

Report on the Fulni Mountains.

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REPORT

ON THE

PULNI MOUNTAINS,

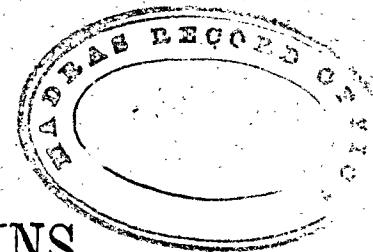
TO ACCOMPANY THE

SERIES OF SKETCHES

BY

LIEUT. COL. D. HAMILTON,

44th Regiment N. I.



1877
Hamilton
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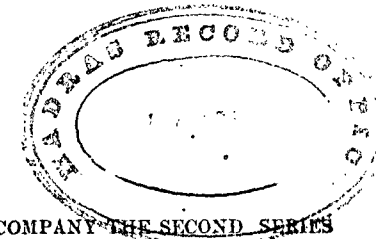
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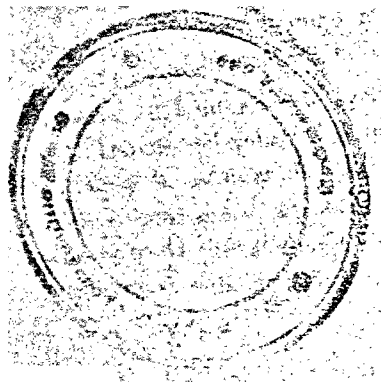


REPORT ON THE PULNI MOUNTAINS, TO ACCOMPANY THE SECOND SERIES
OF SKETCHES BY LIEUT. COL. D. HAMILTON, 44TH REGIMENT N. I.

1. In consequence of my Regiment being ordered on service to China, I had to leave the Pulni Mountains without having completed the series of sketches, explored the western plateau, or visited the lower range of these Hills. On my return from China, I obtained the sanction of Government to revisit the Pulnis, and accomplish these objects; but the season not being favourable at this time, I proceeded to the Shevaroy Hills, and took a series of sketches, which, with my report, is already before Government. I then visited the Pulnis, and explored the South Western range, which is but little known, being entirely uninhabited; this wild tract extends from Kudaikarnal to the Western ridge of mountains separating the Pulnis from Travancore, comprising an area of some 50 square miles of undulating plateau of about the same elevation as that of Kudaikarnal.

2. Four miles to the west of Kudaikarnal there is a high range of hills rising from 900 to 1,000 feet above the plateau on which the settlement is located, being nearly as high as the Peermarlmullay Peak. The whole of the plateau to the westward of, and beyond, this ridge, is therefore not visible from the summits of that mountain and consequently does not appear in the panorama (sketch No. 1). The sholas or forests on the Western range are more extensive, the precipices overhanging the Cumbum valley more lofty and abrupt, and the scenery altogether is of a more impressive nature and far grander than that in the neighbourhood of Kudaikarnal (vide sketches No. 4 and No. 9). The rainfall is also heavier in this direction; the trees are more thickly covered with mosses, lichens and orchids; the Neilgherry nettle abounds in the sholas: all indicative of increased moisture and a damper climate. Mr. Markham, I am told, is of opinion that the Cinchona would thrive a few miles to the westward of Kudaikarnal.

3. Directly east of the peak marked Chendanur Hill Tree in No. 62 of the Trigonometrical Survey Map, is a valley in which I discovered the bed of an extensive natural lake (vide sketches Nos. 6 & 7.) The valley is evidently the bed of a lake, as the water-line, (which first attracted my attention) from 10 to 12 yards broad, is very distinctly marked, and follows all the windings of the hills, resembling



a grass-grown roadway. The lake apparently was formed by a spur of a hill at the northern end of the valley causing a natural "bund" or embankment which has long since been breached. The outlet for the surplus water prior to the bursting of the embankment was at the upper or southern end falling into the Cumbum valley in the direction of Bodynaikenoor. There are evident signs that an extensive landslip must have occurred at the lower or northern extremity of the lake, but whether the land slip formed or destroyed the lake, it is now difficult to say. I observed no water-line on the unbreached portion of the spur; it is probable therefore that the water of the lake gradually sapping into the hill caused the landslip, and eventually forced its way through the embankment. The breach is not more than 140 or 150 feet across at the top, and narrows considerably towards the base: it is about 90 or 100 feet deep, (vide sketch No. 8.) There are high hills on each side of the breach, so that the outlay in repairing it would be comparatively trifling. Judging from the water-line the lake must have been between $4\frac{1}{2}$ and 5 miles long, varying in breadth from a quarter to three quarters of a mile, except at the narrowest bend, where it is only from 140 to 150 yards across. The course of the upper portion lies almost east and west for about 2 or $2\frac{1}{2}$ miles, when it takes a sudden turn at nearly right angles to the north. The depth of water appears to have been from 30 to 40 feet, increasing to 60 or 70 feet near the bund. The bed of the lake is now a large morass, with a considerable stream meandering through it, the banks studded with rhododendron trees (vide sketch No. 6). This stream is fed by six others, four of which are of some size. The main stream near the lower end of the morass is about 15 yards across and from four to five feet deep, the supply of water is sufficient to reform the lake in a comparatively short space of time should the breach be repaired. There are about 16 square miles of beautifully undulating downs round the lake bed (vide sketch No. 6). And though devoid of wood in the immediate neighbourhood with the exception of a few picturesque sholas on the slopes of Chendanur Hill (vide sketch No. 7), which it would be a pity to destroy, yet, there are some very extensive forests within three or four miles, which could be made accessible by roads along the plateau without much difficulty.

4. The vicinity of this lake is in my opinion by far the best site on these hills, either for a Military Cantonment or Sanitarium. The elevation of the plateau above the sea is about the same as Kudaikarnal, viz 7,000 feet, and the bed of the lake itself is within a few hundred

feet of that of Ootacamund; the ground near the northern end of the lake, being more in-mountain than Kudaikarnal, is less subject to mists from the low country which so constantly envelope the latter settlement; owing however to the precipitous character of the southern spurs of these mountains a road from Bodynaikenoor, the nearest approach from the plains, would be a difficult, though perhaps not an impracticable, undertaking; at present there is a hill pass from Bodynaikenoor to Manavanoor, two miles to the west of Chendanur Hill, which is occasionally used by the traders and hill men, but is not practicable, I understand, for loaded bullocks or ponies.

5. The site of this ancient lake is about 12 miles south-west of Kudaikarnal and 9 miles from the Travancore boundary line. Captain Ward, who surveyed the Pulni range in 1824, appears from his official journal, to have passed a whole day on Chendanur Hill, yet, strange to say, he did not observe the water-line in the valley below, which, being as I have already stated from 10 to 12 yards broad, is a conspicuous object on each side of the morass. From the enquiries I have made, the existence of the lake appears to have been quite unknown prior to my discovery.

6. As the outlay in reforming the lake would not as far as I am able to judge exceed 10,000 rupees, and the water would thus be turned into the Cumbum valley, where it is greatly wanted, instead of flowing to little purpose, as it now does, into the Ambrawutty; it becomes a question for consideration, whether the advantages thereby gained would not more than repay the probable expenditure to be incurred.

7. I have but little to add to my previous report on the high range, except the experience acquired in respect to the climate from a further residence on these charming mountains. The registers of the thermometers annexed will show the remarkable equability of the temperature. The year I resided on these hills, viz., from November 1861 to November 1862, was an exceedingly wet one. I was told by an old resident that more rain fell than had been known for the last ten years, yet, there was scarcely a day on which out-door exercise could not be taken and without the risk of getting wet. The climate, in my opinion is superior to that of Ootacamund; with nearly the same elevation, the temperature is milder, and the air more balmy; it approaches more to that of Kotagerry than any other place I know on the Neilgherries. As a proof of the general mildness of the climate, I may

mention that strawberries ripen in every month of the year from January to December.

8. Whether such a climate is well adapted for the cultivation of the Tea plant is a question I am quite incompetent to give an opinion on, but the plants, from some seeds sown by Dr. Cleghorn in 1859 were flowering in 1862. Though no care whatever had been taken of them, in fact they were allowed to grow perfectly wild, and though their growth was much impeded by some animal cropping off the fresh shoots, yet, they appeared healthy and thriving, notwithstanding these disadvantages.

9. The increased facility of access to the Neilgherries has attracted so many residents within the last few years that the cost of house rent and every necessary of life has nearly doubled, and is likely still further to increase; persons of moderate means will therefore eventually be necessitated to look elsewhere for some other less expensive locality, and when it becomes generally known that within 90 miles of the Neilgherries there is a mountain plateau possessing a climate equal if not superior to that of Ootacamund where the necessities of life cost much less, attention will undoubtedly be turned in that direction, and before many years the importance of the Pulnis will be acknowledged and appreciated. At present the want of houses, the difficulty of procuring supplies (there being no bazaar) as well as that of access, deter many people from visiting these mountains. The settlers on the Neilgherries, however, had these same difficulties to contend with at a period when enterprise was dormant compared with what it is at the present day. Let but the lake be reconstructed and a road made to it, and this magnificent sheet of water from 12 to 15 miles in circumference, situated according to my judgment and experience in one of the finest climates in the world, will of itself attract residents to its vicinity when once the advantages of climate and situation are better known than at present.

10. When the hill plateaus become as accessible as many of the principal stations on the plains are at present, by the extension of railways, the immense advantage and economy of locating European Troops in a mountain climate will, I have no doubt, be fully appreciated, and the Pulnis may become the Head Quarters of the Europeans stationed in the southern division, rivalling Ootacamund in many respects and fully, I believe, equalling it in salubrity of climate.

11. My visit to the lower Pulnis was a hurried one; I went at

what was considered the healthy season, but found at nearly every village many of the inhabitants prostrated with fever of a severe remittent type affecting the lungs—several deaths had occurred, some during the time I was on the hills. I therefore did not deem it advisable to remain longer than I could possibly avoid, and was not able to take so many sketches or become so well acquainted with the people, climate, and properties of this range, as I had wished.

12. The Lower Pulnis comprise the eastern portion of the range. The lofty Peermarl Mullay and Ponjola Hill, with their connecting ridges, jut out a considerable distance into them from the western base (vide sketch No. 2). The height of the lower range does not exceed 5,000 feet above the sea level, gradually decreasing at the eastern extremity to 2,000 and 1,500 feet. The country is undulating, consisting of a series of hills and valleys finely wooded (vide sketches Nos. 10, 11 and 14). The general appearance of the Lower Pulnis is somewhat similar to that of the Shevaroy's, but the forest trees are larger and there is much less extent of bare rock and scrubby jungle, than is met with on the latter hills, the soil being far superior. Water though less abundant than on the upper range is not scarce, except in the lower villages of the Verupatchy Hills. The cultivation round the villages is exceedingly striking and beautiful, the fields are hedged in and a number of trees being left in the midst of the cultivation gives the whole scene a homelike aspect (vide sketch No. 11.)

13. There are six ghauts up to the lower Pulnis. Two on the Northern side from Verupatchy, one leading to Tandigody via Paucheloor and the other to Perryoor, one on the east from Autoor to Audaloor and Perryoor and three on the south, viz., from Iyampollium to Mannalur, from Iyampollium to Tandigody, and a third from Davadanuputty to Punnakad. They are all extremely rugged and unmade. The only one I am acquainted with is the Mannalur pass, which is such a continued succession of boulders of rock, that it was with the greatest difficulty my ponies could get down it. There is a narrow rugged path leading from Kudaikarnal to Punnakad and Tandigody, but it is not often used, and is barely passable for ponies. Tandigody is about 18 miles from Kudaikarnal by this route.

(14. The Lower Pulnis contain about 6,000 inhabitants distributed in 13 principal villages and 67 hamlets comprising the various castes of hill tribes as on the higher range; viz., Koonoovers, Poliaris,

Chetties, &c., but the Poliards are more numerous on the lower range. The dress of both men and women is similar to that worn in the low country. They are not so robust a race as the inhabitants of the higher range and many of them show the effects of fever by enlarged spleens and swollen abdomens. Small pox occasionally commits ravages amongst them, and cholera is not unknown. The villages are walled in as on the high range, but the houses generally though similar in construction are not so well built. "Each

Mr. Clark's report.

family possesses a house in the village, but for the greater part of the year the different members of it live on their farmsteads where the cattle are usually penned throughout the year. These farmsteads are near the cultivation, sometimes four or five miles from the village; a congregation of these houses constitutes a 'putty' or hamlet."

15. The lower range is generally known by the Natives under the designation of the Tandigody and Verupatchy Hills. The former contains the villages of Tandigody, Kaumanur, Poolatur, and Punnakad, to which seven hamlets are attached; the latter the villages of Perryoor, Paucheloor, Vudakadoo, Kunnanoor and Vinnelly. These villages have 48 hamlets attached to them, 34 of which belong to Perryoor, the principal village on the lower Pulnis. The northern slopes of Peermarlumullay on which the village of Kowujee is situated, belongs to the Zemindary of Ayagudy and the extreme eastern portion of the hills belongs to the Kunnevaudy Zemindary. The former is bounded on the north and west by the villages of Baulsamoodrum and Ayagudy, on the east by Paucheloor and Tandigody, and on the south by the Peermarlumullay mountain. The Kunnevaudy Zemindary, generally known as the Audaloor and Mannalur Hills, contains four principal villages, viz., Mannalur Audaloor, Thonimalay, Pandimalay, which have twelve hamlets attached. The Zemindary is bounded on the north by Pulkanooth and Kunnevaudy, east by Dhormutputty and Autoor, south by Narsingapuram, and on the west by Tandigody and Paucheloor.

(16. A little more than 8,000 acres of land are under cultivation on the lower Pulnis situated in the most fertile valleys of the range. The soil is very rich. The products of these hills are, turmeric, ginger, cardamoms, plantains, vendium, castor-oil-seeds, rice, shama, varagoo, tennay, ragee, cumboo, and a few potatoes. The chief staple of export is a description of plantain peculiar to these hills, much prized

by the Natives in the low country. The markets of Dindigul and the neighbouring towns are extensively supplied with it. The fruit is small, very rich and aromatic in flavour, and to my taste is even superior to the well known Guindy plantain. Turmeric, ginger, vendium, mustard and some of the dry cereals are exported, also the jack fruit. In the jungles are found the jack, mango, orange, lime, citron, wild cinnamon and wild nutmeg trees, the pepper, vine and rattan. There has been, in times past, a considerable quantity of teak and blackwood in the forests, but the former has almost disappeared, and but little of the latter is left. On the slopes near Poolatur, the sandal wood tree is still to be found, but scarce. The black dammer tree and wild nutmeg abound in many of the sholas. The jungles also contain some valuable fibres which are much used by the Natives for making ropes, &c.

Vide Captain Beddome's report.

17. (There are extensive forests in the vicinity of Tandigody and Perryoor, in which trees of gigantic size are still to be found—there are also very dense sholas in the Paucheloor direction, but the greater part of the best forest land has been destroyed and exhausted in cultivating the plantain. This practice I understand has been put a stop to of late years, but not in time to save what would have proved most valuable coffee land. Mr. Clarke in his report states, "The way in which the plantain is cultivated is most destructive to the large forests, which are fast disappearing to make way for plantain gardens. After selecting an eligible spot, the trees are felled without regard to their value, and when dry, are burned. The ashes form a valuable manure, correcting the acidity of the rich vegetable mould, turning it into a most productive soil. The soil is lightly scratched and sown with dry grain and the plantains planted at regular distances; these plantains continue to bear fruit from 10 to 30 years. As soon as the soil is exhausted another wood is selected; consequently in every direction extensive patches of scrub jungle show where fine forests have been felled, and after being exhausted as a plantain garden the ground has been left to run waste."

(18. The following, referring to the cultivation of the different produce, is also extracted from Mr. Clarke's report. The open fields are sometimes when well situated near the village and of rich soil, cultivated annually with turmeric. Many of them however are left waste until they are again overrun with jungle, when the cleaning takes place a second time. The plantain gardens are never artificially watered,

The slope of a hill near some spring is selected, the humidity of the ground and atmosphere being sufficient to bring the tree to perfection. Ginger requires shade, and is often sown under the shade of the plantain trees, sometimes it is sown in the forest under the forest trees—it takes twelve months to come to perfection. The Turmeric is grown in the fields and takes 18 months before it is ready for gathering. The cardamoms are grown in the sholas or forests. They require much shade, and need much care in their cultivation, they do not come into bearing for 5 years, the fruit which grows out of the roots is greedily devoured by rats and squirrels, and unless the garden is kept well weeded the fruit is lost. In the dry seasons the return is very small and the seed very inferior. Rice is either grown in the marshy ground or on ground watered by small channels led from streams, the grain is much superior to that grown on the higher range from the soil being so much richer. Mr. Clarke is of opinion that sugar cane would answer in this rich soil, from which two crops are often raised on the same land, and returns, he is inclined to believe, not less than 100 per cent.)

(19. There is scarcely any coffee cultivation on these hills. At Perrioor there is a small plantation; but including some trifling patches belonging to the villagers, the whole extent does not exceed 34 acres. Part of this plantation was originally an old plantain clearing allowed to run waste for a number of years and covered with dense scrub; and part was primeval forest. The difference in appearance of the trees is very marked, those on the old clearing being stunted and weak, while those on the forest land are strong and vigorous. The only other coffee I heard of, except a few patches near the villages, was a small plantation of about 12 acres at Mannalur in the Kunnevaudy Zemindary which I also visited—this estate is on fine rich forest land, and the trees looked healthy and flourishing. In consequence of so much of the best forest land having been already cleared for plantain cultivation, I fear, there is no great opening for coffee on these hills, though there is still some fine forest land in the neighbourhood of Tandigody, Perryoor, Paucheloor, and Mannalur untouched. I cannot say whether the lower Pulnis would prove suitable for the culture of the Tea plant, but I have no doubt it would grow there just as well as it does on the Shevaroyes.)

20. The want of roads and easy communication with the low country is the greatest drawback to the opening up these hills, and the extremely feverish nature of the climate generally, is another; but were

the dense overgrown swamps that are met with in many of the valleys cleared and drained, the malaria would be much reduced if not entirely expelled from these hills. (The Ponjola Hill (vide sketches No. 2, 11 and 12), standing nearly in the centre of the lower range, offers a most advantageous site for houses. The summit is more than 7,500 feet above the sea level, and a road with an easy gradient, could, without difficulty, be made along the western spur. Water is to be had in sufficient quantity, but there is not any great space available actually on the summit of the hill; there are however some very suitable spots on the sides of the mountain far above fever range, more especially in the valley on the western slope facing towards Kowujee and fed by a considerable stream, whose banks are fringed with rhododendron trees.)

20. The climate of the lower Pulnis is very similar to that of the Shevaroyes, and were it not for the fever, would be a delightful mountain tract to reside in. The most unhealthy months are from March to July, but there appears to be no period of the year perfectly safe. I visited these hills in January, and the inhabitants told me they had been suffering from fever more or less for the last three months; according to their accounts there is no stated period for the fever, it comes at different seasons in different years. These hills are much less affected by the south-west monsoon than the high range, the weather is often clear and bright at that period when heavy rains or dense fogs prevail to the westward, but the rains of the north east monsoon are heavier on the lower than on the upper range.

21. The undermentioned wild animals are met with on the Pulnis. Tigers, panthers, wild cats, bears, bison, sambar, ibex, spotted deer, jungle sheep (muntjack), wild hog, wild dogs, jackals, also a mountain antelope, the large red Hill mongoose or ichneumon, and the Neilgherry marten cat, the Malabar, the common, and a small short tailed brown squirrel. Of birds, three kinds of eagles, the large brown, the crested, and the black eagle; a great variety of falcons and hawks; the pea fowl, jungle fowl, spur fowl, and hill quail; the black bird, chattering thrush, speckled thrush, blue whistling thrush, minor, bulbul, and numerous other birds found also on the Neilgherries. The tiger, panther, and bear frequent both ranges. Elephants were in former times to be met with on the lower Pulnis, but are now never seen there and are only to be found in the large forests to the extreme west near the Travancore boundary, bison, sambar, wild hog and jungle sheep resort to both ranges. The ibex is only found among the precipices of the higher and the spotted deer in the jungles of the lower range. There is a beautiful species

of antelope found on the open hills of the high range. I was unable to procure a male specimen, in fact I never saw one. The female is about 2 feet high at the shoulder, of a light reddish brown, white on the upper part of the neck, belly, and inside of the legs; the ears are large like those of the sambar, head rather short and muzzle pointed, tail long, hair thick and approaching to wool, thick tufts of hair at the fetlocks: it frequents the open hills only, and is very shy. I have met with one specimen of the same animal (a female) on the Neilgherries, and another female was lately shot on the table-land above the Hausanoor ghaut in the Coimbatore District. The vignette at the end of the sketches will give some idea of the appearance of this animal.)

(Signed) DOUGLAS HAMILTON, LIEUT. COL.,
44th Regiment Native Infantry.

Note.—Since forwarding the above report I have obtained a specimen of the male antelope, lately shot near Pykara on the Neilgherries, and have made a drawing of it in the vignette. It is the true "Jungle Bukra" or jungle sheep of the native shikarees—a name so erroneously applied to the muntjack or rib-faced deer. It is found on the Western Ghats and the highlands of Mysore, but it is not I believe generally known that this animal is to be found on the higher ranges of mountains such as the Neilgherries and Pulnis. From its habits I think it may be properly designated "a mountain antelope."

The male is very similar to the female in appearance, about an inch higher, slightly darker in color, and the white on the lower jaw and upper part of the throat more distinctly marked, the forepart of the legs much darker than those of the female, approaching to black, with a light colored patch above and below the fetlock. The horns of the specimen before me have a slight curve forward, and are about 4 inches long, set on the head at different angles, the right horn being placed more upright than the left. The points are almost as sharp as needles. The female is hornless.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.								IN A ROOM WITHOUT FIRE.								Remarks.
	Forenoon.				Afternoon.				Forenoon.				Noon.				
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	
Mr. Clarke's Bungalow. 1861.																	
Nov. 1st	6-30 54½	958½	5 59½	58	6-30 59	961	6-30 60	960½	12 63	961	12-30 62	961	12 63	961	5 63	9 61	Fine day—strong wind. Cloudy day — stormy at times—a little rain and mist in the evening.
" 2nd	6-30 55½	958½	7 57½	57½	6-30 60½	960½	7 59½	959½	12 61	960½	12 61	960½	12 61	7 61½	7 61½	9 61	Morning cloudy—fine but cloudy during the day—
" 3rd	6-30 55½	955½	7 57½	57	6-30 60½	956½	7 59½	956½	12 58	956½	12 58½	956½	12 61	7 61½	7 61½	9 61	heavy rain at night.
" 4th	7 55½	957½	7 57	57	6-30 60½	956½	7 59½	956½	12 58	956½	12 58½	956½	12 61	7 61½	7 61½	9 61	Strong wind in the morning with occasional mist—noon clouds and sunshine—light shower shortly after noon—heavy rain after 4 P.M., which continued all night.
" 5th	6 55½	955½	7 57	57	6-30 60½	956½	7 59½	956½	12 56	956½	12 56½	956½	12 59½	7 59½	7 59½	9 58½	Rain and very strong wind during the greater part of the day—blowing a gale in the afternoon.
" 6th	6-30 51	951½	7 51½	51½	6-30 57	953	7 51½	953	12 53½	953	12 53½	953	12 56½	7 56½	7 56½	9 56½	Gale continues—with heavy rain at times—wind decreased towards evening—rain heavy during the night.

Register of the Thermometer taken at the Pulni Hills.

12

PLACE AND DATE.	IN OPEN VERANDAH.						IN A ROOM WITHOUT FIRE.						Remarks.						
	Forenoon.			Noon.			Afternoon.			Forenoon.				Noon.			Afternoon.		
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	Time.	Degrees.		
Mr. Clarke's Bungalow, 1861.																			
Nov. 7th	7 53½	.....	12 58	.....	7 56½	9 56½	7 57	.....	12 58½	.....	7 59	9 58½	Fresh breeze with rain the whole day—a wet night.						
" 8th	6-30-56	9-30-60	12 59	.....	.....	9 57½	6-30-58	9-30-59	12 59½	.....	.....	.....	Mist during the early morning—forenoon sun-shiny—rain at noon—calm cloudy evening.						
" 9th	6-30-56	9-30½	12 60	.....	7 58	9 56½	6-30-58	9-60	12 60½	.....	7 60½	9-30-59½	Fine morning—slight shower at noon—fine afternoon.						
" 10th	6 55	9-30½	12-30-61	.....	7 59	9 58	6 58	9-60	12-30-61	.....	7 60	9 60	Fine day—mist in the evening—night fine.						
" 11th	6 50	9 59	12 58	2 57½	.....	3 57½	6 58	9-60	12 60	2 61	.....	9 59½	Fine till noon—rain in the afternoon—evening fine.						
" 12th	6-30-55½	9-60½	12 61	.....	7 59½	9 58½	6-30-58	9-61	12 61½	.....	7 61	9 60½	Morning fine—dense fog at noon and during the greater part of the afternoon—light rain towards evening with mist—night fine.						
" 13th	6 56½	9-60½	.....	.....	7 58	9 58	6 59	9-61	.....	.....	7 61	9 60	Fine throughout the day—fresh breeze at times.						

13

" 14th	6 57	9-61½	12 63	.....	.....	9 57½	6 59	9-59½	12 61½	.....	.....	.....	9 60½	Morning fine but cloudy—noon cloudy—afternoon fine with light breeze.
" 15th	6 57	9 58	12 61½	2 61	.....	9 58½	6 59½	9-60½	12 62	2 62	.....	.....	9 61½	A damp foggy morning—forenoon and afternoon fine—night foggy.
" 16th	5-30-57	9 58	12 59	2 59½	.....	9 58½	5-30-60	9-61	12 61	2 61	.....	.....	9 60	Misty morning with drizzling rain—mist and rain during the day—mist and fog in the afternoon—rain during the night.
" 17th	7 57	.....	12 59½	.....	.....	9 58½	7 60	.....	12 61	.....	.....	.....	9 61	A wet drizzly morning—fog and drizzle the greater part of the day—evening foggy with thunder—wet night.
" 18th	6 57½	.....	12 58½	2 59½	7 58½	9 58	6 60½	.....	12 61	2 61½	7 61	.....	9 61	A wet day—no wind—fine night.
" 19th	6 55	.....	12 58½	.....	7 57	9 56	6 58½	.....	12 62	.....	7 61½	.....	9 60½	Fine sunshiny day—clouded over at times—fresh breeze.
" 20th	6 53½	9-61	12 60½	.....	7-30	9 55½	6 57½	9-59	12 61	.....	7-30-62	.....	9 61	Fine day with occasional mist.
" 21st	5 52½	9-58½	.....	.....	.....	9 55½	5 57½	9-58	.....	.....	.....	.....	9 60	Fine day throughout.
" 22nd	6 54	9-55	.....	.....	7 55½	9 56½	6 58	9-59	.....	.....	7 59	.....	9 59½	Morning fine but cloudy—a damp foggy day—evening fine—night foggy.
" 23rd	6 54½	9 56	12 57½	.....	.....	9 56	6 59	9-59	12 59½	.....	.....	.....	9 59	Heavy fog in the morning—cloudy with fog and showers during the day—afternoon and evening fine.
" 24th	7 55	9 57	.....	.....	7 58	9 56½	7 58½	9-59½	.....	.....	.....	.....	9 59½	Foggy morning—cloudy day—afternoon fine.
" 25th	6-30-55½	9 56	12 59	.....	.....	9 56½	6-30-58	9-59	12 61	.....	.....	.....	9 60	Foggy morning—cloudy with occasional mist during the day—cloudy night.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.												IN A ROOM WITHOUT FIRE.												Remarks.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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" 7th	6.53½	9.58½	12.30.58½				9.30.55½	6.58½	9.59½	12.30.61			9.30.59½ Morning fine—fog and drizzling rain during the day—night fine.
" 8th	6.30.54½	9.60	.....	.....	7.55½	.....	9.30.53½	6.30.58	9.58½	.....	.....	7.60	9.30.58½ Fine day throughout.
" 9th	6.51½	9.58	12.30.57½	.....	7.54	.....	9.30.55½	6.56½	9.56½	12.30.59	.....	7.60	10.57½ Do do. with strong wind
" 10th	6.51	9.60½	12.62½	2.62½	.....	.....	9.54½	6.56	9.56½	12.58	2.60½	.....	9.59 Do. do.
" 11th	6.55	9.63½	12.62½	.....	7.66½	.....	9.56½	6.55	9.56	12.58½	.....	7.60½	9.58½ Do. do.
" 12th	7.53	9.63½	1.63	.....	7.55½	.....	9.53½	7.55½	9.57½	1.60	.....	7.61½	9.59 Do. do.
" 13th	6.51½	9.59	1.62½	.....	7.57	.....	9.55	6.56½	9.56½	1.60	.....	7.60	9.56 Fine day—cloudy at times.
" 14th	6.53	.....	1.63	.....	7.55	.....	9.53½	6.55½	.....	12.57½	.....	7.58	9.56½ Do. fresh breeze.
" 15th	6.30.40	9.59½	12.61½	.....	7.55½	.....	9.54	6.30.53½	9.54½	12.56	.....	7.57	9.55 Do. do.
" 16th	6.49	.....	12.30.61	.....	7.55½	.....	9.53½	6.54	.....	12.30.55½	.....	7.56½	9.54½ Fine day throughout—wind strong at times.
" 17th	6.51½	9.60½	12.63½	.....	7.53½	.....	9.54½	6.54	9.55	12.56	.....	7.57	9.56 Do. do.
" 18th	6.52	9.60½	12.60½	2.61	7.55½	.....	10.30.54	6.54½	9.55	12.57	2.57½	7.57½	10.30.55½ Fine day—cloudy towards evening—night fine.
" 19th	5.30.51½	9.61½	.....	.....	7.55	.....	9.30.54	5.30.54½	9.55½	.....	.....	7.57	9.30.55½ Fine day throughout.
" 20th	6.30.52½	9.57½	12.30.61	.....	7.54	.....	9.52	6.30.53½	9.54½	12.30.56½	.....	7.56½	9.55 Fine day—cloudy at times
" 21st	6.50½	9.59	12.60	.....	7.54	.....	9.53	6.54	9.54	12.58½	.....	7.57	9.55½ M. 42°. Morning fine—fresh breeze.
" 22nd	6.30.52½	9.58½	12.58½	2.30.57	.....	.....	9.30.53	6.30.53½	9.54½	12.59½	2.30.57	.....	9.55½ M. 42°. Morning fine—slight frost in the valley—cloudy afternoon and night.
" 23rd	6.51	9.61	12.59½	2.30.59½	7.55	.....	9.30.53½	6.53½	9.55	12.59½	2.30.57½	7.57½	9.30.56 M. 41°. Morning and forenoon fine—with occasional fog.
" 24th	6.54	9.62½	12.61	2.60	7.54½	.....	9.30.54	6.54½	9.55	12.56	2.58	7.57½	9.30.56½ M. 44°. Morning and forenoon fine—afternoon fog—dense fog in the evening—night fine
" 25th	6.30.52½	9.61	12.30.63½	.....	6.30.57	.....	.....	6.30.54½	9.55½	12.30.57	.....	6.30.58½	 M. 44°. Fine day—slight mist in the evening.
" 26th	6.30.54½	9.65	.....	.....	.....	.....	10.30.54	6.30.54½	9.55½	.....	.....	10.30.56½	M. 43°. Fine day throughout.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.										IN A ROOM WITHOUT FIRE.						Remarks.					
	Forenoon.				Afternoon.				Forenoon.				Noon.					Afternoon.				
	Time.		Degrees.		Time.	Degrees.	Time.	Degrees.	Time.		Degrees.		Time.	Degrees.	Time.	Degrees.		Time.	Degrees.			
	Degrees.	Time.	Degrees.	Time.					Degrees.	Time.	Degrees.	Time.								Degrees.	Time.	
Mr. Clarke's Bungalow. 1861.																						
Dec. 27th	6-30	53½	9 63	12 64	2 64	7 57	9 55½	6-30	55	9 56	12 57½	2 58½	7 59	9 57½	M. 44°. Morning fine but cloudy—light mist during the day—evening fine.							
"	28th	6-30	55	9-30	67		7-30	54	9-30	53½	6-30	55	9-30	55½		7-30	58	9-30	56½	M. 46½°. Fine day throughout—frost in the valleys for the last fortnight.		
"	29th	6-30	52	9 63	12 63½	2-30	62	7 56	9-30	53	6-30	54	9 55	12 57	2-30	58½	7 57½	9-30	56	M. 42°. Fine day throughout.		
"	30th	5-30	50½	9 57½	12-30	61	2 59	7 54	9 53	5-30	54	9 54½	12-30	56½	2 57	7 56½	9 55	M. 41°. Fine day throughout.				
"	31st	6-30	48½	.....	12 59½	.....	7 54½	10 51½	6-30	53	9 54½	.....	.....	.....	7 55½	M. 40°. do.						
1862.																						
January 1st	6-30	45½	9 55½	12 61½	.....	7 50	.....	.....	6-30	52½	9 53½	12 55½	.....	.....	7 56	M. 40°. (outside thermometer moved from the eastern to the northern side of the house) fine day.						
"	2nd	6-30	50½	.....	12-30	60½	.....	7 54½	9 52	6-30	53	.....	12-30	56	.....	7 56½	M. 43°. Fine—cloudy at noon—fine afternoon.					
"	3rd	6-30	48	9 58½	12-30	62½	.....	.....	10 50½	6-30	54	9 55½	12-30	57½	.....	.....	10 53½	Fine day with fresh breeze.				

"	4th	7-30	55½		12-30	63½		7 57½	9-30	57	7-30	55½		12-30	57½		7 57½	9-30	57	V. 46½°. Morning foggy with drizzling rain, heavy rain during the day with strong wind, very heavy rain and strong wind during the night.
"	5th	7-30	55	10 57	.....	2-30	53	7 55	10 50	7-30	57	10 57	.....	2-30	51	7 57	10 55½	M. 51°. Wind and rain continued all day.		
"	6th	6-30	47½	9 58½	.....	2-30	50½	7 53	10 52	6-30	55	9 56½	.....	2-30	58	7 57	10 56½	M. 42°. Fine day throughout.		
"	7th	5-30	49½	9 59½	12 63½	2 59	7 53½	9-30	55	5 55½	.....	9 57	12 57½	2 57½	7 57	9-30	56½	M. 47½°. Morning and forenoon fine—dense mist & rain at noon—fine afternoon.		
"	8th	7-30	54	9-30	61	12 63½	.....	7-30	52½	9-30	51½	7 55	9-30	50½	12 57	.....	7-30	57	M. 49°. Damp fog in the morning—clouds & fogs during the day with occasional sunshine—fine night.	
"	9th	6-30	59	9-30	59	.....	2 61½	7 55½	9-20	54½	6 56½	9-30	57	.....	2 53	7 57	9-30	56½	M. 41½°. Morning fine—mist during the day—slight shower in the afternoon—heavy clouds and thunder in the evening.	
"	10th	6-20	50	10 58½	12 64½	2 62½	7 53½	10 51½	6-30	52½	10 57	12 58	2 58	7 57	10 56	M. 47½°. Fine day—cloudy at times.				
"	11th	6-30	50	.....	.....	.....	.....	.....	6-30	55	.....	.....	.....	.....	.....	.....	.....	.....	M. 47½°. Fine day.	
"	19th	7-14	9-30	55	.....	.....	.....	.....	9-30	48	7 53½	9-30	54½	.....	.....	.....	.....	.....	M. 41°. Do. clouds & fog at times.	
"	20th	7-45	9-30	53½	12 59	.....	.....	7 52	10 50	7 53	9-30	53½	12 55½	.....	.....	7 56½	10 55½	M. 42°. Do. cloudy towards the afternoon.		
"	21st	6-30	40½	.....	12 65½	2-30	59½	7 53	10-30	49	6-30	54	.....	12 58	2-30	57½	10-30	56	M. 44½°. Morning and noon fine—foggy afternoon—fine evening and night fine.	
"	22nd	6-30	45½	.....	1-30	61½	.....	.....	10 46½	6-30	53½	.....	.....	1-30	57½	.....	.....	10 56	Fine day throughout.	
"	23rd	7-45	.....	.....	1-30	64½	.....	7 54	10 52½	7 53½	.....	.....	.....	1-30	58½	.....	.....	10 56	M. 43½°. Morning and forenoon fine, afternoon cloudy with occasional mist.	

Register of the Thermometer taken at the Pu'ni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.						IN A ROOM WITHOUT FIRE.						Remarks.			
	Forenoon.			Noon.			Afternoon.			Noon.				Afternoon.		
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	
Mr. Clarke's Bungalow. 1862.																
Jan'y, 24th	550	.....	12 04½	.....	7 50	948	555	.....	12 57½	.....	757	956	M. 46°. Morning and forenoon foggy—afternoon and evening fine.			
" 25th	540½	.....	12 02½	.....	7 50½	948½	554½	.....	12 56	.....	757½	956	M. 44°. Fine day with strong wind.			
" 26th	6-30 47	10 53	12-30 6½	2-30 03½	.....	950	6-30 53½	10 54½	12-30 55½	2-30 56½	.....	954½	M. 43½°. Fine day with strong wind.			
" 27th	549	.....	12 07	.....	7 53	953	554	.....	12 57	.....	758	956	M. 46°. Fine day with fresh breeze at times.			
" 28th	651	.....	12 09	.....	6-30 53	1053	654	.....	12 56½	.....	6-30 57½	1056	M. 48°. Do. with strong wind.			
" 29th	6-30 51	958½	.....	.....	7 58½	1051½	6-30 55	955½	.....	.....	757	1056½	M. 47°. Do. do. cloudy afternoon.			
" 30th	6-30 48½	.....	12 03	2-30 61½	8 53	.....	6-30 55	9-30 50	12 57	2-30 57	6-30 58	9-30 56½	M. 46°. Do. do.—cloudy at noon.			
" 31st	5-30 55	9-30 54	.....	.....	.....	1053½	5-30 55	9-30 55	.....	.....	.....	1056	M. 46½°. Do. with strong wind.			
Feb'y, 1st	6-30 48½	959½	12 02½	.....	6-30 52	957	6-30 54½	955½	12 56	.....	6-30 57	956	M. 44½°. Do. strong wind and cloudy at times.			
" 2nd	6-30 52½	960½	12 57½	.....	.....	9-30 53½	6-30 53½	954½	12 55½	.....	.....	9-30 55	M. 48½°. Morning and forenoon fine but cloudy—wet afternoon.			
" 3rd	6-30 51½	9-30 54	12-30 55	.....	6-30 53½	953½	6-30 55	9-30 55½	12-30 55½	.....	6-30 55½	955	M. 46°. A wet foggy day.			

" 4th	753½	9-30 58	12 59	2-30 56½	7 53½	951½	755	9-30 55½	12 56	2-30 55	755½	955	M. 50°. Morning dense—damp fog—fog and wind during the day—evening fine.
" 5th	549½	.....	12-30 62	.....	.....	950	551	.....	12-30 56	.....	.....	954½	M. 45°. Fine day throughout!
" 6th	546	.....	12 53½	.....	.....	949½	552½	.....	12 57	.....	.....	955½	M. 45½°. Do.
" 7th	5-30 47	.....	1 03½	.....	7 47	9-30 46½	5-30 53½	.....	157½	.....	7 57	9-30 56½	M. 43½°. Do.
" 8th	644	.....	12 53½	.....	7 48½	9-30 46½	653½	.....	12 56	.....	756½	9-30 55	M. 41½°. Do.
" 9th	649½	959	12-30 59	2-30 59	7 49	947	653	957½	12-30 56	2-30 56½	756½	954½	M. 41½°. Do.
" 10th	5-30 50	.....	12 62	.....	7 50	1050	5-30 52½	.....	12 55½	.....	757	1055	M. 43½°. Do.
" 11th	548	.....	12 01½	.....	7 50½	9-30 50	555	.....	12 56	.....	756½	9-30 55½	M. 45½°. Do. during this fine weather there has been frost at night.
" 12th	652	959	12 55½	.....	7 50	950½	655	956	12 55½	.....	755½	955	M. 48°. Morning foggy, slight shower in forenoon—rain in afternoon—evening fine but misty.
" 13th	751½	.....	12 55½	.....	7 55½	952½	754½	.....	12 55½	.....	755½	955	M. 47°. Morning fog and rain which continued greater part of the day.
" 14th	753½	958	12 59½	2 00½	7 54½	9-30 54½	755	955½	12 56	2 56	755½	9-30 56½	M. 42°. Morning foggy—noon and afternoon rain—fog and drizzle at night.
" 15th	754½	.....	12 00½	.....	7 56½	953½	755	.....	12 57½	.....	757	956½	M. 50°. Wet night—wet foggy day—cleared up at 5 in the afternoon—cloudy after dusk.
" 16th	752	959	12 00½	2-30 58½	7 54½	1053½	756½	957	12 58	2-30 58	757	1056½	M. 48½°. Fine morning—cloudy at noon, heavy shower and fog in the afternoon—night fine but cloudy.
" 17th	5-30 52	959	1 03	.....	.....	952½	5-30 56	957	1 58½	.....	.....	956½	M. 48½°. A cloudy day—with strong wind.
" 18th	651½	959	12-30 62	.....	7 51½	10-30 49½	656	957	12-30 58	.....	758	10-30 56½	M. 47½°. Morning foggy and cloudy—fine day.
" 19th	5-30 46½	952½	12 57½	.....	.....	9-30 46	5-30 55	955½	12 57½	.....	.....	9-30 56½	M. 44°. Fine day—wind strong.

PLACE AND DATE.	IN OPEN VERANDAH.						IN A ROOM WITHOUT FIRE.						Remarks.			
	Forenoon.			Afternoon.			Forenoon.			Noon.				Afternoon.		
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	
Mr. Clarke's Bungalow 1862.																
Feb'y. 20th	6-30-43	9-52	2-57	7-48	9-30-48	6-30-53	9-54	12-56	7-56	9-30-53	M. 41°.	Fine day—wind [strong.				
" 21st	5-45	9-53	12-53	7-48	9-48	5-33	9-54	12-55	7-57	9-54	M. 41°.	Do. do.				
" 22nd	5-46	9-53	12-30-63	7-50	9-50	5-33	9-54	12-30-56	2-57	9-55	M. 42°.	Do. do.				
" 23rd	6-47	9-59	12-55	7-51	9-50	5-32	9-54	12-56	2-57	9-55	M. 45°.	Do. do.				
" 24th	5-49	9-59	12-55	7-51	9-51	5-32	9-54	12-56	7-57	9-55	M. 42°.	Do. wind very strong.				
" 25th	5-30-49	9-59	12-63	7-51	9-51	5-30-53	9-54	12-55	7-56	9-55	M. 44°.	Do. do.				
" 26th	5-30-48	9-59	12-30-67	7-52	9-51	5-30-53	9-54	12-30-57	7-57	9-56	M. 41°.	Fine day—wind moderate—calm in the afternoon.				
" 27th	.....	9-61	12-64	.....	10-51	.....	9-54	12-56	.....	10-57	M. 45°.	Fine day through-out.				
" 28th	5-30-53	.....	.....	7-57	10-52	5-30-55	.....	.....	2-58	10-58	M. 49°.	Fine day but cloudy—heavy rain in the evening.				
March 1st	5-50	9-61	12-65	7-63	9-30-55	5-56	9-57	12-59	7-59	9-30-57	M. 46°.	Fine day but cloudy—light rain in the evening.				
" 2nd	6-52	9-63	.....	7-56	9-30-56	6-56	9-39-57	.....	7-59	9-20-59	.....	Fine day but cloudy—mist at night.				
" 3rd	5-52	9-64	12-67	.....	9-30-57	5-57	9-58	12-59	.....	9-30-50	.....	Fine day throughout.				
" 4th	5-30-50	9-61	12-65	7-55	9-30-51	.....	9-57	12-59	7-59	9-30-58	M. 47°.	Do.				
" 5th	6-48	9-30-62	12-65	7-56	9-55	6-56	9-57	12-59	7-60	9-59	M. 40°.	Do.				

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.										IN A ROOM WITHOUT FIRE.						Remarks.
	Forenoon.				Afternoon.				Noon.		Afternoon.						
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.			
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.			
Mr. Clarke's Bungalow. 1862.																	
March 23rd	6.50	9.66	12.69	.....	7	56½	9.54½	6.60½	9.66	12.63	.....	7	63	9.63	M. 47½°. Fine day throughout with fresh breeze.		
"	5.30-49½	9.67	12.69½		7	60	10.54½	5-30.60½	9.61½	12.63		7	63½		62½	M. 47°. do. do. do. light frost in valleys.	
"	5.51½	9.67½	12-30.68½	.....	7	60	9-30.56	5.61	9.62	12-30.63½	.....	7	64	9-30.63½	M. 48½°. Fine day throughout—no wind, light frost in valleys.		
"	5.30-52	9.66	12-30.74	.....	7-30	59½	9.54	5-30.62	9.61½	12-30.65	.....	7-30	64½	9.60	M. 50°. Fine day throughout—cloudy afternoon.		
"	6.55	9.67½	12-30.77	.....	7	62	10.58½	6.63	9.64	12-30.65½	.....	7	66	10.65	M. 52½°. Morning fine but misty at times—noon fine—fog in the afternoon.		
"	6.30-55	9.70	12.73½	.....	.....	.....	9-30.57	6-30.63	9.65	12.65½	.....	.....	.....	9-30.64	M. 52½°. Morning cloudy—noon clouds and mist—shower in afternoon with thunder—misty evening.		
"	5.30-54½	9.68½	1.68½	.....	7	59	10.57½	5-30.63	9.64	1.05	.....	7	64	10.63½	M. 51½°. Morning fine but cloudy—noon rain with mist. Wet afternoon with thunder—night cloudy.		
"	6.30.54	9.69½	12.68	.....	7	58	10.56	6-30.62	9.64	12.64	.....	7	63½	10.63	M. 50½°. Morning fine—noon cloudy—afternoon fine.		

12

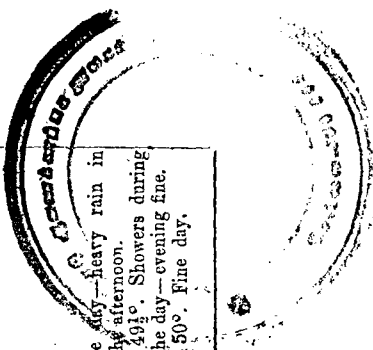
" 31st	5.51	9.68	12.72	.....	7	58	10.55½	5.61½	9.62½	12.64	.....	7	63	10.62½ M. 51°. Do. do. afternoon cloudy—evgning fine.	
April 1st	5.53	.....	12.60½	.....	7-30	58	9-30.55½	5.61	.....	12.63	.....	7-30	63	9-30.62½ M. 51°. Morning fine—heavy shower at noon—afternoon fine.	
" 2nd	6-30.54	9.64½			7	58	10-30.54	6-30.59½	9.61				10-30	61	M. 48½°. Fine day throughout.
" 3rd	5.51	9.62	12.75	2.70½	.....	.....	10.54½	5.59	9.60	12.64	2.63½	7	63	10.61½ M. 48°. Do. do.	
" 4th	6-30.51½	.....	12-30.71½	.....	7	57½	10-30.55½ 6-30.59	.....	.....	12-30.62½	.....	7	63	10-30.61 M. 49½°. Do. do.	
" 5th	6-30.56	9-30.65	12-30.69½	2-30.68½	7-30	57½	10.55	6-30.59	9-30.59½	12-30.62	2-30.63	7-30	62½	10.62 M. 47½°. Do. do. Frost in valleys last two nights.	
" 6th	6-30.50½	.....	12-30.70½	2-30.68	7	58	9.57	6-30.59½	.....	12-30.63	2-30.63½	7	63	9.62 M. 49°. Morning fine—noon cloudy—afternoon fine with thunder—clouds over the horizon.	
" 7th	6.52	9.59	12.71				10.56½	6.59½	9.63	12.61½			10	62	M. 48½°. Morning fine—with fresh breeze—noon and afternoon fine—thunder-clouds collected in evening.
" 8th	5.55	9.68½	12.71½	2.70½	7	58	9-30.56	5.60	9.61	12.63	2.63	7	63	9-30.62½ M. 50½°. Fine day with fresh breeze.	
" 9th	6-30.54	9-30.67½	12.72	.....	7	58½	11.55½ 6-30.60	9-30.60½	9.60	12.62½	.....	7	64	11.63 M. 50½°. Fine day throughout—slight frost last night in valleys.	
" 10th	6-30.55	9.64	12.69½	2-30.68½	7	53½	9-30.65½ 6-30.59½	9.60	9.60	12.62	2-30.62½	7	62½	9-30.62 M. 50½°. Fine day with strong breeze.	
" 11th	5.52	9.64½	12.70½	2.69½			9.54½	5.60	9.60	12.62	2.63		9	62	M. 48½°. Do. do. slight frost.
" 12th	5.51	9.65		2.70½			9.55	5.60	9.60½		2.62½		9	62	M. 47½°. Fine day throughout—sharp frost.
" 13th	6.55	9.65	12.73	2-30.71½	7	59	10.55½	6.59	9.60	12.62	2-30.63½	7	62½	10.62 M. 49°. Fine day but windy—slight frost.	
" 14th	5.56½	9.70	12-30.75½	.....	7	61½	9-30.59	5.60	9.61	12-30.63	.....	7	64	9-30.63½ M. 51½°. Do. strong wind do.	
" 15th	6.55	9.70	12-30.76½					6.61	9.64	12-30.64½					M. 52½°. Do. a little rain in the afternoon.
" 16th	5.55½	.....	12.73½	.....	7	62½	9.60½	5.63	.....	12.64½	.....	7	64	9.64½ M. 49½°. Morning and noon fine—afternoon cloudy.	

13

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.						IN A ROOM WITHOUT FIRE.						Remarks.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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25th	6-55	9-63	12-64	2-62	7-60		6-60	9-68	12-65	2-64	7-64		A tremendously heavy thunder-storm set in after dark last night with hail stones of great size—many animals killed—Morning fine—thunder-storm during the day.
" 26th	6-50	9-63	12-65	2-65	7-61	.....	6-62	9-68	12-64	2-65	7-65	.....	Fine day throughout.
" 27th	6-57	.....	12-65	2-67	7-62	.....	6-62	9-63	12-63	2-67	7-65	.....	do.
" 28th	6-53	9-68	.....	2-69	7-30	6-61	6-61	9-63	.....	2-66	7-30-65	.....	M. 50°. Do.
" 29th	6-59	9-66	.....	.....	7-62	9-30-61	6-62	9-64	.....	2-66	7-64	9-30-64	M. 51°. Morning and forenoon fine but cloudy—heavy thunder-storm in the afternoon.
" 30th	6-30-60	.....	.....	2-66	.....	.....	6-30-63	.....	.....	2-66	.....	.....	M. 52°. Morning and noon fine—cloudy afternoon.
May 1st	6-58	9-64	12-65	.....	7-62	10-60	6-62	9-63	12-30-66	.....	7-65	10-64	M. Fine till evening when rain and fog set in.
" 2nd	6-57	9-63	12-64	2-64	7-62	.....	6-62	9-64	12-66	2-65	7-65	.....	M. 49°. Morning cloudy.
" 3rd	6-61	9-61	12-65	2-65	7-62	.....	6-63	9-63	12-65	2-66	7-65	.....	.....
" 4th	6-59	9-65	12-66	2-65	7-62	.....	6-63	9-64	12-65	2-66	7-65	.....	.....
" 5th	6-63	9-65	12-63	2-61	7-53	.....	6-60	9-63	12-64	2-65	7-64	.....	.....
" 6th	6-57	9-63	12-64	2-62	7-57	.....	6-63	9-63	12-65	2-65	7-64	.....	.....
" 7th	6-59	9-62	12-60	2-56	7-57	.....	6-62	9-63	12-64	2-63	7-63	.....	.....
" 8th	6-56	9-63	12-68	2-64	7-63	.....	6-60	9-62	12-64	2-63	7-61	.....	.....
" 9th	6-56	9-59	12-63	2-62	7-57	.....	6-60	9-61	12-63	2-63	7-61	.....	.....
" 10th	6-54	9-59	12-62	2-58	7-57	.....	6-59	9-61	12-61	2-60	7-60	.....	.....
" 11th	6-55	9-63	12-65	2-67	7-60	.....	6-57	9-59	12-62	2-61	7-60	.....	.....
" 12th	6-57	9-64	12-64	2-63	7-59	.....	6-59	9-60	12-62	2-62	7-61	.....	.....
" 13th	6-59	9-64	12-67	2-63	7-61	.....	6-60	9-61	12-62	2-62	7-63	.....	.....
" 14th	6-58	9-66	12-67	2-64	7-62	.....	6-60	9-62	12-64	2-65	7-61	.....	.....
" 15th	.....	9-67	.....	.....	.....	.....	.....	9-63	.....	.....	.....	.....	.....
" 16th	6-59	9-63	1-67	.....	.....	10-60	6-61	9-64	1-65	.....	.....	.....	.....
" 17th	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 18th	6-30-61	9-66	12-57	.....	7-61	9-30-60	6-30-62	9-65	12-66	.....	7-63	9-30-63	Fine day—Heavy rain in the afternoon.
" 19th	6-59	9-63	12-57	.....	7-61	10-60	6-62	9-65	12-66	.....	7-64	10-63	M. 49°. Showers during the day—evening fine.



3029

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.										IN A ROOM WITHOUT FIRE.										Remarks.																																																																																																																			
	Forenoon.					Afternoon.					Forenoon.					Noon.						Afternoon.																																																																																																																		
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Mr. Clarke's Bungalow. 1862. May 20th " 21st " 22nd " 23rd " 24th " 25th " 26th " 27th	6.60 6.59½ 6-80 59 6.59 6.58 6.58½ 6.60 6.59½	 9.65 9.67 9.65 9.64½ 9.63½ 9.66 9.65½					7 60 7 63½ 7 61 7 61 7 65½ 7 62																																																																																																																																	

" 28th	6.59½	9.65	12.66	2.64	7 62	...	...	...	...	...	...	...	...	...	...	12.62	2.63	7.62	...	...	...	(6) Rain (9) sunshine (12) sunshine (2) cloudy—rain.
" 29th	6.59	9.62	12.67½	2.66	7 62½	...	...	...	...	...	...	...	...	...	...	12.66	2.65	7.63	...	...	...	(6) Cloudy (9) cloudy (12) sunshine (2) sunshine (7) cloudy.
" 30th	6.62	9.66	12.68	2.65	7 61	...	...	...	...	...	...	...	...	...	...	12.66	2.66	7.68	...	...	...	Fine but cloudy (9) sunshine (12) sunshine (2) sunshine—cloudy.
" 31st	6.60	9.63½	12.67	...	7 60	...	...	...	...	...	...	...	...	...	...	12.64	...	7.63	...	...	...	(6) Rain (9) cloudy (12) sunshine (7) rain.
June 1st	6.60	9.65	— 12.63	2.66	7 63½	...	...	...	...	...	...	...	...	...	...	12.64	2.64	7.64	...	...	...	(6) Rain (9) sunshine (12) cloudy (2) sunshine—cloudy.
" 2nd	6.58	9.63	12.62	2.60	7 59	...	...	...	...	...	...	...	...	...	...	12.63	2.64	7.61	...	...	...	(6) Rain (9) cloudy (12) cloudy (2) cloudy (7) rain.
" 3rd	6.57	9.63	12.61½	2.62½	7 57	...	...	...	...	...	...	...	...	...	...	12.64	2.63	7.60	...	...	...	(6) Rain (9) cloudy (12) cloudy (2) cloudy (7) rain.
" 4th	6.62	9.63½	12.63½	2.61	7 60	...	...	...	...	...	...	...	...	...	...	12.62½	2.64½	7.62	...	...	...	(6) Cloudy (9) cloudy (12) cloudy (2) cloudy (7) rain.
" 5th	6.58½	9.64	12.62	2.61	7 60	...	...	...	...	...	...	...	...	...	...	12.65	2.64½	7.62	...	...	...	(6) Rain (9) cloudy (12) cloudy (2) cloudy (7) rain.
" 6th	6.58	9.67	12.64	2.63	7 62	...	...	...	...	...	...	...	...	...	...	12.66	2.64½	7.63	...	...	...	(6) Raining (9) sunshine (12) sunshine (2) cloudy (7) cloudy.
" 7th	6.65	9.63½	12.65½	2.65½	7 62	...	...	...	...	...	...	...	...	...	...	12.64½	2.64	7.63	...	...	...	(6) Cloudy (9) cloudy (12) sunshine (2) sunshine (7) cloudy.
" 8th	6.55	9.63½	12.58	2.62½	7 60½	...	...	...	...	...	...	...	...	...	...	12.64	2.61	7.64	...	...	...	(6) Cloudy (9) cloudy (12) rain (2) cloudy (7) cloudy.
" 9th	6.53	9.63½	12.64	2.64½	7 58	...	...	...	...	...	...	...	...	...	...	12.64½	2.65	7.60	...	...	...	(6) Cloudy (9) sunshine (12) rain (2) cloudy (7) rain.
" 10th	6.58	9.63	12.67½	2.66	7 61½	...	...	...	...	...	...	...	...	...	...	12.64	2.65	7.61½	...	...	...	(6) Rain (9) cloudy (12) sunshine (2) sunshine (7) cloudy.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.						IN A ROOM WITHOUT FIRE.						Remarks.						
	Forenoon.			Noon.			Afternoon.			Forenoon.				Noon.			Afternoon.		
	Time	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	Time.	Degrees.	Time.	Degrees.
Mr. Clarke's Bungalow, 1862. June 11th	659	9 64	12 63	2 61½	7 61	6 62	9 64	12 63½	2 63	7 61½	6 62	9 64	12 63½	2 63	7 61½	6 62	9 64	(6) Cloudy (9) cloudy (12) cloudy (3) cloudy (7) rain.	
" 12th	657	9 61	12 60	2 64	7 59½	6 61	9 64½	12 64	2 65	7 65½	6 61	9 64½	12 64	2 65	7 65½	6 61	9 64½	(6) Cloudy (9) cloudy (12) rain (2) cloudy (7) cloudy.	
" 13th	657½	9 59	12 61½	2 62	7 58	6 64	9 65	12 67	2 63	7 65	6 64	9 65	12 67	2 63	7 65	6 64	9 65	(6) Cloudy (9) cloudy (12) cloudy (2) cloudy (7) cloudy.	
" 14th	659	9 04	12 60½	2 60	7 59	6 63	9 64	12 66½	2 65½	7 65	6 63	9 64	12 66½	2 65½	7 65	6 63	9 64	(6) Rain (9) sunshine—cloudy—rain.	
" 15th	657½	9 61½	12 61	2 60½	7 59	6 63	9 64	12 65	2 64	7 61½	6 63	9 64	12 65	2 64	7 61½	6 63	9 64	(6) Rain (9) rain (12) cloudy (2) cloudy (7) rain.	
" 16th	656	9 63½	12 61	2 64	7 59	6 61	9 63	12 65	2 65	7 63½	6 61	9 63	12 65	2 65	7 63½	6 61	9 63	(6) Rain (9) cloudy (12) cloudy (2) sunshine (7) rain.	
" 17th	659	9 60½	12 62	2 62	7 58½	6 63	9 63	12 63	2 63	7 62	6 63	9 63	12 63	2 63	7 62	6 63	9 63	(6) Cloudy (9) rain (12) cloudy (2) cloudy (7) rain.	
" 18th	658	9 61	12 61½	2 66	7 61½	6 59	9 61½	12 67	2 63	7 63	6 59	9 61½	12 67	2 63	7 63	6 59	9 61½	(6) Rain (9) rain—cloudy—sunshine—cloudy.	
" 19th	659	9 61½	12 61	2 63½	7 59	6 63	9 64	12 63	2 63	7 61	6 63	9 64	12 63	2 63	7 61	6 63	9 64	(6) Cloudy (9) cloudy (12) rain (2) cloudy—rain.	
" 20th	660	9 61	12 67½	2 64	7 58½	6 61	9 63	12 63	2 65	7 60	6 61	9 63	12 63	2 65	7 60	6 61	9 63	(6) Rain (9) rain—sunshine (2) sunshine (7) rain.	

" 21st	658	9 63	12 62	2 61½	7 61	6 59	9 61	12 63	2 63	7 61½	6 59	9 61	(6) Raining (9) cloudy (12) cloudy (2) cloudy (7) rain.
" 22nd	660	9 61	12 62	2 63½	7 59	6 61	9 63	12 63	2 65½	7 63½	6 61	9 63	(6) Raining (9) cloudy (12) cloudy (2) cloudy (7) rain.
" 23rd	659	9 61½	12 66	2 64	7 59	6 63	9 64	12 65	2 65	7 61½	6 63	9 64	(6) Cloudy (7) rain (9) sunshine (2) sunshine, cloudy.
" 24th	653	9 67	12 62	2 63	7 63	6 59	9 66	12 63	2 63	7 63	6 59	9 66	(6) Raining (9) sunshine (12) cloudy (2) cloudy (7) cloudy.
" 25th	659½	9 67	12 61½	2 67	7 61½	6 59	9 61	12 63	2 63	7 60	6 59	9 61	(6) Raining (9) sunshine (12) raining, sunshine (7) raining.
" 26th	662	9 63	12 62½	2 66	7 61	6 63	9 62	12 61½	2 66	7 59	6 63	9 62	(6) Cloudy (9) cloudy (7) raining.
" 27th	656½	9 61	12 60½	2 60	7 59	6 53½	9 59	12 59	2 59½	7 58	6 53½	9 59	(6) Rain, rain, (12) rain, rain, rain.
" 28th	658	9 53	12 58	2 59½	7 58½	6 60½	9 55½	12 59½	2 59	7 60	6 60½	9 55½	(6) Cloudy rain (12) cloudy rain.
" 29th	657	9 59½	12 61	2 60	7 56½	6 60½	9 58	12 62	2 62	7 58	6 60½	9 58	(6) Rain, rain, cloudy.
" 30th	657	9 58	12 61	2 60	7 57	6 57½	9 59	12 62	2 62	7 58	6 57½	9 59	(6) Rain (9) rain, cloudy (2) cloudy, rain.
July 1st	657½	9 61½	12 62	2 66	7 60½	6 58	9 62	12 61	2 62	7 61	6 58	9 62	(6) Rain (9) rain (12) cloudy.
" 2nd	653½	9 59	12 66	2 61	7 60	6 53½	9 61½	12 62	2 62½	7 61	6 53½	9 61½	(2) sunshine (7) rain.
" 3rd	659	9 63	12 64	2 65	7 61	6 61	9 63½	12 62	2 62½	7 62	6 61	9 63½	(6) Rain, cloudy, sunshine (2) cloudy (7) cloudy.
" 4th	658	9 61½	12 64	2 65	7 61	6 59½	9 63	12 62	2 62½	7 62	6 59½	9 63	rain.
" 5th	659	9 61½	12 61	2 61	7 59½	6 59½	9 63	12 62	2 62½	7 61	6 59½	9 63	(6) Cloudy (9) cloudy (12) sunshine (7) rain.
" 6th	661½	9 61	12 63½	2 61½	7 60½	6 62	9 62	12 62½	2 61½	7 61½	6 62	9 62	(6) Cloudy (9) rain (12) cloudy (12) rain (7) rain.
" 7th	660½	9 59	12 60½	2 62	7 61½	6 61½	9 59½	12 61	2 61½	7 60	6 61½	9 59½	(6) Rain (9) cloudy (12) rain (2) cloudy (7) rain.

* Outchery people had fire in next room.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.						IN A ROOM WITHOUT FIRE.						Remarks.				
	Forenoon.			Noon.			Afternoon.			Noon.				Afternoon.			
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	Time.	Degrees.
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	Time.	Degrees.
Mr. Clarke's Bangalow. 1862. July 8th	6 58½	9 62	12 62	2 62	7 61	.....	6 59½	9 63½	12 62½	2 63	7 62	...	.....	.....	.....	(6) Cloudy (9) rain (12) cloudy (2) cloudy (7) rain.	
" 9th	6 60½	9 61½	12 64½	2 60½	7 60	.....	6 62	9 62½	12 02½	2 61½	7 61½	.....	.....	.....	.....	(6) Cloudy (9) cloudy (12) sunshine, cloudy, wind and cloudy.	
" 10th	6 61	9 65½	12 64½	2 63½	7 59	.....	6 62	9 63	12 62	2 62½	7 61	...	.....	.....	.....	(6) Cloudy but fine (9) sunshine (12) sunshine (2) cloudy (7) cloudy.	
" 11th	6 59	9 62	12 63	2 62	7 60	.....	6 59½	9 63½	12 63½	2 63	7 61	.....	.....	.....	.....	(6) Rain (9) cloudy (12) cloudy (2) cloudy (7) rain.	
" 12th	6 58	9 60	12 64	2 62½	7 59	.....	6 59½	9 61½	12 62	2 63½	7 59½	.....	.....	.....	.....	(6) Rain (9) rain (12) cloudy (2) cloudy (7) rain.	
" 13th	6 57	9 62	12 65	2 63½	7 60	.....	6 54½	9 62½	12 62	2 63	7 61½	.....	.....	.....	.....	(6) Cloudy (9) cloudy (12) sunshine, light clouds, cloudy.	
" 14th	6 56½	9 66	12 67	2 66	.....	.....	6 57½	9 62	12 63½	2 63	.....	.....	.....	.....	.....	(6) Rain (9) sunshine (12) sunshine (2) sunshine.	
" 16th	6 56	9 62	12 64½	2 64	7 61½	.....	6 59½	9 63	12 62½	2 62	7 62½	.....	.....	.....	.....	(6) Cloudy (9) cloudy (12) sunshine (2) sunshine (7) rain.	

" 16th	6 60	9 64½	12 68	2 64	...	...	6 61½	9 62½	12 63½	2 63½	...	...	(6) Cloudy (9) sunshine (12) cloudy (2) cloudy.
" 17th	...	9 60½	12 64½	2 63	7 61	...	...	9 62½	12 63	2 63½	7 62½	...	(9) Rain (12) sunshine (2) cloudy (7) rain.
" 18th	6 58	9 64½	12 64	2 64	7 61	...	6 59	9 62	12 63	2 63½	7 62	...	(6) Rain (9) sunshine (12) sunshine (2) sunshine (7) cloud.
" 19th	6 59	9 65	12 64½	2 64	7 59	...	6 60	9 62	12 62½	2 63	7 60	...	(6) Rain (9) sunshine (12) sunshine light cloud (7) rain.
" 20th	6 58	9 66	12 63	2 65	7 59	...	6 59	9 63	12 62	2 62½	7 60½	...	(6) Cloudy (9) sunshine (12) cloudy (2) sunshine (7) rain.
" 21st	6 50½	9 53½	12 64½	2 61½	7 59½	...	6 58	9 60	12 63	2 63	7 61	...	(6) Rain (9) rain (12) cloudy (2) cloudy (7) cloud.
" 22nd	6 58	9 63½	12 66	2 67	...	...	6 58½	9 63½	12 61½	2 63	...	...	(6) Cloudy (9) sunshine (12) sunshine (2) sunshine.
" 23rd	...	9 65	12 64	2 63	7 61	...	...	9 62	12 62	2 61½	7 61	...	(9) Sunshine (12) light clouds (2) cloudy rain
" 24th	6 58	9 65	12 62	2 67	...	...	6 59	9 63½	12 62½	2 63½	...	...	(6) Rain (9) sunshine (12) cloudy (2) sunshine.
" 25th	...	...	...	...	7 60	...	...	...	...	...	7 60	...	(7) Raining.
" 26th	6 59½	9 67	12 70	...	...	...	6 61	9 62	12 64½	...	...	10 64	(6) Cloudy — fine — wind strong — fine.
" 27th	7-30 60	9 66	12 63½	...	7 60	...	7-30 63	9 63	12 64½	...	7 64½	10 63½	M. 53½°. Morning fine but cloudy — noon fine — evening cloudy.
" 28th	6-30 59	...	12 66	...	...	...	6-30 62½	...	12 63½	...	...	9-30 61½	M. 53½°. Morning fine — rain at noon — evening cloudy and windy.
" 29th	4-30 56	9 64	1-30 67	...	...	...	4-30 61	9 62	1-30 64½	...	...	10 62½	Morning fine — with strong wind — rain at noon — cloudy afternoon with fog.
" 30th	5-30 56½	9 66	12 67	2 66	7 60	...	5-30 61½	9 62	12 64½	2 65	7 64	10 63	M. 53°. Morning cloudy — heavy showers at noon — wet afternoon — night cloudy with slight rain.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.										IN A ROOM WITHOUT FIRE.										Remarks.					
	Forenoon.					Afternoon.					Forenoon.					Noon.						Afternoon.				
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	Time.	Degrees.	
Mr. Clarke's Bungalow 1862.																										
July 31st 5-30 57½	9 62		2-30 61½	7 53	10 57	5-30 62½	9 62½		2-30 63	7 62½	10 63														M. 53½°. Morning cloudy—fine at noon—rain all the afternoon—cloudy night.	
August 1st 7-30 59½ 9-30 64	12 63		2 63	7 56	10 56½	7-30 61½	9-30 63½		2 63½	7 63	10 62½														M. 52½°. Cloudy day—fog in the afternoon—night fine.	
" 2nd	9 61		2-30 64	7 61½	9-30 58	...	9 62		2-30 64	7 63½	9-30 62½														M. 52°. Morning fine—cloudy and fog at noon—afternoon and night fine.	
" 3rd 7-58½	9 61		.....	7 61	9 58½	7 61	9 61½		.....	7 63½	9 63														M. 52½°. Morning and forenoon fine—fog at noon—shower in the afternoon—cloudy evening.	
" 4th 5 56½	9 63½		2 63½	7 58	10 56	5 62	9 62		2 63½	7 63	10 62½														M. 52½°. Morning & forenoon fine—fog at noon—afternoon and evening fine.	
" 5th 5-30 74½	9 64½		.....	7 57½	10 56½	5-30 61	9 62		.....	7 63½	10 62														M. 52½°. Morning fine—noon cloudy—rain in the afternoon—night fine.	

" 6th 7-59½	9 64½		2-30 64½	7 58½	10 57	7 61	9 61½		2-30 63½	7 63	10 62										Shower in the morning—fine at noon—light rain in the afternoon—fine evening—night cloudy with strong wind.
" 7th 6 58	9 67½		2-30 63½	7 57	10 56	6 61	9 62		2-30 63½	7 63½	10 61½										M. 51½°. Cloudy morning with strong wind which continued all day—rain at noon—wet afternoon.
" 8th 6-30 54½	9 60½		...	7 55½	10 55½	6-30 60	9 61		...	7 61	10 60½										M. 48°. Rainy morning—strong wind—cloudy at noon—rain and strong wind in the afternoon.
" 9th 5 54½	9 59		2 64½	7 56½	10 55	5 59½	9 60½		2 62	7 61½	10 60½										M. 49½°. Cloudy morning—wind strong—cloudy all day with wind.
" 10th 7-57½ 9-30 60½	12 64		2-30 63	7 58	10 58	7 59½	9-30 61½		2-30 61½	7 61½	10 60½										Cloudy morning—wind strong—drizzling rain the greater part of the day.
" 11th 6 56½	9 60		2-30 60½	7 57½	10 57	6 60	9 60½		2-30 61	7 61	10 60½										M. 52½°. Cloudy morning—wind strong—drizzling rain in the forenoon and at noon—afternoon cloudy with strong wind—wet evening.
" 12th 6 57	9 65		...	...	...	...	9 62		...	...	10 61										M. 59°. Morning cloudy—wind strong—noon and afternoon fine.
" 13th 5-30 56	9 67½		2 65½	7 59½	10 57	5-30 60½	9 63		2 63½	7 63	10 62½										M. 51½°. Morning cloudy—wind strong—noon calm and fine—showers in the afternoon—evening and night fine.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.												IN A ROOM WITHOUT FIRE.						Remarks.						
	Forenoon.				Noon.				Afternoon.				Forenoon.				Noon.				Afternoon.				
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	Time.	Degrees.		
Mr. Clarke's Bungalow. 1862.																									
Aug. 14th	5 56½	9 64	12 02½	2 02½	7 58	9 30 56	5 61½	9 62	12 63	2 03½	7 62½	9 30 62	M. 52°. Morning fine— heavy rain in the forenoon — fog in the afternoon with heavy showers — fine evening, but cloudy with fresh breeze—night fine.												
" 15th	5 55½	9 61	12 63½	2 30 65	7 58	9 30 57½	5 61	9 61	12 63	2 30 63	7 63	9 30 61½	M. 52°. Morning cloudy— fresh breeze — drizzling rain at noon—afternoon cloudy—evening fine.												
" 16th	6 54	9 65	12 42	.....	7 57	10 54	6 59	9 62	12 61½	.....	7 62½	10 61½	M. 50°. Morning fine— rain at noon—cloudy afternoon—slight drizzle in the evening.												
" 17th	6 30 54½	9 60½	12 30 64	2 64½	7 56½	9 30 56	6 59½	9 60½	12 30 62	2 62½	7 62	9 30 61½	M. 50°. Morning fine, but in the evening, cloudy — calm—cloudy day.												
" 18th	6 56½	9 60	12 02½	2 61½	7 57	9 30 58½	6 60	9 61	12 61½	2 61½	7 61	9 30 60	M. 51°. Morning stormy with drizzling rain — cloudy day—strong wind —light rain in the evening—stormy night.												

" 19th	6 56½	9 60	12 68	2 60½	7 57½	10 56	6 59½	9 60½	12 63½	2 63½	7 62½	10 61½	M. 52°. Morning fine but cloudy — noon fine — cloudy afternoon—fog in the evening.
" 20th	6 55	9 66½	12 63	2 30 62½	7 58½	9 57	6 60½	9 63½	12 63	2 30 63	7 62	9 61½	M. 52°. Morning fine and calm — showers in the forenoon and afternoon —evening fine — heavy rain at night.
" 21st	6 54½	9 62½	12 61½	2 30 61½	7 58½	9 57	6 60½	9 62	12 62	2 30 62½	7 61½	9 61½	M. 57°. Morning fine— rain at noon—thunder, showers in the afternoon —evening fine but cloudy.
" 22nd	6 55	9 60½	12 62½	2 30 63	7 59	10 57½	6 60½	9 61	12 62½	2 30 62½	7 62	10 62	Fine calm morning — fog at noon — a rainy afternoon and evening.
" 23rd	6 55	9 64	12 61½	2 30 62½	.....	9 30 57½	6 61	9 62	12 62½	2 30 62½	.....	9 30 61½	M. 52°. Morning fine— cloudy forenoon—heavy rain set in at noon—Thunder and shower in the afternoon—cloudy night.
" 24th	6 55½	9 62½	12 60½	2 30 61	6 30	9 30 58	6 61	9 61½	12 62½	2 30 62½	6 30 62½	9 30 61½	M. 54°. Morning fine— heavy rain in the forenoon—fog and drizzle in the afternoon.
" 25th	6 30 56	9 64½	12 63½	2 30 63	7 61½	9 30 60	6 30 60½	9 62	12 63	2 30 63	7 63	9 30 62½	Morning fine — rain at noon — afternoon fine — heavy clouds and thunder at night.
" 26th	6 56	9 64	12 62	.....	7 58½	9 30 57	6 61	9 62	12 62½	.....	7 63½	9 30 62	M. 51½°. Morning fine— rain at noon—wet afternoon—evening fine.
" 27th	6 55	9 61½	12 63	.....	7 57½	9 56½	6 61	9 63	12 61½	.....	7 62	9 61½	M. 52°. Fine morning— rain at noon—wet afternoon—evening fine.
" 28th	6 55	9 62	12 63	2 63	7 58½	10 56	6 60½	9 61½	12 61½	2 62½	7 62½	10 61½	Fine morning — fog at noon — rain in the afternoon—evening fine.

Register of the Thermometer taken at the Pulni Hills.

Register of the

PLACE AND DATE.	IN OPEN VERANDAH.										IN A ROOM WITHOUT FIRE.										Remarks.					
	Forenoon.					Afternoon.					Forenoon.					Noon.						Afternoon.				
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.			
Mr. Clarke's House. 1862.																									Morning cloudy — dense fog at noon — rain in the afternoon — evening cloudy.	
Aug. 29th	6 55	9 61½	12-30 60½	2-30 60½	9-30 57	.....	.....	.....	.....	.....	6 60½	9 63½	12-30 62½	2-30 62½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. 51°. Morning cloudy — rain the greater part of the day — strong wind in the afternoon.	
" 30th	6 55	9 64	12-30 60	.....	.....	.....	.....	.....	.....	.....	6 60½	9 62	12-30 62½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. 51°. Morning cloudy — rain the greater part of the day — wind light — evening cloudy.	
" 31st	6-30 57	9 64½	12 61½	2 59	7 56½	.....	.....	.....	.....	.....	6-30 59½	9 61½	12 62	2 62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. 51½°. Cloudy morning — wind strong — calm at noon — wet afternoon with wind — drizzling rain at night.	
Sept. 1st	6 56	9 61	12 64½	2-30 62	7 56	.....	.....	.....	.....	.....	6 59½	9 60	12 62	2-30 62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. 51°. Cloudy — windy morning and forenoon — wet afternoon.	
" 2nd	5-30 56½	.....	12 66½	2-30 62½	7 57	.....	.....	.....	.....	.....	5-30 50½	.....	12 62	2-30 63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. 51°. Cloudy — windy morning and forenoon — heavy showers at noon and in the afternoon.	
" 3rd	5-30 56½	9 64	12 66½	2-30 63	7 57½	.....	.....	.....	.....	.....	5-30 60	9 61	12 63	2-30 63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. 51°. Cloudy — windy morning and forenoon — heavy showers at noon and in the afternoon.	

" 4th	6-30 57	9 64½	12 65½	2 64½	7 57½	9 57½	6-30 60	9 60½	12 62½	2 62½	7 62½	9 62	M. 51°. Morning cloudy with light breeze — forenoon fine — noon cloudy — drizzling rain in the afternoon — evening cloudy.
" 5th	5-30 56½	9 65	12 64	2 61	6-30 57	10 58	5-30 60½	9 62	12 63	2 63	7 62½	10 61½	(Self registering minimum thermometer broken) morning fine — noon clouds and fog — wet afternoon with thunder — cloudy evening — wet night with strong wind.
" 6th	6 57	9 65	12 62	.....	7 58½	9-30 58½	6 61	9 62	12 63	.....	7 62½	9-30 62½	Fine morning — wind strong — dense mist at noon — a very wet afternoon and evening — wet night — wind decreased.
" 7th	7 59	9-30 65½	12-30 61½	2-30 62½	.....	9-30 57	7 61	9-30 62½	12-30 63½	2-30 63	.....	9-30 62	Cloudy morning and forenoon — dense fog at noon — wet afternoon — evening fine.
" 8th	6 55½	9 66	12 62	2 65	7 59½	9-30 59	6 61	9 62½	12 63	2 63½	7 63	9-30 62½	Morning fine — fresh breeze — forenoon fine — foggy afternoon with occasional drizzle — rain at night.
" 9th	6 56	9 66	12 63½	2-30 63½	7-30 60½	9-30 58½	6 61½	9 62½	12 64	2-30 64	7-30 63½	9-30 63	Morning fine — forenoon cloudy — a foggy wet afternoon.
" 10th	6 57	9 62	12 64½	2-30 62½	7 60½	9 59	6 61½	9 63	12 63½	2-30 63½	7 64	9 63	Cloudy morning with strong wind — noon cloudy — afternoon foggy — evening fine.
" 11th	5-30 56½	9 64	12 63	2 63	7 58	9 57½	5-30 61½	9 63	12 64	2 64	7 63	9 62½	Cloudy morning with strong wind — fog and rain at noon — a very wet afternoon — evening fine.

Register of the Thermometer taken at the Pulni Hills.

PLACE AND DATE.	IN OPEN VERANDAH.												IN A ROOM WITHOUT FIRE.												Remarks.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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" 18th 5-30 54½	9 64	12 62½	2 62		7 59½	9 58	5-30 62½	9 63	12 64½	2 64		9 63½	Morning fine—slight shower at noon—foggy afternoon.
" 19th	6 56½	9 62	12 63½	.....	7 59½	9-30 59	6 01½	9 63	12 63½	.....	7 63½	9-30 63	Morning fine—slight shower in the forenoon—fog at noon with wind—cloudy—windy afternoon.
" 20th	6 57	9 60½	12 63½	2 60½	7 58½	9 56½	6 02½	9 62½	12 63	2 63½	7 61	9 62	A cloudy windy morning with occasional drizzle—fog at noon—a wet afternoon—dull cloudy morning with drizzling rain—a cloudy day with occasional fog.
" 21st	7 58½	9 61½	12 61	.....	7 59½	9 57½	7 01	9 61½	12 62½	.....	7 63	9 63	A dull cloudy morning with drizzling rain—a cloudy day with occasional fog.
" 22nd	6 54	9 60	12 62	.....	7 59½	9 57½	6 01½	9 62	12 63	.....	7 64½	9 63½	A cloudy day with fog occasionally in the afternoon.
" 23rd	5 55	9 67	12 61½	.....	7 57	9 57½	5 02½	9 63	12 64½	.....	7 63	9 62½	A cloudy morning—sun-shiny forenoon—heavy rain at noon which continued till late in the afternoon—cloudy evening with fresh breeze.
" 24th 5-30 56½	9 60½	12 69	2 67½	7 58	9 57	5-30 61½	9 62½	12 64½	2 65	7 64½	9 63½	9 63½	Morning cloudy—fine day—light shower at 3 p. m.—evening fine.
" 25th	6 57	9 66	12 64½	2 67½	7 57½	9 57	6 02½	9 63	12 64½	2 65½	7 64½	9 64½	Morning cloudy—fine day with fresh breeze.
" 26th 5-30 56	9 66½	12 68	7-30 67½	7 58	9 56½	5-30 62½	9 63½	12 65	2-30 65½	7 66	9 65	9 65	Cloudy morning—fine day—cloudy at times.
" 27th 6-30 56½	9 64	12-30 68	65½	7 56½	9-30 55½	6-30 63	9 64	12-30 65	2-30 66½	7 66	9-30 64½	9 64½	A cloudy day with occasional sunshine—fresh breeze.
" 28th	7 56½	9 64	12-30 67	2-30 68½	7 58	9 56½	7 62	9 63	12-30 65	2-30 66	7 66	9 65	A fine day with occasional light mist.
" 29th	6 57½	9 65	12 64½	2 63½	7 60½	.....	7 63½	9 63½	12 63½	2 64½	7 63½	.....	A cloudy morning—fine forenoon—very heavy

Register of the Thermometer taken at the Pulni Hills.

40

PLACE AND DATE.	IN OPEN VERANDAH.										IN A ROOM WITHOUT FIRE.										Remarks.
	Forenoon.					Afternoon.					Forenoon.					Afternoon.					
	Time.		Degrees.		Time.	Time.		Degrees.		Time.	Time.		Degrees.		Time.	Time.		Degrees.			
	Degrees.	Time.	Degrees.	Time.		Degrees.	Time.	Degrees.	Time.		Degrees.	Time.	Degrees.	Time.		Degrees.	Time.				
Mr. Clarke's House. 1562. Sept. 30th	6.55 $\frac{1}{2}$	9.64	12.02 $\frac{1}{2}$	2.02	7	60	.....	.....	6.62 $\frac{1}{2}$	9.63	12.64	2.64	7.63	.....	.....	.....	.....	.....	.....	Cloudy morning and forenoon—heavy rain in the afternoon.	
Oct. 1st	6.53 $\frac{1}{2}$	9.62 $\frac{1}{2}$	12.04 $\frac{1}{2}$	2.63 $\frac{1}{2}$	7	60	9-30.58	.....	6.61	9.61 $\frac{1}{2}$	12.01 $\frac{1}{2}$	2.63	7.63 $\frac{1}{2}$	9-30.63	.....	.....	.....	.....	.....	Fine morning—cloudy at noon—fine afternoon.	
" 2nd	6.54 $\frac{1}{2}$	9.62 $\frac{1}{2}$	12-30.63 $\frac{1}{2}$	2.62	7	60 $\frac{1}{2}$	.....	.....	6.61	9.62	12-30.63	2-30.63 $\frac{1}{2}$	7.63 $\frac{1}{2}$	9.63	.....	.....	.....	.....	.....	Cloudy day with fog at times—very heavy rain in the afternoon & night.	
" 3rd	6.59	9.64 $\frac{1}{2}$	12.63 $\frac{1}{2}$	.....	7	60 $\frac{1}{2}$	9.59	.....	6.61 $\frac{1}{2}$	9.61 $\frac{1}{2}$	12.63 $\frac{1}{2}$	.....	7.64 $\frac{1}{2}$	9.63 $\frac{1}{2}$	.....	.....	.....	.....	.....	Cloudy morning—fine at noon—cloudy afternoon—rain in the evening.	
" 4th	6.57	9.63 $\frac{1}{2}$	12.63 $\frac{1}{2}$	.....	7	60 $\frac{1}{2}$	9-30.60	.....	6.63	9.60	12.64	.....	7.64	9-30.68 $\frac{1}{2}$	.....	.....	.....	.....	.....	Morning fine but cloudy—rain set in at 11 a. m. and continued the greater part of the afternoon—dense fog & rain at night.	
" 5th	6.59	9.63	12-30.61 $\frac{1}{2}$	.....	7	60	9-30.58	.....	6.63	9.63 $\frac{1}{2}$	12.03 $\frac{1}{2}$	.....	7.63 $\frac{1}{2}$	9-30.63	.....	.....	.....	.....	.....	Cloudy foggy morning—rain and fog at intervals throughout the day.	
" 6th	6.57 $\frac{1}{2}$	9.60	.....	2-30.61 $\frac{1}{2}$	7	60	9.58 $\frac{1}{2}$	.....	6.63	9.62	.....	2-30.63 $\frac{1}{2}$	7.63	9.63	.....	.....	.....	.....	.....	Morning cloudy—drizzle and fog during the day with occasional heavy showers.	

41

" 7th	6.55 $\frac{1}{2}$	9.64 $\frac{1}{2}$	12.66	2.62 $\frac{1}{2}$	7	59	9-30.57 $\frac{1}{2}$	6.62	9.62	12.64 $\frac{1}{2}$	2.64 $\frac{1}{2}$	7.68	9-30.63 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	Morning and forenoon fine but cloudy—fog at noon—a wet afternoon with heavy rain and dense fog—thunder at times.
" 8th	6.56 $\frac{1}{2}$	9.63	12.02 $\frac{1}{2}$	2.61	7	58	9.57 $\frac{1}{2}$	6.62 $\frac{1}{2}$	9.62	12.64	2.64	7.63 $\frac{1}{2}$	9.63	.....	.....	.....	.....	.....	.....	.....	.....	.....	Morning and forenoon cloudy with fog—heavy rain with dense fog and thunder in the afternoon—very wet night.
" 9th	6.54	9.66 $\frac{1}{2}$	12.65	2.64 $\frac{1}{2}$	7	59	9.58	6.61 $\frac{1}{2}$	9.62	12.63 $\frac{1}{2}$	2.64	7.63 $\frac{1}{2}$	9.63 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	Very fine morning and forenoon—noon cloudy—wind from the N.E. shows in the afternoon—with thunder—wet night.
" 10th	6.56 $\frac{1}{2}$	9.63	12.63	2-30.62	7	58 $\frac{1}{2}$	9.57 $\frac{1}{2}$	6.62 $\frac{1}{2}$	9.63	12.64	2-30.63 $\frac{1}{2}$	7.63 $\frac{1}{2}$	9.63	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ran in the early morning—forenoon fine but cloudy—rain and fog in the afternoon.
" 11th	6.56 $\frac{1}{2}$	9.62 $\frac{1}{2}$	12.01 $\frac{1}{2}$	2-30.61 $\frac{1}{2}$	7	57 $\frac{1}{2}$	9-30.56 $\frac{1}{2}$	6.61	9.61 $\frac{1}{2}$	12.62	2-30.63	7.62 $\frac{1}{2}$	9-30.62	.....	.....	.....	.....	.....	.....	.....	.....	.....	Morning fine but cloudy—heavy rain set in at noon and continued the whole afternoon.
" 12th	6.55 $\frac{1}{2}$	9.62 $\frac{1}{2}$	12.62	9-30.61 $\frac{1}{2}$	7	60	9-30.58 $\frac{1}{2}$	6.61	9.61	12.62 $\frac{1}{2}$	2-30.63	7.62 $\frac{1}{2}$	9-30.62 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	Morning fine—fog at noon—light rain in the afternoon with fog—evening cloudy with thunder.
" 13th	6.56 $\frac{1}{2}$	9.64 $\frac{1}{2}$	12.61 $\frac{1}{2}$	.....	7	60	9.61 $\frac{1}{2}$	6.62	9.62	12.62 $\frac{1}{2}$	.....	7.63	9.62 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	Morning fine—rain in the forenoon—wet afternoon—very heavy rain in the evening and night.
" 14th	6.54 $\frac{1}{2}$	9.64	12.63 $\frac{1}{2}$	2-30.63	7	58 $\frac{1}{2}$	9.58	6.62	9.62	12.63 $\frac{1}{2}$	2-30.64 $\frac{1}{2}$	7.63 $\frac{1}{2}$	9.63 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	Morning fine but cloudy—forenoon fine—showers and fog in the afternoon—very heavy thunder-storm in the evening—a wet night.

Register of the Thermometer taken at the Peleli Hills.

PLACE AND DATE.	IN OPEN VERANDAH.												IN A ROOM WITHOUT FIRE.												Remarks.						
	Forenoon.						Noon.						Afternoon.						Noon.							Afternoon.					
	Time.		Degrees.		Time.		Degrees.		Time.		Degrees.		Time.		Degrees.		Time.		Degrees.		Time.		Degrees.			Time.		Degrees.			
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.		Time.	Degrees.	Time.	Degrees.		
Mr. Clarke's House. 1802. Oct. 15th	6.56½	9.64	12.61	2-30.62	7.57½	9.57	6.62	9.62½	12.63½	2-30.64	7.63	9.62½	Morning cloudy with occasional fog—fresh breeze—forenoon showery—a very wet afternoon and evening—wet night.																		
" 16th	6.54½	9.61	12.63½	.....	7.57½	9.57½	6.61½	9.61½	12.63	.....	7.62½	9.62½	Morning cloudy—forenoon cloudy with fog and occasional sunshine—rain at noon—a wet afternoon—fine evening—rain during the night.																		
" 17th	6.55	9.61½	12.61½	2.60½	7.58	9.56½	6.61	9.61	12.62	2.63	7.62	9.61½	Morning and forenoon cloudy—heavy rain at noon—a wet afternoon—cleared up in the evening.																		
" 18th	6.54	9.63	12.62½	2.62½	7.58½	9.57	6.61	9.61	12.63½	2.63	7.62½	9.62½	A very fine morning—heavy rain at noon—a wet afternoon and evening—heavy rain in the night.																		

" 19th	6.55	9.62	12.61	2-30.63	7.52½	9-30.55½	6.63	9.61½	12.63½	2-30.68	7.62	9-30.61½	Morning fine but cloudy—rain and fog in the forenoon and noon—a very wet afternoon and evening—very heavy rain—greater part of the night.
" 20th	6.55	9.64	12.60½	2.60½	7.58½	10.57	6.61	9.61½	12.63	2.62½	7.62	10.61½	Morning fine—rain in the forenoon—a wet afternoon and evening—wet night.
" 21st	6.57	9.62	12-30.62½	2.61½	7.58½	9-30.57½	6.61	9.61	12-30.62½	2.62½	7.62½	9-30.61½	Rain in the morning—forenoon fine—rain during the rest of the day.
" 22nd	6.56½	9.62	12.62	2-30.62	7.58½	9-30.56½	6.61	9.61½	12.62½	2-30.62½	7.62½	9-30.62½	Rain in the early morning—cloudy forenoon—rain at noon—a wet afternoon—night fine.
" 23rd	6.57	9.62½	12-30.62½	.....	7.58	9-30.57	6.61	9.61	12-30.62½	.....	7.63	9-30.63½	Cloudy morning—mist and clouds during the day with occasional sunshine—slight rain in the evening—night fine.
" 24th	6.56	9.61½	12.60	2.61	7.57½	9-30.55½	6.61	9.61	12.63	2.62½	7.62½	9-30.62	Cloudy morning with fresh breeze—forenoon and noon foggy—cloudy afternoon—evening and night fine.
" 25th	6.54½	9.64	12.63½	.....	7.56	9.53½	6.60½	9.61½	12.63	.....	7.68½	9.62	A fine day with occasional fogs—a slight shower in the afternoon—fresh breeze.
" 26th	6.53½	9.59½	12.62	2-30.60½	7.56½	9-30.55½	6.60	9.60½	12.62½	2-30.62½	7.62	2-30.61½	A fine day—cloudy at times with occasional fogs.
" 27th	6.56½	9.58½	12.64	2-30.63½	7.57	9.55½	6.61	9.60½	12.61½	2-30.68	7.62½	9.61½	A slight shower in the morning—cloudy day—with thunder towards the afternoon but no rain.

Register of the Thermometer taken at the Pulni Hills.

44

PLACE AND DATE.	IN OPEN VERANDAH.										IN A ROOM WITHOUT FIRE.						Remarks.
	Forenoon.				Afternoon.				Forenoon.				Afternoon.				
	Time.		Degrees.		Time.		Degrees.		Time.		Degrees.		Time.		Degrees.		
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.			
Mr. Clarke's House. 1862. Oct. 28th	6.53	9.03	12.62	2.30	7.59	2.30	6.14	7.59	9.58	6.61	9.61	12.61	2.30	7.62	9.62	9.62	Morning very fine—forenoon clouds and sunshine—dense fog at noon—light shower in the afternoon with thunder—fog and slight rain at night.
" 29th	6.56	.....	12.30	2.08	7.54	2.08	6.54	7.54	9.30	6.60	.....	12.30	2.62	7.62	9.30	9.30	Rain in the morning—forenoon cloudy with occasional sunshine—fresh breeze—cloudy noon and afternoon—with strong wind.
" 30th	6.53	9.61	12.62	2.30	7.55	2.30	6.60	7.55	9.30	6.59	9.62	12.62	2.30	7.61	9.30	9.30	Morning and forenoon fine with strong wind—wind decreased in the afternoon which set in wet and continued so till evening.
" 31st	6.54	9.62	12.30	2.60	7.56	2.60	6.56	7.56	9.30	6.59	9.60	12.30	2.61	7.61	9.30	9.30	Morning fine but cloudy—fog at noon—a wet afternoon—no wind—rain at night.

45

Nov. 1st	6.56	9.57	12.30	2.58	7.57	2.58	6.00	9.60	12.30	2.61	7.61	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	Cloudy morning—damp foggy forenoon—rain and wind in the afternoon and evening—rain at night.
" 2nd	6.55	9.56	12.30	2.59	7.58	2.59	6.59	9.59	12.30	2.61	7.61	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	Wet morning with strong wind—drizzle and fog during the day.
" 3rd	6.54	9.57	12.30	2.59	7.55	2.59	6.59	9.59	12.30	2.61	7.60	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	Morning foggy with occasional sunshine—slight shower at noon—showers in the afternoon—rain at night.
" 4th	6.54	9.62	12.30	2.61	7.55	2.61	6.59	9.61	12.30	2.62	7.61	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	Morning fine but cloudy—forenoon fine—fog and sunshine at noon—a fine evening—rain at night.
" 5th	6.54	9.62	12.60	.....	7.55	.....	6.59	9.61	12.62	.....	7.61	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	Morning and forenoon fine with occasional clouds—fog at noon—showers in the afternoon—rain at night.
" 6th	6.54	9.61	12.30	2.59	7.55	2.59	6.59	9.60	12.30	2.62	7.62	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	Morning and forenoon very fine—fog at noon—fine afternoon with occasional mist—night fine.
" 7th	6.52	9.58	12.30	2.57	7.57	2.57	6.59	9.59	12.30	2.61	7.60	10.30	10.30	10.30	10.30	10.30	10.30	10.30	10.30	Morning fine—forenoon and noon cloudy—mist and light rain in the afternoon—foggy damp evening.
" 8th	6.56	9.59	12.59	.....	7.57	.....	6.59	9.60	12.61	.....	7.61	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	Wet morning—wind and rain in the forenoon—a wet afternoon—evening fine—heavy rain during the night.
" 9th	6.50	9.55	12.60	.....	7.58	.....	6.50	9.60	12.61	.....	7.62	10.30	10.30	10.30	10.30	10.30	10.30	10.30	10.30	A damp foggy morning—fog and drizzle at noon—a wet afternoon.

Register of the Thermometer taken at the Pulni Hills.

46

PLACE AND DATE.	IN OPEN VERANDAH.												IN A ROOM WITHOUT FIRE.												Remarks.
	Forenoon.			Noon.		Afternoon.					Forenoon.			Noon.		Afternoon.									
	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.	Time.	Degrees.					
Mr. Clarke's House. 1862. Nov. 10th	6.55																				A damp foggy morning — rain in the forenoon — left the Pulai Hills this forenoon.				

From May the 2nd to May the 16th and from May the 22nd to July the 26th the register was taken by a native during my absence. The remarks on the weather were omitted during the former period; those of the latter I have entered according to the native's own statement, the figures showing the hour of observation.

The self-registering Thermometer arrived from Madras with the Maximum Thermometer broken. I registered the Minimum readings from the 20th December 1861 to the 4th September 1862, when it also was accidentally broken. They are entered at the head of each day's remarks.

The Thermometer was placed in the open air on the ground on the north side of the house.

DOUGLAS HAMILTON, Lieut. Col.,
44th Regiment N. I.

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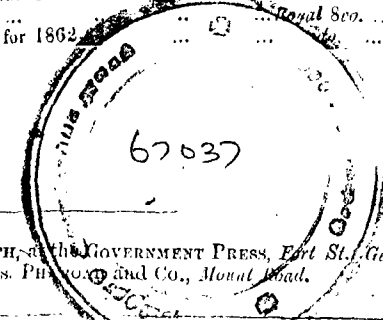
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