

nurseryman, and grandson of Mr. VEITCH of Exeter, is in the midst of the country, gathering together the finest collections of seeds and plants that have been presented to the traveller since the time when DOUGLAS brought from the land of Chenooks, Calapoosis, and Kyemuses, those invaluable novelties with which the Horticultural Society enriched our country.

Mr. VEITCH, who is a young man, had already distinguished himself by his diligent application to botanical studies at University College, where he received a Certificate of proficiency. He is also well known for the excellent business habits that he had acquired under the direction of his father: and as soon as it was ascertained that Japan was open, he eagerly sought the means of proceeding thither. This was effected some months ago under the protection of powerful persons in this country, by whom he was strongly recommended to the English authorities in Japan; he took his passage on board the Malabar in the month of April last; was shipwrecked at Galle in that ill-fated vessel; lost all he possessed on board; immediately afterwards procured a passage in another ship, and after a month's passage reached Nagasaki on the 20th of July, having visited Hongkong, Canton, and Shanghai in his way. His modesty, gentle manners, and resolute determination to effect his purpose, speedily gained him friends: and at the present moment he is attached to the British Consular establishment at Jeddo, in consequence of which he was enabled to form one of the first party of Europeans who have ascended the sacred mountain of Fusi Yama, the circumstances attending which are described by Mr. FONBLANQUE, in a late number of the *Times* newspaper.

The result of his mission is of the deepest interest, and we have the gratification of now presenting our readers with extracts from his letters to his family, in which he gives an account of his daily proceedings up to the departure of the latest mail. It will be seen that he will soon have skimmed the cream of the Flora, and that those who follow him will have little novelty to gather. Thus we shall again see the value of private enterprise in English hands, and how far more efficient it proves than missions entrusted to mere Government agents.

EXTRACTS

FROM MR. J. G. VEITCH'S LETTERS.

No. I. *Nagasaki, July 24, 1860.*—I have much pleasure in informing you that I arrived here safely on Friday last, the 20th inst., after a beautiful run of 38 hours from Shanghai. The little I have as yet seen of Japan is exceedingly fine. Nagasaki harbour is I think the finest scenery I have ever met with, surrounded by mountains covered to the top with vegetation.

The Japanese in this part are very well disposed towards us, and far superior in every way to the Chinese; the people are obliging and seem glad to do anything for us, but the great difficulty is with the officials. It is impossible, as far as I can hear, to get in this place beyond the limits of the treaty, which extends about 10 miles round the town. On my arrival here I obtained a room at a temple in the middle of the town, and three other Englishmen are staying at the same place with me. Strange to say, they are all Devonshire men; Mr. Rice, brother to the musician at Exeter; a Mr. Davy, engineer in the navy; and a Mr. Templar. I consider myself very fortunate indeed to have fallen into such quarters, and hope to be able soon to get over most of the ground open to foreigners. Attached to the temple is a large garden, and I have prepared a place for getting together the plants I collect.

It is just now the summer season, and consequently no seeds are yet ripe. My intention is to get together all the plants I can, and find out the localities where any trees grow of which I wish to obtain seeds, and to go to Kanagawa and Jeddo as soon as an opportunity offers; at present there is no vessel bound for the north of Japan, but we expect one in the course of two or three weeks.

I have already picked up in an old Japanese garden one or two nice plants, which I think will prove to be good things; from what I have seen as yet I think there are many good evergreens here, but no Conifers of note. *Cryptomeria japonica* is common, but all the rarer species are further north, and indeed I would rather find them there than here, as I fear they would not be hardy. I propose going on to Jeddo as soon as an opportunity offers, and then probably on to Hakodadi. As the winter sets in early in November in the north I shall be able after collecting at Hakodadi to return to Jeddo, getting seeds of Coniferae, &c., and then, coming back to Nagasaki, take all my collections to Hong Kong. From what I can judge I shall be able to get a good many plants suitable for glass cases. And I hope to send you some seeds of new hardy Ferns in my next letter; but they are not yet quite fit.

The Japanese are very industrious and clever at their work. The way they make different articles in

paper is very extraordinary. Amongst other things they make first-rate waterproof overcoats and hats, umbrellas, pocket-books, and cases of all sorts, string, &c. I am trying to find out from what they manufacture it. I fear I shall have some difficulty in getting hold of this, as hitherto they have always refused to give any information on the subject, further than it is made from a tree.* I hope to be able to find out all about it, as I think it would be most interesting. Their lacquer ware and porcelain are beautiful and not expensive. The people, as a race, are far superior to any other in the East.

No. II. *Nagasaki, Aug. 4, 1860.*—I have just been informed that the Grenada sails to-morrow for Shanghai, which gives me an opportunity of letting you know how I am getting on. In my last letter, dated Nagasaki, July 24, I informed you of my safe arrival in Japan, and of my having obtained a room at Dita-Couche Temple. I also informed you of my present intended proceedings as regards getting to the north.

Since that date I have been occupied in rambling over the hills in this neighbourhood, and looking into all the gardens I can gain access to in the town. The people are excessively civil, and in no one instance have I met with the least hindrance; on the contrary, every one gives me any plant I take a fancy to, and seem pleased to do it. I go about, with a Japanese interpreter carrying my cases and baskets, at all times of the day; and more than once I have returned through the town after dark, and as yet I have never been stopped or insulted in any way; the Government officers and the language are the only difficulties I have to contend with. The first I fear I can never get over; the system of government consists so much of espionage, and every officer being a spy on the other, it is impossible to do anything with them. The language I am getting hold of fast, and I think another fortnight (a month in all) will teach me as much as I require to make my way. Japanese is very easy. The mode I adopt is to carry a book in my pocket and write down words as I pick them up; for instance, on getting wet through one day during a thunder-storm, I found out the Japanese for rain, &c., and so on.

I have been as far inland towards the centre of the island as foreigners can get, but have still a good many hills and valleys to visit. The vegetation on the hills and mountains, the highest of which accessible to foreigners is 2000 feet, is very varied; but at this season of the year there is scarcely anything in flower. I often walk all day and scarcely get more than 10 specimens. There are many shrubs seeding, but none of these are ripe, and I am compelled to leave them until my return from the north. Amongst shrubs, *Aralia Sieboldi* is very common, several sp. of *Viburnum*, *Camellias*, and numerous other evergreens. In the gardens here I have picked up several nice things, of each of which before I leave for the north I will send home a specimen.

The only Japanese nursery near here is about 15 miles distant, and in a part of the country where foreigners cannot go. I have, however, sent a man there to bring me what he can find. All the plants I have hitherto obtained are potted and put away in my garden here at the temple. I have between 40 and 50 plants, and almost fancy myself at Chelsea while I am watering them, &c. When I leave for the north, my friend Mr. Rice (who has been very kind to me) will take charge of them. I am now getting a glass case made by a Japanese carpenter, as a sample, and if it answers I shall order a few to be ready by the time I return from the north.

I have been collecting specimens of Japan timber trees growing in this neighbourhood. I have obtained 33 named kinds, and hope to get a similar collection at Jeddo and Hakodadi. I think these will be very interesting, as being the first collection of the kind made in Japan.

I have now been here just a fortnight, and since my arrival there has been no mail from China; therefore I have not received news from home since I last wrote. There has been no opportunity of going to the north since I came here; but I can employ 14 or 15 days more very well indeed, and then I should like an opportunity of getting on.

No. III. *Nagasaki, Aug. 12, 1860.*—Another vessel leaving this port to-day for China, I take advantage of an opportunity which but seldom offers here just now of sending home letters. I have been for a long time anxiously expecting my letters and newspapers. The means of communication are so very few at present between China and Japan that no mail has been received from home since I arrived here. The latest news we have is May 26. I have now been in Japan a little more than three weeks. I have my small room, about 10 feet by 6, in a Buddhist temple, and a Chinese servant; and having become quite accustomed to the peculiarities of the people, I am as comfortable as I possibly can be away from home. The priests are very kind to me; they take great interest in my plants, scarcely a day passing without their bringing me some novelty in their eyes. I always receive their presents and thank them very much, although I generally throw them away afterwards. The

* Possibly their Kaadsi; our *Broussonetia papyrifera*, the mode of making which into paper is fully described by Kämpfer (p. 466) in his chapter on *Chartopela japonica*.

glass cases quite bewilder them; I had some trouble to make the carpenter believe I was in earnest in ordering them. They think me mad to try and send plants to England in this manner.

The population in this neighbourhood is the kindest and politest I ever met with. During my rambles every one has something to say to you, such as "Good day;" "Where are you going?" "Where do you come from?" "What is your name?" "Give me some buttons," &c. (English buttons are a great source of pleasure to the children.) They are very anxious for you to sit down and take tea with them, an invitation which I very often accept. The quantity of tea I drink is enormous; it is really delicious; served up hot in small cups without milk or sugar, and refreshes me more than anything else after walking. The houses are very clean and all floored, even the poorest, with bamboo matting. They have no furniture of any kind, but sit or lie on the matting during the day, and sleep on it at night, with the addition of a pillow. The pillows are very curious; if you take a stereoscope and put a roll of paper on the top for the head to lay on you have a fac-simile of a Japanese pillow. They are very comfortable indeed and cool to the head. The Japanese never enter their houses with their shoes on, but leave them outside before going in, and put them on again on coming out.

I can give you no description of the beauty of the scenery about here; we are entirely surrounded by hills and mountains, so much so that on entering the harbour you cannot see anything of the town until you are close upon it, and then it bursts upon you all at once. The entrance to Nagasaki harbour is considered by persons who have travelled in many countries to be the prettiest scenery of the kind they ever saw; the mountains are covered to the very top with beautiful trees and shrubs, and you cannot walk for an hour in any one direction without ascending one of them.

Japanese ladies are quite the reverse of Chinese. Instead of running away on the approach of foreigners they are very desirous of seeing you and admiring your clothes. They all object to our whiskers, considering them very ugly, and tell us to cut them off and be like Japanese men. Their hair is jet black, has a beautiful gloss on it, and is very handsome. They take great pains with it. Ladies have it dressed by professionals every day, and often spend an hour or two over it. The general form in which it is worn is called the tea-pot fashion, but they never wear it two days together exactly alike, always varying it a little. The men are fine strong fellows, but I have never seen a woman more than 5 feet in height. They are all quiet and happy amongst themselves; you never see or hear of any quarrelling or disturbance of any kind with them; they seem to have everything they want and live without care. European ladies and children are a source of great attraction whenever they appear in the town. There are two English ladies residing here, the wife of a missionary and the wife of one of the merchants. The Japanese frequently carry the English children along the streets and give them anything they wish for.

We have warm weather here just now, often 90° in the shade. The mosquitos are very troublesome at night; whenever my Chinese boy neglects to clear my bed and I am awoke by them, I call him up and make him do it at all times of the night as a punishment. Our dinner party yesterday (Sunday) consisted of five, all from Exeter or Exeter born, rather a remarkable coincidence here at the other end of the world.

(To be continued.)

BOTTOM HEAT-STEAM.

SUPPOSE a furnace and boiler (placed in a hidden corner of a garden), such as to generate a large quantity of steam, and an iron pipe to issue from it conveying the steam, to be laid 3 feet under the surface of the ground. Suppose a portion of ground to be laid with bell-shaped draining pipes, 2 or 3 inches in diameter, in parallel lines, 3 feet under the surface, and all to be connected with the iron pipe conveying the steam. At the opposite ends of the earthen drain pipes let there be perpendicular pipes or shafts coming up to the surface, to act as safety valves and to secure the current of steam, to be kept open, or more or less closed by a small wisp of hay. Let the steam be kept up, more or less, at such seasons of the year and at such times in each day, as experience and the objects sought, might direct.

What would be the effect of such an action of steam on the subsoil and upper soil. Would it not gradually create a warmth in both, ascending upwards, and would it be to a moderate or great degree, requiring to be regulated and controlled. The steam would no doubt be condensed to a certain extent, and the water would run off in the pipes, which would act as drains, but the pipes would themselves get hot and communicate a dry heat to the subsoil; while on the other hand, steam would escape from each junction of the bell-shaped earthen pipes, which fit into each other, but are open to water or steam. This steam would ascend into the subsoil and reach the upper soil, imparting a moist heat as it went, and it would create a moist and warm atmosphere above the surface of the ground. The great question is, the degree and proportion in which all these things would happen, and how far the whole action would be considerable and susceptible of being