To the Editor of the “New Zealander”.

Sir:

In the August summary for Europe, of the “New Zealander” on page 3 I meet with a letter, & on page 6 with an article both entitled: Major Heaphy & D^r Hochstetter, the contents of which greatly surprised me.

I will believe for M^r Heaphy’s honour that he has only been led, by his perhaps too irritable temper, by thoughtlessly overlooking clearly written words & by total forgetfulness to utter against me the false and quite unjust accusations contained in the afore mentioned letter & article.

I must reply to these accusations for the sake of my own honour & the opinion of the population of Auckland to whom I shall ever feel indebted for the kindness bestowed upon me during my stay in the Province.

It is not correct that, as M^r Heaphy says in his letter I only mentioned his name on two illustrations and omitted it on six others. On the contrary! On pages XVIII & XIX in the list of illustrations, by the wood-cuts, the originals of which had been drawn by M^r Heaphy (vis: Entrance to [page 2] to the Harbour of Auckland – Mt Egmont – a Cannibal – M^t Eden with the old stockade – a canoe – and Coromandel harbour) – it is expressly mentioned “From Sketches of Heaphy” – The drawings of the lake Taupo, Tongariro & Rotomahana, mentioned by M^r Heaphy, were copied by him from my own sketches and from a Photograph by M^r Hamel. M^r Heaphy at that time had not himself been to, nor seen these parts of the country. It is very natural that I mentioned the originals of the Illustrations and not the copies.

With regard to the map of Auckland on pages 15 & 16 of my book, it is said according to the truth: “As basis for the geological map of the Auckland district I made use of topographic sketches upon a great scale (1 inch to the mile) with which the Provincial Survey Office provided me”. For the geological survey of this District, the attempts made by M^r Heaphy in the year 1857 could be of no use whatever to me – these attempts having been made without the most necessary geological knowledge. This was also the case with M^r Heaphy’s geological sketch of the Province [page 3] of Nelson, which this gentleman mentioned in his letter.

It is an incorrect and unjust accusation if M^r Heaphy says, that I did not acknowledge the services which M^r Boulton rendered me. In the same publication (The Geology of New Zealand) in which, as M^r Heaphy remarks, “I (not I, but D^r Petermann) was so careful as to recite the name of every midshipman of the survey ships” – on page 41 is literally written: perhaps the most perfect specimen of this kind occurred at Otahuhu and near Captain Haultain’s, a map of which, from actual measurement, has been prepared by M^r W. Boulton”.

I am perfectly conscious of having cited with most anxious care and attention the names of all my friends & protectors, who assisted me during my sojourn in New-Zealand, and supplied me with scientific contributions. Particularly toward M^r Heaphy I lost no opportunity to acknowledge the valuable services he

rendered me and to mention his name (Vid: New Zealand p. 15, 17, 21, 103, 109, 384, 386.) I therefore had a right to reciprocity on his part.

But in which manner did M^r Heaphy act? In [page 4] In the year 1860, on my return from New Zealand to London, my friend M^r T. R. Jones, secretary to the Geological Society – showed me a manuscript from M^r Heaphy on the volcanic country of Auckland, with a map & illustrations.

Among these illustrations were some, the originals of which M^r Heaphy had made in consequence of my invitation and partially after my indications. M^r Heaphy always assured me, what I of course thought to be the truth, that these sketches were in the most disinterested manner intended for the publication I had in view.

The manuscript contained to a great extent my own observations and the map was corrected according to my own survey – as the remark: “corrected to February 1859” shows, this being the date of the completion of my survey of the Isthmus of Auckland. The suite of specimens which M^r Heaphy had sent at the same time, contained all the duplicates I had given M^r Heaphy out of my own collection, and not withstanding my name was not mentioned with one syllable!

Should M^r Heaphy in consequence of [page 5] of the afore said, not scruple to appeal to an additional remark on his article and his map in the “Quarterly Journal” as an acknowledgement of my share in his work? I must declare that this remark does not originate from M^r Heaphy, but that my friends Sir Charles Lyell – at that time President of the Geological Society in London, and M^r T. R. Jones – by this addition protected my scientific property against M^r Heaphy’s silence.

What finally concerns the geological Map of the Province of Auckland which M^r Heaphy sent to the International Exhibition in the year 1861 – it were again friends in London who directed my attention to this new attempt of M^r Heaphy to appropriate to himself what was my literary property.

Only now I find in the “New-Zealander” a letter dated August 22nd 1864 that “M^r Ed. King remembers the acknowledgement of the parts copied from D^r F. Hochstetter’s Plan” – Of what nature this acknowledgement was, I as yet do not know. In the Catalogue of the Exhibition my name was never mentioned and [page 6] and not the real Author of the principal part of the map – but the copier has received the medal!

These observations are sufficient for the just and reasonable observer to decide which of both parties is authorized to complain of the unjust appropriation of the property of the other.

With regard to the personal invectives and allusions I do not find it necessary to answer. My friends in Auckland know me & they know M^r Heaphy.

It is now five years since I returned home from New Zealand. All the happiness & joy I experienced there I have truly & faithfully put down in my work on New-Zealand. The scientific results which I elaborated with the assistance of numerous scientific friends, form the contents of two large volumes which now lay completed before me. The Imperial Government has liberally offered the means for the publication of this work which only very recently has been brought to an end. These two volumes contain the Geology and Palæontology essentially of the Province of Auckland and I propose [page 7] forwarding numerous copies of this new work to my friends in Auckland. I can without hesitation leave the judgement of their value to the contemporariness and to the posterity. –

But shall I allow the happiness and pleasure I feel at the fulfilment of my heavy duty, to be disturbed by unjust attacks?! – Shall abuses and untruths be the only

thanks I receive for the five years of labour and troublesome work from the very people for whose special Interest I have unceasingly toiled?!

Surely not! –

I am perfectly convinced that the public opinion in Auckland has already protected me, being absent, against such impure and unscrupulous proceedings – and with this assurance I can safely leave this matter, declaring this to be my first and last reply to Mr Heaphy –

Yours etc.

Dr. F. v. Hochstetter

Vienna – Novbr 15th. 1864. (Nolden 2013: 116-117 footnote 498)

The original German draft by Hochstetter, also dated 15 November 1864, is held in the Hochstetter Collection Basel (Fig. 25).

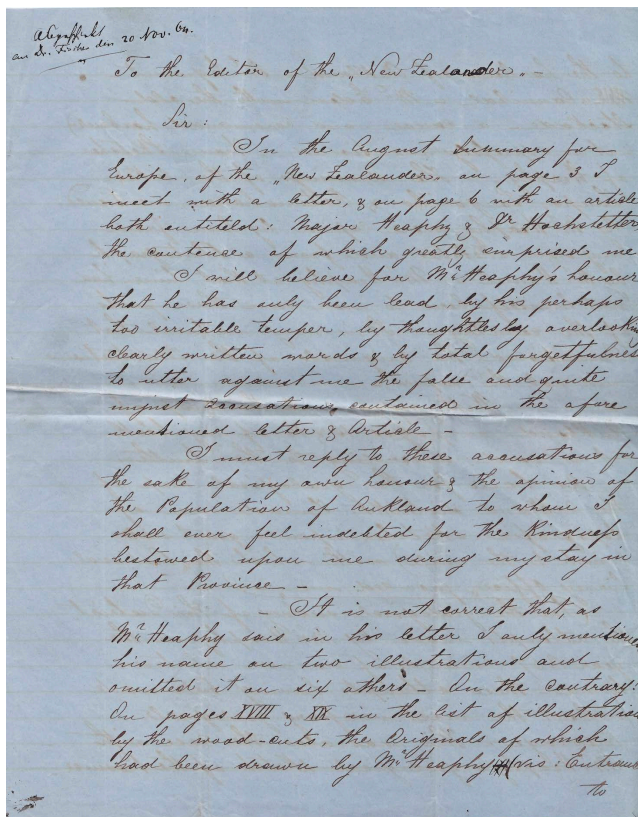


Fig. 24 (left): First of seven pages of manuscript English language draft letter dated 15 November 1864 as sent to Carl Frank Fischer in Auckland to forward to the editor of *The New Zealander* newspaper but withheld (Hochstetter Collection Basel).

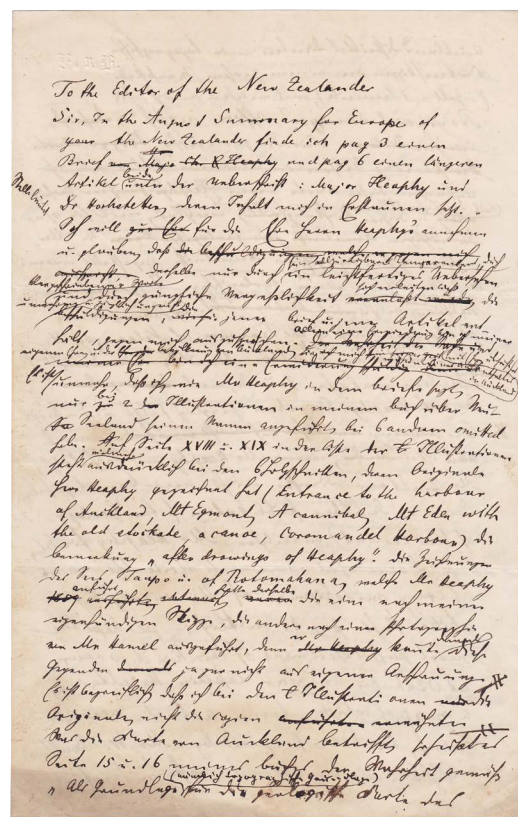


Fig. 25 (right): First of five holograph pages of the German language draft letter dated 15 November 1864 to the editor of *The New Zealander* newspaper in Auckland (Hochstetter Collection Basel).

Appendix 2

Selected newspaper editorials and letters to the editor, in order of publication, preceded by two reviews of the German version of the New Zealand atlas published in Gotha in 1863.

28 May 1864

Geological Atlas of New Zealand. *Lyttelton Times*, 28 May 1864, volume 21, issue 1242, page 4 (Fig. 26).

<https://paperspast.natlib.govt.nz/newspapers/LT18640528.2.12>

GEOLOGICAL ATLAS OF NEW ZEALAND.—We have had an opportunity of examining an atlas containing six Geological Maps of New Zealand, with descriptions, by Drs. von Hochstetter and Petermann, published at Gotha, the end of last year. The first of the series is a general chart of the Islands, indicating the localities of gold, copper, chrome, iron sand, graphite, coal, nephrite, (on the West Coast of this island,) and the active volcanos, with an enlargement of the Auckland isthmus. The second takes in the Southern part of the Province of Auckland, and purports to be a complete chart, shewing all the various formations, tinted in the usual manner, with enlargements of the Taupo and Lakes districts. The third map is that of the Isthmus of Auckland, shewing with great clearness the extent of volcanic country and the peculiar volcanic hills which stand like a skin eruption on the level surface. This is the map which Mr. Charles Heaphy of Auckland is accused of having pirated from Dr. Hochstetter's copy in his charge, and sent to the Geographical Society of London as his own. The fourth map comprises the district of Aotea and Kawhia on the West Coast of the same island. The fifth of the series is a map of Rotomahana, the hot springs, and the adjoining district. And the last of all is the Province of Nelson. Though all the descriptive part of these maps is in the German language, they will be found to convey abundant information to the interested student of any country, inasmuch as science which is of no nation or tongue has here set her marks in unmistakable colours. We have to thank Dr. Julius Haast for giving us the means of calling our readers' attention to this atlas, and we are able to say on his behalf that he is ready to allow both this and other evidences of the work of his friend Dr. von Hochstetter to be open to any one approaching them in an enquiring spirit.

31 July 1864

Dr. Hochstetter's maps of New Zealand, *Daily Southern Cross*, 31 July 1864, volume 19, issue 1884, page 2.

<https://paperspast.natlib.govt.nz/newspapers/DSC18630731.2.12>

DR. HOCHSTETTER'S MAPS OF NEW ZEALAND.

We have been favored by Dr. Fischer with the sight of six maps of New Zealand, geological and geographical, principally of Auckland, received by him from Dr. Hochstetter, per last mail. That embracing the district of Auckland is very minutely and beautifully executed, and there would appear to be not a single important feature of the country, that is not faithfully delineated. The position of every part through the Waikato country is shown, and much that has been incorrect

in previous maps, has been rectified by Dr. Hochstetter's own observations. The geological map will, of course, be valuable for scientific purposes, but what could be more valuable at the present time than the geographical one, giving, as it does, with the greatest precision, the position of every native settlement, river, mountain, and road, in the country. We are glad to hear that Dr. Fischer intends to forward this map at once to General Cameron, who will doubtless appreciate its value. Amongst the small maps there is one of Nelson, showing the gold deposits, another of the country north of Auckland, a third of the Isthmus of Auckland, and a fourth is a general map of New Zealand.

27 August 1864

Major Heaphy and Dr. Hochstetter. *The New Zealander*, 27 August 1864, volume 21, issue 2208, page 5.

<https://paperspast.natlib.govt.nz/newspapers/NZ18640827.2.21>

MAJOR HEAPHY AND DR. HOCHSTETTER

Dr. FERDINAND VON HOCHSTETTER may be, for ought we know, a personage of large importance; but he has taken some pains to bring himself into a paltry position. He may be an accomplished geologist, though he does not escape some telling criticisms in England; but we regret to find him just a little wanting in certain other accomplishments that are assuredly not less desirable. He may be well qualified to estimate the testimony of the rocks; he fails in appreciating the effect that will be produced by the testimony of credible witnesses and express documents. We were aware that Major CHARLES HEAPHY is a gentleman of high scientific repute; and we knew that his well-exerted abilities have been considered, by the most competent authorities, to reflect credit upon the Colony – a colony fortunate in its possession of gifted men. We were also aware that an unhappy misunderstanding had arisen between Dr. HOCHSTETTER and Major HEAPHY, and we know that our quondam guest from Deutschland had shown himself hasty and harsh; but until we strictly investigated the matter, we could not have believed, that our German acquaintance had allowed himself to fall into such a depth of falsification, for the sake of gratifying a very gratuitous spleen.

We have used decided language, and our readers shall have the opportunity of judging whether it is not warranted by the facts. Everyone knows about the *Novara* expedition, and the progresses of Dr. HOCHSTETTER through several parts of this Province. The Superintendent of the day wisely took advantage of the visit of the *Novara*, to place at the disposal of Dr. HOCHSTETTER and his learned friends all possible appliances for journeying and surveying. Dr. HOCHSTETTER as the stranger guest, was made the object of honor heartily rendered; and he enacted the lion's part to perfection. His scientific brethren of the Colony did not dream of being aggrieved by his glorification. A little quiet amusement, it may be, was enjoyed at the expense of the fussy Doctor; but it never went beyond the bounds of good-will. DR. FERDINAND VON HOCHSTETTER was to shine forth as the great luminary of geological science; and those who were skilfully and laboriously working for him week after week, and thereby working for the Province, were content to be as satellites reflecting the great man's brightness. Dr. HOCHSTETTER was put in possession of a valuable collection of facts; and this result was in no slight degree due to the high attainments and great assiduity of Major HEAPHY. Before we go further, we may adduce some proof of this. The *Saturday Review* of

August 11th, 1860, gives a notice of Dr. HOCHSTETTER's lecture, delivered in Auckland in 1859 – which notice we reprint in another column. It ends with the following; –

We chronicle his results with satisfaction, were it for another reason that this - that it is interesting to know that in a colony so young as New Zealand there is an audience able to appreciate the general subject, and also that there are in the country a few men of science, like Mr. Heaphy and others, of whose geological labours and knowledge Dr. Hochstetter freely availed himself, frankly acknowledging his obligations.

Some of our readers are doubtless in possession of Dr. Hochstetter's Lecture on the Geology of Auckland. It contains allusions to the authority of Major Heaphy as a geologist, and acknowledgements of Dr. Hochstetter's indebtedness to him, as indicated in the foregoing extract. Now with all this compare the following note contained in Dr. Hochstetter's recently published "Explanation of the Maps:"

—
A copy of my original map, to the scale of 2 miles to 1 inch, remained in Auckland for the use of the Government. A second copy was sent to Mr. J. Arrowsmith, in London, to be used for the construction of a large New Zealand map in six parts, which that gentleman intended to compile, with the understanding, however, that this map was to be used only as a provisional delineation of my observations. The geological map of the Province of Auckland, which was exhibited in the International Exhibition of London, in 1862, by Mr. Charles Heaphy, was entirely a copy and combination of my maps and surveys, without any acknowledgement of my authorship. The map, also, of the Isthmus of Auckland, given in the *Quarterly Journal of the Geological Society of London*, by Mr. Charles Heaphy, was published without my knowledge, and is a very incomplete copy of my observations and maps, which were in Mr. Heaphy's official charge. In this map that gentleman also introduced his own observations upon the geological formations of the neighbourhood of Auckland, made previous to my arrival in New Zealand, but without possessing even the most elementary knowledge necessary for making a geological survey. I have felt it my duty to make these remarks out of respect for truth and science.

We have made it our business to obtain materials for judging of the nature of these statements. We shall first notice the statements respecting the map of the Auckland district, published in the *Quarterly Journal*, of the Geological Society, for November, 1859. A copy of that Journal now lies before us, and the inscription on the map is as follows: – "Geological Sketch-map of the Auckland District, by C. Heaphy, 1857. (Corrected to February, 1859)." The map from which the plate in the *Quarterly Journal* was taken, is the same as is referred to in the following letter: –

Mechanics' Institute,

Auckland, 20th August, 1864.

SIR, – In reply to your communication of yesterday's date, requesting to be furnished with information relative to the date of your presenting this Institute with a map, entitled "Sketch of the geological formation of the Auckland district,"

I beg to state I find the map you refer to is in the Institute, signed "C. Heaphy, 1857;" and on referring to the Minute-book of this Institute on the 9th of February, 1857, the following extract is recorded upon the minutes of a general meeting of Committee: -

“A geological map was then presented to the Institute by Charles Heaphy, Esq., comprising geological sketches of the district of Auckland. It was moved, seconded, and unanimously carried that a vote of thanks be presented to C. Heaphy, Esq., for his highly esteemed present to the Institute.”

I have the honour to be

Your very obedient servant,

JAMES SARGENT,

Secretary.

Major Heaphy,
Government Survey Office,
Auckland.

The following letter from the Deputy Waste Land Commissioner carries the evidence a step further: –

Auckland, August 20th, 1864.

My Dear Heaphy, – Yesterday’s *Southern Cross* quotes from Dr. Hochstetter an unwarrantable charge of piracy against you, which contrasts very glaringly with the Doctor’s observations during the lecture which he delivered in the Mechanics’ Institute on the Geology of the Province of Auckland, especially when it is known to several persons, that the “Geological Map of Auckland” and its environs, made and compiled by you in 1857, was at that very time hanging on the wall of the Institute, and had been borrowed by the Doctor for his information, and actually formed the nucleus of all his work, in this locality, however much he may have added to it.

Yours sincerely,

H. N. WARNER.

C. Heaphy, Esq., J.P.,
&c., &c.

P.S. – I may add that I have seen to-day a copy of Dr. H.’s plan by Mr. Boulton, which belongs to this office, and bears upon it evident indications of its original having been compiled upon your geological map before referred to.

H. N. W.

The “evident indications” mentioned by Mr. Warner are very evident indeed. We have compared the original maps of Dr. Hochstetter and Major Heaphy, both of which are in Auckland, and the following is the result. The two maps are on precisely the same scale. Every name and outline on Major Heaphy’s map is identically reproduced in Dr. Hochstetter’s, including literal errors and topographical divergences from accuracy. And there is something more than all this. Dr. Hochstetter’s map takes in a little more of the country, both to the East and to the West, than does Major Heaphy’s map. The addition to the former was made at a later date, and there is actually in Dr. Hochstetter’s map, on each side, a distinct and obvious line of boundary between the part copied from Major Heaphy and the part subsequently added. This is owing to the circumstance that the colour-materials employed at the two periods were not identical in character. There are other “evident indications.” Here is one of a kind rather amusing. Major Heaphy’s map represents a portion of a certain river, just so far as is done in Major Heaphy’s map; and there the river absolutely stops short - whether sinking into the earth at the spot, or how disposed of otherwise, the map deponeth not. It happens, however, that the Kumio flows on, as well-behaved rivers usually do, till their waters reach the sea; but the district through which it flows further, is

exterior to Major Heaphy's map, and to Dr. Hochstetter's cognizance. We might multiply instances of the evident indications, but these will suffice.

The following corroborative testimony is given by a highly competent authority:—

Symonds-street, Auckland,

August 20th, 1864.

Mr. DEAR SIR, – I have made an examination of the original of Dr. Hochstetter's plan of the isthmus of Auckland, and comparing it with your geological plan of the Auckland district, presented to the Mechanics' Institute in the year 1857, I have no doubt he copied your plan.

I am, my dear sir,

Yours truly,

J. I. WILSON

Provincial Surveyor.

Major Chas. Heaphy,
&c. &c.

We now proceed to notice the map sent by Major HEAPHY to the Great Exhibition of 1862. With reference to this Dr. HOCHSTETTER asserts, that it was unaccompanied by any acknowledgement of his authorship. The following letter bears upon that subject: –

Auckland, 20th August, 1864.

DEAR SIR, – In reference to your enquiries, I beg to say that I remember your acknowledgement on your Geological Plan of the Province of Auckland (exhibited in the Odd Fellows' Hall here and transmitted by me to the International Exhibition of 1861) of the parts copied from Dr. Hochstetter's Plan of the Geology of this District.

I am, dear sir,

Yours truly,

E. King,

Hon. Sec. International Exhibition
Commissioners, 1862.

C. Heaphy, Esq.

We have thus disposed of the allegations made in the discreditable note above quoted. We shall now very briefly allude to certain other violations of propriety and candor. Of the illustrations contained in Dr. Hochstetter's recently published large work (in German) on New Zealand, many were derived from Major Heaphy; but in no instance is this fact acknowledged. Sometimes the delineator's name is wholly omitted; in other cases there is actually given some other name, in one instance that of Dr. Hochstetter himself. The following is the prof of one example: –

MEMO.

The tracing "A" of Taupo Lake was made by me from a drawing made by Mr. Heaphy for Dr. Hochstetter, during that gentleman's stay in Auckland in 1859; and the illustration in Dr. Hochstetter's "New Zealand," opposite page 228, is a facsimile of Mr. Heaphy's drawing above mentioned; but bearing the name of "F. Hochstetter," instead of C. Heaphy.

Thomas Waters,

Clerk, Land Office.

22nd August, 1864.

We have ourselves compared Major HEAPHY's originals with Dr. HOCHSTETTER's published illustrations, and we can vouch for the frequency of the copying thus unacknowledged. The splendid chromo-lithograph of Rotomahana is one of the most flagrant examples. It purports to be taken from a certain photograph. That photograph now lies before us, and there is an utter dissimilarity. The engraving is the exact representative in all its parts, including the live figures, of Major HEAPHY's drawing.

The fact and the importance of these unacknowledged, and therefore really "pirated," delineations might be presumed from Dr. HOCHSTETTER's own Lecture on the Geology of Auckland. In p. 10 of the recent edition he says: –

A large number of exceedingly valuable sketches have been contributed by the talented pencil of our president Mr. C. HEAPHY, for future publication in a geological atlas. Many of these are decorating the walls and others are lying on the table, and I shall be happy to show them to any ladies and gentlemen who may feel any interest in seeing them at the conclusion of the lecture.

We have proved the painful fact of Dr. HOCHSTETTER's ungrateful tergiversation and deception; and now what has been the motive for all this? Other than the mere fact of a geologist of Auckland presuming to think for himself, or to act without the fiat of Dr. HOCHSTETTER, we are cognizant of no ground of offence, except a very unworthy one. Dr. HOCHSTETTER has committed himself to the statement, that the tertiary formation of Auckland belongs to the *earlier* portions of that period; while Major HEAPHY has sent home to the Geological Society a number of fossil specimens, which happen to prove the reverse. To the "Notes on the Fossils" sent by Major HEAPHY, the Editor of the *Quarterly Journal* appends the following observation: – "This group indicates a *late* Tertiary deposit. – Editor "*Q. J. G. S.*" The word "*late*" is italicised in the Journal. Dr. Hochstetter propounded a certain theory, and some facts are not in accordance with it. "So much the worse for the facts," said a French *savant* in a similar predicament; so much the worse for the propounder of the facts, appears to be the principle adopted by the German. We hold rather with the Scottish bard, when he said that "facts are chiels that winna be disputed."

It is a melancholy thing to see the moral infirmities of men eminent for intellectual superiority; but unhappily the scientific world is but too familiar with such scandals.

29 August 1864

[Editorial]. *The Daily Southern Cross*, 29 August 1864, volume 20, issue 2217, page 4.

<https://paperspast.natlib.govt.nz/newspapers/DSC18640829.2.10>

[...] WE publish to-day a letter from Mr. Charles Heaphy, in vindication of himself from the serious reflections made upon him by Dr. Hochstetter in his work on the geology of Auckland. These reflections are in effect that Mr. Heaphy has exhibited, or made public in other ways, certain geological maps of this province as the production of his own skill, while they have been copies and combinations of Dr. Hochstetter's maps and surveys, and that he has made observations on geology without having the most elementary knowledge to enable him to do so. Knowing, as we do, that Dr. Hochstetter received very valuable aid from Mr. Heaphy whilst pursuing his scientific researches in this province, we should, even if the charges were true, have called this conduct on

the part of Dr. Hochstetter very ungenerous, but as we have received satisfactory demonstration that not only are these charges untrue, but that the worthy doctor has himself been the plagiarist and the copier, we must say that these reflections are most unwarrantable. Mr. Heaphy has verified to us by the exhibition of maps and original documents that he really is the aggrieved party, and that Dr. Hochstetter has copied with the most infallible precision the principal groundwork of his geological map of Auckland prepared here before Dr. Hochstetter set foot upon New Zealand soil, in proof of which the marginal lines exactly correspond, and in which the Doctor could not get the colour to match when he subsequently added to the map. We have also seen tracings of sketches of scenery made by Mr. Heaphy, and which appear in Dr. Hochstetter's book unacknowledged, having only the engraver's name to them. There is one glaring instance of this. Mr. Heaphy made a drawing of the hot springs, of which Dr. Hochstetter obtained a photograph afterwards. The photograph, which did not exhibit them to such advantage, was rejected, and Mr. Heaphy's drawing given with the name of the photographer to it! The reflection upon Mr. Heaphy's geological attainments is also, we believe, most uncalled for and undeserving. Mr. Heaphy came to New Zealand in 1839 on a scientific expedition with D[ie]ffenbach the hydrographer; he has since then been constantly employed in exploration and surveys, and the Admiralty has published his surveys and charts. In 1839-40 he explored the Wellington, Whanganui, and Taranaki country, and subsequently the Chatham Islands and the west coast of the Middle Island, for which latter he received a Government appointment. In 1853 Mr. Heaphy reported on the Coromandel gold discovery, and was made gold commissioner. During his stay here he has sent papers to the Royal Geological Society, on several occasions, which have been read by Sir Roderick Murchison, and which we have seen published, and of the discussions on these papers the *Athenaeum* and *Literary Gazette* for the time contained notices. We may say, too, that we have seen some most elaborate proofs of Mr. Heaphy's skill while studying geology very many years ago, and at a time when Dr. Hochstetter was probably only imbibing the "most elementary knowledge" of the science which he now professes to be a master of. Dr. Hochstetter may be a very accomplished geologist, but he has certainly not added to his fame by unwarrantably attempting to detract from the merits and attainments of a gentleman resident amongst us of acknowledged ability.

29 August 1864

Letter to the Editor of the *Daily Southern Cross* by Heaphy dated 22 August 1864.

Dr. Hochstetter and Mr. Charles Heaphy. *Daily Southern Cross*, 29 August 1864, volume 20, issue 2217, page 5.

<https://paperspast.natlib.govt.nz/newspapers/DSC18640829.2.17.1>

DR. HOCHSTETTER AND MR. CHARLES HEAPHY.

To the Editor of the Daily Southern Cross

SIR, – I have to give you my best thanks for the opportunity you have afforded me of refuting certain erroneous statements contained in a note on Dr Hochstetter's work on the Geology of Auckland, and which are intended to reflect seriously on myself. They are these -

1 That I exhibited at the International Inhibition of 1861 a Geological Map of the Province of Auckland which “was entirely a copy and combination of Dr. Hochstetter’s maps and surveys,” without any acknowledgment of his authorship

2 That the map published by the Royal Geological Society of London, in their quarterly journal, was furnished by me, and “was a very incomplete copy of Dr. Hochstetter’s map, published without his knowledge,” and

3 That I have “made observations on the geology of Auckland without possessing the most elementary knowledge” to enable me to do so.

In reference to the first charge I may premise that, ever since I came here with D[ie]ffenbach, in 1839, I have been engaged in exploring and surveying in various parts of New Zealand, and have communicated my observations to the principal geological societies of Europe.

That in 1847, after an expedition with Mr. Brunner, of Nelson, I published [a] description of the topography and geology of the Western coast of the Middle Island, from Cape Farewell to the greenstone country. That in 1854 I wrote a paper on the Coromandel goldfield, which, with a map of the Thames country, was, at the suggestion of his Excellency Governor Sir George Grey, forwarded to the Royal Geological Society of London. The paper formed the subject of an evening’s discussion of that society, and was published with maps in their quarterly journal of proceedings.

That on the 9th February, 1857, about two years before Dr. Hochstetter arrived in New Zealand, I wrote several articles on the geology of Auckland in the local papers, and presented to the reading room of the Mechanics’ Institute in Auckland a map of the geology of the Auckland district.

Mechanics’ Institute,

Auckland, August 20, 1864.

SIR, – In reply to your communication of yesterday’s date, requesting to be furnished with information relative to the date of your presenting this Institute with a map entitled “Sketch of the Geological Formation of the Auckland District,” I beg to state that the map you refer to is in the institute, signed “C. Heaphy, 1857,” and on referring to the minute book of the Institute of the 9th February, 1857, the following extract is recorded upon the minutes of a general meeting of committee –

“A geological map was then presented to the Institute by Charles Heaphy, Esq., comprising geological sketches of the district of Auckland. It was moved, seconded, and unanimously carried, that a vote of thanks be presented to Charles Heaphy, Esq., for his highly-esteemed present to the Institute.” – I have the honour to be, yours, &c.,

JAMES SARGEANT,

Secretary.

Major Heaphy,

Government Survey Office, Auckland.

P.S. – In reference to p s of your communication, requesting to be favoured with the date that Dr. Hochstetter delivered a lecture in this Institute on the Geology of the Province of Auckland, I beg to state that, on referring to the registry, I find it to be the 24th June, 1859. — J S.

That Dr. Hochstetter on his arrival here immediately obtained from the reading room of the institute my map, and taking it to the survey office and to his own residence, made use of it as the basis of his own map, the outlines and important

features on which were traced from it. No acknowledgement of any kind was ever made by him of the use of this map.

Auckland. August 20, 1864

My dear Heaphy, – Yesterday’s Southern Cross quotes from Dr. Hochstetter an unwarrantable charge of piracy against you, which contrasts very glaringly with the Doctor’s observations during the lecture which he delivered in the Mechanics Institute on the Geology of the Province of Auckland, especially when it is known to several persons that the “Geological Map of Auckland and Environs,” made and compiled by you in 1857, was at that very time hanging on the wall of the Institute, and had been borrowed by the Dr. for his information, and actually formed the nucleus of all his work in this locality, however much he may have added to it. –

Your sincerely,

H. N. Warner.

C. Heaphy, Esq., J P., &c.

P.S. – I may add that I have seen to-day a copy of Dr. H.’s Plan, by Mr. Boulton, which belongs to this office, and bears upon it evident indications of its original having been compiled upon your geological map before referred to. – H.N.W.

That so far from my map “being entirely a combination and copy of his map,” I am able to show that it was in many respects more complete than his plan. Dr. Hochstetter exhibits about 48 extinct craters around Auckland; I pointed out to him twelve more, and in his lecture he enumerates them at 60. My map, which he styles “an imperfect copy of his own,” shows 75 extinct craters in the same area.

Land Office, August 20, 1864.

My dear Mr. Heaphy, – Your computation of the number of extinct volcanoes, whose positions are indicated on a copy of Dr. Hochstetter’s Geological Map of the District of Auckland, gives a total of 48. In addition to the above you yesterday pointed out to me, on your geological map of the same district, the positions of other extinct volcanoes, to the number of 27, and which you believed Dr. Hochstetter had not discovered. – I am, &c,

J. L. Tole.

It is known to all here that Dr. Hochstetter never visited any part of this province to the north of the Waiherawhera, to the south of Kawhia and Taupo, or to the east of Maketu, in the Bay of Plenty. He never set his foot on White Island, on the Great Barrier Island, or the Island of Kawau, nor saw anything of the copper lodes of the district. He knew nothing of the volcanic countries of the Bay of Islands and Wangarei – each as interesting as that of Auckland – and of course knew nothing about the Wairoa, river of Kaipara, of Hokianga or Mongonui, nor was he ever on the Eastern Coast, or on Mount Egmont. My map was of this province and Taranaki, and included these. How, therefore, Dr. Hochstetter can say that my plan was “entirely a copy” of his, I am at a loss to understand.

The letter of Edward King, Esq., Secretary to the Auckland Commission of the International Exhibition of 1861, and who forwarded my plan to England, is attached, and proves that I did acknowledge the work of Dr. Hochstetter’s that had been made use of in that plan.

Auckland, August 20, 1864.

Dear Sir, – In reference to your inquiries I beg to say that I remember your acknowledgment, on your Geological Plan of the Province of Auckland (exhibited in the Odd Fellows’ Hall here, and transmitted by me to the

International Exhibition of 1861), of the parts copied from Dr. Hochstetter's plan of the geology of this district. – I am, &c.,

E. King,
Hon. Sec. International Exhibition
Commissioners, 1862.

C. Heaphy, Esq.

In regard to the publication in the "Quarterly Journal of the Geological Society," I may state that anyone who will take the trouble to read the paper there printed, along with Dr. Hochstetter's, will find that so far from my having copied his observations, I have expressed other and most opposite views on many important points. The plan, instead of being a copy of his, is one added to and corrected from that in the Mechanics' Institute, before alluded to, and it will be seen that in the note appended to the paper is a full acknowledgment of Dr. Hochstetter's work, in so far as it had been used, in the following, being the words of the acknowledgment: –

"The corrections (to the map of Mr. C. Heaphy's, of 1857, corrected to February, 1859), here alluded to, have arisen from observations made during the progress of Dr. F. Hochstetter's geological survey of the Auckland district. It is expected that a more complete description of the volcanic and geological features of this and other parts of New Zealand will be supplied in the scientific publications of the Austrian 'Novara' Expedition, by Dr. F. Hochstetter. &c., geologist of the expedition, who remained in New Zealand at the expense of the Provincial Government of Auckland, for the purpose of making a geological survey of the province"

In regard to the assertion that I "do not possess the most elementary knowledge necessary for making a geological survey," I may observe that I am disinclined to enter into the subject involving as it does a matter of opinion; I may, however, say that the Royal Geological Society of London have thought to devote on, at least two occasions its monthly meeting to a discussion of my papers – introduced by Sir Roderick Murchison, the greatest English geologist, – and that it has had engraven my maps and diagrams, and printed *in extenso* my papers. Whatever Dr. Hochstetter may write now, he evidently was not always of the same opinion, as is shown by the concluding words of the critique on Dr. Hochstetter's work in the *Saturday Review*, of August 11, 1860, and which are to the following effect, viz. –

"Such is a brief sketch of the nature of the information in Dr. Hochstetter's lecture. We chronicle his results with satisfaction, were it for no other reason than this – that it is interesting to know that in a colony so young as New Zealand, there is an audience able to appreciate the general subject; and, also that there are in the country a few men of science, like Mr. Heaphy and others, of whose geological labours and knowledge Dr. Hochstetter freely availed himself, frankly acknowledging his obligations."

I have now, Mr. Editor, replied to Dr. Hochstetter's charges, and have my own side of the question to make known.

Dr. Hochstetter, on his return from the interior, put into my hand some crude outlines of Lake Taupo, which, being taken from a point on the beach of the lake, did not sufficiently show its shape. The doctor asked me to make some coloured drawings from these, as from a height; in fact, bird's-eye views. He also gave me an outline of the Tongariro and Ruapehu mountains, in order that I might make a picture from it for his book. This I did, making various alterations from time to

time, at his instance, to express more forcibly the different distances of the ranges, which his outlines were inadequate to show. He at last expressed his perfect satisfaction with it, and has now introduced it as an illustration to his book, opposite page 216, without my name to it, but with the name of the foreign engraver of the plate. A certain group of figures of my own composition serves to identify the drawing and the plate in the book.

I was at work, sir, for about a month, preparing large drawings of several localities of interest from Dr. Hochstetter's outlines, and from sketches by Dr. Johnson, formerly Colonial Surgeon here. Dr. Hochstetter expressed his satisfaction with these, and at his lecture here acknowledged "a large number of exceedingly valuable sketches contributed by the talented pencil of the president, Mr. C. Heaphy, for future publication in a geological atlas."

Now, sir, Dr. Hochstetter had these watercolour drawings, together with one of Coromandel harbour, engraven as illustrations in his work of the 'Novara' expedition, copied even to the figures and canoes I had introduced to fill up the picture, but without, as is usual, putting my name to them; indeed, to that of Lake Taupo he puts his own. I send, herewith a note from Mr. Waters, who made a tracing of my drawing before it left Auckland.

MEMORANDUM

August 22, 1864.

The tracing "A" of Taupo Lake was made by me of a drawing made by Mr. Heaphy for Dr. Hochstetter, during that gentleman's stay in Auckland in 1859; and the illustration in Dr. Hochstetter's "New Zealand," opposite page 228, is a facsimile of Mr. Heaphy's drawing above mentioned, but bearing the name "F. Hochstetter," instead of C. Heaphy.

THOMAS J. WATERS,
Chief Clerk, Land Office.

Symonds street, Auckland,

August 21, 18[6]4

My dear Sir, – I have made an examination of the original of Dr. Hochstetter's Plan of the Isthmus of Auckland and comparing it with your Geological Plan of the Auckland District, presented to the Mechanics' Institute, I have no doubt he copied your plan – I am, &c.,

J. Wilson,
Provincial Surveyor.

Major Charles Heaphy, &c.

When Dr. Hochstetter went from this to Nelson, I made for him at his own request, a general map of the geology of the Nelson country, in treating, as far as I was able, the various formations and intended to serve as my map had done here as a guide to him in exploring. He wrote to me privately, saying that my map had been of much assistance to him, and was very correct; but neither in his lecture at Nelson nor in his book has he in any way acknowledged the assistance.

In 1846-7, I made maps of exploring expeditions made in company with the Hon. Mr. Fox – now Colonial Secretary – and Mr. Brunner of Nelson, to the interior lakes and the greenstone country of the West Coast. Dr. Hochstetter made use of these maps - his map of Nelson shows them even to their clerical errors - but there does not appear in the "Atlas" nor the lecture the slightest acknowledgement of their having been used.

I have now, Mr. Editor, to apologise to your readers for occupying so much of your valuable space. My excuse must be that I have no other means of refuting the charges but by publishing *in extenso* the proofs which are here adduced. – I am, &c.,

CHARLES HEAPHY.

Auckland, August 22, 1864.

29 August 1864

Letter to the Editor of the *New Zealander* by Charles Heaphy dated 27 August 1864.

Major Heaphy and Dr. Hochstetter. *The New Zealander*, 29 August 1864, volume 21, issue 2209, page 3.

<https://paperspast.natlib.govt.nz/newspapers/NZ18640829.2.18>

MAJOR HEAPHY AND DR. HOCHSTETTER

(To the Editor of the *New-Zealander*.)

SIR, – I hast to point out two errors that appeared in your article of this day's issue on the subject of Dr. Hochstetter's appropriation of my work.

The first is in terming the map which Dr. Hochstetter left here with the Government his "original map." The original, Sir, was taken by Dr. Hochstetter to Europe, and the map at present here is one that was made by Mr. Surveyor Boulton, whose services as a draughtsman were placed by the Government at Dr. Hochstetter's disposal while he stayed here, and who worked with the Doctor on the two maps almost simultaneously.

The other error is in stating that Dr. Hochstetter has *nowhere* acknowledged my work. The fact is that he has put my name to two of my drawings, but has omitted it to other six, and also to my maps.

The omissions are in respect to the drawing of Coromandel harbour, in page 385 of Dr. Hochstetter's book, to that of Taupo Lake, opposite page 228, of Roto Mahana boiling spring opposite page 272, of a curious canoe on page 108, of plan of Mount Wellington on page 93, of Tongariro opposite page 216, and a drawing of Mount Eden, with the old stockades on its terraces (as described by a Ngatiwhatua chief to me) on page 100. To none of these has Dr. Hochstetter put my name, although they were all drawn by me for his book.

While Dr. Hochstetter was here, the Provincial Government placed at his disposal the services of Mr. J. Tole, C.E., and Mr. Boulton. These gentlemen, under my direction, made level sections of the most interesting crater hills about Auckland; and their plans of Oruaranga, near Colonel Haultains farm, and the Three King's Hills, were very elaborate and beautiful. No acknowledgement whatever of their work is given, although Mr. Boulton's plan and diagrams appear opposite page 88.

In the same manner as Dr. Hochstetter in 1859 copied my plans of 1857, as the basis of his map of Auckland, so in his plan of Nelson he used my survey of the West Coast, made in 1846, but without acknowledging it. He is so careful as to recite the names of every midshipman of the surveying ships that were here; but he as carefully excludes my name, although the Admiralty had always publicly acknowledged it from 1839 to the conclusion of Captain Drury's survey of the islands.

I hasten to point out the errors first alluded to, as I may be in some degree responsible for them. In giving you information on my own side of the question, I may inadvertently have omitted mentioning what might have favoured the opposite side.

Yours, &c.,

CHAS. HEAPHY.

Auckland, August 27, 1864.

31 August 1864

Letter to the Editor of the *New Zealander* by Charles Heaphy dated 27 August 1864.

Major Heaphy and Dr. Hochstetter. *The New Zealander*, 31 August 1864, volume 21, issue 2211, page 3.

<https://paperspast.natlib.govt.nz/newspapers/NZ18640831.2.16>

MAJOR HEAPHY AND DR. HOCHSTETTER

To the Editor of the *New-Zealander*.

SIR, – Dr. Hochstetter has put my name on *two* of my drawings, but has omitted it to other six, and also to my maps.

The omissions are in respect to the drawing of Coromandel harbour, in page 385 of Dr. Hochstetter's book, to that of Taupo Lake, opposite page 228, of Roto Mahana boiling spring opposite page 272, of a curious canoe on page 108, of plan of Mount Wellington on page 93, of Tongariro opposite page 216, and a drawing of Mount Eden, with the old stockade on its terraces (as described by a Ngatiahatua chief to me) on page 100. To none of these has Dr. Hochstetter put my name, although they were all drawn by me for his book.

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Yours, &c.,

CHAS. HEAPHY.

Auckland, August 27, 1864.

31 August 1864

Major Heaphy and Dr. Hochstetter. *The New Zealander*, 31 August 1864, volume 21, issue 2211, page 6. <https://paperspast.natlib.govt.nz/newspapers/NZ18640831.2.28>

3 September 1864

Major Heaphy and Dr. Hochstetter. *The New Zealander*, 3 September 1864, volume 21, issue 2214, page 2.

<https://paperspast.natlib.govt.nz/newspapers/NZ18640903.2.4>

MAJOR HEAPHY AND DR. HOCHSTETTER.

DR. FERDINAND VON HOCHSTETTER may be, for aught we know, a personage of large importance; but he has taken some pains to bring himself into a paltry position. He may be an accomplished geologist, though he does not escape some telling criticisms in England; but we regret to find him not a little wanting in certain other accomplishments that are assuredly not less desirable. He may be well qualified to estimate the testimony of the rocks; he fails in appreciating the effect that will be produced by the testimony of credible witnesses and express documents. We were aware that Major CHARLES HEAPHY is a gentleman of high scientific repute; and we knew that his well-exerted abilities have been considered, by the most competent authorities, to reflect credit upon the Colony – a colony fortunate in its possession of gifted men. We were also aware that an unhappy misunderstanding had arisen between Dr. HOCHSTETTER and Major HEAPHY, and we know that our quondam guest from Deutschland had shown himself hasty and harsh; but until we strictly investigated the matter, we could not have believed, that our German acquaintance had allowed himself to fall into such a depth of falsification, for the sake of gratifying a very gratuitous spleen.

We have used decided language, and our readers shall have the opportunity of judging whether it is not warranted by the facts. Everyone knows about the *Novara* expedition, and the progresses of Dr. HOCHSTETTER through several parts of this Province. The Superintendent of the day wisely took advantage of the visit of the *Novara*, to place at the disposal of Dr. HOCHSTETTER and his learned friends all possible appliances for journeying and surveying. Dr. HOCHSTETTER, as the stranger guest, was made the object of honor heartily rendered; and he enacted the lion's part to perfection. His scientific brethren of the Colony did not dream of being aggrieved by his glorification. Dr. FERDINAND VON HOCHSTETTER was to shine forth as the great luminary of geological science; and those who were skilfully and laboriously working for him week after week, and thereby working for the Province, were content to be as satellites reflecting the great man's brightness. Dr. HOCHSTETTER was put in possession of a valuable collection of facts; and this result was in no slight degree due to the high attainments and great assiduity of Major HEAPHY. Before we go further, we may adduce some proof of this. The *Saturday Review* of August 11th, 1860, gives a notice of Dr. HOCHSTETTER lecture, delivered in Auckland in 1859. It ends with the following; –

We chronicle his results with satisfaction, were it for no other reason than this – that it is interesting to know that in a colony so young as New Zealand there is an audience able to appreciate the general subject, and also that there are in the country a few men of science, like Mr. Heaphy and others, of whose geological labours and knowledge Dr. Hochstetter freely availed himself, frankly acknowledging his obligations.

Some of our readers are doubtless in possession of Dr. HOCHSTETTER's Lecture on the Geology of Auckland. It contains allusions to the authority of Major HEAPHY as a geologist, and acknowledgments of Dr. Hochstetter's indebtedness to him, as indicated in the foregoing extract. Now with all this compare the

following note contained in Dr. HOCHSTETTER's recently published "Explanation of the Maps:" –

A copy of my original map, to the scale of 2 miles to 1 inch, remained in Auckland for the use of the Government. A second copy was sent to Mr. J. Arrowsmith, in London, to be used for the construction of a large New Zealand map in six parts, which that gentleman intended to compile, with the understanding, however, that this map was to be used only as a provisional delineation of my observations. The geological map of the Province of Auckland, which was exhibited in the International Exhibition of London, in 1862, by Mr. Charles Heaphy, was entirely a copy and combination of my maps and surveys, without any acknowledgment of my authorship. The map, also, of the Isthmus of Auckland, given in the *Quarterly Journal* of the Geological Society of London, by Mr. Charles Heaphy, was published without my knowledge, and is a very incomplete copy of my observations and maps, which were in Mr. Heaphy's official charge. In this map that gentleman also introduced his own observations upon the geological formations of the neighbourhood of Auckland, made previous to my arrival in New Zealand, but without possessing even the most elementary knowledge necessary for making a geological survey. I have felt it my duty to make these remarks out of respect for truth and science.

We have made it our business to obtain materials for judging of the nature of these statements. We shall first notice the statement respecting the map of the Auckland district, published in the *Quarterly Journal*, of the Geological Society, for November, 1859. A copy of that Journal now lies before us, and the inscription on the map is as follows: – "Geological Sketch-map of the Auckland District, by C. Heaphy, 1857. (Corrected to February, 1859)." The map from which the plate in the *Quarterly Journal* was taken, is the same as is referred to in the following letter: —

Mechanics' Institute,

Auckland, 20th August, 1864.

SIR, – In reply to your communication of yesterday's date, requesting to be furnished with information relative to the date of your presenting this Institute with a map, entitled "Sketch of the geological formation of the Auckland district,"

I beg to state I find the map you refer to is in the Institute, signed "C. Heaphy, 1857;" and on referring to the Minute-book of the Institute on the 9th of February, 1857, the following extract is recorded upon the minutes of a general meeting of Committee: "A geological map was then presented to the Institute by Charles Heaphy, Esq., comprising geological sketches of the district of Auckland. It was moved, seconded, and unanimously carried that a vote of thanks be presented to C. Heaphy, Esq., for his highly esteemed present to the Institute."

I have the honor to be

Your very obedient servant

JAMES SARGENT

Secretary.

Major Heaphy,

Government Survey Office,
Auckland.

The following letter from the Deputy Waste Land Commissioner carries the evidence a step farther: –

Auckland, August 20th, 1864.

MY DEAR HEAPHY, – Yesterday's *Southern Cross* quotes from Dr. Hochstetter an unwarrantable charge of piracy against you, which contrasts very glaringly with the Doctor's observations during the lecture which he delivered in the Mechanics' Institute on the Geology of the Province of Auckland, especially when it is known to several persons, that the "Geological Map of Auckland" and

its environs, made and compiled by you in 1857, was at that very time hanging on the wall of the Institute, and had been borrowed by the Doctor for his information, and actually formed the nucleus of all his work, in this locality, however much he may have added to it.

Yours sincerely,
H. N. Warner.

C. Heaphy, Esq., J.P.,
&c., &c.

P.S. – I may add that I have seen to-day a copy of Dr. H.'s plan by Mr. Boulton, which belongs to this office, and bears upon it evident indications of its original having been compiled upon your geological map before referred to.

H. N. W.

The “evident indications” mentioned by Mr. WARNER are very evident indeed. We have compared Major Heaphy’s map with that of Dr. HOCHSTETTER which was deposited by him in Auckland. This map was made almost simultaneously with the one which the learned Doctor took with him to Europe. Mr. Surveyor Bo[u]lton assisted Dr. HOCHSTETTER in the construction of both. The comparison of Dr. HOCHSTETTER’s map with that of Major HEAPHY establishes the following results. The two maps are on precisely the same scale. Every name and outline on Major HEAPHY’s map is identically reproduced in Dr. HOCHSTETTER’s, including literal errors and topographical divergences from accuracy. And there is something more than all this. Dr. HOCHSTETTER’s map takes in a little more of the country, both to the East and to the West, than does Major HEAPHY’s map. The addition to the former was made at a later date, and there is actually in Dr. Hochstetter’s map, on each side, a distinct and obvious line of boundary between the part copied from Major HEAPHY and the part subsequently added. This is owing to the circumstance that the colo[u]r-materials employed at the two periods were not identical in character. There are other “evident indications.” Here is one of a kind rather amusing. Major HEAPHY’s map represents a portion of a certain river, the *Kumio*. Dr. HOCHSTETTER traces the same river, just so far as is done in Major HEAPHY’s map; and there the river absolutely stops short – whether sinking into the earth at that spot, or how disposed of otherwise, the map deponeth not. It happens, however, that the *Kumio* flows on, as well-behaved rivers usually do, till their waters reach the sea; but the district through which it flows further, is exterior to Major HEAPHY’s map, and to Dr. HOCHSTETTER’s cognizance. We might multiply instances of the evident indications, but these will suffice.

The following corroborative testimony is given by a highly competent authority: –

Symonds-street, Auckland,

August 20th, 1864.

Mr. DEAR SIR, – I have made an examination of the original of Dr. Hochstetter’s plan of the isthmus of Auckland, and comparing it with your geological plan of the Auckland district, presented to the Mechanics’ Institute in the year 1857, I have no doubt he copied your plan.

Yours truly,
J. I. Wilson,
Provincial Surveyor.

Major Chas. Heaphy,
&c. &c.

We now proceed to notice the map sent by Major HEAPHY to the Great Exhibition of 1862. With reference to this Dr. HOCHSTETTER asserts, that it was unaccompanied by any acknowledgment of his authorship. The following letter bears upon that subject: –

Auckland, 20th August, 1864.

Dear Sir, – In reference to your enquiries, I beg to say that I remember your acknowledgment on your Geological Plan of the Province of Auckland (exhibited in the Odd Fellows' Hall here and transmitted by me to the International Exhibition of 1861) of the parts copied from Dr. Hochstetter's Plan of the Geology of this District.

E. King,
Hon. Sec. International Exhibition
Commissioners, 1862.

C. Heaphy, Esq.

We have thus disposed of the allegations made in the discreditable note above quoted. We shall now very briefly, allude to certain other violations of propriety and candor. Of the illustrations contained in Dr. HOCHSTETTER's recently published large work (in German) on New Zealand, many were derived from Major HEAPHY; but the obligation is acknowledged in two instances only, and these by no means the most important. Sometimes the delineator's name is wholly omitted; in other cases there is actually given some other name, in one instance that of Dr. HOCHSTETTER himself. The following is the proof of on example: –

MEMO.

The tracing "A" of Taupo Lake was made by me from a drawing made by Mr. Heaphy for Dr. Hochstetter, during that gentleman's stay in Auckland in 1859; and the illustration in Dr. Hochstetter's "New Zealand," opposite page 228, is a facsimile of Mr. Heaphy's drawing above mentioned; but bearing the name of "F. Hochstetter," instead of C. Heaphy.

Thomas Waters,
Clerk, Land Office.

22nd August, 1864.

We have ourselves compared Major HEAPHY's originals with Dr. HOCHSTETTER's published illustrations, and we can vouch for the frequency of the copying thus unacknowledged. The splendid chromo-lithograph of Rotomahana is one of the most flagrant examples. It purports to be taken from a certain photograph. That photograph now lies before us, and there is an utter dissimilarity. The engraving is the exact representative in all its parts, including the live figures, of Major HEAPHY's drawing.

The fact and the importance of these unacknowledged, and therefore really "pirated," delineations might be presumed from Dr. HOCHSTETTER's own Lecture on the Geology of Auckland. In p. 10 of the recent edition he says: –

A large number of exceedingly valuable sketches have been contributed by the talented pencil of our president, Mr. C. HEAPHY, for future publication in a geological atlas. Many of these are decorating the walls and others are lying on the table, and I shall be happy to show them to any ladies and gentlemen who may feel any interest in seeing them at the conclusion of the lecture. We could adduce proofs of [f] other obligations of importance accepted without acknowledgment, in the large work on "New Zealand;" but the foregoing will suffice. We may refer the reader, however, to Major HEAPHY's letters contained in another column.

We have proved the painful fact of Dr. HOCHSTETTER's ungrateful tergiversation and deception; and now what has been the motive for all this? Other than the mere fact of a geologist of Auckland presuming to think for himself, or to act

without the fiat of Dr. HOCHSTETTER, we are cognizant of no ground of offence, except a very unworthy one. Dr. HOCHSTETTER has committed himself to the statement, that the tertiary formation of Auckland belongs to the *earlier* portions of that period; while Major HEAPHY has sent home to the Geological Society a number of fossil specimens, which happen to prove the reverse. To the “Notes on the Fossils” sent by Major HEAPHY, the Editor of the *Quarterly Journal* appends the following observation: – “This group indicates a *late* Tertiary deposit. – Editor “*Q. J. G. S.*” The word “*late*” is italicised in the Journal. Dr. HOCHSTETTER propounded a certain theory, and some facts are not in accordance with it. “So much the worse for the “facts,” said a French *savant* in a similar predicament; so much the worse for the propounder of the facts, appears to be the principle adopted by the German. We hold rather with the Scottish bard, when he said that facts are chieils that “winna be disputed.”

It is a melancholy thing to see the moral infirmities of men eminent for intellectual superiority; but unhappily the scientific world is but too familiar with such scandals. – “New Zealander,” August 27.

To the Editor of the New-Zealander.

SIR, – In your paper of the 5th instant you published an extract from the *Lyttelton Times*, in which I am accused of having pirated a copy of Dr. Hochstetter’s map of the geology of Auckland, and sent it to the Geographical Society of London as my own.

I beg to state, Mr. Editor, that I have never sent any paper or map whatsoever to the *Geographical Society of London*. I have sent a paper on the geology of Auckland to the Royal Geological Society of London, and which contained partly original matter, and partly the observations of Dr. Hochstetter and other naturalists; but, as you will observe in the publication of the paper, – a copy of which I send you herewith, – the quotations from Dr. Hochstetter are very fully acknowledged.

Dr. Hochstetter examined the country from Lake Taupo to the hot springs at Waiwherawhera, but did not go south of the former or north of the latter place, or east of Maketu. I sent a plan of the *whole Province, including Taranaki*, to the Great Exhibition of 1861, and of this map I am informed Dr. Hochstetter equally claims the authorship. I may state that Dr. Hochstetter never visited the great volcanic district of the Bay of Islands, nor that of Wangarei – each equally interesting with that of Auckland; nor did he set foot on White Island, the Great Barrier Island, Kawau Island, or on Mount Egmont. All of these localities I described from actual observation and survey; and I confess to be rather surprised at Dr. Hochstetter’s claiming any knowledge of them.

On this plan much of the filling in of the Lake district was from Dr. Hochstetter’s observations; but, as is proved by the attached letter* of Edward King, Esq., the Hon. Secretary of the Auckland Commission of the Exhibition, who forwarded my map to the Commissioners in England, a full acknowledgment of Dr. Hochstetter’s work accompanied it.

Yours, &c.,
Charles Heaphy.

Auckland, August 22, 1864.

*Auckland, 20th August, 1862.

DEAR SIR, – In reference to your enquiries, I beg to say that I remember your acknowledgment, on your geological plan of the Province of Auckland, (exhibited

in the Odd-Fellows' Hall here, and transmitted by me to the International Exhibition of 1861) of the parts copied from Dr. Hochstetter's plan of the geology of this district.

Yours truly,

EDWARD KING,
Hon. Sec. International Exhibition, 1862.

C. Heaphy, Esq.

Extract from the *Quarterly Journal* of the Geological Society, Nov. 1859: –

The Map, Plate XII. comprises a small Index-map of the North Island of New Zealand, and the central portion of a large Geological Sketch-map of Auckland and the surrounding district, constructed by Mr. C. Heaphy from actual survey in 1857, and corrected to February, 1859.

The corrections here alluded to have arisen from observations made during the progress of Dr. F. Hochstetter's geological survey of the Auckland district.

It is expected that a more complete description of the volcanic and geological features of this and other parts of New Zealand will be supplied in the scientific publications of the Austrian "Novara" Expedition, by Dr. F. Hochstetter, the geologist of the expedition, who remained in New Zealand, at the expense of the Provincial Government of Auckland, for the purpose of making a geological survey of the Province.

5 September 1864

Letter to the Editor of the *New Zealander* by Carl Frank Fischer dated 1 September 1864.

Carl Frank Fischer. Dr. Hochstetter and Major Heaphy. *The New Zealander*, 5 September 1864, volume 21, issue 2215, page 3.

<https://paperspast.natlib.govt.nz/newspapers/NZ18640905.2.18>

DR. HOCHSTETTER AND MAJOR HEAPHY

To the Editor of the *New-Zealander*.

SIR, – In reply to your editorial remarks and Mr. Heaphy's letter, which appeared in your issue of the 27th and 28th ult., I beg to make a few remarks in vindication of Dr. Hochstetter.

By no means do I excuse my friend Hochstetter in having been guilty of making serious reflections upon Mr. Heaphy in his Geological Atlas of New Zealand, and for what appears ungenerous conduct. But while Dr. Hochstetter makes these charges it is not unlikely that he was labouring under a misapprehension, as his information was based more on the representations of others than on his personal knowledge, as he never visited London during the exhibition so as to have been able to see Mr. Heaphy's maps. But what can be said in excuse of Mr. Heaphy, who retaliates in return by charging Dr. Hochstetter with piracy, while all the time he had proof to the contrary in his possession in the very book from which he quotes.

Mr. Heaphy has cleared himself from the charge of piracy by Mr. King's letter and otherwise, in which it is stated that Dr. Hochstetter's observations were unacknowledged in the geological maps which were sent to the exhibition in London, but he has not cleared himself of the charge that he appropriated Dr. Hochstetter's maps to other uses than the special one for which they were left behind; viz., for the sole use and information of the Government only, for which purpose they were left in his official charge. Of this Dr. Hochstetter complained

to me, in a letter received some time ago, that he felt aggrieved that other than office use had been made of them previous to the publication of his works.

It is now my duty to clear Dr. Hochstetter of the charges which he made against him – that he is a plagiarist and a copyist.

Mr. Heaphy states that Dr. Hochstetter, in his book on New Zealand, acknowledges only two of his drawings, while he omitted six others, and also some maps which appeared in it.

In the index of the illustrations in the book are enumerated eight pictures as being contributed by Mr. Heaphy, viz.:

1. Ko Paora Matuataera (Paul Marshall), Maori Chief at Kapanga, Coromandel Harbour, Province of Auckland, after a picture by Charles Heaphy, on the title-page. 2. The Southern Alps with Mount St. [sic] Cook (13,000 feet high), view from Arahura or Brunner River, on the West Coast of the Southern Island; by Charles Heaphy, page 32.

3. Entrance of the Harbour of Auckland, by Charles Heaphy, page 4.

4. Mount Egmont, seen from Otamatua, in a north-westerly direction, by Charles Heaphy, page 23.

5. A Cannibal of the Olden Time, by Charles Heaphy, page 64.

6. Mount Eden, as an old Maori fortification, with the old stockades on its terraces, by Charles Heaphy, page 100.

7. A War Canoe, by Charles Heaphy, page 108.

8. Coromandel Harbour with Castle Hill, by Charles Heaphy, page 355.

As for the picture of Rotomahan[a], of which Mr. Heaphy complains, I have to state that Mr. Hamel accompanied the expedition of Dr. Hochstetter, and took a photograph of the springs, and Mr. Heaphy made a very handsome picture of them. It is my opinion that the chromolithograph in Dr. Hochstetter's book is more like the photograph than Mr. Heaphy's picture, with the exception of the figures. It is evident that the artist made his drawing from [a] book, but as a photograph is considered a more correct representation, he affixed the name of the photographer to it, for in the index it is enumerated as after a photograph by Hamel.

Respecting the picture of the Taupo Lake, Mr. Heaphy acknowledges that Dr. Hochstetter put into his hands some crude outlines of the lake, in order that he might ma[k]e a picture, and that alterations were made at the suggestion of Dr. Hochstetter from time to time. Dr. Hochstetter also gave me a copy of the same sketch, requesting me to colour it, which I did. And I think I recognize the picture which appears in Dr. Hochstetter's book, Mr. Heaphy's superior drawing and my colouring; but as Dr. Hochstetter supplied the original sketch, he felt himself justified in putting his name to it.

The same is the case with a woodcut of Tongariri [sic] and Ruapeka [sic] Mountains. The original sketch of Dr. Hochstetter was improved and embellished by Mr. Heaphy, and the picture is enumerated as after a sketch by the author.

Dr. Hochstetter also acknowledges the maps and contributions he received from the Survey Office.

Mr. Heaphy services and exertions are acknowledged in a great many places, and Dr. Hochstetter expresses his gratitude, not only to Mr. Heaphy, but every contributor is acknowledged in equally grateful terms. In page 22 Dr. Hochstetter expresses himself as follows: – "May my kind friends in the antipodes permit me to express again my heartfelt gratitude and thanks for the numerous attentions and honours which they lavished upon me undeservedly, and

I trust that they may find in my present endeavour to bring before them the result of my explorations in which they so kindly and generously assisted me, a repayment of the debt of gratitude which I feel I owe them.”

Yours, &c.,

C. FISCHER.

Sept. 1, 1864.

6 September 1864

Letter to the Editor of the *New Zealander* by Charles Heaphy dated 6 September 1864.

Charles Heaphy. Dr. Hochstetter and Major Heaphy, *The New Zealander*, 6 September 1864, volume 21, issue 2216, page 5.

<https://paperspast.natlib.govt.nz/newspapers/NZ18640906.2.17>

DR. HOCHSTETTER AND MAJOR HEAPHY.

To the Editor of the *New-Zealander*.

SIR, – Dr. Fischer is quite right when he states that in an index of Dr. Hochstetter’s the vignette drawings of mine are acknowledged; I was unaware of it at the time I wrote. I looked for the name where, in English and French works it is usually put – at the corner of the plate – and did not find it there.

This does not, however, in any way alter the fact stated in respect to the drawings of Taupo Lake, the Rotomahana boiling spring, and Tongariro mountain, to which Dr. Hochstetter has put his own name in two instances, and the photographers in the other. In these there are the figures, the Maori tents, the canoes, the fishing net, the surveyor’s theodolite, and even the birds flying across the lake, that identify them with mine. These drawings are entirely unacknowledged, as is also the geological map of mine, which formed the basis of the Doctor’s map.

No acknowledgement whatever appears of my Nelson map, or of any of my Nelson exploration plans, although Dr. Hochstetter copied them.

Dr. Fischer blames me for having used Dr. Hochstetter’s map *at all*, even with acknowledgement.

The understanding entered into here with the Doctor was, I am told, that the map should not be used until the author reached Europe and laid his work before the learned societies there. Dr. Hochstetter left New Zealand in 1859, and my map, embodying a good deal of his work, appeared in the Exhibition in 1862. It will be seen that on the 11th August, 1860, the Saturday Review noticed Dr. Hochstetter’s map and lectures, and before that he had placed his maps before the Geological and Geographical Societies of London, and the learned bodies on the Continent. It is absurd, Mr. Editor, to suppose that after a lapse of two or three years we were not to be allowed here to make use of an exploration that had cost us many hundreds of pounds of Auckland money. It would have been as absurd if I had sent to the Exhibition of 1862 my map of the Province, and have omitted the part that Dr. Hochstetter had explored.

CHAS. HEAPHY.

Auckland, Sept. 6

7 September 1864

The letters to the Editor of *The New Zealander* by Fischer and Heaphy (issue 2215: 3 and 2216: 5) were then published together under the heading “Supplementary Summary”.

Supplementary Summary. *New Zealander*, 7 September 1864, volume 21, issue 2217, page 2.

<https://paperspast.natlib.govt.nz/newspapers/NZ18640907.2.47>

10 September 1864

Article in the *Lyttelton Time* by Charles Heaphy dated 10 September 1864.

Town and Country. *Lyttelton Times*, 10 September 1864, volume 22, issue 1289, page 4.

<https://paperspast.natlib.govt.nz/newspapers/LT18640910.2.15>

[...] Dr. VON HOCHSTETTER and Mr. C. HEAPHY. – As we have recently, in noticing the published works of Dr. von Hochstetter, mentioned the charge brought by that gentleman against Mr. Heaphy, the Chief Surveyor of the Province of Auckland, of having pirated and exhibited as his own a map which Dr. Hochstetter left in his possession, we deem it but right to give as much publicity to the answer of Mr. Heaphy. The *New Zealander* of the 27th ult. devotes an article to the subject; but as the substance of the answer lies in the private letters printed therein, we may assume the defence to be that of the accused gentleman himself. We give first the accusation, as it appears in Dr. Fischer’s translation of Hochstetter’s introduction to the “Six Maps of New Zealand.” – “A copy of my original map, the scale of two miles to one inch, remained in Auckland for the use of the Government. A second copy was sent to Mr. J. Arrowsmith, in London, to be used for the construction of a large New Zealand map in six parts, which that gentleman intended to compile, with the understanding, however, that this map was to be used only as a provisional delineation of my observations. The geological map of the Province of Auckland, which was exhibited in the International Exhibition of London, in 1862, by Mr. Charles Heaphy, was entirely a copy and combination of my maps and surveys without any acknowledgement of my authorship. The map, also, of the Isthmus of Auckland, given in the Quarterly Journal of the Geological Society of London, by Mr. Charles Heaphy, was published without my knowledge, and is a very incomplete copy of my observations and maps, which were in Mr. Heaphy’s official charge. In this map that gentleman also introduced his own observations upon the geological formations of the neighbourhood of Auckland, made previous to my arrival in New Zealand, but without possessing even the most elementary knowledge necessary for making a geological survey. I have felt it my duty to make these remarks out of respect for truth and science.” As Dr. von Hochstetter arrived in New Zealand in 1858, and left in 1859, the following letters dispose of a large part of the accusation, and strong corroborative evidence is added: – “Mechanics’ Institute, Auckland, 20th Aug. 1864. – Sir, – In reply to your communication of yesterday’s date, requesting to be furnished with information relative to the date of your presenting this Institute with a map, entitled “Sketch of the geological formation of the Auckland district,” I beg to state I find the map you refer to is in the Institute, signed “C. Heaphy, 1857;” and on referring to the minute book of the Institute on the 9th of February, 1857, the following extract is

recorded upon the minutes of a general meeting of committee: - “A geological map was then presented to the Institute by Charles Heaphy, Esq., comprising geological sketches of the district of Auckland. It was moved, seconded, and unanimously carried that a vote of thanks be presented to C. Heaphy, Esq., for his highly esteemed present to the Institute. I have the honour to be your very obedient servant, JAMES SARGENT, Secretary. Mr. Heaphy, Government Survey Office, Auckland.” “Auckland, August 20th, 1864. My dear Heaphy, – Yesterday’s *Southern Cross* quotes from Dr. Hochstetter an unwarrantable charge of piracy against you which contrasts very glaringly with the Doctor’s observations during the lecture which he delivered in the Mechanics’ Institute on the Geology of the province of Auckland, especially when it is known to several persons that the “Geological Map of Auckland” and its environs, made and compiled by you in 1857, was at that very time hanging on the wall of the institute, and had been borrowed by the Doctor for his information, and actually formed the nucleus of all his work in this locality, however much he may have added to it. Yours sincerely, H. N. WARNER. C. Heaphy, Esq., J.P., &c. &c. P.S. – I may add that I have seen to-day a copy of Dr. H.’s plan by Mr. Boulton, which belongs to this office, and bears upon it evident indications of its original having been compiled upon your geological map before referred to. H.N.W.” – “Symonds street, Auckland, August 20th, 1864. My dear sir, - I have made an examination of the original of Dr. Hochstetter’s plan of the isthmus of Auckland, and comparing it with your geological plan of the Auckland district, presented to the Mechanics’ institute in the year 1857, I have no doubt he copied your plan. I am, my dear sir, yours truly, J. I. WILSON, Provincial Surveyor. Mr. Chas. Heaphy.”

15 September 1864

Letter to the Editor of the *Lyttelton Time* by Julius von Haast dated 10 September 1864 (Fig. 27).

Julius Haast [Fair Play]. Dr. Hochstetter and Mr. C. Heaphy. *Lyttelton Times*, 15 September 1864, volume 22, issue 1291, page 5.

<https://paperspast.natlib.govt.nz/newspapers/LT18640915.2.30.2>

DR. HOCHSTETTER AND MR. C. HEAPHY.

TO THE EDITOR OF THE LYTTELTON TIMES.

SIR, – In your last number you gave an extract from the *New Zealander* of the 27th of August, from which the reader might at first sight conclude that Dr. Hochstetter copied Mr. Heaphy’s map. There is no doubt that as soon as Dr. Hochstetter is made aware of the correspondence concerning this affair, he will be able to defend himself successfully against such an accusation, and only the wish to prevent the public from forming too hasty a conclusion has induced me to state the following facts.

The letters of the secretary of the Mechanics’ Institute of Auckland and of the other gentlemen prove nothing, except what Dr. Hochstetter states himself, i.e., that Mr. Heaphy, in 1857, attempted to make a geological map of the neighbourhood of Auckland, in which he coloured the different small craters, but, as Dr. Hochstetter observes – “without possessing even the most elementary knowledge for making a geological survey.”

Dr. Hochstetter, if I understand him rightly, complains that Mr. Heaphy has taken the geological *details* from his (the Doctor's) map, which was in Mr. Heaphy's official charge, and made use of them.

It is doubtful whether the writers of the letters in Auckland have sufficient knowledge of geology to judge how far Mr. Heaphy copied Dr. Hochstetter or how far Dr. Hochstetter copied Mr. Heaphy: both having had as ground plan for their work the official topographical maps of the district in question. But common sense might suggest that there is a great difference between the work of a geologist of well-deserved reputation and that of an amateur in geology, even admitting that the latter possesses some elementary knowledge.

I have the honour to be, sir,

Your most obedient servant,

FAIR PLAY.

Lyttelton, Sept. 10, 1864.

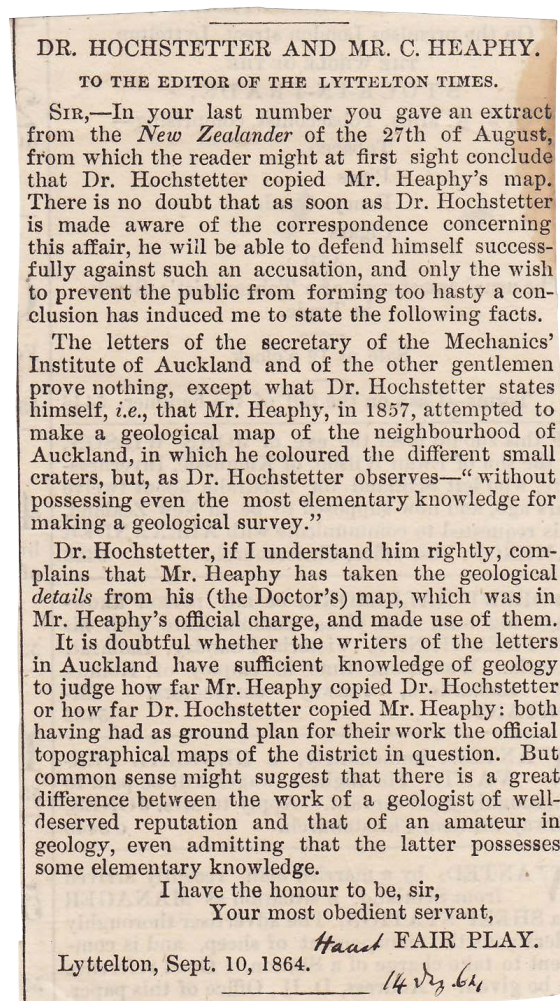
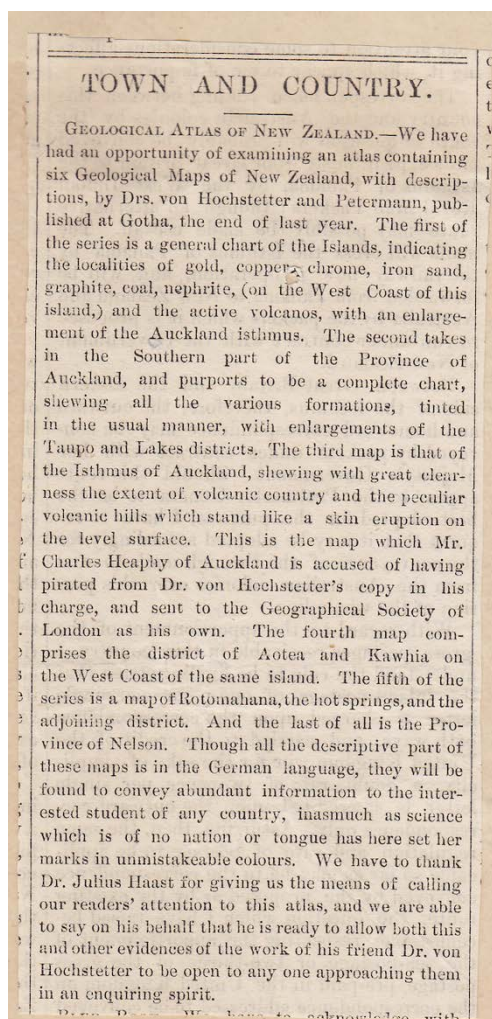


Fig. 26 (left): Newspaper clipping of review of the German edition of Hochstetter and Petermann's Atlas of New Zealand, *Lyttelton Times*, 28 May 1864 (vol. 21, issue 1242, page 4), which Hochstetter received from Haast and mounted in his copy of the atlas (Hochstetter Collection Basel).

Fig. 27 (right): Newspaper clipping with Haast's letter written under the pseudonym 'Fair Play' to the Editor of the *Lyttelton Times*, 15 September 1864 (vol. 22, issue 1291, page 5), which Hochstetter received from Haast (Hochstetter Collection Basel).

Geoscience Society of New Zealand: Journal of Historical Studies

Formerly titled the *Journal of the Historical Studies Group*, the renamed *Journal of Historical Studies* of the Geoscience Society of New Zealand is available as a downloadable PDF file to anyone interested in the history of geoscience in New Zealand. We try to publish three to four issues of the journal each year and aim to sponsor or assist with meetings related to the history of New Zealand earth science.

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Contributions to the journal including photographs are very welcome.

Next issue of journal when sufficient articles are received.

Alan Mason Historic Studies Fund

The Alan Mason Historic Studies Fund was set up to provide financial assistance for those undertaking research into the history of geoscience in New Zealand. It is named after Alan Mason, to mark the large contribution he has made to the Historical Studies Group.

A capital sum was collected almost a decade ago, and has been invested prudently. The rules specify that at least a third of the annual interest be reinvested in order to build up the fund, and the remainder may be available as grants. Applications for grants are called for once a year, about August. Details are given on the GSNZ website www.gsnz.org.nz.

We would like to build up the fund as there are few alternative sources of funding to support research into the history of geoscience. Donations are very welcome at any time. We also ask you to consider leaving money to the fund in your will as it would be a very tangible way to encourage future researchers to work on the history of geoscience.

Articles submitted for publication

Although this journal is about the history of the geosciences and geoscientists in New Zealand, other articles relevant to all aspects of New Zealand Earth Sciences or their histories generally are welcome, as well as book reviews, news items and relevant photographs. Notices of forthcoming events, lecture series and conferences are also published.

New work is preferred, but shortened or otherwise modified versions of previously published work can be included. Reproduction of published work especially those hard to access, e.g. excerpts from 19th century sources may be included, subject to copyright laws.

Articles are not refereed, but the Editor may consult with the Convenor as to the suitability of an article.

TEXT Please forward articles in MS Word. Typed hard copy is acceptable, but not encouraged as it will require re-typing into a computer. **Abstracts** are not required. References should be listed under the heading **References** at the end of the article. Reference formatting is that of current issues of the *New Zealand Journal of Geology and Geophysics*.

Please use English (New Zealand), (UK), or (Australia), rather than English (US), and please do not set articles to Read-only.

Except for minor changes to grammar or formatting to the 'journal style', articles modified by the Editor will be returned to the author for checking and approval of the changes.

ILLUSTRATIONS All illustrations are in colour or black and white. Illustrations should be submitted separately as JPEG or TIFF files, but hard copy originals are also acceptable and will be scanned by the Editor. Illustrations should normally be accompanied by captions.

