1908.

NEW ZEALAND.

TONGARIRO NATIONAL PARK

(REPORT OF THE BOARD OF THE).

Presented to both Houses of the General Assembly by Command of His Excellency.

MY LORD,— Department of Lands, Wellington, June, 1908.

I have the honour to submit to Your Excellency the report of the Tongariro National Park Board covering its operations up to the present time.

I have, &c.,

ROBERT MCNAB,
Chairman of Tongariro National Park Board.

His Excellency the Governor of New Zealand.

REPORT.

ALTHOUGH the Tongariro National Park was set apart as a reserve by the passing of "The Tongariro National Park Act, 1894," it has remained untouched and undeveloped, except to a limited extent, until the last summer, when it was explored and reported on in a scientific manner.

Under the above-named Act the Crown accepted the donation of an area of about 6,508 acres by the late Te Heuheu Tukino, chief of the Ngatituwharetoa Tribe, for the purposes of a national park, and further enacted that adjoining areas of Crown and Native land should also be included in the proposed reserve. This was accordingly done, first by the description of such lands in the Schedule to the Act, and subsequently in a more formal and legal manner by the issue of a Proclamation in the *New Zealand Gazette* No. 76, of the 29th September, 1907, by which a total area of about 62,300 acres was permanently set apart for the purposes of a national park.

By the same Act certain Trustees were permanently appointed to manage the park, and power was also given for the Governor to appoint other persons to act as Trustees for periods of five years. The persons so appointed have been:—Under the Act: The Minister of Lands (as Chairman), the Surveyor-General, the Director of Geological Surveys, together with Te Heuheu Tukino, the younger, the chief of the Ngatituwharetoa Tribe. By Governor's appointment in *Gazette*: The Under-Secretary for Lands; the General Manager of the Department of Tourist and Health Resorts; and the Commissioner of Crown Lands for the Wellington Land District, for five years as from the 1st November, 1907.

So as to more effectively manage the park to the best advantage it was deemed desirable to ascertain whether the most suitable areas and boundaries had been selected for reservation; whether it was advisable to include in the reservation any of the adjacent lands; and what was the value, from a botanic, thermal, and scenic point of view, of the region surrounding the great

mountains of Ruapehu, Ngauruhoe, Tongariro, and Te Mari. For this purpose, Dr. L. Cockayne, the eminent botanist, was requested to visit and furnish a report on the botanical features of the park, whilst Mr. E. Phillips Turner (Inspector of Scenic Reserves) was at the same time instructed to make a topographical survey of the area; and these gentlemen were also asked to submit a joint report on the whole subject, setting out detailed recommendations as to any required alteration or addition of area, the development of the scenic and special features of the park, and the need for improving the present access thereto and accommodation thereon. Their joint report is appended.

Regulations for the better control and protection of the park were prepared during the past year and published in the *New Zealand Gazette* of the 12th December, 1907, on page 3490. For the purpose of commemorating the name of the original donor of the nucleus of the reservation, one of the three divisions of the park was called "Te Heuheu Division," the other two being called respectively the Ruapehu and Waimarino Divisions. The Trustees were formed into a Board, and the necessary regulations made for the meetings and transaction of business.

The first meeting of the Board was held in Wellington on the 20th May, 1908, when the joint report of Dr. Cockayne and Mr. Phillips Turner was read and approved, and a resolution passed recommending the Government to introduce a Bill empowering the area of the park to be increased in accordance with the recommendations contained in the report, and enabling the reserve to be developed and managed in a manner best calculated to attract visitors and at the same time preserve the unique flora of the locality. A Bill to this end has therefore been prepared and will be submitted this session.

REPORT BY DR. COCKAYNE AND MR. TURNER.

2nd April, 1908.

Introductory Remarks and General Principles.

The Tongariro National Park covers an area of about 62,300 acres. The present boundaries consist of the circumferences of three circles drawn round Tongariro, Ngauruhoe, and Ruapehu respectively, and having a radius of three miles for the two former, and four for the last-named. These circles are joined by a narrow neck of land two miles wide, occupying the saddle between Ruapehu and the other volcanic mountains.

The above circular boundaries we consider, after a careful examination of the country, and with a knowledge of the purposes for which the park is intended, to be both inadequate and inconvenient. For instance, at the present time the park presents the curious anomaly of being, except in one or two places, practically without a tree. Also, the southern and western boundaries, at any rate, pass over high spurs of Ruapehu at an altitude of 4,000 ft. and more. Even the Mountain House, near Ruapehu, together with the adjacent patch of forest (and this at an altitude of 3,700 ft. and more) are beyond the confines of the park.

But in order to make more plain our contention *re* the inadequacy of the park it is necessary to discuss briefly the requirements of such a domain. In the first instance the Tongariro National Park was set aside because of the presence of certain more or less active volcanoes, and because such were not only a valuable scenic possession for any country, but that they formed the climax, as it were, of the celebrated thermal region of the North Island. Correlated, too, with the height and extent of these volcanic ranges was much interesting scenery of a varied character. Scenery, however, does not depend merely upon geological or geographical characteristics. Were this the case, a monotonous uniformity would distinguish the whole earth. But such is not the case; each region, on the contrary, has its own peculiarities, these depending not on the contour of mountain or valley, but upon the plant covering of the place in question. Therefore the more special the vegetation the more distinctive the scenery. And nowhere does this dictum more carry weight than in New Zealand, where the vegetation is unique. Volcanoes, geysers, glaciers, lakes, and gorges are to be seen elsewhere, but our forests, meadows, and even deserts stand alone. Thus it follows that in all scenic reserves, and in those larger ones called "national parks," the preservation of the vegetation should be the matter of first consideration, and no area gives an accurate picture of the district of which it forms a portion if it does not contain typical examples of all these combinations of species called scientifically "plant associations" or "plant formations." Therefore in our examination of the district we have sought to include in the suggested new boundaries a sufficient number of characteristic examples of the vegetation of the region.

As originally constituted, the park was made up chiefly of steep slopes and deep gullies covered with volcanic cinders and ash destitute of all plant-life. This state of affairs our proposed new boundaries would altogether change. For instance, if our proposals are ratified, there will be various fine pieces of beech forest, the mountain-beech (*Nothofagus cliffortioides*) on the east, the toothed-leaved (*N. fusca*) and the silver (*N. Menziesii*) on the south-west and in certain deep gorges not far from the Tokaanu Road. There will also be fine collections of alpine plants, embracing such remarkable species as *Dacrydium laxifolium*, the smallest member of the pine-tree family in the world; the whipcord veronica, *V. tetragona*; the handsome *Veronica lævis*; the charming eyebright, *Euphrasia cuneata*; mountain-daisies (*Celmisia*), and many other plants found nowhere but in the mountain fastnesses of New Zealand. One plant especially deserves mention, for so important is it that the red or purple hue of its stiff recurved leaves gives the characteristic stamp to the landscape, lighting up even the barren and otherwise gloomy scoria deserts. This is *Dracophyllum recurvum*, a low-growing scrub peculiar to the backbone chain of

North Island mountains (Ruahine–Kaimanawa) and to the high lands of the volcanic region. Unfortunately, it is easily burned, while horses also feed upon its foliage, and so it is easy to see how fires or overstocking might affect the scenery to no inconsiderable extent, and detract considerably from the value of the park by reducing the numbers of this beautiful shrub. If considerations such as the above carry weight at the present time, how much more do they bear upon the future, for which our scenic reserves are especially constituted—a future when much of the vegetation of New Zealand shall be no more, and when many species of plants peculiar to the Dominion will in these sanctuaries alone find a refuge! That this is no idle prophecy any observant man, seeing how rapidly the indigenous plants are being replaced by those of the world without, must admit.

Nature of the Vegetation from Economic Standpoint.

In seeking to add to the limits of the park we have in all cases been influenced by the value of the land for purposes of settlement, and have recommended the inclusion of no land which could finally become of economic value, or which contains milling-timber.

In the east—that is, on the Rangipo Plain—at above an altitude of 3,000 ft., generally speaking, the country is of little or no value for agricultural purposes. At best it could only support a few sheep. During the time of our visit, it is true an unprecedented drought was experienced, but it must not be forgotten that the land is not, nor ever has been, stocked at all, no grazing-animals being present except a few wild horses, cattle, and hares, together with three or four sambur deer recently released. This being the case, the grass-crop, although dried up, was at about its maximum. This grass consists of the red-tussock or snow grass (*Danthonia Raoulii*), which is not relished by stock, but is the grass *par excellence* of the region; *Danthonia semiannularis*, var. *Setifolia*, also poor for feeding purposes; the holy grass (*Hierochloe redolens*), which soon disappears with overstocking; the blue-tussock (*Poa Colensoi*), a very valuable sheep-fodder, but existing in the park only in isolated examples, which would soon be eaten out of existence or much reduced. There is also a small quantity of the valuable blue-grass (*Agropyrum scabrum*); but the remaining two or three species of grasses are virtually worthless. However, the above gives little idea of the poverty of the vegetation from the economic standpoint, which may be best summed up in the by-no-means-complimentary name of "steppe," which is to be used in the forthcoming botanical report for the two leading plant associations. That is to say, there are no collections of plants worthy of the name of meadow, but merely an association of drought-enduring plants on the one hand, to which the name "grass-steppe" is to be given, and on the other an association of stiff-stemmed, frequently more or less prostrate, shrubs mixed with a few grasses, and where many bare patches of scoriæ are to be found, which will be denominated "shrub-steppe." Such associations as the above the sheep-farmer would at once seek to "improve" by burning, and in doing so would wipe, in the long-run, out of existence those peculiar features of the vegetation on which the characteristics of the scenery depend, increasing at the same time the already-too-abundant desert areas.

Scenery.

The scenery of the park, if the suggested additions are made, is probably of a more varied character than any other equal area of land in the Dominion. Ruapehu, 9,200 ft. in altitude, has beautiful glaciers on its east, south, and west slopes, which, although they cannot vie with their southern sisters in magnitude or beauty, are the only ice-rivers of the North Island, and are thus a source of special interest to travellers on the Waiouru–Tokaanu Road or the Main Trunk line. Also, to those unable to visit the South Island a close acquaintance with these ice-masses must be a matter of great interest. On the summit of Ruapehu, occupying its ancient crater, is a glacier as remarkable in its way as any in the world. This contains in its bosom a small lake of water, warm at times, at others more or less cold, clear also at one time or sometimes turbid, while on its surface frequently float small icebergs broken off from the 200 ft. of perpendicular cliff bounding part of its margin. From this glacier comes the celebrated Wangaehu River, whose waters, even at their mouth, are still highly charged with sulphurous acid and certain sulphates.

Ngauruhoe, the highest of the active volcanoes, is an easy excursion from the Ruapehu hut, and the climber is rewarded not merely with a most extensive view, but stands on the rim of the crater, a mud volcano in its centre, and a strong jet of steam blowing with a loud noise from its hidden recesses.

Between Ngauruhoe and Ruapehu is a saddle some 4,000 ft. in altitude leading to the west, and here are two interesting crater-lakes called Nga Puna a Tama. Tongariro contains two active craters, one the Red Crater, so named from the colour of its walls, and the other Te Mari, which is the more active of the two, and is said to have been in eruption some ten years ago. Also there are the very powerful blowholes of Ketetahi, which constantly emit vast volumes of steam. Here, too, are several hot springs containing various kinds of water, and probably of much importance from their curative properties. Nor are the signs of present volcanic activity the sole interest. The ancient craters, and especially the lava-flows, are truly wonderful sights, particularly that recent one from Te Mari, which not so many years ago cut a fiery path through the totara forest, or the more ancient flow still in the great Oturere Crater, now weathered into the most fantastic forms.

Leaving aside the actual volcanoes, there are the forests and collections of shrubs alluded to above, the vast deserts, sublime and weird, the river-gorges full of forest and of great depth—true cañons, indeed. There are rivers, too, such as the Ohinepango and Waihohonu, which all of a sudden issue from the solid rock, widening out into quiet pools, haunts of wild-duck, or dash at once over their stony beds as true alpine torrents. The toothed-leaved-beech forest of the west and

south, with its open undergrowth and bright-green foliage, looking like delicate lacework, is equal to the same association as found in the Cold Lakes region. On the north of Tongariro is a forest of quite a different type, with the thin-barked totara (*Podocarpus Hallii*) as the leading tree, while the beeches (*Nothofagus*) are absent.

On Tongariro the alpine flora is richer than elsewhere in the park, the combination of the plants more meadowlike. There is the rare buttercup (*Ranunculus nivicola*); and the beautiful white gentian (*Gentiana bellidifolia*), its flowers marked with thin purple lines, is so abundant in March as to dot the slopes with patches of snowy whiteness.

Introduced Animals.

We have attempted already to explain how important it is, so far as the plant-life is concerned, that no grazing-animals should have access to the park. At the present time there are a few wild horses, certain cattle, numerous hares, and three or four sambur deer recently liberated, but as yet giving few or no signs of their presence. The cattle are said to belong to the Maoris, who indeed spent some time during our visit earmarking such as they could catch. On the northern slopes of Tongariro the pasture is much richer, and here the Maoris' horses and other stock, probably, are wont to graze, entering also the fine totara forest, where a certain amount of damage has already been done to the undergrowth. So, too, when the lands alongside the proposed south and east boundaries shall have been settled, there will undoubtedly be incursions of the settlers' stock, just as happens at the present time in the Egmont National Park, although this latter is fenced. Fencing, however, for the Tongariro National Park is an altogether too expensive remedy, and we do not dream of suggesting it. Regarding the future safeguarding of the park some suggestions are offered under another head.

Fires.

Fire is much more to be dreaded than the incursion of grazing-animals. So long as these latter do not assume formidable proportions but little change of moment will accrue. But with fire it is different, and a plant association once burnt, now that introduced plants are established in New Zealand, cannot exactly reproduce itself, while in the case of forests they may be wholly destroyed. The recent leasing of the high land adjoining the National Park on the east for a sheep-run—this county having previously been unoccupied—will most certainly be a perennial source of danger to the vegetation, and consequently to the scenery. If it be possible to cancel the lease, or to restrict the area occupied, we would most respectfully suggest that this step be considered.

Accommodation for Visitors, Tracks, etc.

At the present time there is only one road available to the park for the ordinary visitor, that from Waiouru to Tokaanu. So long as the coach-service exists this route will be of prime importance. By it the Mountain House is distant from Waiouru, on the Main Trunk line, twenty-three miles, the final four of which is by an excellent track leaving the main road near the nineteen-mile peg. Thus a visitor even now can leave Wellington at about 8 a.m. and arrive at the Mountain House by 12 or 1 p.m. on the following day. From this centre all the volcanoes can be attacked. A long day will enable Ruapehu to be ascended and the crater-lake visited; five hours, or rather more, will suffice for Ngauruhoe; and, finally, by a track now being formed, the whole Tongariro Range can be crossed to the hut below Ketetahi in six or eight hours, the Red Crater and Blue and Green Lakes being visited *en route*. Ketetahi also can be reached from the Hot Lakes *via* Tokaanu, but the distance is much greater.

When the Main Trunk line is completed there will, however, be a demand for a more rapid route to Ruapehu from the line itself. Two courses recommend themselves. From Waiouru one can ride for twelve miles along the road, then, crossing the sandy Onetapu Desert for three or four miles, the mountain may be ascended from near the source of the Wangaehu. Also, close to Rangataua, on the railway-line, is the Mangaehuehu River. This flows in almost a straight line from its glacier. From the terminal face of the ice to the railway-line is some nine miles and a half, eight of which are through the beech forest. This latter is for the most part very open, and a track could be cut near either bank of the river at a small expense. The slope is remarkably gentle and even, while there are only one or two gullies, and these of little moment. Such a track would be easily available for horses, and by its means a visitor could reach to an altitude of 5,000 ft. or more in three hours from Rangataua. Then, a spur free from snow leads to one of the main peaks of Ruapehu.* As for the final portion of the spur, we can give no definite information, but, in any case, such a track as suggested would be a great boon to any one wishing to see glacier scenery, and to investigate the higher slopes of the mountain, even leaving out of consideration any ascent of the final peak. Of course, a hut just above the forest-line would much enhance the value of this route, which is by far the simplest and shortest as yet proposed for an attack on the mountain. Also, it leads through beautiful forest scenery, the deserts not being reached until the very high land is gained. Possibly, too, from Horopito an easy track to the summit could be found, but unfortunately we had no time to investigate this point. As for the Waimarino Plain, although there is a track thence to the northern end of Tongariro, and a kind of track over the central saddle, the distance is too great to allow competition with either the Rangataua, Waiouru, or Mountain House routes.

* Dr. Marshall informs us this is the easiest spur by which to climb Ruapehu and that ladies have ascended by this route.

The Proposed New Boundaries.

At first sight the additional areas may appear very considerable, but in our opinion, if the park is to be more than merely a collection of barren scoriæ-slopes, interesting as they are (since the volcanoes are still active), the ground to be included is by no means too great. We have already explained fully the principles which have guided us in our recommendation—viz., (1) the addition to the park of examples of all the special plant associations of the region, since it is on these that the unique character of the scenery depends; (2) the exclusion of all land suitable for agriculture, and of forests containing milling-timber. Therefore, large as the proposed area undoubtedly is, no one can object to the size on economic grounds. Further, these have also been attended to in our third principle, the retention of the forest covering on the slopes liable to denudation, as a protection for the farms of the future.

It will be seen that certain areas proposed to be included in the park are either Maori or private lands. We would urge that provision be made for the acquisition of such. In case this cannot be, then, where such lands occur, the former boundaries of the park could still continue. This, however, in the case of the forest covering of the Ruapehu spurs would much detract from the value of the new boundaries from the climatic standpoint.

The Bird-life.

Wherever forest exists, there the remarkable bird-life of New Zealand is preserved. In the forests of the proposed new boundaries are large flocks of whiteheads and parrakeets, wrens in abundance, wekas, a few kiwis, plenty of tuis, many kakas, pigeons, moreporks, fantails, tomtits (possibly the huia), cuckoos of both species, and in the loose *débris* of river-terraces and lava-slopes mutton-birds nest abundantly.

As for other animals, there is a rich field for the entomologist, the shrubberies and forests preserving many forms of the invertebrata, whose presence and, indeed, existence is dependent on the shade and shelter these arborescent associations afford.

Some General Suggestions.

At the present time the Tongariro National Park is quite unprotected from damage. Fires are lit with impunity within its precincts, animals roam at large destroying the vegetation, and the huts for visitors are occasionally damaged by those who benefit by them. As the number of visitors to the park will certainly much increase upon its attractions becoming better known, it seems very necessary that immediate steps should be taken for its protection. We would therefore suggest that a caretaker, who would be *ex officio* a constable, be appointed. Such a man might reside at the Ruapehu Mountain House, an extra room or two being provided. At present it contains two small rooms, fitted with three and two bunks respectively, while in the larger room is a fireplace. There is no table or furniture of any kind. The caretaker might supplement his salary by acting as guide and by providing food and bedding for visitors, just as is done at the Mountain Houses at Mount Egmont. Also, were such a caretaker appointed, a charge could be made for occupying the huts. His duties, of course, would be such as the Board would decide upon, but it would be necessary for him to visit at no long lapses of time those portions of the park easy of access to the public.

At the present time there is no accommodation for horses at either of the Mountain Houses. It is very necessary indeed that paddocks should be fenced off, and sown with white clover and cocksfoot. The difficulty of keeping horses at Ruapehu without a paddock was one which we strongly experienced.

We would also suggest that notices *re* damage to plants, lighting fires, &c. (more forcibly worded and of larger size and type than those used at present), should be placed in as many conspicuous places in and near the park as possible, and the same might be posted up in such other public places (post-offices, railway-stations, &c.) in the neighbourhood of the park as might call attention to the importance of its protection.

A most important and interesting feature of the park are the hot springs at Ketetahi, on Tongariro. They still, however, belong to the Natives. Their waters differ considerably in character. They are considered by the Natives as remedies for various diseases, and this fact is also mentioned by Hochstetter, page 377. Being situated at more than 4,000 ft. altitude, the climate would also be of distinct value for many complaints. At present the bathing accommodation is of the most primitive kind: a hole in the creek is dammed up, and in this the bather sits in the mud. The hut is almost a mile by road from the springs, but it could be brought to within a few minutes' walk by an easily made track over the adjacent tussock land. Also, this hut offers even poorer accommodation than the one on Ruapehu, there being no fireplace, a kind of kitchen with an abnormally small fireplace having been constructed near the adjacent creek. We do not offer any suggestions, but merely refer to the matter of Ketetahi since, for obvious reasons, it may finally become a place of prime importance.

So far as tracks are concerned, there will shortly be a good track from Ketetahi and Roto Aira to the Ruapehu House. A track also leads on to the lower spurs of Ruapehu, but it is finally ill defined, and it is especially important that it should be continued, and stones or poles placed to indicate the final spur by which the northern (Te Heuheu) peak should be climbed.

The track by the Wangaehu might also with advantage be marked, and, as suggested before, a track cut and perhaps a hut erected for the Rangataua route *via* the bank of the Mangaehuehu River.

Finally, the track from the Ruapehu Mountain House to Waimarino should be clearly defined. At present it exists only on the map for the most part, and the traveller may easily get into trouble amongst the mazes of the numerous dry creeks and washouts.

Rough bridges over the Waihohonu, the Ohinepango, and Mangatoetoenui could easily be made from saplings, &c., placed over the narrow part of the streams, and such would be a great boon to the pedestrian who was going to the Wangaehu Gorge or the beautiful wooded cañon of the Oturere. Speaking of this latter, a track should be made down its deepest part.

The Foothills.

It will be seen that if effect be given to our proposal in its entirety for the extension of the park the foothills of Ruapehu will be protected from denudation by their garment of forest. This is not merely a matter of scenery. The land along the Main Trunk line is destined to play a great part in the farming industry of the future, and the matter of saving the farms of this future from floods and of conserving their water-supply is one of supreme importance, and one which must be considered without delay. In the past irremediable damage has arisen from the destruction of mountain forests, but here on the lower slopes of Ruapehu all is virgin, and there are the experiences of the past to justify immediate present action.

For the same reason the whole of Hauhungatahi might very well be added to the park, a proceeding already suggested by the Board of Scenery-preservation, although we have hardly cared to assume the responsibility of placing the additional land within our suggested boundaries. Mount Hauhungatahi comes close to the railway-line between Makatote and Waimarino. Its slopes are very steep, and therefore the more in need of protection. The forest is extremely beautiful, and when eventually most of the bush in the neighbourhood of the line shall have been cleared away, this of Hauhungatahi, if preserved, would still form, as it does now, one of the most attractive pieces of scenery along the line. Also, its timber is of little value for milling purposes, since beyond a narrow belt of rimu (*Dacrydium Cupressinum*), the trees of which are much scattered, it contains no timber available for the sawmiller, while its grassy high portion is of no great extent, and contains few grasses of moment.

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Inspector of Scenic Reserves.

The Chairman, Tongariro National Park Board, Wellington.

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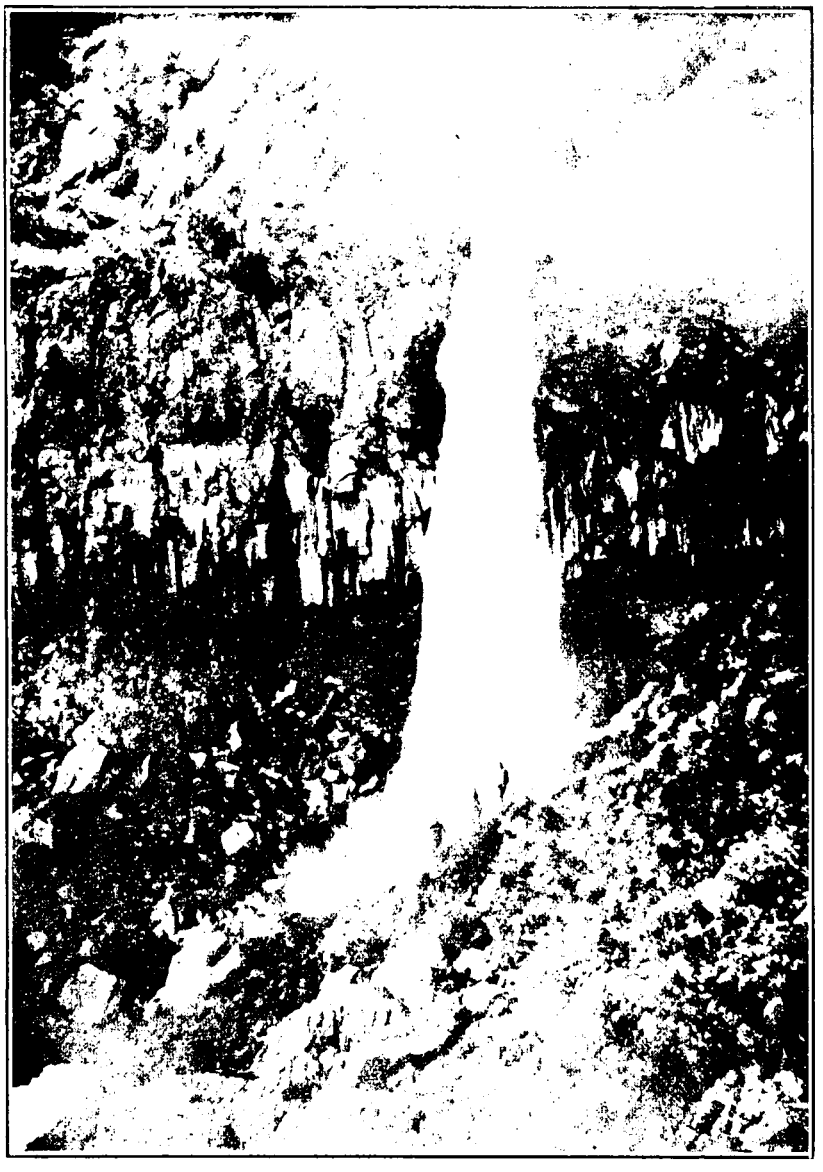

Waterfall near Source of Makatote Stream.