1874. NEW ZEALAND.

HOT SPRINGS DISTRICT OF THE NORTH ISLAND,

(LETTER FROM THE HON. W. FOX TO THE HON. THE PREMIER.)

The Hon. W. Fox to the Hon. the PREMIER.

SIR,-Wellington, 1st August, 1874.

At the date of my retirement from office last year, I left behind me a memorandum, intended for the incoming Ministry, on the subject of the hot spring country in the interior of this island, and I made suggestions relative to the acquisition of that country by the Government. During the past summer, I spent several weeks in the principal districts where the hot springs exist, and I have now the honor to address to you a few memoranda on the subject, which may possibly be useful to your Government, if it should ever carry out my former suggestion of utilizing the springs for sanitary

The hot spring country is well defined by Dr. Hochstetter as commencing at the northern base of Ruapehu and Tongariro mountains, at the southern end of Lake Taupo, and thence extending in a north-easterly direction, for a distance of about 150 miles, to White Island, in the Bay of Plenty, being for the whole distance about the same width as Taupo Lake, say twenty-five to thirty miles, and possibly fed by an underflow from that lake. A few springs not included in that area may be found in other parts of the island, as at Tarawera, fifty miles from Taupo, on the Napier road, and at Mahurangi, in the country north of Auckland, and a few other localities. But these are insignificant in companies with those which lie within the limits above defined.

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There are some half-dozen sites in the country referred to in which the number of springs and other active volcanic agencies are so great as to afford almost unlimited facilities for the establishment of sanitary institutions, and it is to these that I wish to draw the particular attention of the Government. Before doing so, however, it may be well to distinguish the different forms in which the heated water and steam emerge from the subterraneous reservoirs and appear on the surface. They are classified by Hochstetter under three heads: 1. Puias, which are geysers continuously or intermittently active. 2. Ngawhas, which are inactive puias, emitting steam, but not throwing up columns of hot water. 3. Waiarikis, which signifies any sort of eistern of hot water suitable for bathing. The lines of distinction are perhaps not always very well defined. To these may be added mud volcanoes, and numerous creeks and streams either entirely hot, or tepid, or cold with occasionally hot springs breaking into them and raising their temperature for several yards around. This feature also occurs in some of the lakes as Rotorna and Rotomahana. in some of the lakes, as Rotorua and Rotomahana.

I will now proceed to describe the localities which, from their wealth of hot springs and fumaroles, appear more particularly adapted for sanitary purposes and the establishment of hydropathic institu-

tions.

Beginning at the southern extremity of the district above defined—that is, at the southern end of Lake Taupo—there is, at Tokano, a very largely developed group of active and quiescent springs. The Native village which bears that name is erected in the midst of them, and they are used for the various Native village which bears that name is erected in the midst of them, and they are used for the various purposes of bathing, cooking, and other domestic uses, by a population of two or three hundred souls. The principal bath consists of a deep ngawha between two boiling puias—the two outer ones, above and below, being boiling hot, or nearly so, while the central one is of a temperature of not more than 100° to 110°, and therefore very pleasant for bathing. Its heat can be increased or diminished at will by shutting off its connection with the upper puia, which is easily done with a sod or a bunch of fern leaves. The bathing pool is about six yards in diameter, and its construction is convenient and peculiar, consisting of a deep central channel which cannot be bottomed by diving, surrounded by a shelf of a yard or two wide, on which the water is only two or three feet deep. This affords accommodation both to the expert swimmer and to those who have not acquired that useful accomplishment

dation both to the expert swimmer and to those who have not acquired that useful accomplishment.

A fine clear creek of cold water, five or six yards wide, runs through the settlement, on both shores of which are many puias and ngawhas, some violently boiling and others of various degrees of heat and ebullition. Some of these already mingle their waters with the cold creek, rendering it for a few yards a pleasant warm bath, and in many more places the hot and cold water could easily be led into each other, so as to provide an almost unlimited number of baths of any temperature which might be

Tokano has a special importance relating to the settlements of Wanganui and other places on the West Coast, from which it will be easily accessible when the road now under construction is finished. The bathing facilities, however, at present, can only be used in common with the Natives, who morning and evening resort to the principal bath in such numbers as often to completely fill it. If they should continue to occupy Tokano, it would be necessary to utilize some of the other springs or cisterns in the neighbourhood for those who might prefer privacy to the communistic lavatory system of the Natives.

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Besides the existence of great bathing facilities, Tokano offers many other objects of interest to the tourist or valetudinarian. Yachting on the lake; excursions to the falls of Waihi, and the place or Te Heu Heu's sepulture, beneath a vast landslip which engulphed his village and a large number of his the tourist or valetudinarian. people; the ascent of Tongariro, and possibly of Ruapehu (a feat yet to be achieved, and not unworthy of the foremost members of the Alpine Club),—such features confer attractions on Tokano which ought some day to establish it as one of the most favourite resorts of the district.

Leaving Tokano, there are, I believe, no springs worthy of notice along the eastern shore of the lake till the northern end is reached at Tapuaeharuru, where the Waikato River, which flowed in near Tokano, flows out again, much after the fashion of the Rhone through the Lake of Geneva,—with this difference, however, that while the blue colour of the Rhone has passed into a proved the waters of Waikato are of an equally lucid and transparent green, unsullied by any trace of muddy deposit or

tinge of snow water from the weepings of Ruapehu.

On the western bank of Waikato, where it leaves the lake, stands on a jutting promontory an old Maori pa, with some rather fine but rapidly decaying remains of ornamental gateways and barge On the eastern bank is the Constabulary post, and the surveyed site of a township, which consists at present of a single public-house and store.

The bright waters of the lake—green, transparent, and cool, and the eddying stream of Waikato, afford excellent opportunity for cold water bathing, while at no great distance are hot springs which

might be easily turned to account. Of these there are three principal groups.

1. About two miles below Tapuaeharuru is a group of puias and ngawhas, the chief of which is an intermittent one known as the crow's nest. It occasionally throws up a column of hot water 10 or 15 feet high, but was formerly more energetic and may be so again. Close to it are several less violent but very hot ngawhas, close to the edge of the river, affording great facility for intermixing and regulation of temperature. A person of the name of Mac- something erected a bath here, with appliances for mixing the hot and cold water, but the number of bathers was not remunerative, and "Mac's bath," as it was called, has gone out of repair.

2. About half a mile eastwards from the river is a small swampy flat, at the foot of an irregular cliff of 30 or 40 feet high, through which flow two small streams of a yard or two wide, one barely tepid, the other too hot to handle. At the point where the two unite, a tolerably good bath has been erected by John Loffley, formerly an A.B. sailor in Her Majesty's Navy, who served in the Naval Brigade during the Waikato war. A dressing-room is annexed, and Loffley has a small house in the neighbourhood, where he occasionally receives an invalid boarder. He has made attempts to clear and plant the six or eight acres of adjacent swampy land, and generally shows a creditable degree of energy in endeavouring, with very limited means, to develop the hygienic resources of the two streams over which he presides as a sort of river god. I understand that the Government has extinguished the Native title to the locality, and that Loffley only occupies on sufferance. I think it would be a good plan to give Loffley a lease, on condition that he should erect a certain number of cottages and baths within a given time. I believe he would be able to raise the necessary capital for such operations on The proximity of the two streams affords the opportunity for the erection of several baths, both within Loffley's "domain" and lower down the valley.

3. At the distance of a mile and a half from the Constabulary post and township, along the eastern shore of the lake, a warm stream a yard or two wide crosses the road and meanders into the lake. Following it inland by a Maori track, a narrow gorge is reached, in which the small stream expands into two considerable pools, varying in depth from a few inches to several feet. They are both of considerable temperature, and a favourite resort of neighbouring Natives, who, however, are few in number. These pools are not at present very accessible, and their banks are encumbered with raupo and rushes, presenting no very pleasant accommodation for bathers. The water has also a dingy and unattractive hue; and though capabable of containing many bathers at a time, would require a good deal to be done to make them a place of general resort. The water, also, is probably much diluted and less charged to make them a place of general resort.

with alkaline and medicinal substances.

Besides these three principal bathing places, there are numerous fumaroles and steam jets in the surrounding country; one in particular near the coach road, which forms a marked feature, and is, I conceive, the same described by Hochstetter under the name of Karapiti. This fumarole and the sur-

rounding fissures might probably be utilized as steam baths.

Before passing on from Taupo, I may observe that its northern end is not without some attractions for the excursionist, though it does not present scenery of the highest class. Some writers (even Hochstetter) have expressed themselves in terms of rapturous admiration of the scenery of this lake. cannot, however, think that any one familiar with the more remarkable lakes of the world, and even of those in New Zealand, such as Wakatipu, Te Anau, Wanaka, and others, would assign to Taupo a first place in lacustrine scenery. It is undoubtedly deficient in almost all the features which distinguish the most admired lakes elsewhere. Its shores are generally low, it has few indentations, bays, or sandy coves, few rocky headlands, jutting promontories, or overhanging precipices, and absolutely no foliage on its banks or anywhere near. Only one small island diversifies its vast surface. Nevertheless, it is a grand sheet of bright, transparent water, and a charming mirror for the splendid atmospheric effects which form so picturesque a feature of New Zealand scenery, particularly within reach of such mighty rulers of the cloud world as Ruapehu and Tongariro. The scenery in connection with these mountains at the south end of the lake has already been alluded to. At the northern end, within three miles of Tapuaeharuru, is the much smaller Tauharu mountain, which may be easily ascended in a couple of hours, and which affords a sweeping bird's-eye glance over the whole hot spring and lake country as far as the Bay of Plenty. The lively stream of Waikato, with its numerous rapids, occasional bold cliffs and little wooded islets, are also inviting objects for tourists. The most remarkable object of all, however, is the Huka Fall, which would be considered a fine one in any part of the world, though far The river, which immediately above is about two chains wide, and of the exceeded in size by many. exquisite transparent green which distinguishes most rivers which flow from deep lakes (and particularly the upper portion of the Waikato), after brawling in rapids and eddying in reaches for a few miles, is suddenly pent in between perpendicular walls of rock some 50 or 60 feet high, and not 3 H.—26.

ten paces apart. Between these the whole descending river rushes for a distance of two or three hundred yards, churned into a mass of snow-white foam, and roaring with the hoarse voice with which great cataracts are gifted, till the confining walls suddenly receding, it shoots forth as if out of the barrel of a gigantic gun, and plunges in a solid white mass into a dark-green pool that lies waiting for it below at a depth of 50 feet perpendicular. A party of upwards of seventy Wanganui Natives, on a visit to Taupo, are said to have challenged the resident Natives of Tapuaeharuru to descend the Huka in canoes. The residents thought discretion the better part of valour; but the Wanganuis, in a fit of bravado, made the attempt. Their canoe was sucked under the moment it reached the foaming gorge,

and only one Native, who leaped ashore, was ever seen again.

The next group of springs worthy of notice is at Orakei Korako, about twenty miles down the Waikato River. It presents one of the most remarkable groups of hot springs and fumaroles in the lake country, or anywhere in the world, and is capable of varied adaptation to sanitary purposes. The banks of the river for several miles, both above and below, consist of steep and broken terraces, from every part of which, at distances of only a few yards from each other, there burst out jets of steam or runlets of hot water. Hochstetter, when there, counted seventy-six steam jets at one glance of the eye, and at some seasons of the year more may be seen. The principal open waiariki, or bath, is a very remarkable one. It lies immediately beneath a Native village, which crests the high bank on the top of extensive old fortifications. A strong geyser, some 100 yards back from the river, has created a silicious terrace, called by the Natives Pahu Kowhatu, constructed in much the same manner as those in Lake Rotomahana, but of less extent and elevation, and less curiously carved or terraced. At the top of this structure, which is at right angles to the river, are three principal puias or ngawhas, much resembling those at Tokano. The farthest from the river, which has been the parent of the whole terrace, is in a state of constant and violent ebullition, at a temperature of about 202° (Hochstetter). The next to it, the temperature being reduced to bearable heat, contains a most perfect natural "Sitz bath," with elbow rests and a polished scat, let in as it were into the shallower and wider cistern which surrounds it. One peculiarity of this bath is, that in a very few minutes of immersion it covers the body with a most exquisite varnish or coating, quite invisible to the eye, but as smooth as velvet, and which gives the bather the feeling of being the most "polished" person in the world. This I do not remember to have perceived in any other of the hot springs in whic

A stalactite cave is to be visited on the opposite side of the river; but without a Native guide it is not easy to find, and the Natives being all absent from the village I had not the opportunity of

seeing it, but it is said to be worth a visit.

About ten miles below Orakei Korako, and about two miles above Niho o te Kiore, or the Rat's Tooth (where the river is crossed by a bridge), near to the Constabulary post, is an extremely beautiful waterfall, called the Rainbow Fall. A long and rapid reach of the river, of a breadth of two or three chains, suddenly turns at right angles to its course, and dashes headlong over a ledge of purple rock, rolling past a wooded islet in the centre of the fall, in broad green waves and lumps of foamy white, over which hangs suspended the beautiful rainbow, which gives it its name. Below, the river widened out, runs deep and swiftly through a large pool, in which is another islet covered with the greenest foliage, kept fresh by the ever descending spray. A few hundred yards below, on the eastern side of the river, and at its very margin, is a moderate sized cistern of hot water, capable of containing fifteen or twenty bathers, close packed. The facilities of this spot for bathing are not very great; but the combination of the picturesque Rainbow Fall and the neighbouring Powhati Roa, a gigantic pyramidal rock of 500 feet high, rising all alone from the bare level plain, and with a tradition of Maori history attached to it, might afford inducement sufficient for a moderate sized establishment.

From Niho o te Kiore, the road to Rotorua Lake leaves the Waikato River altogether, and the rest of that river's course is, I believe, westward of the limits of the hot spring district, as defined by Hochstetter. The road is uninteresting till within a couple of miles of Rotorua, when, after crossing a low ridge, it suddenly brings the traveller into the midst of a great group of most curious and repulsive-looking mud volcanoes, boiling in a sluggish and laborious manner like a very thick soup, and surrounded each by a viscous flooring of the same material, diversified with little spitting craters, from each of which sputters up a supply of the thick half-fluid mass. It looks like the natural home of a family of huge, ugly bull-frogs, who, were it not for the heat, would doubtless have been placed there by Nature to sprawl and croak and enjoy their slimy life. Though wonderful evidences of the fiery action going on below, they afford little attraction in their present condition for sanitary experiment. I would be sorry to say, however, that they will never be utilized for such an object. A good many years ago, a quack doctor travelled over England advocating as a cure for all diseases the burying of his patients up to the neck in the earth. A beautiful young girl who accompanied him used to be immured as an example. She was afterwards known to the world as the celebrated Lady Hamilton, whose name is historically connected with that of Lord Nelson. Though the man was a quack, his remedy is said to have been efficacious, and possibly the mud puias of Rotorua may some day be found capable of similar application.

In front, at a distance of a mile, lies Rotorua Lake, with the Native village of Ohinemutu jutting into it on a long narrow headland, and away across three miles of water is the island Mopoia. This is the scene of Mr. Domett's poem of "Ranolf and Amohia," in which, with a warmth of sentiment and fervour of expression of quite 212°, he has endeavoured to clothe savage life and character with charms and dignity which it would be difficult to recognize in the realities of any Maori pa on the shores of Rotorua at the present day, and which probably never had any existence except in the romantic day-dreams of the poet. I am bound to express, however, my admiration of the truthfulness and splendour of his descriptions of the scenery, and the thorough New Zealand atmosphere in which he has enveloped

his, in many parts, beautiful tale.

Rotorua affords facilities for bathing "in the open," on the largest scale of any single place in the hot spring districts. The whole bay in front of Ohinemutu (Ruapeke), some hundred yards across,

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has a temperature of from 50° to 110°, according to the set of the wind and proximity to the hot springs by which it is fed. These exist chiefly at the neck of the promontory on which the village stands, where they bubble, hiss, gush, and run into the cooler water of the lake. Others emerge through the soft siliceous bottom of the lake itself, and the bather is not unfrequently made aware of their presence by the sudden sting of a boiling jet when he sets down his foot. This, however, is not attended with any bad consequences, if he catches up his foot instantly, as he is pretty sure to do. This bay is the daily resort, morning and evening, of the whole population of the neighbouring village, and it is capable of accommodating regiments of soldiers at one time. It affords the finest conceivable opportunity of establishing a great sanatorium for Indian regiments.

There are isolated hot springs in other places near to the village, which could be easily adapted At a distance of a couple of miles is a group of most remarkable puias, the for bathing purposes. At a distance of a couple of miles is a group of most remarkable puias, the principal of which, Whakarewarewa, occasionally throws up a column of hot water to a height of 50 or 60 feet. Several others sputter, hiss, and heave in the same neighbourhood. These might, I think, be all utilized by a little hydraulic skill. At any rate, Ohinemutu and its surroundings can hardly fail to

become one of the principal bathing-places in the country.

Leaving Ohinemutu by a new road which the Government of the colony is at present constructing, and passing by Tikitapu Lake, with its waters of sapphire blue, and the more homely shores of Rotokakahi, Wairoa, at the head of Lake Tarawera, is reached. From this spot guides and canoes are taken for the trip to Rotomahana and the celebrated White and Pink Terraces. After a sail or paddle across the very picturesque Tarawera of six or eight miles, and a walk of a couple of miles, or a pull

up a narrow creek for the same distance, the foot of the great Tarata is reached.

It is not my intention to dilate on the wonderful and beautiful which abound in connection with Rotomahana and its terraces. I wish rather to draw attention to the different groups of springs, with a view to their sanitary use. At the same time, the idea that these majestic scenes may one day be desecrated by all the constituents of a common watering-place, has something in it bordering on profanity. I would not suggest that their healing waters should be withheld from the weary invalid or feeble valetudinarian. Doubtless their sanitary properties were given them for the good of suffering humanity, and that they should become the Bethesda of New Zealand would detract nothing from the sanctity and grandeur. But that they should be surrounded with pretentious hotels and scarcely less sanctity and grandeur. But that they should be surrounded with pretentious hotels and scarcely less offensive tea-gardens; that they should be strewed with orange-peel, with walnut shells, and the capsules of bitter beer bottles (as the Great Pyramid and even the summit of Mount Sinai are), is a consummation from the very idea of which the soul of every lover of nature must recoil. The Government of the United States had hardly become acquainted with the fact that they possessed a territory comprising similar volcanic wonders at the forks of the Yellow River and Missouri, than an Act of Congress was passed reserving a block of land of sixty miles square, within which the geysers and hot springs are, as public parks, to be for ever under the protection of the States; and it will doubtless take care that they shall not become the prey of private speculators, or of men to whom a few dollars may present more charms than all the finest works of creation.

I beg to suggest to the Government of New Zealand that as soon as the Native title may be

extinguished, some such step should be taken with regard to Rotomahana, its terraces, and other It is to the credit of the Maoris that they have hitherto done all in their power to volcanic wonders. protect them, and express no measured indignation at the sacrilegious act of some European barbarians who, impelled by scientific zeal or vulgar curiosity, have chipped of several hand's breadth of the lovely

salmon-coloured surface of the Pink Terrace.

I will endeavour, as briefly as possible, to describe the principal features of Rotomahana, premising, however, that no description can convey a correct idea of what they are. A day spent among

them is a new sensation, and must be felt to be understood.

The Tarata, or White Terrace, rises by a succession of chiselled steps, varying in height from one to six or eight feet each, till it attains an elevation of about eighty feet above the lake. Here, backed up by a semicircular wall of red rock, on the level plateau of the uppermost terrace, is the great boiling puia, the downward flow of whose waters, impregnated with impalpable white silicious sediment, has, in the course of centuries, deposited the "tattoed" rockwork of which the Tarata is composed, and from which it has its name. This great boiling puia at the top is intermittent, and dependent, it is said, in that respect, on the direction of the wind, which, however, may be doubted. At times it sinks into its perpendicular funnel, leaving its rocky sides bare for hours. At other times it throws its water up to a height of 10 or 15 feet, till it gradually fills up its crater, and overflowing its beautifully rounded lip glides down in endless broken ripples over the faces of the descending terraces till it reaches the lake below. In the course of its descent it fills a great number of cisterns between the different walls of the terraces. The water deposited in these is of the most exquisite turquoise blue, or something more beautiful than that, and there it lies semi-transparent and still, surrounded in every instance by a beautifully defined and often sculptured rim of the nearly snow-white rock of which the terrace is I say nearly snow white, because it appears so in the bright sun and at a little distance, but when close at hand and looked down upon, it is seen to have a delicate, almost imperceptible, rose colour, which spreads over it like a blush on the human face, or still more resembles the tinted marble of some modern sculptors.

The temperature of the various cisterns in the terrace depends partly on that of the surrounding atmosphere, but chiefly on the length of time which may have elapsed since the overflow of the When it overflows, the cistern next to it and on the same level, which is only separated from it by 5 or 6 yards of snowy rock, is nearly as hot as itself, and far too hot for the bather, who must then resort to cisterns lower down, and of less size and depth. But when the upper puia has not overflowed for some hours, the cistern next to it attains a temperature just cool enough to be pleasantly borne, and perhaps, of all the baths in the world, affords to the swimmer the most glorious "header." It is about 10 or 12 vards in diameter, a perfect circle with a rounded linear perhapsing "header." It is about 10 or 12 yards in diameter, a perfect circle, with a rounded lip overhanging inwards, and its exquisite pale blue depth (unlike the colour of any other pool) cannot, I believe, be fathomed by any plunge, however energetic. But its greatest charm is that instead of the sharp shock which goes through one like a knife on diving into a cold pool or the open sea, and which makes

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the bather feel like getting out again with immense celerity, here he is "lapped in the Elysium" of the delicious wave, at a temperature somewhere about 110°, and would be contented to stay there for

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any number of hours that circumstances might permit.

The other terrace, Otukapuarangi, commonly known as the Pink Terrace, from its soft salmon-colour, well described by Trollope, lies at the opposite side of the lake. It is, except in the particular of colour, less remarkable than the Tarata, being of much smaller dimensions, and presenting fewer facilities for bathing purposes. It has, however, three cisterns immediately below the great boiling puia, which afford three varities of temperature, all pretty warm, and which have space enough for a considerable number of bathers at once.

Immediately beyond the Great White Terrace, and all along the shore of the lake, and for a distance of some hundred yards back from it, up the broken hill side, there is a vast supply of active volcanic force in various forms of development. Conspicuous among these is the great Ngahapu or Ohopia, a rock-girt circular basin 30 or 40 feet wide, in which a violent geyser of boiling heat is constantly boiling up to a height of 10 or 15 feet, enveloped in a perpetual cloud of steam. This great puia ever roaring, snorting, hissing, and heaving, and surrounded with gaping fissures, from which dense clouds of steam ceaselessly exhale, contains an unlimited supply of boiling water, which might by artificial channels be made to supply many baths. There are, besides these, hundreds of other outbreaks of hot water and steam on the overhanging hill side. Sighing fountains, grunting fountains, fountains of mud, lucid fountains, fumaroles, and funnels, every imaginable indication of the "ignes suppositi cineri doloso," which seem to lie but a few inches of the fragile crust below the traveller's foot. The whole lake of Rotomahana is warm, as its name implies, and the creek which flows from it into Tarawera is

full of hot springs every here and there.

I have endeavoured in this imperfect sketch which I have given (and for the details of which I am much indebted to Hochstetter, correcting my own less careful observation,) to draw the attention of the Government to the great value of the sanitary provision which nature has made in the district described. I think the time has come when something practical might be done to utilize that provision. At present, the difficulty of travelling in the hot spring country, and the almost entire absence of accommodation for invalids, prevents more than a very small number of persons from visiting it, either for health, recreation, or curiosity. Yet it might be, and is probably destined to be, the sanatorium not only of the Australian Colonies, but of India and other portions of the globe. The country in which the hot springs are is almost worthless for agricultural or pastoral, or any similar purposes; but when its sanitary resources are developed, it may prove a source of great wealth to the colony. And not only so, but it may be the means of alleviating much human misery, and relieving thousands from their share of the ills that flesh is heir to. Portions of it might be appropriated to the use of public hospitals, asylums for the insane, or the inebriate, and it might not be impossible to concentrate there all the institutions usually established by Government, or private enterprise, for the relief of the sick, the destitute, and the incurable. Other portions might be thrown open to private enterprise, which might be invited to undertake the work of establishing hydropathic resorts, and even aided by the Government to do so. The essential first step would be to obtain, by purchase from the Natives, the ownership of all the principal groups I have described. Then let one or two localities be selected (say Ohinemutu and Tapuaeharuru) suitable for a hydropathic establishment. Get some "expert" acquainted with the bathing establishments of Europe, such as Levhrenbath, Pffeiffers, Ben Rhydding, Malvern, or the like. Let him e

The Hon. the Premier.

I have, &c., WILLIAM Fox.

