but why? The sun was quite low enough for it. That the rain-sheet was high enough is evident from the fact that the bow was formed by the reflected sun. I am quite unable to answer this.

From almost the same point of view, and one week afterwards, I had the pleasure of seeing an instance of a reflected bow in the lagoon fronting (east) the Taradale Road. Both bow and (apparent) reflection were remarkably perfect. I did not notice that the ends of the two arcs did not correspond. There was, however, a blank space of some 6° between them. The appearance of the reflection was that of a very perfect bow.

EXPLANATION OF PLATE LIV.

On the left hand is Scinde Island; on the right, trees, &c., fronting and hiding the Township of Moaee, the spectator being on the causeway between the bridges on the Taradale Road. Back of the spectator is the inner harbour of Napier, and in front the double rainbow, springing from and crossing each other at the ends of a single chord well above the horizontal line.

ART. LVI.—“More Last Words” : being an Appendix to several Papers read here during Past Sessions on the Volcanic Mountain-range of Tongariro and Ruapehu, with its adjoining District.

By W. Colenso, F.R.S., F.L.S. (Lond.), &c.

[Read before the Hawke’s Bay Philosophical Institute, 10th July, 1893.]

—profert de thesauro suo nova et vetera. MAgISTER.

A month back I felt not a little surprised and grieved (in common with many others) at a statement that appeared in our local morning paper respecting Mr. William Collie, an unassuming, truthful, toiling, steady photographic artist, who formerly (twenty years ago) carried on his profession here in Napier. It was stated that “a camera, &c., had been lately found on the high slopes of the burning mountain Ngauruhoe, which from appearances looked as if the artist had been scared at the rumbling of the volcano, dropped his instrument, and fled.”

Apart from the irrationality of the notice as to the “appearances,” &c., of the long-lost “camera,” now found after fifteen years’ exposure to the elements on the barren
stony mountain—alike to summers’ suns and winters’ frosts in that elevated region—was the undeserved innuendo—ugly joke, or worse—on Mr. Collie.

At the time of my reading that statement I was absent from town on duty in the interior; but, as I had known Mr. Collie pretty well, had often admired his large photographic landscape-views of distant and strange places—only obtained through much toil and difficulty, hardship and danger—and frequently had conversations with him in his studio, even concerning that, his last and unfortunate visit to Tongariro, in which he met with his great loss (for he had sought counsel from me on his return to Napier respecting the Maori raid made upon him, and his consequent injury and damage), I was determined to have justice—fair-play—done him. At such times, a quaint distich from Goethe’s “Faust,” where, in the inimitable scene on the Brocken (blasted mountain-top), in the Walpurgis-night, Mephistopheles accosts one of the old witches riding on a sow, saying—

Honour to whom honour is due;
Here, mother Baubo, is honour to you,—

would continually revolve in my mind, causing me even to repeat it over and over, although forty years had elapsed since I last read it in Goethe’s work—(possibly this happened through the association of corresponding ideas—connecting what I had been just reading and what I had heard from Mr. Collie with my own trying experiences in that locality forty-five years back)—and I concluded that Mr. Collie should have due honour done him for his courageous and loving artist-visits to Tongariro. For, in those days, and situated as he was—a stranger with limited means and few friends in this (then) small town—it was a very different thing to carry out such a visit over an unknown and trackless country (much less a repeated one, and after receiving maltreatment from resident Maoris, and enduring severe losses) from what it is now in these modern days—with roads, coaches, inns, store-shops, settlers’ houses, and horses; the Maoris themselves there residing no longer enemies, but much more civilised and quiet, and enjoying “piping times of peace.”

And here I should briefly state that I would have written a letter to the editor of that morning paper already mentioned on my return to Napier, but an acquaintaince of Mr. Collie, residing at Waipawa, took the matter briefly up in a communica tion of his to that same paper, which I was glad to see; and soon after a full, plain, and interesting account of what had really taken place at that time of Maori disturbance at T ungariro, written by Mr. Collie’s travelling companion on that occasion (Mr. F. E. Lys), appeared in the columns of the
same paper,* which, as far as that subject was concerned, seemed to be quite sufficient.

Subsequently, however, on my remembering a few nice botanical specimens collected at Tongariro by Mr. Collie, and given by him to me (some of them—Dracophyllum rubrum, Pimelea stylosa, and Thelymitra nervosa—being novelties, were described by me† and exhibited here before this society in 1887); and also in looking over my album and noticing therein some of the fine photographic views taken by him of Tongariro and Ruapehu; and, further, on my referring to Mr. Hill's paper, read here before you, containing a full account of his visit to those mountains in 1889‡ (including copious interesting extracts from the accounts of the early visits made to those mountains by Messrs. Bidwill and Dyson some fifty years before), and finding that Mr. Hill, not knowing of Mr. Collie's visits thither, had made no mention of them, although he had slightly noticed other visits made afterwards, as if these were really the first in succession after those of Messrs. Bidwill and Dyson,—I determined on writing a short paper—a résumé of Mr. Collie's repeated visits to that locality: especially, too, as he had done what no one else has done, either before or since—descended into the crater of Tongariro and spent a night within it.

But before that I take up with Mr. Collie's visits, I think I should also mention a still earlier one, performed by Dr. (now Sir James) Hector, to Tongariro in the year 1867, about ten years before the first visit of Mr. Collie, as this also seems to have been unknown to Mr. Hill.§

I quote from the published proceedings of the Wellington Philosophical Society: "Dr. Hector gave an account of his own ascent of Tongariro on the 23rd November, 1867, and explained that the active steam-eruptions on the side of the

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*A copy of Mr. Lys's letter I shall give at the end of this paper, for I consider it well worth being recorded, if only to preserve another instance of the Maori treatment the early settlers and artists (true lovers of nature) had to put up with.

†In Trans. N.Z. Inst., vol. xx., p. 390, et seq. And here I may mention that among that small lot of dried plants was a specimen of the common red poppy of our British cornfields (Papaver rhoas), which astonished me; the only specimen I have ever seen in New Zealand. In that same paper several of Mr. Hill's plants from that locality were also described.


§I may also briefly notice, in a note, that another ascent of Tongariro was made by Mr. Lys in 1881, when he conducted an American tourist, Mr. M——, to the top of the mountain. Being there overtaken by a snowstorm, they were obliged to pass the night on the summit, but not within the crater. The tourist, however, in an account which he published in a Sydney newspaper, on his arriving there, stated that his night on the volcano was passed within the crater.
mountain were due to the percolation from a cold lake on the summit, a sketch of which he exhibited. Dr. Hector then gave a list of plants differing from alpine-plants in the South Island, and exhibited on the screen with the lantern views both Ruapehu and Tongariro."—(Trans. N.Z. Inst., vol. xii., p. 423.)

Mr. Collie's first visit thither was in May, 1878, and his second in December of that same year (these two dates I obtain from his own paper "On Volcanoes and Geysers in New Zealand," read by Dr. Hector before the Wellington Philosophical Society in June, 1879); but he was still there in January, 1879, as I gather from a date written by himself on a photographic view of Ngauruhoe. On each of his visits he spent several days on the mountain and in its neighbourhood.

In that short paper of his is his description of the crater, of his descending into it, and of his passing a night within it—all interesting and very plain, short, and terse; perhaps the only fault to be found with it is its extreme brevity. That, however, will enable me the better to quote it verbatim here (seeing such a daring feat is all but unknown), while it serves to contribute an additional item (combined with the still earlier ascent made by Dr. Hector) towards the completion of the longer and more particularly scientific account of the mountain by Mr. Hill.

"Tongariro (Ngauruhoe).—When the writer visited the crater of Tongariro in May of last year (1878) there was a cone on the north-west side of it. This cone was about 120ft. wide at the top, and was closed at the bottom, as if the volcano had not been in action for a considerable time. Upon the writer's climbing the mountain (a feat always attended with difficulty and risk) and descending into the crater in December following, he found that the above cone had completely vanished, and that along the greater part of the north side of the crater another cone, about 500ft. wide at the top, had been violently thrown up. In the interior of this cone, at the bottom, there were two openings opposite each other, out of which sulphurous steam was blown in considerable quantities. The outside of the cone was of loose material, as might be expected from its recent deposition, and was composed of stones, pumice, cinders, and débris of the mountain.

* Yet on one of his large photographic views of Ngauruhoe is an inscription, by himself, that it was taken in "1874." This seems strange; and Mr. Lys (to whom I have submitted it) assures me it must have been an error for 1878, as Mr. Collie had not been there before this date. The large views of Rotorua and the hot springs there, immediately preceding in the same album, are all dated "1874," which, if written at the same time, might have easily led to the error in the last figure.
"It is thus evident that this volcano is still active, although at uncertain periods. Over the floor of the crater, and up aloft along the sides, as well as outside the mountain, sulphur-steam was issuing in all directions, tinging the orifice with yellow crystals of sulphur. The whole crater of Tongariro might be 1,500ft. wide. The loose burnt sides overhanging the floor are gradually falling down, altering the configuration of the summit of the mountain. Upon the floor of the crater there were several thick patches of hardened snow, and at the north side under the cliffs a large wreath of snow, melting from the heat beneath, formed a singular-looking cavern with a scalloped roof as of white marble. The writer spent a night inside the crater, and found the air intensely cold till the sun rose high enough in the morning to shine into the crater. Astronomers in scanning the volcanoes of the moon have noticed about the middle of the floor of certain craters a small cone, giving rise to speculation about its cause. Does not Tongariro afford explanation—that, as the volcanic forces exhaust themselves, they give vent to their expiring forces by a small cone?"

And this daring action of Mr. Collie's is capped by another, as I view it—that is, his spending a month or so on the barren and volcanic ever-burning White Island, in the Bay of Plenty, in pursuit of his beloved science. Perhaps some of my hearers have not only heard of that exploit, but may also have seen those photographic views which he took while there, some of them highly suitable for illustrating Doré's Dante's "Inferno," and that from truly natural scenes. I may mention, for the information of those who may not have heard of it, that when Mr. Collie visited that island in 1877, by a vessel trading between this port and Auckland, it was stipulated that he was to be called for on her return voyage to Napier; but this could not be done owing to the state of wind and weather—the island also being several miles out of the common course; and so, instead of being there for only a few days, he and his companion (the same young man who subsequently accompanied him to Tongariro, Mr. F. E. Lys) were prisoners for nearly a month. Fortunately they had taken the precaution to carry a month's provisions with them from Napier, and also water in kegs, as there was none on the islet save what might be found in shallow holes in the rocks after rain. When they were rescued their stock of water was nearly exhausted, and, although they had fishing-lines and hooks with them, yet, from the depth of water immediately around the island being very great ("out of soundings," according to the Admiralty survey), they certainly had no prospect of ever catching any fish.

There being no vegetation on the island, except a little
scrub at the high and inaccessible north end, and the whole soil being so largely impregnated with sulphur that on a lighted match being thrown on the ground it caught fire immediately, their time there must have been the very opposite of pleasant. Then, the exposure to the winds and sun was extreme; but the very worst was when the land-winds blew strongly towards them across the flaming sulphur-beds beyond the hot-water lake, covering them with dense clouds of stinking smoke and thick clammy vapour, rendering even breathing difficult, from which there was no escape. The lake, according to survey, contains an area of nearly 16 acres, surrounded on more than three sides by high precipitous cliffs, the two highest peaks being each nearly 900ft. high.\

In that short paper of Mr. Collie's (only two pages) read before the Wellington Philosophical Society he says a little about the volcano in White Island worthy of being quoted here. He commenced it by saying, "In the pleasant, if sometimes arduous, pursuit of art-photography, the writer camped for weeks close to the main volcanoes and geysers of the colony, enjoying excellent opportunities for search into the origin and working of these marvellous and attractive exhibitions of nature's powers. And, viewing the existence, or it might be termed life, of the earth in its present state for at least thousands of years, the question naturally arose to the wayfarer of to-day amongst these interesting scenes, 'Whence the activity which still pours forth the boiling waters of Rotomahana, to run glistening down the silica terraces of their own constant formation?—wherein the force that lights the red fires which burn ever in the crater of White Island?—or what the motive-power that still throws up a cone in the crater of Tongariro (Ngauruhoe)?' The reply from the waters of Rotomahana, from the fires of White Island, and from the cone of Tongariro, was the same—the one word, 'Sulphur.'" And he closes his paper with remarking,—

"White Island.—It is generally supposed that the vapours arising from White Island are steam from geysers, whereas sulphurous steam never rises to any height. The main forces of the grand display at the 'Theatre of Nature' upon White Island are burning beds of sulphur, which show their red fires at night across the lake, whilst the fumes rise up into the air in volumes, to spread there at a great height, like a balloon, or

*See Trans. N.Z. Inst., vol. iii., p. 273, for an interesting scientific paper on the geology, &c., of White Island, with diagrams, by Dr. Hector, who visited it in 1870; and also same work, vol. i., p. 57, for another scientific paper on the island, with map and rough survey of the crater, by Lieutenant R. A. Edwin, R.N., who visited the island on two occasions a few years before.
flow away in a train over the sea before the breeze.”—(L.c., pp. 418-420.)

Mr. Collie also took several photographic views of those wonderful natural terraces at the boiling springs, Rotorua, in the year 1874, fortunately before the destruction of their marvellously beautiful symmetry by the great local earthquake or eruption in 1886, and his observations thereon are somewhat remarkable, especially his remark made while contemplating them: “On what a slender thread the beauties of that mountain-side hang!”—words since proved too true. And as his whole brief statement thereon is contained in a few lines, I quote them:

“Rotomahana.—During the writer’s stay at the Terraces he was favoured with an exhibition of the subsidence of the waters of Te Tarata into the caverns below; and as the Terraces on that occasion got dry it was noteworthy how brittle the silicious surface became, showing upon what a slender thread the beauties of that mountain-side hang; for, were the flow of the blue waters to stop—as stop it must when the energies of the forces below exhaust themselves—the glory as well as the cause of Rotomahana will disappear.”

—(L.c., p. 419.)

Furthermore, on again referring to Mr. Hill’s paper I find that he mentions very briefly the strange and peculiar high volcanic plateau lying on the eastern side of those mountains. I quote his words:

“The portion of the plateau running along the eastern side of Ruapehu and Ngauruhoe is known as the Onetapu (sacred sands) or Rangipo (cloudy sky)” (sic) “Desert, and it well deserves either name. Some parts of it are swamp, and exceedingly dangerous, whilst the portion not swamp is made up of moving sands, scoria, cinders, clinkers, and tufas; and, although its traditional history is not reassuring, it is a spot well worth the attention of geologists, for some very curious and rare specimens of volcanic rocks are to be found in places left bare by the ever-moving sands.”—(Trans. N.Z. Inst., vol. xxiv., p. 606.)

Having myself had on two occasions, in 1847 and 1849 (in performance of duty), to cross that desert (then little known), and on the first time suffered much, and having also obtained from that neighbourhood several new and curious plants, I am desirous of telling you somewhat respecting that first journey of mine, which, I think, may prove both new and interesting; and which, if placed on record, will serve to show in days to come how the early traveller occasionally fared.

I shall quote from my journal, prefacing, however, by stating that I was then on my way from Ahuriri (now Napier) towards finding some little-known Maoris, who were said to be
dwelling isolated on the upper banks of the Rangitikei River, near the western flank of the Ruahine Range. I had tried to get to them in 1845, through direct crossing over the range by its eastern side, and, though I had succeeded with some difficulty in gaining the western summits, I was obliged to give it up.

I left Ahuriri on the 9th February, and after a long and weary circuitous kind of march—rendered the more trying from there being no roads, and without a guide, and from our not being able to obtain a supply of Maori food (as potatoes) on the way, it being too early in the season—we arrived at the village of Rotoaira, near Tongariro, on the 18th February; were well received by the Natives, and there we stayed that night.

As this was the last southern village of the Taupo country I endeavoured to get a guide hence to the Patea district, and only after great difficulty succeeded, as the country over which our course lay was rugged and difficult, and there was no regular track hence to the Patea villages; only once a year—or in two or even three years—did a small party of Maoris visit Taupo from Patea; rarely if ever did any go from Taupo to Patea.

Nothing is more surprising to me among the many and great changes which have been effected in this country during the last fifty or fifty-five years than this of common fearless communication between the Maori villages and tribes, which formerly did not exist—not even between what are now considered (even by the natives themselves) as neighbouring villages. I could not, however, help fearing that, just as on former occasions so now, our "guide" would prove to be of little real service.

"19th.—We rose early and crossed the head of one of the main branches of the Waikato River (which is the outlet of Rotoaira Lake) at 5.30. Winding round the immediate base of Tongariro Mountain, over undulating ground, we halted at 7.30 to breakfast by the side of a mountain-stream of very cold and pure water, which ran bounding and sparkling in the sun among the rocks. Breakfast over we recommenced our journey, and travelled steadily on. During the former part of this day I met with several botanical novelties—e.g., a very handsome full-flowered Cyathodes (C. colensoi, Hook.), a low bushy shrub of depressed growth, some plants bearing white and some red berries in profusion: this will become a garden flower. The abnormal prostrate species of pines (Dacrydium laxifolium and Podocarpus nivalis) were also here, in many places completely matting the surface; also, two or three species (or varieties) of Gaultheria—one, in particular, bearing plenty of good edible fruit. Another was very curious, and in-
terested me much; it was plentiful, and grew prostrate, having a racemose inflorescence and baccate calyx, which gave it a singular appearance, as if double-fruited: this is, I think, var. e of Sir J. Hooker's G. rupestris. A distinct species of Epaecris (E. alpina) was also here, but, unfortunately, it was not fully in flower. In damp spots (but only in two places) two curious species of Drosera were found—D. binata (remarkably fine), and the much rarer one, D. arcturi, a plant of the Australian and Tasmanian mountains—the only time I ever met with this latter species; together with a rather scarce orchidaceous plant, Prasophyllum nudum; and in the thickets adjoining, by the sides of the mountain-streams, Phyllocladus alpinus and several species (or varieties) of Aristotelia with small leaves were noticed. A peculiar-looking small restieaceous plant, a species of Calorophus, was also obtained here in a boggy spot. I had found a similar plant several years before in bogs at Whangarei, and near Cape Maria Van Diemen, but in each locality only a little of it. Of the cyperaceous order, I collected two species of Schoenus (S. concinna and S. parviflorus), Cypera alpina, Isolepis aucklandica, and also several species of Carex, among them being a British species, C. stellulata. In dry gravelly spots I also detected Asperula perpussilla (which I had last year discovered in similar situations at the base of Tararua Mountain-range, in Palliser Bay), and the moss-like tufted Bacoulia australis was not infrequent. Many beautiful plants of the lichen order I also met with. Prominent among them were several species of Cladonia, particularly CC. capitellata, aggregata, retipora, and cornucopioideus, this last strongly reminding me of the pretty (never-to-be-forgotten) British species C. bellidioides, which at first I supposed it to be, from its bright vermilion-red globular tubercles springing from the edges of its tiny cups. C. retipora, often found in large tufts in undisturbed spots, is one of the most elegant of lichens; its regular reticulated open structure is wonderful. A few curious fungi new to me I also obtained; and in a still-water bend in a streamlet I came upon a large mass of that peculiar fresh-water alga, Batrachospermum moniliforme—the only place I ever found it in New Zealand.

At 3 p.m. we crossed the sandy desert called Te Onetapu—a most desolate and weird-looking spot, about two miles wide where we crossed it—a fit place for Macbeth's witches, or Faustus's Brocken scene. About it, too, the old Maoris have many peculiar stories and superstitious fears, some of which I have no doubt are agglutinated around a nucleus of reality. Here and there burnt logs lay, scattered and embedded in the volcanic sand, as if where a fiery eruption from the neighbouring volcano had issued forth in times long past upon the then living forest. I noticed also that much of these anciently-
charred logs and pieces wore a highly-polished and semi-glossed appearance, as if accosted by the ever-drifting sharp sand. I was so struck with the peculiar exterior of some of the half-burnt timber, apparently so aged—or of old time—and yet retaining all its vessels and ducts, that I collected a few specimens, and subsequently sent them to England for high microscopical examination. On the edges of this lonely barren desert a lovely Gentiana flourished in all its undisturbed beauty—probably G. pleurogynoides (another fine garden-flower); also Celmisia spectabilis, most luxuriant in gloriously-fine tufts or tussocks; and with it grew a much smaller and different-looking species of Celmisia (C. glandulosa), for the first time here found, and both species tolerably plentiful. Several times during this day were those exquisitely pathetic words of the poet Gray, so highly suitable to the place and scene, feelingly uttered by me:—

"Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.

Very curious also was the formation, or, more correctly speaking, the state in which the old land was left in many spots on the west side of this desert. Table-topped mounds, from 6ft. to 10ft. high, having perpendicular cliffy sides, each containing only a few perches of land, and rising like little islets separated from each other by the barren white sandy arms of the desert, were common. These mounds, or islets, abounded in a peculiar vegetation, which I greatly wished to know more of; but, alas! I was sadly pressed for time, and I was already more than prudently overloaded for the unknown mountain-journey before me. It was difficult, too, to climb up on them, although I did manage to get on two. Here I obtained an elegant dwarf Daetydium (a “pine” tree, allied to the large Rimu = D. cupressinum), rooting up a few old trees of 1ft. or 18in. high, in full fruit, for specimens—reminding me of the quaint yet symmetrical little trees so greatly prized by the Chinese for their gardens. Rain overtook us shortly after our crossing the desert, which we were sorry for, but there was no help for it, there being no kind of shelter nor water at hand; so we travelled on in the pelting rain, which was from the south and in our faces, getting wet, weary, and dispirited, eagerly looking out for a fit halting-place, but finding none. To make matters worse, our guide more than once told us he was “all at sea” as to the proper course; because the thick rain hid the hills on all sides (and everything else) from his view, so that he could not see the landmarks. We kept on, on, on, however, till 7 p.m. (dark), when, finding water, we were obliged to halt in a narrow deep gully by the side of a Fagus wood, where everything around for miles of fern and
scrub had been very lately burnt off. We had been travelling through this “black country” for more than an hour, in hopes of seeing its end, but in vain. Here, where we were, we could not find a level spot on which to put up our tent, so, in the darkness and the rain, we were obliged to dig away with our axes on the steep side of the hill before we could set it up. That night was a terrible one of wind and rain, insonmuch that we expected every moment to be smothered in our half-pitched tent. Few of us slept that night.

“20th.—Our most wretched night was followed by a dirty, lowering morning, with furious wind and heavy rain: it was also bitterly cold. We were here caught in a southerly gale in one of the worst spots possible in the whole North Island of New Zealand, and we could not help ourselves. To retrace our steps and go back to Taupo (over Te Onetaipu Desert) our guide flatly refused, and my natives joined him, he saying that high open desert-sand was now covered with snow, and that from the falling snow and sleet he could not tell the course—which, perhaps, was really the case. From him we had the story of seventy men having been once lost at one time in attempting to cross that place in snowy weather. Murmurs, loud and deep, throughout this long and dreary day reached my ears,—of my having been the means of bringing on this weather through my uprooting some small trees (Dacrydiuims), and my crossing the “sacred” desert without first observing certain superstitious ceremonies, and my sacrilegiously eating some Gaultheria berries while crossing it, which the guide had detected, &c. The worst to me was—(1) That I could not get anything whatever to lay on the wet mud floor of my tent (nor fern, nor grass, nor leafy shrubs were there to be found; all had been destroyed by fire, the very lower branches of the Fagus trees in the wood before us having been scorched); (2) that we had scarcely anything to eat; (3) that my specimens were becoming spoiled, which caused me to fret pretty considerably; and (4) that, at the rate it was then raining, when the gale should abate the rivers we should have to cross would be unfordable for some days. As the day began, so it closed—no change whatever in the weather, save that even about us, at our considerably lower altitude, the rain was changed to sleet and snow.

“I shudder now, while writing this, in thinking of that wretched time, though more than forty-six years have since passed.

“Often enough did those highly-suitable words of my favourite old poet, Ossian, cross my memory: ‘It is night; I am alone, forlorn on the hill of storms. The wind is heard on the mountains; the torrent pours down the rocks. No hut
receives me from the rain; forlorn on the hill of winds'—
('Songs of Selma')—their suitability being so much the more
increased through the superstitious talk and fears of some
of my natives, who insisted on it that the sounds they heard
between the fitful ravings of the blast among the trees were
not merely those of the trees creaking, and of the denizens
of the forest—parrots, owls, and wood-hens—but of the justly
irate patu miaoreahe (wood-nymphs or fairies), or of the ghosts
of the dead—just, indeed, as Ossian has it; and Schiller
laments in 'Wallenstein,'—

"Alas! the old fabled existences are no more;
The fascinating race has emigrated."

"21st (Sunday).—Another wet and uncomfortable day.
The wind, however, had lessened a little, and we could man
age to make up a fire, which we could not do yesterday. Not
really knowing how far we were from help, I could only allow
two teacups of rice for all my natives (six in number) for
breakfast, and two also for dinner; and for supper one cup of
rice was all that could be spared, which, with a few scraps of
bacon fat and a little salt, made a mess of pottage! At con
sultation this evening we agreed to start early this morning.
I privately requested Paora† and two other of my natives
from Hawke's Bay whom I could trust to keep a good watch
over our Taupo guide during the night, lest he should give us
the slip, a trick I had been served more than once in former
travelling. Indeed, to prevent this on this occasion I had
determined, if needs be, to bind him till morning.

"22nd. — Up early this morning, and left our wretched
encampment at 6 o'clock. The frost was heavy, and it was
bitterly cold, insomuch that we could scarcely fold up the
tent. Unfortunately, however, the ice on the many pools and
streamlets we had to cross after gaining the brow of our hill
was not thick enough to bear one's weight, and so we were
obliged to go through it. Crash! souse into the cold water,
of which my poor companions with their naked feet loudly
complained. Here, in one of these watery hollows, and partly
submerged, grew a little shrubby plant which I had not before
seen, and never again found. It proved to be a new species
of Logania (L. depressa). It cost me a good wetting and cold
shivering to get specimens. It was nearly 9.30 before we
halted to breakfast, which we did on the banks of the River

* Die alten Fabelwesen sind nicht mehr,
Das reizende Geschlecht ist ausgewandert.

SCHILLER: "Wallenstein."

† This man (Paul), then one of my baggage-bearers, a fine, tall,
stalwart, and useful Christian native, is the same as Paora Kaiwhata, a
chief of note, well known to Hawke's Bay settlers, who died a few months
ago.
Moawhango (now a swollen rapid), where we roasted our roast—a few potatoes which we had carefully reserved—my natives having then said they could travel better on roasted potatoes than on rice. We travelled on pretty steadily all this long day until 8 p.m. without halting, when we threw ourselves down among the fern quite exhausted and spiritless, not knowing how much farther we had to go before we should reach this long-looked-for Patea. Our guide, who had been lagging behind, although he had no load to carry, had sunk down some time before, declaring he could go no further, being faint through hunger; so, taking from him the course we had to steer (as far as he knew), we left him, believing that a good nap would refresh him. After a while we arose from our fern couch hunger-impelled, and, having broken off the tops of the branches of the large many-headed cabbage-trees (*Cordyline australis*), which grew close by, and which the light of the rising moon revealed, we made a fire, and roasted the stalks of the young leaves, which, though both tough and bitter, served to allay our pangs. The *Cordyline* trees of these parts are the largest I have ever seen. They are not only high and many-branched, but bulky also in the trunk.* The whole route this day was very hilly and broken, with occasional heavy entangled virgin forests without the least vestige of any track, we having been obliged to keep much on the higher ground so as to avoid the streams in the valleys, which were overflowing, rapid, and dangerous. During this long day's march I subsisted on a raw potato, which I kept nibbling, and a few *Gaultheria* berries; in addition thereto following out the Maori plan of 'hauling in the slack,' in nautical language, or, in other words, of tightening up my travelling-belt, which I have always found in times of severe hunger to be of great service, although it makes it dangerous for stooping low. That night we all slept as we were in the fern around the fire.

23rd.—Very early this morning our 'guide,' following our track, came up to us before we were well awake, and, finding from him we were at last really near the Patea villages, I, after he had rested awhile and eaten some roasted cabbage-tree leaf-stalks, sent him on to the nearest village to inform the natives of our arrival and of our hungry state. A long night's sound sleep had done him a deal of good, he appearing a different man altogether, although he had had nothing to eat, and had passed the night in the open without a fire; tobacco, also, at that period not being in use. At 6 a.m. we also managed to hobble after him, stiff enough, following his

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*I afterwards measured one in which a native of Patea had made a house or room, and fitted it with a door, to keep his tools, baskets, &c., in. I went into it, and stood upright in it. The tree was living, and healthy. I took down its exact girth—20 ft. 2 in.*
track, and by 8 we were loudly welcomed into a little planta-
tion village, where we found a feast awaiting us, in baskets of
smoking-hot cooked potatoes, to which we all did justice."

I will only add that on the day before I collected several
new and interesting plants, which with all those others named
were described and published, with drawings, by Sir W. J.
Hooker in his "Icones Plantarum," and by Sir J. D. Hooker
in his "Handbook of the New Zealand Flora."

APPENDIX.

Copy of the Letter written by Mr. Lys to the Editor of the
Hawke's Bay Herald, Napier, with reference to Mr. Collie's
Ascent of Ngauruhoe, and the Loss of his Camera there.

Sir,—Having noticed several allusions to a camera belonging
to Mr. Collie having been found at Ngauruhoe, and two of
your correspondents having mentioned my name in connection
therewith, I beg to supply you with the true facts of the case.

As near as I can recollect, it was in 1877 that Mr. Collie
and myself started for Ngauruhoe, intending to thoroughly
photograph the mountain and vicinity, not making any secret
of our intentions, as, although we knew that the volcano was
tapu,* we believed we should meet with no opposition. But
on arriving at Erewhon, Mr. Birch's homestead, we were met
by a Maori, who bore a letter from the chiefs of the district
warning us to go back, as we would not be permitted to take
any photographs of the sacred mountain, which was strictly
tapu. It was but a short time since they had stripped Mr.
Conolly, and we came to the conclusion that we would return
to Napier, and try again in the following autumn; which we
did, taking every precaution to keep our intentions secret, and
we succeeded in reaching our goal without the natives being
anything the wiser. Mr. Collie and myself for three weeks
camped at the base of Ngauruhoe, taking views of the moun-
tain and surrounding scenery. We had taken part of our gear,
including the camera, up into the crater, intending to follow
next day with the balance of our necessaries; but next morn-
ing whilst having our breakfast we were surprised by a
party of six natives, who manifested great curiosity as to our
reasons for being there, and also as to how we had found our
way there. I should tell you that we were prepared for our
visitors, in that we had our pictures "planted," and also the
bulk of our goods were in another camp, and our money had
also been sent away to Mr. Birch's, in Patea; but we were
expecting a man to arrive every day with the horses for us to
depart when we should have got our views of the crater. The

* Placed under ceremonial restrictions, rigidly preserved.
Maoris talked of taking us to the king, of killing us, and various pleasant alternatives, but agreed at last that in consideration of a sum of £20 they would overlook the sacri
tifice done and allow us to depart with our baggage. We drew
out an agreement to that effect, which we signed; and then
they wanted cash down, which we had taken care was out of
our power to comply with by having no money with us.
Eventually it was agreed that we should try to get it from
Mr. Birch. We were going to get it, leaving our baggage as
security—a by-no-means considerable quantity, as we were
using the wet process, making a load for two pack-horses. I
went with three of the Maoris that afternoon up to our second
camp, and showed them our gear, my fellow-prisoner (Mr. Col-
lie) being guarded by the other natives. We arrived at their
camp after dark that evening, the said camp being in the bush
between Ngauruhoe and Ruapehu, and consisting of a large
fire, with boughs of trees thrown on the ground for bedding.
It was a novel yet not unpleasant experience for me, as it
was a glorious night in May, with the moon at the full. The
snow-covered mountain in front of us presented a sight worth
going a long distance to see. In the morning, after some break-
fast, consisting of weka* and potatoes, and some tall talk on
both sides, Mr. Collie proceeded to Mamoenui, an outstation
or shepherd’s hut belonging to Mr. Studholme, on the edge of the
desert, some twenty miles from our dusky captors, and there
we waited for our horses, as we had to leave our camp on foot.
Our horses arrived next day, and the man who brought them
and myself started for Ngauruhoe as soon as it was dusk, on
foot, intending to make a dash up the mountain for the camera
and pictures, which, as I have said, had been hidden; but the
fates were against us, as there came on a heavy gale from the
south, and no man could have ascended the mountain in
safety. However, I got our plates, although the Maoris had
removed all the rest of the gear; and the following summer
we ascended the mountain and found that our camera had
been destroyed by eruptions of the volcano and the weather
combined. That is the truth about Mr. Collie’s camera; and
I can say that neither of us was inclined to run from noises or
shadows, as we passed a night in the crater on our second
trip.

Apologizing for trespassing on your space,—I am, &c.,

F. E. Lys.

Hastings, 3rd June, 1893.

In addition to the foregoing account I may add (having
recently had an interesting interview with Mr. Lys) that those

* Wood-hen, probably Ocydromus grayi.
Maoris did not get their ransom of £20, Mr. Collie and Mr. Lys having managed to leave very early the next morning for Napier; consequently they took possession of all they found at the camp where they had discovered the two Europeans.—W.C.


By W. Colenso, F.R.S., F.L.S. (Lond.), &c.

[Read before the Wellington Philosophical Society, 18th December, 1893.]

Every kind of evidence is made to tell by writers who have a theory to defend.


It very frequently happens that he who defends the truth does not gain the victory, since the hearers are either prejudiced, or have no great interest in the better cause.


A generous friendship no cold medium knows,
Burns with one love, with one resentment glows.


It was with no small amount of surprise that I saw in vol. xxv., Trans. N.Z. Inst. (lately to hand), that old and long paper of M. A. de Quatrefages on the Moa (Dinornis species) again served up, and that, too, in a brand-new translation. That paper having already appeared in full in an English translation,* in such a respectable, old-established, and well-known first-class scientific serial as "The Annals and Magazine of Natural History" nearly ten years ago, surely there was no necessity for (I might truly enough say, no benefit to arise from) it being republished in the Transactions, especially as it contains many errors which, possibly, were not fully known to the writer at the time, but which are almost sure to accompany all such heterogeneous and voluminous compilations, particularly when strung together by one who does not fairly grasp his subject; and still more so when he has a former and pet theory, or "fad," of his own to supplement and defend. And, as the one eminent man against whom that paper is particularly levelled is no longer among us to reply to it—which, however, I well knew he fully intended to do—and as I am in full possession of

*Which, moreover, was highly eulogized by Mr. Maskell as being a "good translation," in his paper on it: "Review of a Paper on the Moa by M. A. de Quatrefages," read before the Wellington Philosophical Society, 3rd September, 1884. (Trans. N.Z. Inst., vol. xvii., p. 448.)