

1005A (1005/1005)

GEOGRAPHICAL

AND

STATISTICAL MEMOIR

OF

A SURVEY

OF THE

NEILGHERRY MOUNTAINS.

UNDER THE

SUPERINTENDENCE

OF

CAPTAIN J. OUCHTERLONY

1847.

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1848.

make room for extensions of the Botanical garden ; and as the family of Todars to whom it belongs have several other Munds in different parts of the Hills, it will probably soon be abandoned altogether.

The outline has also been so drawn as to include within the limits of the Cantonment all the houses which form the settlement, while at the same time the boundaries rest upon points and ridges well defined by the Survey.

The quantity of land thus included amounts to 2920 Cawnies, which exceeds an amount specified in a Memorandum in the possession of the Principal Collector of Coimbatore by 795 Cawnies, that document purporting to be a receipt signed by certain Todars in acknowledgment of a sum of Rs. 3564 0 6 paid to them by the Sub Collector of Malabar, in consideration of a transfer by them to the Circar of 2125 Cawnies of land in the valley of Ootacamund.

As the only Plan of the Cantonment to be found in the District is an old sketch in the office of the Commanding Officer, and as the measurements in it are not correct, the limits could not be defined in rigid adherence to it : and accordingly those laid down in the Map have been marked for submission to Government for approval.

Second.—The lands in the occupation of private individuals are distinguished on the Map by a light green tint, and consist of the sites and compounds of the houses of European and other settlers at the two minor stations of Coonoor and Kotergherry, and of the lands cleared and cultivated by settlers for Coffee and Mulberry plantations in various parts of the Hills.

Third.—The lands brought under cultivation by the Burghers are distinguished by a brown tint, defining the

whole quantity of land actually cleared and cultivated whether under crop at the time of Survey, or lying fallow.

The lands cultivated by the two other Hill agricultural tribes, viz. the Kothers and Eurelars, have also been included under this head.

Fourth.—The lands to be left in the permanent occupation of the Todars, I of course do not take upon myself to define until the pleasure of Government is signified, and orders issued upon the subject.

The sites of the Todars' Munds are distinguished on the Map by a bright yellow circle, so as to exhibit readily their position, and the parts of the Hill plateau in which they are more particularly grouped, viz. to the Westward and to the extreme N. E.

Without presuming to advance an opinion upon the question of the proprietary rights of the Todars, I have still thought it my duty to record all the information which I have had opportunities of collecting relative to the history, habits, &c. of this Tribe, and which will be found under the head "Population—Todars"* in the accompanying Memoir.

Fifth.—The lands which are entirely unoccupied over a portion of which the Todars have been accustomed to pasture their herds, may be defined as that portion of the plateau which is not distinguished on the Map as recited under the 4 preceding heads. With the exception of 3 small Munds in the "Meykernaad Division" of the Hills and 2 in the Southern part of the "Parunganaad Division," it will be seen that the grazing land of the Todars is exclusively confined to the North Western and Western part of the "Todanaad Division" and to a small tract called "Kodanaad" in the

* Page ~~60~~ ~~Dungher~~.

52 Todars

extreme North Eastern portion of the "Parunganaad Division."

I may also here draw attention to the fact (as exhibited in the Population Returns in the appendix to this Memoir) that out of a total of 85 Munds which at present exist, only 32 are at any one time inhabited, the remaining 53 being migrated to and occupied by Todar families according to caprice, or to circumstances more fully detailed in the Memoir.

In addition to these are some Munds on the plateau of the Koondahs, the number of which has not yet been ascertained.

J. OUCHTERLONY, Captain,
Supt. Neilgherry Survey.

KOTERGHERRY ;
NEILGHERRY HILLS, }
29th February 1848. }

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FINANCIAL DEPARTMENT.

(STATISTICAL.)

No. 6. of 1846.

OUR GOVERNOR GENERAL OF INDIA IN COUNCIL.

1. THE great practical importance of Statistical enquiries, and the attention which they now receive from the most enlightened European Governments, have induced us to take measures for investigating the Statistics of the Countries under our administration, and for arranging and preserving in a form convenient for reference, the information which may be attainable.

2. With the view of accomplishing these ends, we have formed a Statistical Department in our Home Establishment, in which the requisite enquiries will be conducted, and the materials thereby obtained classified and compared.

3. The voluminous Records and Documents in our possession contain a vast amount of Statistical information, and the labors of the new Department will, in the first instance, be directed to extracting and rendering it available for reference; these duties which have already commenced, will continue for a long period to claim a large share of the time and attention of the Department, but the results will be imperfect unless by the co-operation of our Governments in India in collecting and transmitting Statistical information we are enabled to remedy the defects, correct the inaccuracies, and as the condition and circumstances of all countries are in many respects constantly varying, to note the changes which time or other causes may produce.

4. We do not doubt that our Servants will cheerfully afford their assistance for these purposes, and as the aid which they may render in this respect is not intended, and must not be permitted to interfere in any degree with their ordinary duties, no detriment will arise to the public Service, but on the contrary much advantage may be expected from the transmission home of such information as to local details which so many of our Servants cannot fail to possess.

5. Information will be most desirable on such subjects as the following :

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6. We need scarcely observe that in Statistical investigations, the most rigid accuracy as to matters of fact is indispensable. Erroneous information will be worse than none, because it can but tend to mislead.

THE NEILGHERRY MOUNTAINS.

THE NEILGHERRIES, properly so called, comprise two distinct tracts of mountainous country, the one called the Neilgherries, or "Neilgherries proper" and the other the "Koondahs." The survey of the latter yet remains to be completed, and hence the statistical data here recorded, relate exclusively to the former region.

The arrangement of the statistical details which follow is in accordance with the formula given in Para. 5 of dispatch No. 6 of 1846 from the Honorable Court to the Governor General, in the Financial Department.

L A N D.

Area. The Area of the plateau of the Neilgherries, as defined on the N. W., North, East and South, by the crest of the mass of mountains, and on the S. W. by the outline of the "Koondahs" is found by the present survey to comprise

268,494 SQUARE ACRES

in its Geographical extent: but owing to the ceaseless undulations prevailing over the whole surface, a far greater amount of land is actually available for cultivation.

Of this quantity only 23,772 ACRES have been brought under cultivation, leaving

244,772 ACRES

either entirely waste or appropriated for grazing cattle by the various Hill Tribes.

Geological structure. The Geological formation of the Neilgherries is of the primitive igneous order; the mass or nucleus of the mountains being granite, frequently passing into sienite.

In every part of the Hills innumerable dykes or channels of basaltic rock, hornblende, quartz, and other minerals commonly found in a similar relation to rocks of the primitive class, intersect the granite,

in some instances of considerable magnitude, but more commonly broken into small ramified branches or veins.

In the Koondahs trap rock is more extensively developed, being often found in that part of the district capping the Hills and spreading out to a considerable extent ; but a description of the Geology of the Koondahs does not enter into this memoir.

Hornblende rock is also found to occur in some abundance in various parts of the Hills, passing occasionally into ~~the~~ Hornblende ~~state~~, and porphyritic Hornblende, having garnets imbedded. This rock is highly ferruginous and decomposes into a stiff red clay which forms extensive beds underlying the soil in many parts of the Hills. It intersects the granite and sienite in deep channels or dykes, which having a greater tendency to decomposition than those rocks, frequently occasion chasms in which water lodging and wearing away the sides become the cause of the disruption of large masses which are continually parting from the parent rock, especially after heavy rains.

No stratified rocks make their appearance in any part of this district except at the N. E. angle of the plateau, where on descending towards the plains beds of Gneiss are met with, but so torn and distorted as to render it almost impossible to derive from their occurrence any Geological data of value. The run of the beds however may be pronounced about North and South, the dip being to the East at an angle varying between 30° and 60°. Near the junction with the granite which forms the country in the neighbourhood, the Gneiss is much altered, and veins of igneous rock perforate it in all directions.

I examined this part of the district with much interest both on account of the highly metalliferous character which this rock usually possesses in other countries, especially as in Saxony its occurrence is marked by the same accompaniments as I have described, and in the faint hope that beds of primary Limestone might be found to occur in the vicinity ; this mineral, which is not found in any part of the mountains, being much needed both for architectural and agricultural purposes.

With the exception of this Gneiss formation the whole of this

mountain tract is of primitive igneous structure, granite and sienite alternately appearing as the base of the Hills, while at the same time Hornblende rock, Basalt and occasionally Greenstone, are found protruding in masses and channels so extensively as often to give their peculiar character to the rock formation for considerable distances.

Metalliferous deposits.

Ores of Copper and Lead.

Metalliferous deposits do unquestionably exist in the Neilgherries. Ores of Copper (Pyrites) and Lead (Galena) have been found embedded in quartz, but unfortunately not in situ, being merely portions of blocks of stone found in the walls of some " Cairns " or ancient places of sepulture, in the neighbourhood of Nunjenaad, not far from the foot of the Koondahs. The circumstance was brought to the notice of Government some time since (I believe by Dr. Burrell and Capt. Congreve) when I was directed to co-operate with the latter officer in instituting an enquiry as to the origin of these ore blocks. Captain Congreve however shortly after left the Hills, and though I have taken advantage of every opportunity which offered to pursue the desired object, I am sorry to say my efforts have not been crowned with success, for although many large channels of quartz occur in the neighbourhood of the spot where the blocks were found, and all running in a true metalliferous direction, East and West, I have not been able, though I have traced them a long distance and crossed their backs in various parts, to detect in any of them a trace of ore, or any of those peculiar indications on the surface which would elsewhere characterize a vein or lode bearing ores of either Copper or Lead.

The Todars dwelling near the spot declare their belief that the blocks were brought from the " Koondahs," and although this can be little better than surmise I should certainly say from the aspect of that range of Mountains, that deposits of ore are more likely to be found in it than in the Neilgherries. It bears much more the look of a mining country; and the violent igneous action which has evidently prevailed amongst its rocks after their formation, favours the expectation that Metalliferous deposits will be found there, if they exist in quantity any where about this Mountainous district.

Manganese.

The black oxide of Manganese is found about the Hills in many places, existing in small veins

and retiform deposits ; but I do not think it could be profitably worked, as the continuance of a supply in a particular spot could not be depended upon, and it could not moreover be brought into any home market at a sufficiently cheap rate to compete with other ores.

Laterite.

Laterite is also found in various parts of the Neilgherries, generally in an advanced stage of decomposition, forming a lithomargic clay which underlies the soil of many tracts of land. I observe the existence of laterite most frequently where the sienite contains much hornblende, which favours the belief that it is the result of decomposition of the primitive rock, hastened by the action of the atmosphere upon its excess of ferruginous matter. A bed of this rock occurs near Kaitée sufficiently indurated to be fit for quarrying for building purposes—but no use is made of it by settlers owing to its being more costly than bricks.

Ores of Iron.

Ores of Iron are met with in many parts of the Neilgherries, occurring in small veins and disseminated through the mass of the rock enclosing it, but no where (that I have seen) in sufficient quantity to be worth working.

A great many varieties of ores exist, more interesting to the mineralogist than to the statistical recorder.

Hematites.

Hematites, specular iron ore, micaceous iron ore, magnetic iron ore, and iron pyrites, are all found in insignificant specimens.

Pebbles of agate and semi-opal are occasionally to be met with in mountain streams after heavy rain, and would I doubt not, with Corundum, be found more abundant if persons who had time to bestow in the pursuit were to search for them.

There is another mineral which occurs in some abundance on the Neilgherries which might I think—especially in the hands of European settlers—be turned to some economical use.

It is a decomposed Feldspar, or “Kaolin,” of which very tolerable earthenware might be manufactured.

Soil.

The soil of these mountains, speaking of course chiefly of the plateau, is for the most part

exceedingly rich and productive, a circumstance for which the observer would not be prepared on witnessing the granitic or sienitic base upon which it rests ; since it is usually seen that granitic districts are bleak and barren, owing to the resistance to decomposition offered by the silicious materials of which it consists.

This advantageous contrariety may perhaps be accounted for by referring the formation of so much rich soil to the existence of the numerous dykes of rock whose decomposition is more favourable to its production, especially those of trap and hornblende, the decomposed particles of which mixing with the quartzose and clayey products of the granite result in the formation of a soil peculiarly adapted for cultivation.

The great mass of the Hills also has evidently been under grass, and undisturbed by the plough or the mamotie for ages, and as the frosts which occur at the close and beginning of the year in most parts, kill the grass down to the roots, all this decomposed vegetable matter washed in by the succeeding rains and mixing with the subsoil continues, and has continued season after season to increase its richness, and cause it to penetrate further and further into the poorer subsoil, until the extraordinary depth of rich black mould, which is often observed in the cuttings of a new road, is produced.

The finest patches of land are naturally found on the lower slopes or second steppes, in situations where the conformation of the country has favored the accumulation of soil washed from the hills above, and especially where forests have aided to retain that soil from further denudation by their roots, and have for ages nourished it by their leaves. The chief agricultural tribe on the Hills, the Burghers, seem well aware of this, and the consequence is that in all parts where they cultivate, the face of the country is entirely clear of wood.

Want of Lime.

The chief defect of the soil of this district is the absence of lime, but a very minute quantity of which enters into the composition of the greater part of that under general cultivation at the present time, and as it is too costly an article to be brought up from the plains to be applied as a dressing to the land, considerable deterioration must be going on in its productive capacity. I have remarked that the finest fields are those which are situated near

any considerable mass of hornblende rock, and hence it is to be inferred that the superiority of the soil is due to the lime which it receives from its decomposition. Specimens of this hornblende reduced to powder and digested in dilute nitric acid, give a copious precipitate with oxalate of ammonia, shewing upon estimate (for I had not the means of collecting and weighing the precipitate), a proportion of at least 8 to 9 per cent of lime entering into the composition of the rock.

Drained Swamps. The extensive and numerous swamps which occur on the Neilgherries also, when drained, furnish most valuable soil, either for cultivation *per se*, or for top dressing for poor land. But in this latter form it is never used by the Hill cultivators who are very backward in the knowledge of the uses and properties of particular manures, as will be treated of under an ensuing head, viz., “ Modes of Cultivation.”

Natural Aspect. The Neilgherry mountains constitute one of those singular features presented in the Physical Geography of Southern India, of comparatively isolated masses up-reared amidst the vast plains which extend over the surface of the country, pointing either to foci or points of ancient volcanic eruption by which they have been formed, or to evidences of the wearing agency which has reduced the surrounding tracts to their present remarkably uniform level state ; while mountain masses, forming a core of tougher substance, and of material less prone to decomposition, have resisted the corroding action—and have been thus left in the form of isolated and mural precipices, towering above the surrounding country.

The summit ^{or} plateau of these mountains presents a most varied and diversified aspect. Although the land extends over its limits in ceaseless undulations, approaching in no instance to the character of a champagne country and frequently breaking into lofty ridges and abrupt rocky eminences, it may yet, speaking in general terms, be pronounced smooth and practicable to a degree seldom indeed I believe in no instance, observed in any of the mountain tracts of equal elevation which occur in the continent of India.

On all sides the descent to the plains is sudden and abrupt, the average fall from the crest to the general level below, being about 6000

feet on all sides save the North where the base of the mountains rests upon the elevated land of Wynaad and Mysore, which standing between 2 and 3000 feet above the level of the sea form as it were a steppe by which the main fall towards the sea is broken. From both of these elevated tracts the Neilgherries are separated by a broad and extensive valley through which the Moyaar river flows after descending from the Hills by a fall at Neddiwuttum in the North West angle of the plateau; and the isolation of this mountain territory would be complete but for a singular sharp and precipitous ridge of granite peaks which projects out from the base of a remarkable cone called Yellamullay on the Western crest of the range, and taking a West by North course towards the coast, unites itself with the Hills popularly called the "Western Ghauts."

The Koondahs.

In the S. W. angle of the Neilgherries, a singular mass of mountains rises called the Koondahs, which though in point of fact a portion of the great Hilly region, are so completely separated from the "Neilgherries proper" that they merit the distinct appellation they have received. Spurs from this secondary range run to the Southward to a considerable extent, almost as far as the Ponany river, and it is in the innumerable vallies bounded by these ridges that the magnificent virgin (forest) land is found, of which I made mention in a former Memoir, and which as being eminently well suited for the purposes of Coffee and other cultivation, will I feel convinced, shortly be the means of rendering this district one of the most valuable and important under the Presidency.

*Remarkable scarcity
of forest.*

The Neilgherries or rather the plateau formed by their summits, are by no means densely wooded, the forests occurring in distinct and singularly isolated patches, in hollows, on slopes, and sometimes on the very apex of a lofty hill, becoming luxuriant and extensive only when they approach the crests of the mountains and run along the vallies into the plains below. This absence of forest in a region in which from its position between the tropics, from the abundance of moisture, and from the great depth and richness of the soil, the utmost luxuriance in this respect would be looked for, is very remarkable, and leads me to conclude that vast tracts of primeval forest land must have been cleared to make room for cultivation at no very distant period.

This belief is strengthened by the fact that in all parts of the Hills which are exclusively the resort of Todars, such as the elevated land to the North and West of the Pykara river, the whole of the Koondahs, the North Eastern portion of the plateau, called Kodanaad, and other tracts where no cultivation is at present carried on, extensive forests are found. The principal internal range on the Neilgherries is a lofty mass situated in the heart of the district, and running North West

and South East, the great mountain called "Dodabetta"—the highest on the plateau (being 8610 feet above the level of the sea) being the apex, and from it all the minor ridges and spurs which form the undulating land of the Neilgherries may be said to take their rise, with the exception of the "Koondahs" which have a distinct origin, and of a singular elevated tract forming the North West portion of the Hills, which is distinctly connected with the Koondahs by a narrow ridge under Makoorty Peak. From the Dodabetta range to the Eastern foot of the Koondahs the land falls continuously, when these mountains abruptly rising obtain an elevation very little below that of Dodabetta itself.

Atmosphere and Climate.

Owing to the great elevation at which the inhabited summit of the Neilgherries stands and the consequent rarefaction of its atmosphere, aided doubtless in some degree by the beneficial influence of the luxuriant vegetation which clothes them, the district although distant only 11 degrees from the Equator enjoys a climate now famed for its great salubrity, and remarkable evenness in its seasons, with a temperature which falls in the coldest month of the year to the freezing point and seldom in the hottest reaches 75° in the shade. In stating this I of course refer to the general circumstances of temperature which prevail, for seasons have of course occurred during which from particular atmospheric causes the Mercury may have risen occasionally above this estimate. The coldest season is during the months of December and January, and the hottest about April and May, though this latter season is not so certain, depending mainly upon the character and time of setting in of the rainy or S. W. Monsoon. The hottest period of the day is about 2 o'clock or 2h. 40m. P. M., and the extreme range of temperature from sunrise to that time averages most commonly 16° throughout the year.

Coldest months December and January.

Hottest months April and May.

The variation is of course the greatest at the time of frost, viz., January and December, when the extreme radiation which goes on during clear nights produces excessive cold towards sunrise, after which the sun's rays shining with great fierceness through the rarefied atmosphere speedily restore heat to the earth, and the temperature of the air rises in proportion. Similar causes, reversed in their action, necessarily produce sudden and great cold after sun set, rendering the climate at this season (and indeed at all seasons more or less) one in which the most healthy residents, and especially those who have recently come under its influence, stand in need of caution in their mode of encountering its vicissitudes. For the reasons alluded to I would venture to remark that very early and very late parades, according to the practise of the plains will be found injurious to European troops located on these Hills, and especially to those men whose constitutions have been worn by long residence in a tropical climate.

Ootacamund 7300 feet
above the level of the
Sea.

The chief station, Ootacamund, from its superior elevation (7300 feet above the level of the sea) is more exposed to this unfavourable action than the two minor stations, Coonoor and Kotergherry, which are each 6000 feet above the level of the sea: although these latter are by no means exempt from the same influence, especially during the cold season, as will be seen by the Tables appended to this Memoir. A very great advantage enjoyed by the Neilgherries as a sanitarium exists in the means which are afforded to an invalid to select the peculiar kind of climate which best suits the malady under which he is suffering—

Choice for invalids of
three distinct settle-
ments, enjoying each a
different climate.

by the existence of three settlements, each under Medical charge, situated in different parts of the range, each having a different aspect, and each a climate peculiar to itself: that of Ootacamund being the coldest—but most damp, Kotergherry the next in the scale and that of Coonoor the warmest. Thus an invalid whose habits or state of constitution render the change from the torrid heat of the plains to the penetrating cold of Ootacamund too great and sudden, has the opportunity and option of acclimatizing himself at either of the minor stations before exposing himself to the vicissitudes of climate which await him on the highest level.

The Valley of Jakatal-
la well sheltered.

The climate of the Jakatalla valley which I had occasion to recommend to the Most Noble the Marquis of Tweeddale for the site of the projected barracks for a European Regiment of Infantry, and which has I believe been approved of by Government, will I think be found a happy medium between those of the chief and lesser stations. It is well sheltered from the dry cutting Northerly winds which cause so much sickness in Ootacamund during the months of March and

Enjoys a very even and
temperate climate.

April, by the high Dodabetta range which bounds the valley to the Northward, and the rains of the S. W. monsoon, though they of course visit this part of the Hills, are by no means so incessant or accompanied by so much driving mist as is experienced during the same season at Ootacamund. This monsoon (the S. W.) sets in on the Hills during the month of June and is ushered in on the Western side, including Ootacamund, by heavy rain and violent gales of wind. The station of Coonoor gets the monsoon at the same time but with less rigour, owing to the clouds which come charged with rain from the Westward being attracted to the earth and induced to discharge their contents by the opposition offered to their flight by the high spurs which run out from the Dodabetta range and interpose between the W. and Coonoor.

Kotergherry sheltered
and healthy.

The Kotergherry station is also very favorably protected from the violence of the S. W. monsoon by the Dodabetta range itself which stands out like a huge wall to screen it. The average fall of rain, the chief part of which occurs on the Hills during this monsoon cannot be called excessive especially when compared with the visitations in this respect experienced in the neighbouring province of Malabar.

The constant shifting of abode from spot to spot which the duty of conducting a survey necessarily entails has prevented me from keeping a register of the actual amount which has fallen in every month of the year, except in 1847, but from such observations as have been made when opportunity offered, I am led to believe that about 60 inches is a fair quantity to assign as the average fall of rain throughout one year at Ootacamund, 50 inches at Kotergherry, and 55 inches at Coonoor. The N. E. monsoon sets in generally in the beginning of October and is often accompanied by rain more or less all over the

Hills, but especially on the East side and at Kotergherry which from its position is exposed directly to its force. The month of December is generally very stormy, and often fatal to a large extent to the lives of the Hill cattle and to the bullocks and other beasts of burthen employed to bring produce from the plains. The cold Easterly wind blowing through the light rain which is continually falling, and striking upon the wetted skins of the Animals produces a degree of intense cold which soon destroys them, and by these means serious inroads are yearly made upon the herds of the Hill inhabitants, by whom their loss is not readily replaced. Annexed to this Memoir are various Tables extracted from the Meteorological Register kept in the Survey Office at Ootacamund and Kotergherry which will shew all particulars regarding the changes of temperature, the fluctuations and oscillations of the Mercury in the Barometer as shewn at the hours of Maximum and Minimum pressure, (9h. 50m. A. M. and 4 P. M.) temperature of wet bulb, direction of the wind, aspect of the sky, &c.

Hurricanes very rare
on the Neilgherries.

The Neilgherries are occasionally, but by no means frequently visited by violent storms or Hurricanes—so rarely indeed as to excite surprise and speculation as to the cause of this exemption when its isolated, and exposed situation in the Peninsula is considered. Upon this and other points of interest connected with the Meteorology of these Hills much light will doubtless be thrown by the observations now regularly conducted in an Observatory recently erected on Dodabetta under the auspices of Mr. Taylor, the Honorable Company's Astronomer at Madras, in which an instrument for measuring the force of the wind, and other valuable adjuncts to a Meteorological Observatory have been placed.

During the prevalence of the S. W. Monsoon the atmosphere is almost continuously charged more or less with dense mist, enveloping chiefly the mountain tops, but descending into the inhabited vallies as the warmth of the day passes, and spreading in heavy and impalpable fog in all directions. When not under this influence the atmosphere overhanging these mountains is brilliantly clear and cloudless—and especially so on the Eastern side of the range.

T A B L E

Shewing the average temperature, &c., throughout the Year, on the
Neilgherry Hills.

	MONTH.	MEAN TEMPERATURE			* Mean range of the Thermometer.	Rain in inches.	REMARKS.
		At Sunrise.	At 2h 40m P. M.	At Sunset.	Sunrise to sunset.		
At OOTACAMUND, 7300 feet above the level of the Sea.	January....	42	63	58	21	1	Cold North Easterly winds prevail.
	February ..	44	65	60	21	1	do. do. do.
	March....	49	68	63	19	2	do. & dry do. do.
	April.....	54	68	63	14	5	And dry do. do.
	May.....	54	68	63	14	6	Commences to vary to S.W.
	June.....	53	64	59	10	8	S.W. monsoon sets in : strong wind.
	July.....	52	62	57	10	7	S.W. and W winds blow.
	August ...	52	62	57	10	6	Wind begins to vary to W. & N.W.
	September..	52	62	56	10	7	Wind N.W. and towards end N.E.
	October....	51	62	56	10	9	N.E. and Easterly winds prevail.
	November..	49	61	55	12	5	N.E. winds blow, fresh, clear.
	December... 45	60	55	15	3	do. do. often violently.	
				Total.	60	Inches of rain.	
At KOTERGHERRY, 6100 feet above the level of the Sea.	January....	51.5	66	60	15	2	N.E. and N.W. winds prevail.
	February ..	52.5	67	63	15	3	do. do. rain very uncertain.
	March.....	54	67	63	13	6	Winds variable N.E. to S.E.
	April... ..	56	68	64	12	10	do. do. N.E. to E. & S.E. rain uncertain.
	May.....	56.5	68	64	12	2	do. from N.E. to N.W. & West.
	June.....	58	69	65	11	2	do. from N.W. to S.W. rain var.
	July.....	60	70	65	10	4	S.W. monsoon winds, but light & var.
	August....	60	71	65	11	2	N.W. winds prevail in this month.
	September..	59	69	64	10	2	do. do. veering to W.
	October....	56	68	63.5	12	10	do. do. light and variable.
	November..	54	67	61	13	2	N.E. winds veering to N.W.
	December..	52	66	60	14	5	Wind generally from the N. gusty.
				Total.	50	Inches of rain.	

* From want of a Maximum and Minimum Thermometer, I have not been able to record the *extreme* range of the Thermometer during the 24 hours.

Productions. The resources of this highly favored region are as diversified and valuable as they appear easy of attainment, and comparatively inexhaustible. With a climate and soil such as have been described, great productive powers in the vegetable kingdom and a proportionately high development of them would naturally be looked for. That the latter is wanting to a lamentable degree is to be accounted for by the wretched system of husbandry pursued by the Agricultural tribes who have settled upon the Neilgherries, as also possibly in some degree by the absence of that encouragement which would be produced by the institution of some channel through which the products of their industry might reach a ready certain, and ever demanding market.

Wheat. I commence the long list of productions which the Neilgherries are capable of supplying with **Wheat**, as one of the most important, and as one moreover which the Honorable Court of Directors appear at the present time to be much interested in collecting data regarding, from all Districts in India capable of producing it.

In making up the returns of the gross quantities of grains of all sorts produced in the District, I have taken the totals of each from the Seebundy Accounts of 1847 or Fusly 1257, as rendered orally in the Cutcherry. From these it appears that in 1847, 70 "vullums" of land were cultivated for wheat, each vullum producing on the average 400 "Kolagums." This "kolagum" which is a measure peculiar to the Hill tribes contains 226 Cubic inches and hence the quantity produced was

3000 bushels

or 375 quarters

the weight of a Kolagum of average wheat (husked) is I find 7lbs. hence the *bushel* of Neilgherry wheat weighs. . . . 68 $\frac{1}{2}$ lbs. avoirdupois
or a Quarter. . . . 548 $\frac{1}{4}$ " "

A "vullum" of land is equivalent to 2 Cawnies, 21 Grounds, and 864 Square feet. Hence the total quantity of land cultivated for **Wheat** at the present time is, 202 Cawnies, or 267 Acres: and the produce is 14 $\frac{7}{8}$ bushels per Cawny, or 11 $\frac{1}{4}$ bushels per Acre. The return in moderately good land cultivated for **Wheat** is 40 to 1; or 40 bushels reaped for 1 bushel sown.

That the quantity of Wheat at present produced on the Neilgherries could be very greatly increased there cannot be a doubt, provided a better system of husbandry were introduced, and better seed imported from Europe and distributed amongst the agricultural tribes ; and as recent distressing circumstances in Great Britain appear to have directed the attention of the Home Government to Colonies which are thought capable of producing this grain in sufficient quantity to assist in relieving the Mother Country from her present hazardous position of dependence upon foreign States for her supply, I shall venture to offer a few further remarks before closing my notice of this important item in the chapter of Natural Productions.

Neilgherries and
Koordahs well suited
for the growth of
Wheat.

The whole of this Hill district, including the Koondah mountains, is eminently well suited in point both of soil and climate, for the production of Wheat, but as the last mentioned tract is not yet surveyed, it must at present be lost sight of, although I feel confident it will be found on examination to furnish a very important addition to the gross amount of land estimated as suitable for the cultivation treated of, and which at present lies totally waste and useless.

The quantity of land thus lost to the State I calculate to amount to no less than 200,000 Acres, as is shewn by the following statement :—

	Square Acres.
Total content of the Geographical surface of the Neilgherries.....	268,494
Of this quantity there are now under cultivation including lands lying fallow.....	Sq. Acres 31,434
Pasturage to be reserved for the cattle of the Todars at the exaggerated rate of 200 acres per 100 head (less than 40 per 100 being allowed by the Revenue authorities in the calculation for assessment), for an average of 2000 head of Buffaloes will be.....	,, 4,000
Pasturage to be reserved for the cattle of the Burghers, consisting of buffaloes and bullocks, averaging 8000 head at 100 acres per 100 head,.....	,, 8,000

Land occupied by the Cantonment of Ootac-		
mund, future barracks, roads, &c.	Sq. Acres	6,000
Village sites, sacred groves, &c.	„	2,060
200,000 acres of land lying waste on the Neilgherries exclusive of the Koondals.	Tracts of rocky ground, morasses, and other land not immediately fit for cultivation (although these might well be considered as compensated by the gain of surface introduced through the undulations of the land).	„ 17,000
		Deduct. . . . 68,494
		and there is a remainder of. . . 200,000

acres entirely unoccupied and waste, being either covered with forest, or lying under grass not required for pasturage.

Under a better system of cultivation also it would not be necessary to suffer so large a proportion of the Burghers' cultivated land to lie fallow at one time as is at present in that condition, amounting in round numbers to 17,000 acres out of a total of 31,500 acres of cleared and arable land.

Of the forest land every acre is of course peculiarly well suited for Wheat, and being virgin soil it should produce, under proper management large crops of the very finest grain.

The same may be said of swamps, when drained, but as Potatoes are found to thrive well in the soil which their drainage produces, such land in a farm would naturally be reserved for Stock produce, and an allowance has therefore been made for this in the Estimate.

Making however exaggerated deductions on all accounts there yet remain no less than 200,000 acres of unallotted and unemployed land of which at the very lowest estimate one half, or 100,000 acres may be taken as fit for the production of Wheat, under a proper system of husbandry, allowing a sufficiency of well prepared manure, an occasional dressing of lime, and exercising proper judgment in allowing it to lie fallow or changing crops, according to its condition and composition of soil.

It has been already stated that the Burghers obtain from their Wheat lands a quantity of grain equivalent to 11½ bushels per acre, but as the depth to which they plough their fields never exceeds 7 inches, and for the most part is barely 6, and as they give them only the most meagre allowance of Sun-dried and exhausted manure, never exceeding (as far as I have been able to ascertain by counting the baskets brought and measuring spaces of land dressed with it) half a ton per acre, and this not ploughed well into the ground, but merely scraped into the surface furrows, and as they never supply the land with what from the composition of the soil it so much needs, viz. Lime, it may be safely assumed that under a proper system of tillage this amount of produce could be at least trebled, or at a very low estimate 4 quarters of Wheat could be obtained from one acre.

I may therefore safely affirm that this District is capable of furnishing for export to Europe from 4 to 500,000 quarters of Wheat of a quality far superior to that which is at present raised, and at a cost sufficiently low (the distance to the nearest shipping port being only 110 miles, 36 miles of which are performed by water) to admit of large profits being realized by the growers, even when the price in England is so low as 65 shillings a quarter.

The following is an Estimate of the cost to the Burghers of the cultivation of Wheat per English acre, ascertained with as much exactness as circumstances and the deceitful character of the people, who seldom adhere to the truth in any of their statements have admitted of:

ESTIMATE.

Estimate of the expence of cultivation of Wheat to the Burghers.

Ploughing: 5 ploughs, with 2 bullocks and 1 driver, in 3 days plough 1 vullum of land (=3½ acres). The keep of the bullocks costs nothing as they get nothing but grazing: the expence is therefore the hire of 15 men per vullum or 4 per acre at 2 annas. . . .	Rs. 0 8 0
Collecting weeds and grass and burning them 2 boys at 1 anna.	,, 0 2 0
Bringing and spreading 5 baskets of manure 1 man at 2 annas.	,, 0 2 0

Sowing seed and turning the soil 5 ploughs to 1 vullum or 6 men, which is $1\frac{1}{2}$ men per acre at 2 annas.	Rs. 0 3 0
Seed Wheat $2\frac{2}{3}$ Kolagums at 2 annas and 8 pice per Kolagum.	,, 0 7 0
Repairing fences and clearing channels to carry off rain 1 man.	,, 0 2 0
Reaping and thrashing : the expence of the first is cover- ed by the Straw, and the last costs nothing as it is performed by the bullocks which are driven round and round a post to tread out the grain.	
Assessment, at the highest rate.	,, 0 14 9
	<u>Rs. 3 0 9</u>
	<u>Cost per Acre.. Rs. 3 0 9</u>

RETURN.

105 Kolagums of grain which are sold at 2 annas 8 pice..	Rs. 17 8 0
Deduct cost of cultivation.	,, 3 0 0
Profit to the cultivator <i>per acre</i>	Rs. 14 8 0

It is true that out of this we must take the "Goodoo" or tribute which they give to the Todars, and which may be considered in the light of rent for the land ; but this is not much ; they profess to give $\frac{1}{4}$ th, but I have reason to believe, both from the statements of the Todars and of the Burghers themselves that what they actually make over as " Goodoo" is not above one half of this proportion, if even so much, especially in the item of Wheat which is so profitable to them.

It may not be considered out of place to introduce here a statement of the expence of keeping horses and cattle, and of carrying on Farming operations generally on the Neilgherries.

Horses cast from the Artillery and Cavalry
 Plough Horses. would, when castrated, answer very well for the
 Plough : they may be purchased at from 100 to 200 Rupees.

2 Horses would require 1 horsekeeper at Rs. 7 per mensem.....	Rs. 7
and (until the Farm yielded Hay) 2 Grass cutters	„ 4 „ „ 8
Food : Gram 2 seers per day for each horse $4 \times 30 = 120$ seers..	„ 7
Barley 2 „ „ „ $4 \times 30 = 120$ „..	„ 4
Shoeing, 1 Rupee each per mensem.....	„ 2
Halters, Cumblies, Salt, Medicines, &c., 1 R. per mensem ..	„ 2
	<hr/>
	Total per mensem.. <u>Rs. 30</u>

which is £18 per annum per horse.

Spade Husbandry. A cooly can dig in one working day in new meadow ground about 25 to 30 square yards, one foot deep, his pay being 2 annas.

Children employed to weed, receive 1 anna per day.

Native farm servants, gardeners, &c., receive 5 Rs. a month.

Herdsmen for cows, goats, &c. „ 4 „ „

Keepers for bullocks, employed to bring supplies or carry produce to the coast or to market, receive 5 Rs. a month, at the rate of 1 keeper to every 5 head of cattle.

A good Carpenter receives $\frac{1}{2}$ Rupee a day.

A good Bricklayer „ $\frac{1}{2}$ „ „

Lime: Lime in an unslaked, caustic state can be delivered on a Farm on an average of distance from the high roads at the rate of 12 annas per bullock load of about 2 bushels.

Bones. Bones could be obtained from the low country for the cost of collecting in the villages and conveying up the Passes.

Barley. Next in importance in the class of productions is Barley, the quantity of which, raised during the past year far surpasses that of Wheat. In 1847 it amounted to 1419 vullums, each vullum producing on an average 400 kolagums, making a total of

60,383 bushels

or 7,548 quarters

taking the Imperial bushel as before at 2218 Cubic inches, and the

kolagum, by my measurement, at 226 Cub. inches. The Barley grown on the Neilgherries is divided into two kinds by the Burghers, the first and best being "Sheemey Ganjee" or English Barley, so called from its being the degenerate produce of English seed given to the Head Burghers many years ago, by I believe Mr. Sullivan, when Collector of this district, and the other "Malley Ganjee" or Hill Barley which they describe as indigenous to the Hills. The quality of both sorts is very poor, nor is this much to be wondered at when their defective mode of cultivation is witnessed, and the great deterioration of the grain which naturally results from the constant employment of the same seed in the same land over and over again without any change or any attempt at the introduction of imported or mixed seed. The weight of a kolagum of ordinary Barley is $5\frac{1}{2}$ lbs. which gives 54 lbs. for the weight of a *bushel* and 432 lbs. for that of a *Quarter*. The return in moderately good ground is 50 per cent under that of *Wheat*, being only 20 measures of crop for 1 measure of seed.

The yield per Cawny is 14·7 bushels.
 or per Acre 11·12 do.
 and the total amount of Barley cultivation is
 in Cawnies 4109
 or in Acres 5433

Beer. * Before quitting the subject of Barley I cannot refrain from adverting to one immediately connected with it, and which I deem of so much importance that although I am not sanguine in my hopes that Government may be induced by any representation made by me to institute experimental proceedings with a view to test the feasibility of the scheme, I still consider it my duty to place on record in this Memoir the results of experiments which I have had favorable opportunities of making, under the impression that a time must sooner or later come when this amongst many other valuable resources of these Hills will be fully developed and taken advantage of.

I allude to the subject of fermented Malt liquors which can be made on the Neilgherries with the greatest facility in all the details of the process, and at a cost so trifling as to enable the Commissariat to

* See the Addenda to this Memoir.

Can be made and sold
at Bangalore at 2½
annas per quart.

supply the European troops at the three stations more immediately in the vicinity of the Hills, viz. Bangalore, Trichinopoly and Cannanore, with both Ale and Porter, at a rate, calculated on an extreme estimate, not exceeding 10 annas per imperial gallon delivered to the men from the Cask in the Canteen, or 2½ annas per quart, equivalent to 3½d. per Pot.

Independent of the importance both in a moral and economic point of view of supplying to the Troops a liquor which from its goodness and cheapness will induce the majority to prefer it to ardent spirit, the subject becomes still more entitled to consideration from the advantages which must result from its successful issue when the projected measure for the permanent location of a Regiment of European troops on the Neilgherries shall be carried out: for as the chief item in the estimate of cost is the carriage from the Brewery to the station in the plains, Beer will be supplied to those resident on the spot at a greatly diminished rate.

A very favourable opportunity will also be offered for bringing the project into practical operation when a Regiment is stationed on the Hills, because amongst the men many brewers and malsters by trade will no doubt be found, and by the practical knowledge of these men many difficulties in the details of the process which experimen-

Malt.

talists like myself encounter, will be speedily overcome. An inspection of the Tables of temperature given in the Appendix to this Memoir will at once shew that the first part of the process of the manufacture of Beer, viz. the conversion of Barley into Malt can be carried on here as well as in any part of Great Britain; for although the range of the mercury may appear so great as to endanger the success of the process by causing the germination to proceed too rapidly, this evil can be readily averted by placing the Malting floors in buildings with thick stone or even mud walls, covered with thatched roofs elevated considerably so

Temperature well
suited for Malting and
fermenting. Average
temperature of the
Neilgherries 62°.

as to deflect the rays of the sun and preserve an even and low temperature throughout the day. The temperature found most suitable to malting in England is about 60° to 62° and this degree of heat could be maintained without excess in malting sheds on these Hills throughout at least 9 months in the year.

Quality of Barley
very inferior.

I must observe however that the Barley grown here is so poor in quality, so light in the grain, and containing in a given measure so large a proportion of husk in excess of what the same quantity of English Barley would produce, that the Malt made from it yields in the mash but a very disproportionate quantity of saccharine matter, rendering it necessary to employ raw sugar as an adjunct to produce a wort of sufficient strength. But this which might elsewhere be considered an objection on the score of expence, is here of easy remedy, since in the immediate vicinity of the Neilgherries, viz. in Mysore, excellent sugar is manufactured in great abundance, and at a rate so low that at this present time, February

Sugar cheap and good. 1848, it is being sold in the Bazar of Ootacamund at Rs. 3 12 Annas per maund of 25 lbs. weight, being equivalent to 33s. per cwt. Formerly, a prejudice existed against the employment of sugar in the manufacture of Beer, but as it is now seen that the permission to introduce it into Breweries in England which has been recently granted by the Legislature is regarded by the Public as a signal boon, it must be self evident that since this important article is, comparatively speaking indigenous to the spot, cheap, excellent and abundant, and as the climate is in all respects eminently well adapted for carrying on the process of vinous fermentation as well as that of malting, that Beer and Porter can, under proper management, be produced on the Neilgherries in every respect as wholesome and good as that now imported from England, and at a cost less by one half, even including cartage to the station where it is to be consumed.

I beg leave to observe that in advancing these remarks I do not base my expectations and assurances on mere surmise or theoretical views of the subject, but upon the results of actual experience, as I have now brewed several casks of beer without a single failure in the principal parts of the process, viz. Malting, fermentation, and fining, while its quality has been much approved of by many persons who have tasted it, amongst whom I may enumerate, Mr. Drury, the senior Member of the Board of Revenue, Captain Bell, Secretary to the Board, Major General Kennett, Lord Gifford, General Gibson, with many others. In consequence of the success which attended my early experiments, in conducting which I employed Malt prepared by myself from Hill Barley, with Hops and dried Ycast imported from England,

Good Beer has been
brewed on the Hills
by the Writer of this
Memoir.

and my confidence in the success of the scheme if entered into by Government, I addressed a letter to the Commissary General upon the subject, communicating such details as seemed of interest and offering to carry on further trials on a small scale, at my own expense if a copper could be supplied to me temporarily on Indent from the Commissariat stores. I also sent samples of some Beer which I had brewed, but which had an unpleasant taste communicated to it owing to my having employed "Gour" or "raw Jaggery" in the brewing in place of refined sugar, without taking the precaution of cleansing it from the dirt and gummy matter with which this article is generally contaminated. I was not so fortunate as to receive a reply to this letter (beyond a message through a third party) and this absence of encouragement prevented me from following the matter further, but I may add that for my own use I continue the manufacture with a success which convinces me that it is only necessary to extend the scale upon which my operations are carried, and to secure practical knowledge in the more important details of the process, to ensure the most complete realization of my anticipations regarding the vast benefits to be derived by this item in the list of productive resources of the Neilgherries.

The following is an Estimate of the cost of Ale brewed here, from actual experiment. In England to make a Hogshead (66 gallons) of strong ale intended for Export to the tropics, the brewers use

6 bushels of Malt.

and 6 lbs. of Hops :

Now it has been ascertained since the introduction of Sugar into British Breweries that

180 lbs. of moist Sugar are equivalent to

1 quarter, or 8 bushels of Malt.

Estimate of the expense of manufacturing Malt liquors.

If therefore both Malt and Sugar are employed in equal proportions, the Hogshead will require

3 bushels of Malt and 72 lbs. of Sugar.

considering the Hill Malt to be 100 per cent inferior to English Malt, I made use of

6 bushels of Malt and 72 lbs. of Sugar.

some measure to the want of hands to till them—a deficiency which would however be speedily remedied by immigration from Mysore and the plains around. In fact were it not for the assumption of absolute right over all the lands, waste and cultivated which are situated on the plateau of these Hills, by the Todas, Burghers and Kothers, there is no doubt that many low country people who came up here seeking employment as Coolies would form settlements and permanently locate themselves wherever they could obtain possession of land to bring under cultivation. Should Government at any future time see fit to create an establishment on these Hills for the manufacture of Beer, it would be

Advisability of establishing a Government Farm for the purpose of promoting and improving the cultivation of Wheat and Barley.

very advisable, and indeed in the first instance almost indispensable, to connect with it a Government Farm, to serve as a model for the introduction of improvements in husbandry, both in regard to

ploughing and dressing the land, and in the preparation of good manure, a department of the farmer's profession of which the Hill Agriculturists appear to have no knowledge whatever. Good seed must be sent from England and distributed amongst the Burghers, upon whose exertions the stimulus of a premium in the shape of a higher price for barley of a superior description would doubtless soon produce a beneficial effect, while imitation of the system pursued by the employés of Government in the management of the Farm lands would also it is to be supposed lead to the adoption of more civilized notions and practice of agriculture than are now to be found prevailing in any part of this rich but ill appreciated Hill tract. In this climate Europeans

Europeans can labour in the day time on the Neilgherries.

might with perfect safety as regards their health, go through all the out of doors labour which falls to the lot of farming men in England. They do so in

New Zealand and Port Adelaide where the climate is unquestionably less temperate than here, and as on the Neilgherries the actual exertion of European bodily strength would only be required at particular seasons of the farming year, such as in the direction of the Plough and the use of the scythe, while Superintendence and instruction of the Native labourers would alone be required, on the part of a European, in conducting the minor details of a farm, I cannot but think that in many respects a far finer field is offered on these Hills, to the emigrant farmer from home than is met with by the many who flock to the Australian settlements.

Labour cheap—2 annas per day.

Here cooly labour is very cheap, 2 annas or 2½d. a day being the regular rate of pay for a working man who can perform any duty pertaining to spade husbandry, and undertake all the duties of a farm which in England fall to the lot of the common labourer, such as hedging and ditching, trenching, hoeing, reaping, stacking, thatching, &c. &c. A shilling a day or ½ a Rupee is the pay of a Bricklayer or Carpenter; men to look after 2 horses receive 14 shillings, or 7 Rupees a month, Cowherds 4 or 5 shillings and all other labour in proportion. These advantages, coupled with those presented by a ready and ever demanding market for such Articles of produce as Wheat, Barley (Oats if raised) Clover, Hay (of which article an immense quantity would be consumed in Ootacamund if it was procurable), Turnips, Potatoes (Ceylon offering a very favorable market for this vegetable), butter, eggs and stock of all descriptions, both for butcher's meat and for salting for ship use, would surely, it is to be supposed, tempt many indigent farmers to this hilly region whose necessities impel them to emigrate from the mother country, but whose steps are stayed by the warnings uttered by the many hundreds of their unfortunate fellow countrymen who have hurried heedlessly out to the Australian Colonies only to meet with disappointment and ruin.

Should circumstances ever induce Government to establish a Farm on these Hills for the purpose of encouraging the growth and extending the cultivation of Wheat and Barley, I should recommend

Site recommended for a Government Farm.

two sites for its location; one on the elevated tract of land to the Westward of the Pykara River, commencing at the North West angle of the plateau near Neddiwuttum and extending Southward to "Makoorty

To the Westward.

Peak," the whole of which may be said to be uninhabited, there being only 7 small Todar munds situated in it, and these not all occupied, while the soil is for the most part excellent, pasturage abundant, and the land covered in many parts with fine forest, rendering the tract (which contains about 12,000 acres) admirably adapted for the purpose which I venture to suggest.

The other site is a fine tract of land forming a sort of promontory in the North East angle of the plateau of the Hills called "Kodenaad" which is equally uninhabited,

Kodenaad.

STATEMENT of the AGRICULTURAL PRODUCTS of the NEILGHERRIES in 1847—Firstly 1256.

Name of Production.	Quantity of land cultivated.		Produce in Kolas per bushels per Acre.	Ratio of return of Crop from Seed.	Gross amount produced.		Average selling price.				Rate of Assessment.																										
	Equivalent.				Equivalent.		Equivalent.		Equivalent.		Equivalent.		Equivalent.																								
	in Vul-lums Caw-nies.	in Acres.			in Kola gums.	in bush-quar-ters.	per Kola-gum of 2 seers.	per bushel.	per quarter.	per vullum.	per Cawny.	per vullum.	per Cawny.	per vullum.	per Cawny.																						
Wheat.....	70	202	400	11-12	40 to 1	25,000	2,978	372	0	2	8	1	9	0	12	8	0	3	8	5	1	3	6	0	14	9	2	5	7	0	12	9	0	9	10		
Barley.....	1419	4109	5433	11-12	20 ,,	567,000	60,383	7548	0	1	1	0	10	2	5	1	4	3	8	5	1	3	6	0	14	9	2	5	7	0	12	9	0	9	10		
Raggee.....	105	303	400	11-12	80 ,,	42,000	4,468	558	not brought to market.		2	0	11	5	0	8	0	14	1	0	4	1	0	8	0	14	1	0	4	1	0	8	0	3	8		
Samee.....	364	1052	1391	8-4	60 ,,	109,200	11,617	1452	0	0	0	0	0	0	0	0	0	2	0	11	0	13	5	0	8	0	14	1	0	4	10	0	3	8	0	3	8
Koralley.....	1289	3724	4924	5-6	10 ,,	257,800	27,425	3425	0	0	0	0	0	0	0	0	0	2	0	11	0	11	5	0	8	0	14	1	0	4	10	0	3	8	0	3	8
Tenney.....	102	294	385	8-4	30 ,,	30,600	3,255	487	0	0	0	0	0	0	0	0	0	2	0	11	0	11	5	0	8	0	14	1	0	4	10	0	3	8	0	3	8
Buttacudaly.	83	240	317	5-5	40 ,,	16,600	1,766	221	0	2	8	1	9	0	12	8	0	2	0	11	0	11	5	0	8	0	14	1	0	4	10	0	3	8	0	3	8
Shanungek.	55	159	210	8-4	30 ,,	16,500	1,755	220	0	2	8	1	9	0	12	8	0	2	0	11	0	11	5	0	8	0	14	1	0	4	10	0	3	8	0	3	8
Garlic.....	132	381	504	15-8	48 ,,	79,200	8,425	1053	0	0	10	0	8	0	4	0	0	3	8	5	1	3	6	0	8	0	14	7	0	12	9	0	9	10			
Onions.....	34	90	141	5-0	56 ,,	21,700	2,708	358	0	1	1	0	10	2	5	1	4	3	8	5	1	3	6	0	14	9	2	5	7	0	12	9	0	9	10		
Mustard seed.	122	352	494	8-4	150 ,,	35,600	3,823	487	0	0	0	0	8	0	4	0	0	3	8	5	1	3	6	0	14	9	2	5	7	0	12	9	0	9	10		
Vendium.....	67	194	255	5-6	100 ,,	13,400	1,225	178	0	1	0	0	9	5	4	4	4	3	8	5	1	3	6	0	14	9	2	5	7	0	12	9	0	9	10		
Poppy seed	93	269	353	2-8	3100 ,,	9,300	990	124	0	4	0	2	5	7	0	9	0	3	8	5	1	3	6	0	14	9	2	5	7	0	12	9	0	9	10		
and Opium)									200 per seer = Rs. 5 par 16																												
Potatoes.....	46	341	586	15	11	25,100	2,622	362	2500 per Airdrop.																												
	2981	11,510	15,220						600 per Airdrop = Rs. 10 par 16																												

for produce, but if Potatoes and Wheat were exported a much larger profit would be realized. Hence another promising opening to emigrants in the form of an establishment for breeding and salting Pork for Ship use, as, since Potatoes and Barley can be produced at so low a rate, and a herd of Cows kept for nothing but 5 shillings a month for a herdsman, with a per centage to cover interest on outlay and casualties, it cannot be doubted that the meat cured in this climate would both prove of excellent quality, and return by its sale at Bombay or other shipping Ports a considerable profit to the breeder and salter. Under any circumstances larger profits must be realized than those returned from the same market to the exporter from Europe who has to breed his stock under all the disadvantages of dear food and labour, and cost of freight to its destined Port of sale.

Hides. Amongst the productions of the Neilgherries may be enumerated hides, both of the buffalo and ox, the former of which are especially prized in the low country for making soles of shoes, traces and other articles requiring a strong and durable leather. The hide of the bull buffalo is considered far superior in value to that of the cow. I have not been able to ascertain what quantity of hides are annually collected and cured here for export, but it cannot at present be very considerable, as it will be seen by the returns in the Appendix that the total number of buffaloes and bullocks herded on these Hills is, comparatively, speaking by no means large.

Opium. Opium is produced on the Neilgherries to a small extent, and it appears that the Burghers who cultivate the Poppy pay more attention to the collection of the seed (which fetches a very remunerative price as an article of food in the bazaars) than to the extraction of the drug from the capsules of the plant. The total quantity produced last year was under 200lbs. avoirdupois, but I have no doubt it could be increased very greatly if other cultivators could be introduced on the Hills, as the Burghers, slaves to habit, prejudice and the love of ease, oppose themselves to any change or improvement which involves additional trouble or personal labour.

Poppy fields require some care both in preparing and well manuring the ground before sowing, and in hoeing and irrigating it whilst the plants are young. Hence this kind of cultivation is only carried on in the immediate vicinity of their villages where the fields can be attended to by the women and children, and where manure, such as it is, is more readily and with less trouble collected.

The Opium extracted by the Burghers from their Poppies appears to be of exceedingly fine quality, and meets with a ready sale in the bazaars of Ootacamund amongst the Mysore and Malabar coolies and others in better circumstances, by whom it is eaten in its raw state, but never as far as I can learn, smoked.

Having thus reviewed the more important articles of agricultural produce, I am induced before concluding the subject to hazard the remark that I cannot but consider that the lands comprising the plateau of these Hills, so valuable from their capacity for producing grains which cannot be cultivated in the low country which surrounds them, and which are so much needed for the public good, are, under the exclusive system which at present prevails, both misappropriated in their partial cultivation, and wastefully neglected, inasmuch as that there is not drawn from them that full amount of benefit to the community which nature has so eminently qualified them to contribute.

The Neilgherries misappropriated and neglected.

On looking at the "Statement of productive resources" it will be seen that out of 11,500 cawnies at present under actual cultivation, only 4300 cawnies are devoted to the production of Wheat and Barley, while on all the rest of the land grains are reared which, with only one or two exceptions are grown just as well, and far cheaper, in the plains below, and would be brought up and bartered for Wheat to any extent could this much wanted grain be procured on the Hills in greater quantity. It will scarcely be credited that this district so peculiarly well adapted for the cultivation of Wheat actually does not produce enough to supply the bakeries of the principal settlement, for the use of which large quantities of a very inferior description of grain are imported from Mysore; while the minor settlements of Coonoor and Kotergherry are supplied with bread from Coimbatore.

Hill wheat certainly finds its way to the low country by being bartered by the Burghers with the traders for cloths and other articles, but the quantity thus exported is insignificant, and bears no comparison with that imported from Mysore.

Silk. There remain yet a few articles of plantation produce to be noticed, the oldest of which in the Agricultural history of the Neilgherries is Silk. There are several plantations of Mulberry trees in various parts of the Hills, for the breeding of the Silk worm, with establishments for preparing and winding the cocoons, the Silk produced by which has I understand been pronounced in London to be of a quality very far superior to any produced in the plains, either in Bengal or other parts of India; and what has been sent to England appears to have realized very high prices. The quantity produced however has hitherto been very insignificant, and I confess as far as I am able to judge, the scheme appears a complete failure. The Mulberry trees do not shoot out fresh leaves with that redundant luxuriance which distinguishes all other descriptions of vegetation on these Hills; the weeding, watering and pruning which they require involves much expence, the worms require the most delicate treatment both in regard to food and temperature, any mismanagement of which entails destruction on myriads, and the quantity of cocoons produced is not in a sufficiently large proportion to allow the superior quality of the Silk reeled from them to secure a profit to the planter.

Already one extensive plantation and worm and silk house at Coonoor has been given up, and I should think it will not be found that this description of cultivation will be extended by future settlers.

Coffee. Numerous plantations of Coffee trees are scattered about the Hills, principally situated on the slopes descending to the plains where the elevation suitable for the growth of this shrub can be obtained. Until within the last 2 or 3 years, Coffee plantations were only found on the Eastern side of the Hills, but representations of the excellent quality of the berry, and of the advantages attending its cultivation on the Neilgherries having been made in Ceylon, the attention of the skilful planters of that island was attracted in this direction, and the result has been the opening of several plantations where I ventured to predict

in a former Memoir that this description of cultivation would sooner or later be introduced, viz. on the Western slopes of the Hills, where advantages are offered to the planter eminently superior to those the possession of which has of late years so greatly enhanced the value and importance of the neighbouring island.

Cheap labour 4 Rupees a month.

The chief of all is the cheapness of labour, a cooly receiving even on distant plantations in the "Koondahs" 4 Rupees a month, while in Ceylon 8, 9 and even 10 are given; while in the pay of artizans such as carpenters, sawyers, masons, &c., a still greater disparity exists in favor of this district. Second to this is the abundance of labour which can always be commanded here, the neighbouring provinces of Malabar, Mysore and Coimbatore supplying coolies in sufficient numbers to meet all demands and at all seasons of the year; while in Ceylon the utmost difficulty is experienced in most parts to obtain labourers when urgently required; and at all times the supply of coolies is extremely precarious. Planters here have also the advantage of a good public road passing through the heart of the forest land of the "Koondahs," and affording ready means for obtaining supplies, machinery, &c., or of sending away produce for shipment by a route of which less than 30 miles are by land and 36 by water to the port of Calicut. One estate which was opened about 2 years ago near "Wallahkadoo," half way down the Koondah Ghaut, by the late Archdeacon of Ceylon and Mr. Hutson also of that island and which I had an opportunity of inspecting recently on my way up from the Western Coast, is in a very flourishing condition, and has every promise of turning out most successfully. In its neighbourhood are tracts

Western slopes of the Koondahs well suited for Coffee cultivation.

of virgin forest land of immense extent, stretching away over the innumerable spurs and vallies into which the Koondahs are broken as they slope downwards towards the Ponany River, all eminently suitable for Coffee planting, having the proper elevation, a good and rich soil, and enjoying a climate particularly favorable to the nourishment of this peculiar shrub. If the success which is looked for crowns the exertions and adventure of the first speculators, there can be little doubt that when the Koondah Coffee appears regularly in the market as a production of this district, the attention of capitalists at home will be directed to it, and the Western portion of this mountain tract become a source of

great increase to the Revenue of the country, while it will afford employment and subsistence to the many indigent people in the neighbouring provinces who at the present time suffer such privations from the want of it between the seasons of sowing and reaping the crops in the plains, and indeed for more than three quarters of the year.

The other, or what may be called the old plantations in the other parts of the Hills, but principally on the North Eastern slopes, are insignificant in point of size, but remarkable for the peculiarly fine

Plantations at Coonoor
and Kotergherry too
high.

flavour of the Coffee produced, which is considered to be owing to the high elevation at which most of them are situated. Some plantations near

Coonoor and Kotergherry are 5000 feet above the level of the sea, but it seems to me that the advantage derived from this superiority of flavour is more than counterbalanced by the general want of vigour and luxuriance of the Coffee trees which evidently do not thrive in this latitude so well at an elevation above 4,500 feet as between that and 3000 feet. It is not easy to estimate the amount of land at present under actual cultivation for Coffee on the Neilgherries, as in most cases the Coffee fields are so mixed up with the Mulberry grounds that it is difficult to arrive at the precise extent of each, but it may be pronounced not to exceed 280 acres on the Eastern side and 300 acres on the Western. The general return of those on the Eastern side, which are the only ones at present in bearing, is on an average about 6 to 7 cwt. per acre; which is a remunerative rate under the prevailing circumstances of cheap labour, but the trees require manure to keep them up to this rate of bearing, and more care in pruning and managing than

Salt Provisions.

is bestowed upon them. Salt provisions may be mentioned as an article of produce of the Neilgherries, though the preparation of them is not carried on in an extensive way. Hams, bacon, salt pork, &c., are cured in the settlements and sold at a cheap rate: some cured by European settlers being of excellent quality. I am informed that the Bombay Government were anxious sometime since to enter into a contract for the supply of the Indian Navy with salt provisions in lieu of those prepared for Government use in the unsuitable climate of Bombay; but the opportunity of establishing this branch of productive industry on a firm and regular

footing was lost owing to there being no person on the Hills who could be induced to undertake the responsibility of so extensive an engagement. The feeding of stock, if connected with a proper farm on which to raise dry food and support cattle, could be carried on most economically here, especially as regards pigs whose chief food, potatoes, is raised on the Hills out of almost any soil and with a most profitable return. There might be more difficulty in fattening oxen for the salting tub because the pasturage on these Hills, though for the most part luxuriant is rank and fibrous, and does not appear to produce fat or flesh in ruminating animals, except in the case of the Hill Buffalo which alone thrives upon it, but as Mangel Wurzel has been tried and seems to take very kindly to the climate and soil, this difficulty might be overcome by its introduction. A good English Grazier also would soon exterminate the bad grass out of his land and replace it by grass from good mixed seed from home, which experience (on a small scale) has shewn to thrive well on these Hills. Clover and Lucerne also flourish here, especially on lands not more than 6000 feet elevated above the level of the sea—in fact under a proper system there never could be any want of dry as well as green food for fattening stock, felt in this district.

Fuel likely to become scarce on the Hills.

There is another subject which before closing this chapter I am anxious to draw attention to, and that is the supply of firewood obtained from the woods with which the surface of the Hills is dotted. This may at a casual glance appear comparatively inexhaustible, but I am satisfied it is not so, and that to preserve in localities where it may be called available for general use a provision for future years some measures of conservation should be adopted, more especially should European troops with the host of natives who will follow them, be permanently located on the Neilgherries. At present while hundreds of trees are being felled daily, not one is planted, and it is reasonable to anticipate that unless some system is adopted to conserve and renew the woods, particularly in the neighbourhood of the projected Barracks, Government will before long be put to a heavy expence in supplying the troops with this necessary of life from a distance.

Modes of Cultivation.

The modes of cultivation adopted by the Agricultural Hill Tribes have been already so frequently adverted to in the preceding chapter on Productions, that it will be only necessary here briefly to review them. I have described their system of agriculture as radically bad : and it is so for these reasons : first because the land is not properly ploughed : secondly because it is not properly manured and dressed, and thirdly because no change is ever made in the seed which they sow in it, not even to the extent of bringing it from neighbouring villages, the Burghers sowing the same seed over and over again in the same soil, until an inevitable deterioration takes place in the product.

Ploughs very bad.

The Plough used is a most wretched implement, the share being almost invariably a piece of pointed wood, of a tough description, hardened in the fire, and not shod with iron or any other metal. Owing to this, and to the clumsy form of the plough which gives the man at the tail but little power over the instrument, the land is not furrowed or turned up beyond a depth of 6 inches, and consequently fresh and unworked soil is never worked up to the surface, but the top soil is alone made use of. The consequence of this, and other causes, is that they can take but one crop off their lands, of Wheat and Barley, and are then compelled to let them lie fallow always for two and generally for three years before they are again brought under the plough. Attempts were I believe made some time back to introduce cast iron ploughs amongst the Burghers, but of course without success, first because of the obstruction which their prejudices opposed to the introduction of the novelty, and secondly because there were no Europeans to shew them how to use them, or how to team their little diminutive cattle so as to enable them to drag them. It would be useless therefore to attempt to make them use a better description of plough until the means for instructing them in its use could be commanded, and here again we see the advantages which a model Government Farm would present in the facility with which all such innovations upon their old vicious system could be practically illustrated and made available for those for whose improvement it was introduced. At present instead of making one plough perform the work of furrowing the ground to the required depth, 6 or 7 ploughs are employed, each following pre-

After one crop of corn fields lie fallow for 2 and 3 years.

cisely in the track of its predecessor, the spike of the one deepening the small trenches scraped by the other until when the last has passed it has been made what they consider deep enough, when they turn and form a new one. The ground is then worked, chiefly by boys and women, with a small hand hoe (for they have no harrows or any other farming implement besides the Plough) and the grass and weeds collected with the hand into small heaps and afterwards burned. Manure is then thrown over the fields and slightly worked in, and it is then considered fit for the seed. The wretched quality of the manure which they use, next requires notice.

The Hill Agriculturists waste and destroy all their manure.

They have no knowledge whatever of the way to produce or manufacture, if the term may be used, manure, by heaping the dung of their cattle and covering it in with alternate layers of soil, and vegetable substances, but merely take the dung which has been lying exposed to the sun and weather for months, the whole of the nutritious gases having escaped and its fermentation being long since over, and apply it in its dry and hard, and all but useless state, to the land. The consequence of course is that the soil derives but little or no benefit from the manuring, no heat is communicated to it to encourage the seeds to germinate, or to stimulate and invigorate the growth of the young plant, and the grain produced is small, light, and poor. There is no doubt as I have already remarked that Lime is the manure most needed to improve the general soil of the Neilgherries, but the expense of this material of course deters the native cultivators whose ideas cannot be carried beyond the prospects and returns of the current year, from using it. But this expence, under a proper system of farming, would be found light, as in all probability about 40 bullock loads, or 2 tons of lime per acre applied once in 5 years would be found sufficient to produce a very great and remunerative improvement in the crops raised.

Expence 25 Rs. per Acre, once in 5 years.

This quantity would cost, for lands situated within 2 or 3 miles of any of the Passes or Ghauts about 25 Rs., and as the lime burners are always glad to receive Hill produce in barter for their commodity for the sake of keeping their cattle employed, the cultivators would not be called upon to find capital to invest in this part of their farming operations.

A most essential point on which the Hill cultivators stand in great

need of instruction is—the preparation of manure, for which the climate with its sharp sun heat in the day, and its cold dewy nights so favorable to the promotion of decomposition, and the abundance of vegetable matter rich in alkali, such as the fern, which is to be found all over the Hills, affords great facilities. Every Burgher and Kother village has a large herd of cattle attached to it, which are penned during the night in a large circular pen surrounded with stone walls, and allowed to graze over the country during the day. They are never littered at night, and their ordure is allowed to accumulate and lie exposed to the sun in the pen, until it becomes an inconvenience to the cattle, when it is removed and thrown outside, and left as before uncovered and exposed to waste away. Now if a few trusses of fern were to be strewed occasionally over the Pen, and all the collections down to the scrapings of the soil removed frequently and laid in layers with soil, weeds, fern or other green vegetable matter alternately, the nutritive gases of the dung would be retained, the decomposition of the mass would proceed by slow fermentation, and by continually adding to the heap or forming new ones, every village would have ready for use at the time of sowing, which is as soon as the frosts have ceased, a large stock of the very best and richest manure, instead of the small quantity of almost useless stuff which they now employ. I believe it has been ascertained in England that this system of covering in the layers of manure with soil, adds 50 per cent to its value, both because the gaseous matter is retained thereby, and because by its action the earth laid on becomes impregnated with ammoniacal and other salts and forms an adjunct to the dung when worked up with it. It is not therefore too much to say that by the introduction of a better system of preparing manure, or rather by the introduction of a system where none now prevails, the produce of the lands cultivated by the Hill tribes would be increased by 50 to 100 per cent, and it would moreover enable them to bring more land under the Plough and avert the necessity which they find, or consider to exist, for allowing their corn lands to lie fallow 2 or 3 years for 1 year of crop. Indolence combined with apathy, is however the prime cause of their deficient system of agriculture, for I firmly believe that were fine manure heaps prepared in this way for their use, they would, avaricious as they are, prefer letting a field, capable, if sufficient manure were applied, of producing a crop of wheat, remain fallow

through the year, to carrying the manure to it if it lay at the distance of a mile or so off.

No carts employed on farms.

They never use carts to carry manure to their fields or to bring produce home, every thing being carried on their heads, although in many parts of the Hills, the features of the ground would admit of the light bandy of the country being employed very advantageously. Such an innovation would however never be dreamed of. Thus it is that this fine district, capable of being turned to such great account, is, perverted in its use, and undeveloped in its resources: grains which can be produced in almost any soil and in the sultry climate of the plains raised on its lands because they require no manure, or but little, to nourish them, and because their culture, and future management involve no great labour or trouble to the holders of the soil.

Native emigrants from the plains more industrious than the Burghers.

A striking contrast in respect of agricultural industry and a desire to improve is presented by the system pursued by the emigrant natives from the plains who have settled in various parts of the Hills, principally in the vicinity of the European stations, and employ themselves in cultivating small patches of land for Potatoes, Turnips and other European vegetables. These men having had the value of the soil pointed out to them, are now commencing in various parts to drain and reclaim the bog lands, and raise upon them crops of the very finest potatoes, with a very small outlay. Their enterprize is however circumscribed by the absence of an extensive demand, and by the want of dealers who might buy up the surplus stock in the settlements and send the commodity either to Ceylon where a highly remunerative market would be found, or to the several large stations in the plains where the demand is always active.

Wheat, Barley, &c. sown in April and reaped in July and August.

Wheat, Barley, and most of the other kinds of grain produced on these Hills are sown generally in April, when the frosty weather has entirely passed away, and the crops are cut if the season has been favorable in July. Poppy seed however is sown in October, and the ^{drug} ~~seed~~ collected in January, as it is found that the Opium exudes more freely and of greater consistency and richness in frosty than in warm weather. For Potatoes no particular time is observed, the sets being put in the ground in any month except the most frosty ones of December and January, and as

Three crops of Potatoes raised annually from the same land.

soon as one crop is taken up, which is in 3 months from the time of setting, the land is manured, dug and hoed, and fresh sets put in without any delay, so as to ensure three full crops during the twelve months.

Prices of Principal
Products.

The prices of all the grains produced on these Hills have been already given in the Table at page 27 ; it is therefore only necessary here to particularize those productions which have not found a place in that return.

Coffee.—The average price of Coffee in the bazaar is 5 Rupees per maund of 25 lbs : but it fluctuates much, being at the present moment not more than 4 Rupees a maund, owing to the anxiety of growers to get rid of their crops picked in November and December on the spot to avoid the expence and risk of sending them to Madras or to the Western Coast for shipment.

Silk.—For this Article there is no sale on the Neilgherries.

Hides.—These are to be obtained, but in limited quantities—Buffalo hides are sold at 2 Rs. each and Ox hides at 9 Annas.

Building Materials.—(At Ootacamund) Bricks per 1000 Rups. 2 ; Tiles per ditto Rups. 1 12 ; Teakwood and Chunam are brought the one from Seegoor and the other from the province of Coimbatore.

Salt Provisions.—Hams are sold at 5 Annas per lb ; Bacon at 4 Annas per lb.

Butter.—Fresh, 1 Rupee per pound.

Jungle Wood.—The best description is the “bastard Cedar” which is now extensively used for flooring planks and doors, shelves, &c. in house building. The price is about 7 Annas per 12 square feet of one inch thick. Rafters, lintels, beams, &c. in proportion.

Bees Wax.—Unbleached, is sold by the Eurlars and Coorumbars at $\frac{1}{2}$ Rupee per seer.

Castor Oil.—Of very excellent quality is expressed here, and is sold at 3 Annas per quart bottle, or about 1 Rupee per imperial gallon.

The prices of these Articles of course differ at each of the 3 settlements, but the difference is slight and not worth recording in this statement.

Tenure and occupation.

Land is held on the Neilgherries by European settlers under a putteum or grant from Government leasing it to them in perpetuity so long as the regulated assessment is paid. In the Cantonment of Ootacamund grants are made of the land without any fee being exacted, but beyond its limits, as every spot, whether utterly barren and incapable of production, or only untilled waste, is laid claim to by either the Todars, the Burghers or the Kothers, the land has to be purchased from one or other of these tribes, who exact such price as they think fit. After such purchase has been effected it is necessary to apply to the Collector of the District for a putteum or acknowledgment of right to occupy and cultivate, though this may be considered a matter of mere form. The tenure of land by the various Hill tribes will be more fully entered on in describing each separate race of people; it will therefore only be necessary to record here for the sake of reference, the general circumstances which rule it.

Tenure of the Todars.

The Todars hold their land, which they consider to extend over the whole plateau, by right of immemorial occupation, alleging that their ancestors came to the Neilgherries before there were any kings or sovereign rulers in Southern India—and never paid tax or tribute to any one.

Tenure of the Burghers.

The Burghers hold their land, which if their vague claims are to be allowed may be stated as comprising two thirds of the whole Hill plateau, nominally by permission of the Todars, to whom they pay in acknowledgment of the proprietary right of the latter a "Goodoo," or tribute (being synonymous with the word "Yomeah" in Hindustani) which ought according to the claims of the Todars to amount to $\frac{1}{4}$ th of every description of grain produced by the cultivators. This "Goodoo" is however evaded to a great extent, the Burghers giving to the Todars just what quantity of grain they think fit to part with, and of those descriptions which they can the most readily spare; while some refuse to give any thing at all until compelled by the Todars. This system, in its enforcement without the direct sanction of Government, naturally leads to much wrangling and confusion, and may hereafter be productive of mischievous consequences as the sentiments of the Burghers change and they view, as they already I think begin to do, this "Goodoo" in the light

of an illegal and unauthorized impost. They admit that before the days of the East India Company they used to pay $\frac{1}{4}$ th of their produce to the Todars, but that was when their number was small; and when more of their tribe came from the North country to join them, and when they began to imbibe notions of independence from the Europeans, they reduced their tribute, until it has arrived at its present footing, that of a "Yoemeah" or voluntary contribution.

In speaking of the collection of the "Goodoo" by the Todars, the Burghers speak of the collectors as "Peechakarur" (which means "beggars"), a term sufficiently explanatory of their view of the question of right on the part of the Todars to demand the tribute.

The Kothers hold their lands under the same
 Tenure of the Kothers and Eurclars. terms.

The Eurelars hold the patches of land which they cultivate and which are all situated to the Eastward, near Rungaswamy Peak and the Kotergherry Pass, independent of the Todars, who profess not to assert any proprietary right over the lands which extend below the actual summit or plateau of the Hills. The Eurelars have a loose kind of tenure of their land, holding it at pleasure so long as they pay the assessment. But they cultivate so little that it is scarcely worth noticing.

Mode and rate of Assessment. The Assessment on lands on the Neilgherries is divided into two classes, one applicable to those held by the native agriculturists, and the other to those occupied by European settlers.

It is levied on the former according to the measurement of fields actually bearing crop, estimated in "Vullums" (pronounced sometimes "Bullahs"), each Vullum being equivalent to 2 cawnies; 21 grounds; and 864 square feet; or in English measurement 1 Vullum = $3\frac{1}{8}$ acres: the rate of Assessment being fixed according to the nature and abundance of the crop which the land is bearing at the time of measurement. When harvest time approaches the Ghomastahs and Curnums proceed to the different villages, and form an estimate of the probable out-turn of the crop on each field from its appearance, rating it as 1st class if it promises to be abundant, and as 2d class if otherwise.

The highest rate levied is on lands cultivated for Potatoes which pay
 7 Rupees per Vullum for 1st Class ground.
 and 5 ,, ,, do. ,, 2d do. do.

The next rate in the scale of Assessment is applied to lands bearing
 Wheat, which pay for 1st Class ground Rs. 3 8 5
 and ,, 2d ,, do. ,, 2 5 7
 Barley, which pay for 1st ,, do. ,, 3 8 5
 and ,, 2d ,, do. ,, 2 5 7
 per Vullum, and the same for Poppy, Vendium, Mustard seed, Garlic
 and Onions.

The lowest rate applies to Raggee, Samec, Koralley, Peas,
 Shanungee and Tenney, all of which pay Rs. 2 0 11 per Vullum,
 for 1st Class land, and for 2d Class ,, 0 14 1 do.

For further particulars regarding these rates of Assessment and
 their equivalents per cawny and per acre, I may refer to the Table
 at page 27 of this Memoir.

Lands held by Europeans, whether by grant of Government
 within the limits of the Cantonment, or purchased from the Hill peo-
 ple in more distant localities, pay Assessment as follows :

For ground occupied as sites of buildings . . . Rs. 5 4 0 per Cawny

For ground appropriated for gardens and gene-

ral agricultural purposes , 1 2 4 do.

Labour employed and its remuneration. The description of people available on the
 Neilgherries as labourers differs according to the
 situation of the land on which they are required to work.

Thus in, and about the settlement of Ootacamund, the Coolies
 employed are all emigrants from the plains of Canara, Malabar and
 Coimbatore, or from the Mysore territory ; the Canarese and My-
 soreans being the most numerous.

Their remuneration is commonly 2½ annas per day, or 3½d.

In the vicinity of Burgher villages and especially about Coonoor
 and Kotergherry Burgher labour is available in abundance at the rate
 of 2 annas per diem, and they are extensively employed by settlers to
 cultivate their gardens and to work on plantations. Carpenters and
 Bricklayers are mostly people from Paulghat in Malabar, or from

Coimbatore; their rates of pay vary according to their expertness from 8 annas a day to 6. Stone cutters work by the piece receiving on an average for smoothed granite slabs, steps, coping stones &c. 8 annas per running foot, of about 1 foot by 6 or 8 inches, breadth and depth, Sawyers in like manner work by the piece, at the rate of about Rs. 2½ per 100 feet of surface cut. It is difficult to obtain the services of this class of artizans on the Hills, as they all resort to the Teak forests at Musneum Coil and Tippacadoo, near Seegoor, where they always find abundant employment.

Brickmakers and tile makers work of course by contract, at the rates already specified under the Head "Prices of principal products."

There are several tolerable blacksmiths, silversmiths and abundance of tailors settled in Ootacamund and the minor Stations; while on the Eastern side of the Hills the Kothers are generally employed as artizans for rough Smith's and Carpenter's work.

These Hills possess a great advantage in regard to labour, which is, and always must be abundant; because as soon as the seed is put into the ground in the adjacent low country, the poorer class, or labouring men, are thrown out of employment until harvest time is past, unless some extensive public work happens to be in progress, and therefore come to the Neilgherries for work in preference to wandering away to Ceylon and other parts to search for it, whenever a demand exists here for their services.

The common rate of pay to all such labourers employed on Plantations is 4 Rupees a month, and for this sum they labour contentedly for 9 hours a day, performing work which though it cannot be compared with Negro labour must nevertheless be pronounced cheaply remunerated at the rate quoted above.

W A T E R.

Rivers.

There are no navigable rivers in the Hill district, although one of the many which take their rise amongst these mountains called the "Moyaar" swells into a stream of considerable width and depth at Pykara where it is crossed by means of a double ferry boat and a ford. This river rises at the foot of the remarkable mountain

The Moyaar.

called "Makoorty Peak," receives the drainage waters of the Pichul and Pykara vallies, and descending the Hills at the N. W. angle by a fall near Neddiwuttum turns due East after reaching the plains, and flowing round the base of the Neilgherries on the Northern and Eastern faces unites itself near Danaikencotta in Coimbatore with the Bowany.

The Bowany.

This latter river takes its rise amongst the Southern Spurs of the Koondahs, receiving near the foot of the Madoor or Shoondaputty Ghaut a large tributary which rises near the "Avalanche" on the N. E. face of the Koondahs, and swelling into a large stream near Matepolliem, where it is crossed by a large masonry bridge continues its course Eastward, after its junction with the Moyaar, until it flows into the great Cauvery ^{near} ~~near~~ the town of Bowany.

The Calicut River.

Another important river which also owes its origin to the Neilgherries is that which flows into the sea at Beypoor near Calicut. The head of this stream is formed by the drainage of the elevated tabular mass of hills which have been before described as occurring to the N. W. at Neddiwuttum, and though it descends the face of the Hills at no great distance from the Fall of the Moyaar the intervention of a sharp spur diverts its course into an exactly opposite direction, forcing it over the ridge called the Carcoor or Yellamullay Hills to find its way to its embouchure on the Western Coast, while the waters of the Moyaar discharge themselves into the Sea on the Eastern.

Swamps useful in retaining water. The Neilgherry mountains afford a great, and practically speaking inexhaustible supply of water by means of the innumerable swamps and morasses which occupy the hollows of most of the vallies, particularly to the Westward and Northward.

The rain which falls during the wet season instead of running off to waste at once, as it does from the surface of the hard ground, is imbibed and retained by these morasses to such an extent that throughout the year, including the whole of the dry monsoon a constant and abundant supply of water is yielded from these natural reservoirs which

seem provided to obviate what but for their occurrence might after unusually dry seasons be the evil of drought in the district.

Owing to this cause there is scarcely a stream or rivulet on the Neilgherries which ever completely dries up at any period of the year even in the most unfavorable weather, and hence a supply of water is constantly descended to swell and feed the streams by which the surrounding low country is irrigated.

L A K E S.

The only sheet of water which merits the appellation of a Lake is one situated at Ootacamund within the Cantonment, formed by throwing an embankment across the narrow outlet of a valley through which a considerable stream, fed by numerous swamps in the neighbourhood, used to flow, and thus arresting its waters, and accumulating them so as to form a Lake or Tank. The object with which this sheet of water was produced was purely ornamental, a drive having been made round it for recreation and exercise, resorted to by the residents of Ootacamund. The surplus water is drawn off by means of a sluice at the bottom of the embankment, and continues its course to the North as before.

C A N A L S.

No Canals occur in this district.

Means of Irrigation. Gardens and cultivated grounds requiring a regular supply of water (as Poppy fields) are irrigated where circumstances allow of it, by means of channels led off from the valley streams; but the dry grain cultivation in the different parts of the Hills is sufficiently assisted by the rains and by the moisture which the soil from its composition and depth has a great tendency to retain.

As the value of land increases on these Hills, and their capabilities become more thoroughly appreciated, as begins to be already apparent from the increase of permanent settlers on them—both European and

Native—it will I think be found highly necessary to establish some stringent regulations for the controul and appropriation of the water of the Hill streams. In the valuable despatch of the Honorable Court of Directors to the Supreme Government upon the subject of the Dheyra Doon and Gorruckpore Survey, dated 23d February 1842, by the resolutions laid down in which it would appear by their despatch to the Government of Fort St. George, para. 12, No. 13 of 1843, Revenue Department, the Honorable Court desire that all matters relating to the Neilgherry district should be adjudicated, it is specified (in para. 63) “that the controul of all streams and canals be in the hands of Government.”

Much litigation constantly going on about rights of water.

This principle of controul does not certainly obtain in this district at the present time—parties cutting channels and leading off water from a convenient stream at pleasure without any permission asked or obtained from the Civil authorities, and frequently without the consent or knowledge of the proprietors of lands through which their channels are brought. No system is observed in the management of these channels, so that where a slight deviation in their course might render the water available for neighbouring lands, we find such a principle of accommodation neglected and frequently an immense and reckless waste of the element permitted, amounting to a hundred times more than is made in any way available by the self constituted proprietor. Other parties again whose land lies between a head of water and the ground of another proprietor, refuse permission to the latter to lead it through their premises, to his own, thereby inflicting injury on the individual, and causing detriment to “the property of Government,” for as such, under para. 61 of the Dheyra Dhoon Despatch, the Honorable Court have decided that “all grants are to be considered,” being merely held as “leasehold land under Government.” On this subject I would beg leave to suggest that as “Government are to retain controul of all streams” on these Hills and as the lands cultivated as gardens pay a high rate of assessment, the same system as to the distribution of water for the use of each proprietor, should be followed in this district as prevails in the low country, where not a cubic foot is allowed to be wasted or misappropriated. This interference on the part of the Government authorities does not seem called for in any other parts of the Hills than the stations where

Europeans, East Indians, and Natives have settled, viz., Ootacamund, Coonoor, and Kotergherry, as the Burghers and other aboriginal cultivators make no use of water for the purpose of irrigation save for Poppy, Onion and Garlic fields, which are not so numerous as to have given rise to any disagreement between adjacent villages upon the subject : whereas at the settlements it affords a fertile and constantly recurring cause for litigation and misunderstanding.

C I T I E S.

Towns and Villages. The only town on the Hills, properly so called is "Ootacamund," and even this term can only be applied legitimately to the native portion of the settlement, since the residences of Europeans are too widely dispersed along the slopes of the valley in which the station is situated, to admit, at present, of its further extension. So rapidly however is the number of houses increasing and keeping pace with the increased resort of Europeans to these Hills from almost all parts of India, while at the same time a consequently augmented demand for supplies for the European community is daily drawing more Native Merchants and Traders to the place as permanent settlers, and thus swelling the size of the Bazaars beyond all bounds, that before long the term "town" will not be inappropriately applied to the whole settlement, while that of "Cantonment" will be transferred to the valley of Jukatalla where the European Barracks are about to be built. The houses of the European inhabitants of the settlement are for the most part substantially built ; the walls are usually of burnt brick set in clay, and pointed or plastered with lime, roofs of tiles, or pukka terraced, and rarely of thatch, while all the timber work of the roof, doors, floors, &c., &c., is of teak which is brought at a great cost up the Seegoor pass from the forests on the borders of Mysore. There are however many excellent and durable descriptions of house building timber to be procured on the Hills at one quarter the cost of Teak, but a prejudice exists against their use, because roofs constructed with Hill grown timber have in some instances been found to decay with great rapidity, and hence its employment has been condemned by builders who have overlooked the real cause of its decomposition which is its being put together and covered in before it

Much good timber for building to be obtained on the Hills.

has been sufficiently seasoned. As an instance of its efficiency if attention is paid to this important point, and the wood properly selected, I may mention that the present Survey Office has a roof, made entirely of jungle wood cut on these Hills, which has been standing more than 20 years, and which on a recent examination was found to be perfectly sound. All other building materials (except Lime) are procured on the spot, abundance of tolerably good brick clay being found in every part of the Hills.

Bricks and tiles very bad.

The bricks and tiles made are however very inferior, but this is owing to the wretched way in which the clay is worked and moulded. A labourer mixes a little water with it with a mamotie, treads it for a few minutes with his feet and then pronounces it tempered, and carries it to the moulder without further preparation. Bricks can be contracted for in Ootacamund, delivered at the Kiln at Rs. 2 per thousand; and tiles Rs. 1 12 per thousand. Lime as I have elsewhere observed does not occur, or at least has not

Lime dear.

yet been found, on these Hills, and hence having to be brought on bullocks from the plains, it forms the most expensive item in building estimates. Its use is economized as much as possible in House Architecture by using mud as a cement to set the bricks in, in constructing walls, reserving Lime only for use in turning arches, ridging the tiles in the roof, flooring, and either pointing or plastering the walls outside, with which protection, brick and mud walls are found to answer very well, especially if the roof over them is kept tight,

Clay used as cement for walls.

and their surfaces screened from the beat of the rain against them by a verandah. In the Bazaars of Ootacamund, which are called "the Bazaar" and "Caundle Bazaar," the houses are of all descriptions both Puckka and Cutcha. The streets are wide and well kept by the Police authorities, by whom a tax varying from 1 anna to 1½ on each house per mensem is levied to support the scavenger establishment, the residue being paid into the public Treasury—and if good regulations are enforced as regards the laying out of future quarters of residence, already fast extending, the town which the bazaars will constitute will become a very cleanly and compact one—and hence doubtless healthy also. It has the advantage of being bordered by the Lake or Tank, which adds of course materially to its means of preserving cleanliness.

THE NEILGHERRY MOUNTAINS.

The following is a return of the European and Native population of the 3 Settlements taken in February 1848, and although many present inhabitants with their servants and followers will have left the Hills before the year ends, the total numbers may yet be taken as a pretty correct average of those usually residing, as of course the place of those removing is soon occupied by fresh comers from the plains.

	EUROPEANS.				EAST INDIANS.				HINDOOS.				MUSSULMAUNS.				PARIASH.				Number of Native Houses.	
	Adults.		Children.		Adults.		Children.		Adults.		Children.		Adults.		Children.		Adults.		Children.			Number of Euro- pean Houses.
	Fe- male	Male	Fe- male	Male	Fe- male	Male	Fe- male	Male	Fe- male	Male	Fe- male	Male	Fe- male	Male	Fe- male	Male	Fe- male	Male				
Ootacamund	93	97	57	66	38	34	22	23	935	828	431	501	341	238	130	143	1642	1506	732	752	146	1743
Kothengherry	9	5	4	4	8	6	11	12	49	49	17	20	7	5	3	1	56	55	22	24	15	98
Coonoor	5	2	0	0	1	1	0	0	80	65	32	29	9	9	8	7	50	60	20	19	15	131
Aravungad*	0	0	0	0	0	0	0	0	3	3	2	1	0	0	0	0	6	7	4	4	0	12
Total Popu- lation.	342 Souls.				154 Souls.				3045 Souls.				901 Souls.				4941 Souls.				176	1984

* A small Native settlement in "Sappers' valley" between Kaitee and Coonoor.

The settlement of "Ootacamund" is situated in an extensive open valley, almost in the exact centre of the Hills, open to the Westward, but bounded on the North, East and South by the great Dodabetta range, or spurs projecting from it Westward.

The settlement of "Coonor" is situated on the crest of the Hills in the S. E. angle of their summit, the residences of the Europeans, including an Hotel, being placed on the rounded tops of a range of hills which runs from a high mountain called "Coonor-betta" towards the top of the pass, while the bazaar or native residences are in the hollow below, and adjacent to a masonry bridge which spans a wide stream flowing from the Jakatalla valley and descending the Hills at this point in a large volume of water.

The settlement of "Kotergherry" which with that of "Dimhuttu" which is contiguous to it, is the oldest on the Hills, is situated in the N. E. angle of the plateau immediately overlooking the low country and at the head of the Kotergherry Ghaut. The bazaar which is increasing considerably in size, is built on the same range, with the residences of the Europeans.

"Dimhuttu" cannot now be called a settlement, since there is but one habitable residence existing there, all the Bungalows built long since by Government for the accommodation of Invalids, having gone to ruin and become unfit to occupy or repair. The temperature is warmer at this place than at any of the other three settlements, and hence it is very rarely resorted to by Europeans. Under this head may be enumerated the Public Bungalows and Chettrums, or Caravan-serais, for the accommodation of travellers, Native and European, and which are under the controul of the Officer Commanding the Neilgherries, and kept in repair by him at the public expence.

Accommodation for travellers.

List of places of accommodation for Travellers.

	For Europeans.	For Natives.
At Ootacamund.....	None.	1
„ Coonor.....	1	1
„ Kotergherry.....	None.	None.
„ Neddiwuttum.....	1	None.
„ Pykara.....	1	None.
„ Kulhuttu (Seegoor Pass) ..	1	None.
„ Nunjanaad (Koondah Road)..	None.	1
„ Avalanche (ditto)..	1	1
„ Burliar (Coonor Pass)	None.	1
„ Kaitee (Coonor Road)	None.	1
* Total on the Neilgherries.	5	6

* (Exclusive of the Koondahs.)

Villages.
Situation and general
description

Toda Munds.

The total number of Toda villages, called "Munds," on the Hills is 85, the whole of which, with the exception of 11, are situated in the division called the "Toda-naad" and almost all to the extreme west of that part, approaching the Pykara or Moyaar river. They seldom comprize more than 3 residences or huts, with one building consecrated to their Deity and which is also the Dairy or place in which their milk, curds, ghee, &c., are kept, and one large circular pen for their cattle, surrounded by a substantial stone wall, and closed by sliding bars at one opening for entrance and exit. The sites chosen for these munds are in general most picturesque—always adjacent to a wood, and usually on an open space of grass almost completely embosomed in it, and extending in gentle slopes covered with the richest turf which the grazing of their cattle (and the consequent manuring) maintains in the finest order. Their huts are low, arched buildings, resembling a hay cock, but admirably contrived to keep out rain and cold, the roof and side walls forming one continuous curve of split bamboos, rattan and thatch, having an end wall strongly built and a front wall with one small opening or door in it, so small indeed that the inhabitants have to crawl on their hands and knees to enter by it. Besides the Dairy there is generally one small hut attached to the mund, in which the calves they breed are kept separate from their dams.

In addition to their villages or munds, the Todars have 5 sacred places in which only 2 men reside called "Polaul" and "Capilaul" devoted to a priestly life and living apart from the rest of their tribe. A temple and a cattle pen is attached to each of these sacred munds, which are usually situated in the bosom of a thick wood so as to be screened from the vulgar gaze.

Burgher Villages.

The villages of the Burghers are in general very neat and clean, the houses which are few in number, averaging 10 or 12, being built in a row on the summit of a low smooth hill, and having a wide level terrace running along the front for the purpose of spreading out their grain to dry after damp weather, and also to pick and husk it on. They have usually two substantial Cattle pens, or more according to the size of the village, with high rough dry stone walls and barricaded entrances, to secure their cows and

bullocks against cheetahs and tigers, which though not common on these Hills, occasionally find their way up from the forests below—and traverse the district, doing much mischief as they pass. The houses are built with mud, or mud and stone, and covered with a good roof of thatch, grass for which is abundant in all parts of the Hills. There are altogether 227 Burgher villages on the Neilgherries, viz.

67 in Todanaad.

86 in Meykenaad.

and 74 in Parungenaad.

Kother Villages.

The villages of the Kothers from the fact of their low caste obliging them to consort together in large communities, present the most thriving appearance, and boast the largest number of houses in general, of any of the Hill hamlets. But owing to their dirty habits, and the want of order in the arrangement of their dwellings, their villages have by no means the neat appearance presented by those of the Burghers. Mud and thatch are the principal materials with which their huts are built, but they form with them very substantial and weather proof buildings. There are 6 Kother villages on the plateau of the Neilgherries, and 1 near the foot of the Neddittum Pass, situated on a low spur projecting from the foot of "Goodlur Mulla," but as the Survey does not include the site, it has been omitted in the return.

Eurelar Villages.

The villages of the Eurelars are more numerous, there being 22, all situated in the Eastern part of the Hills. With a few exceptions they are very small, comprising only 5 or 6 houses and a couple of cattle pens. Their sites are selected in low spots near the patches of plantain and other fruits which these people cultivate. The houses are of much the same description as those of the other tribes already described, and are generally very dirty. There are more Eurelars to the South, but they are situated far below the plateau to which the Survey has been restricted, and no account has in consequence been taken of them. The same is to be said of the Coorumbur Villages, if indeed that term can be applied to the collections of scattered sheds in which this wandering race are occasionally come upon in the Jungles below the crests of the Hills. From their mode of life it is found impossible to obtain any return of their number.

P O P U L A T I O N .

Numbers of people of
different descriptions.

Appended to this Memoir will be found Tables furnishing all particulars of the several Tribes, constituting the body of aboriginal settlers, on these Hills and of the European and other inhabitants of the 3 settlements. The following is the Summary.

				Souls.	Souls.
Europeans including Children.....				”	342
East Indians do. do.				”	154
Hindoos do. do.				3045	
Mussulmauns do. do.				901	
Pariahs do. do.				4941	
					8,887
Hill Tribes.	Todars do. do.			337	
	Burghers do. do.			6569	
	Kothers do. do.			307	
	Eurelars do. do.			461	7,674
TOTAL POPULATION OF THE NEILGHERRIES.....					17,057

Deducting from the total area of the plateau, that portion lying to the Westward of the Pykara, or Moyaar river, which I have elsewhere described as almost entirely uninhabited, there remains a space of 420 square miles over which this population is distributed, giving a proportion of 40 souls to one square mile.

For the reasons already stated under the preceding head, no place or number can be assigned to the tribe of Coorumburs in this statement. Their number must however be very insignificant, probably not above 2 or 300 souls. With the exception of the Todars who pass their days in utter idleness, all the aboriginal tribes, or mountaineers of the Neilgherries devote themselves to agricultural pursuits. With these duties the Kothers alone combine those of the Artizan in a humble way, as will be treated of in describing the people of that tribe.

The Todars, or Todars.
wars.

Total number 337
souls.

This remarkable race differ in almost every essential respect from all other tribes of the natives of Hindustan, and their singular characteristics and strange habits have given rise to much speculation

as to their origin and history. As no clue has however yet been discovered either in the form of monuments, coins, or even in their own traditions, by which research could be directed, all theories broached upon the subject cannot be otherwise than vain and illusory, especially those which have been based upon the assumption that the images, bones and other relics which are found in the remarkable "Cairns" discovered in such numbers all over the Hills, belonged to the Ancestors of the Todars.

That these are not relics of the founders of their race is proved by the present people denying all knowledge of the history of the Cairns, even by tradition, and by their looking on at their desecration with as much curiosity and indifference to the sacrilege, as is displayed by the antiquarian explorer whom they have perhaps guided to the spot. In form and countenance the appearance of the Todars is remarkably striking. Tall, well proportioned and athletic, their bold independent carriage, and finely moulded and sinewy limbs attest that they can be sprung from no effeminate Eastern race, while their aquiline nose, receding forehead, and rounded profile, combined with their black bushy beards and eyebrows give them so decidedly Jewish an aspect, that no beholder can fail to be impressed with the idea that they must in some way however remote, be connected with one of the lost and wandering tribes of the ancient Israelites.

Their dress is as peculiar as their habits and appearance, consisting of one single cloth, a sort of toga, which they wear after a fashion well calculated to set off to advantage their fine muscular form, being disposed about their person like the plaid of a Scottish Highlander. They have no covering for the head of any kind, but never allowing knife or scissors to approach their hair they suffer it to grow into a mass so thick and bushy as to form a most effectual protection from the inclemency of the weather. The women are rather fair in complexion, the hue being a dull copper colour in both sexes, and are generally handsome in feature as well as in person which is tall and well shaped like that of the men, their attire being equally simple and peculiar. The little occupation which the Todars permit themselves to engage in, is solely of a pastoral kind. Considerable herds of buffaloes are attached to each mund, and to milk these, convert their milk into ghee, drive them out to pasture

Personal appearance
very striking.

Dress peculiar:
the toga worn.

in the morning and home at night, and to keep their huts and the walls of their cattle pens in repair constitute the sum of their employment, from year to year of their useless existence. Their food consists of curds, milk and ghee mixed with whatever grains they can obtain from the Agricultural tribes in the shape of "Goodoo" or tribute for the lands which the latter cultivate, and over which the Todars assert an imaginary proprietary right. I observe that the

Revenue Department.
No. 13 of 1843, para 11.

Honorable Court in their Dispatch express a hope "that in course of time they may be induced so far to change their habits as to bring the lands in the vicinity of their munds into cultivation." I fear as long as this practice of receiving their grain from the Burghers and Kothers remains in force there is but little chance of this desire being realized, and the only inducement in my opinion by which they would ever be brought to condescend to yoke their powerful buffaloes to a plough and take the handles in their hands, would be that promoted by the stoppage of their supplies by the removal of the "Goodoo" imposition, and their consequent reduction to the primitive state of life which by their own account their forefathers led before the Burghers came to settle on the Hills.

Traditionary History.

Their own idea of their History is that "their Ancestors came from no where;" that they were created on these mountains, and that for ages no other living soul approached them: that their dress was of leaves and their food the produce of their cattle and the roots and fruits of the forest. That at length some Kothers found their way to the neighbourhood of their munds and craved permission to cultivate land and build their huts, which was given on condition of their making offerings to them (the Todars) of a portion of their produce. That soon after this, some Burghers or "Buddaghars" came up the Hills and observing the success which had rewarded the adventure of the Kothers, asked permission to settle also and obtained it on condition of the payment of the "Goodoo" or tribute of $\frac{1}{4}$ th of their entire harvest. More Burghers soon followed the first comers, the amount of the "Goodoo" became extensive, the habits of the Todars changed, the cotton embroidered toga took the place of the mantle of leaves, and messes of grains of many descriptions pampered the appetites of beings who were before as primitive in all things as

Institution of the
"Goodoo."

their native hills. With increase of numbers however the deference of the Burghers for them diminished, and with it the amount of the "Goodoo," which received a great acceleration in its decline by the coming of Europeans to the district, when the Burghers observing their indifference to the alleged claims of sovereignty of their hitherto feudal landlords, gradually assumed the position of donors of the "Goodoo" of free will and as a charity, and hence reduced its amount as the circumstances of an abundant or poor harvest, or their own wants and inclinations directed. Upon this footing, as far as I have been able to arrive at a right understanding of the question, the "Goodoo" appears at present to rest. The Burghers profess not to desire to be relieved from it as a tax, because to give it as a donation to the Todars has become with them a time honored custom which their prejudices forbid them to break through—but it seems to me evident that they are not disposed to admit the absolute right of the Todars

Unprofitable and idle
life led by the Todars.

to demand it, and hence their allotment of the quantity of the produce which they are to bestow under the name of "Goodoo," according to their means, their own wants, or fancy. Any thing more utterly useless, or unproductive in the social scale than the life led by the Todars, it is impossible to conceive. Endowed with great physical strength and capacity to endure fatigue and vicissitudes of weather, and hence eminently fitted for a life of agricultural industry or other active employment, this fine race instead of legitimately developing the powers which have been given to them, devote their lives to the unprofitable end of herding a number of buffaloes, the only use of which is to produce the small quantity of milk required for the use of the few families which congregate together in each mund, and to furnish sacrifices to the manes of any one of their male proprietors who dies.

Their herds are a nuisance and a pest to the district, for being exceedingly wild and ferocious, especially to Europeans, they frequently attack persons travelling on the high roads when not attended (as is generally the case) by a herdsman, and serious accidents occasionally result. Whatever may have been the attributes of the Todars when Europeans first became acquainted with them, they appear at the present time to be decidedly as indolent, mercenary, and sensual as any of the worst tribes in the plains; and but for the meretricious interest

which attaches to them through their singular mien, costume and habits of life, and the mystery in which their history is enveloped, they would be deemed a perfect cumbrance to the soil. Their religion is of course Pagan, and engenders the usual superstitions and prejudices. They have no distinct "Samee" houses, or places of idol worship, but devote to this purpose the dairy or hut in which they keep their milk, ghee, &c., and in which they offer, by libation, to their deity, such milk as is not consumed in the daily use of the tribe. Their domestic rites are as strange and barbarous as is all connected with this singular people. The wife of one amongst several brothers is common to the whole circle, and every woman besides her husband has a certain number of gallants who reside with her at pleasure and by turns. To such practices as these it is doubtless to be attributed that this race does not increase in numbers, and is evidently deteriorating in physical endowments.

Religion, Pagan.

The great mass of the Todas inhabit the vallies and woods to the Westward of the plateau, being confined with the exception of 5 inhabited munds in Parunganaad, and 2 in Meykenaad, to the division called Todanaad—and it will be seen by the map that in this portion of the plateau their munds are principally congregated to the Westward, apart from the villages of the Burghers, only a few in the neighbourhood of Ootacamund and to the Northward being interspersed amongst their cultivated lands.

And to this portion of the Hills, viz. to the extreme Westward, it would be highly desirable that the whole tribe should be restricted, as they would have the benefit of abundance of excellent pasture land for their cattle, and being there entirely apart from the other inhabitants of the Hills would be free to carry on their rites and superstitious observances without hindrance from others and without the possibility of causing annoyance to the rest of the population. It has been distinctly stated to me by the Todars, Burghers and the Talook Civil Authorities, that the Burghers whose villages are situated in Todanaad have to support, by payment of the "Goodoo," all the Todars who occupy munds in that division, without aid from the Burghers of the other two naads, who are only bound to maintain the

Desireable if possible to restrict the Todars to the Western confines of the Hills.

Todars who actually reside within their respective limits. Hence an apparently palpable injustice to the Burghers of Todanaad, since as will be seen by the Census Returns, the tribe are pretty equally distributed throughout the 3 naads, whereas out of a total of 337 souls of which the tribe of Todars at present consists, only 42 are located in Parunganaad and 10 in Meykenaad, while all the rest amounting to 285 are located in Todanaad. This seeming difficulty in equalizing the infliction of the "Goodoo" impost is overcome in the following manner. As soon as harvest is over, and the "Goodoo" collected in Todanaad, the Todar men of that division pay visits to the munds in Meykenaad and Parunganaad and take up their abode with the women

of the community (to the temporary exclusion as is their custom, of the legitimate husband.) They then pay visits to the surrounding Burgher villages and demand, in their right as temporary husbands of women of the naad the "Goodoo," which strange to say is paid; and thus the same man perhaps who has laid a whole village in his own naad under contribution, goes the round of the other two naads appropriating the fruits of the Burghers' labour and industry, and carrying off enough grain to support his whole community in idleness and plenty until the arrival of the next year's harvest time—and to produce by sale in the nearest bazaar sufficient money to pay the tax or "Pillooverry" which is levied yearly on their Tribe. I should have refused credence to such a statement had I not received it on the best authority, that of the Tahsildar of the district.

Migrate from mund to mund. The habits of the Todars are migratory, almost every community or particular group of families consorting together, having two or more munds or villages belonging to them, between which they divide their time according to custom, fancy, the state of the weather, or other circumstances such as the death of one of their body, upon which occurrence they immediately migrate to another mund. The grass upon which they pasture their buffaloes is of a coarse rank description, fit only for those hardy and powerful animals; but by burning it down as is their practice, just before the rains set in, when they are about to migrate to another mund, a fine tender young grass, highly nutritious as pasture, has replaced the ashes of the old grass by the time they return to the mund round which they had run their fires.

According to their own statements, the fine breed of buffaloes which seem peculiar to the district is rapidly decreasing, murrain and other diseases having of late years carried them off in far greater numbers than are bred to supply their places. Doubtless the system of perpetual in-breeding aids in their deterioration. There are some Todar munds on the "Koondah" mountains, but as that range is not in this Talook, no information relating to them can be gained until the Survey has been extended in that direction. While speaking of the Todars, buffaloes I should mention that a few only of the small calves brought forth by their cows are preserved for perpetuating their stock, and all the rest killed while young and eaten by the Todars themselves. If these calves were castrated and reared, they would be most admirably suited from their great strength, to drag proper iron ploughs over the steepest and most difficult ground. The Todars pay an annual tax to Government of 9 annas and 5 pice per head on all the female buffaloes herded by them, the bulls being exempt from tax; and in addition to this they pay a small assessment on grazing land, called "Pillooverry" or grass tax, at the rate of one quarter of the sum fixed as the lowest class assessment for cultivated land per vullum, the quantity of land which they are called upon to pay being estimated according to the number of buffaloes herded at each mund, at the rate of about 10 vullums per hundred head of cattle. The amount of Revenue collected from the Todars in 1847 was

Fine breed of buffaloes decreasing.

Tax paid by the Todars to Government.

	on account of tax on Buffaloes.....	Rs. 960
and	do. do. Pillooverry....	„ 400
		<hr/>
	Total Rupees..	Rs. 1360
		<hr/> <hr/>

The Kotherers.

The Kotherers rank next to the Todars, according to common tradition, in seniority as occupants of the Neilgherries.

6 Villages : 307 Souls.

They are of low caste, equivalent to that of the Pariah in the plains, and consequently are always found dwelling by themselves in isolated villages of which there are only (six) 6 on the plateau of the Hills, and generally called after the race "Kother-gerry." Around each village they

have lands considered and admitted by their Burgher or Todar neighbours to be exclusively their own, no disputes about boundaries or the right to certain tracts, occurring amongst them at any time, so far as I can learn. The Kothers are an exceed-

Industrious. ingly industrious and useful race. They give all their time to husbandry when the land calls for their care, but when the seed is in the ground and their time disposeable, they employ it in all sorts of mechanical avocations, repairing the ploughs of their own and the neighbouring vil-

**Iron Smiths,
Carpenters,
and
Basket makers.** lages, as well as bill hooks, mamoties, and all other farming implements, and executing a great variety of Smith's and Carpenter's work.

It is by these people that the Buffalo and other hides of Hill cattle which are so much prized by the workers in leather in the plains, and which should form a very important item in the Export list of the district, are dressed and prepared for the purposes of Commerce, the Kothlers being very expert curriers.

In common with the Burghers they pay "Goodoo" in grain to the Todars of their naad, in acknowledgment of their feudal proprietary right over the land which they till, and which it appears the Todars in spite of their own purity, and the uncleanness and low caste of the Kothers do not hesitate to receive and eat, though no Burgher would touch grain so polluted. The Kothers are not extensive cultivators bringing only land enough under the plough to yield the quantity of grain required for the use of the village with a small surplus which they barter with the low country traders for iron to carry on their forges.

Hence by far the greater part of the land to which they lay claim in the vicinity of their villages remains waste, and is likely to do so as long as the present proprietary system continues in force. In some parts of the Hills this land is of a very fine description, which according to their explanation is to be ascribed to their having come to these Hills the first of all the agricultural tribes, and thus enjoyed the privilege of selecting the best land.

Their religion is of course idolatrous: their marriage customs

and ceremonies are not very dissimilar to those observed amongst the people of the Pariah caste in the plains, and they have no plurality of wives, or of husbands. They are impure and dirty in their habits, eating the flesh of cattle which die by the roadside of disease or in the jungle : hence their neighbours the Burghers, though living ostensibly on amicable terms with them, account it pollution to eat with them, or associate with them in their households.

They breed small cows and bullocks, but no buffaloes, and they have a singular and wasteful practise of never drawing the milk from the cow, and allowing the whole to go to the calf which they kill and eat on feast days.

The total number of Kothers on the Neilgherries up to 31st December 1847 was found to be.....

Males	157	}	Total 307 Souls
Females	150		

including children of both sexes.

The Burghers. The Burghers or "Vuddaghurs," signifying literally "people of the North," are supposed to have emigrated to the Neilgherries from the Northern part of Mysore or Canara, during a season either of famine or political persecution, and finding their soil and climate good, and their pre-occupiers peaceable and disinclined to molest them, they settled on them, and meeting with success in their early agricultural operations they soon induced others of their countrymen to follow them, and thus formed the nucleus of the numerous tribe now recognized as the chief and most important portion of the Hill population.

Their villages, which have been already described under another head, are scattered all over the plateau of the Hills excepting the portions to which I have already adverted as inhabited exclusively by the Todars, viz. the Northern and Western parts of the "Toda-naad" Division, and the North Eastern angle of the "Parungenaad" called "Kodanaad"; and with the exception of these tracts, a small extent of pasture land in the vicinity of 4 Tolar-Munds which occur near Coonoor and Hoolicull, and the lands in the possession of the Kothers, they may be said to arrogate to themselves a right of direct proprietorship over the whole of the lands comprising the Hill plateau.

They admit the fact of their holding it under tribute to the Todars, and render to them the "Goodoo," or free will offering, in acknowledgment of the feudal position of this tribe; but at the same time they consider the land so far alienated from their possession, that they, its present holders are empowered to dispose of it to strangers by sale, gift, exchange or otherwise; which they accordingly do.

They pay the "Goodoo" to the Todars resident in their respective "Naads" or Divisions, who according to their statements pay an annual visit after the harvest is gathered into the various Burgher and Kother villages, and demand the contribution in kind which is rendered according to the circumstances of the inhabitants, the owner of a

rich house giving usually 1 Cundagum = 20 Kollagumis; and those less opulent from $\frac{1}{2}$ to $\frac{1}{4}$ Cundagum according to their means. Sometimes the offerings of the poorer inhabitants are not considered sufficient, and sometimes they refuse to give anything at all, when confusion ensues, the Todars according to statements made to me by some of the Burghers, entering their houses and laying them under contribution by force.

If such occurrences really do take place it seems likely that the interference of the Civil Authorities of the district will before long become necessary either to legalize the exaction of the "Goodoo" or to put a stop to it, since as the law seems at present to stand, a Burgher from whom a Todar might attempt to enforce its payment would have a clear right to the protection of the police who would be bound, on an appeal being made, to treat the Todar as a trespasser.

Such contradictory statements however are made by the Burghers, some asserting that they are quite contented to contribute the "Goodoo" and have no desire to be relieved from it; while others murmur against its imposition in addition to that of the Government Assessment; that it is most difficult to discover what their real sentiments upon the subject are—or indeed upon any other in which their interests are, however remotely, concerned.

I may remark in connection with the question of the "Goodoo" that when the Burghers make transfers of land within the limits of what they term their territory to European settlers and others, no stipulation is ever

"Goodoo" often extorted by the Todars

Government interference seems called for.

Transfers of land by the Burghers.

made for a contribution to the Todars of a portion of whatever produce may be raised by the purchaser ; nor do the Todars themselves ever come forward to urge such a claim, or to remonstrate against such alienations of their rights and property.

Many of the Burghers are said to be (for Natives) very wealthy, and this circumstance perhaps has induced amongst many of them habits of sloth and sensuality inimical to their moral or physical improvement ; but nevertheless when viewed in comparison with other tribes of Hindoos they cannot be pronounced pre-eminently, indolent or degraded in their habits. They are utterly illiterate, and their ignorance of the accomplishments of reading and writing are transmitted to their children since schools for their education are unknown amongst them. Their religion is Hindoo and they are of the Siva sect, their principal Deity however being Rungaswamy whose temple is situated on the summit of "Rungaswamy's Peak," the Easternmost point of the Neilgherries, and in addition to whom they also worship many other inferior divinities male and female.

The Burghers Hindoos of the Siva Sect.

There are several subordinate sects amongst the Burghers, the chief of which is that of the "Aroovurs" who assume to be Brahmins and wear the sacerdotal string over the shoulder, next the Sivacharries, the Wodiars, Kunukars, Burghers and Toriars, the last being the lowest caste amongst the tribe and generally the poorest. Their ceremonies of marriage and burial do not differ essentially from those observed amongst the Hindoo tribes in the plains, and such differences as exist are only under the first head, and are chiefly remarkable for their indelicacy and not worthy of notice. The Burghers are a most superstitious timid race perpetually filled with the dread of evil spirits hovering around them and ever haunted with fear of the "Coorumburs" (a tribe to be hereafter described) to whose necromancy and demoniac influence they attribute all accidents and infirmities which befall themselves, their families, cattle or crops. To such an extent is this feeling carried that murders of the most brutal description have been known to be perpetrated upon the unfortunate Coorumburs, for which, although in general it is found difficult to obtain evidence to con-

Very superstitious and timid.

vict the perpetrators, Burghers have been tried and executed, much to their indignation and astonishment, since the principle inculcated amongst them appears to be that to sacrifice a Coorumbur (and in some cases whole families of them) through whose preternatural agency disease has been brought into a village or murrain amongst their cattle is the only way in which the evil can be averted, and the anger of the Deity of destruction appeased. Yet notwithstanding this intuitive horror of their influence over the common affairs of their lives, they regard the Coorumburs with the utmost consideration in many other respects, looking upon them as Priests, or rather enchanters, whose favor must be propitiated to secure their intercession with the Geniuses of good and evil in their favor.

Stand in great awe of
the Coorumburs.

For example, in the spring when a field is ready for the seed the work of husbandry cannot proceed until a Coorumbur has been summoned, a kid sacrificed to a Goddess equivalent to Ceres, the soil blessed, and the first handfull of seed, scattered over it by him. In like manner, a Coorumbur must drive the first plough a few paces before their work of tillage commences, and at harvest time not a grain or ear is reaped until a small sheaf has been cut by a Coorumbur. For these offices, the Coorumburs receive gifts in money and produce, and finding their interest in the existence of these superstitions, doubtless encourage them by all the means in their power which they can safely employ. The Burghers seem to live in great harmony amongst themselves, ruled by their head men and elders. They are fond and careful of their families, and pay great respect to the aged, but in character they appear deceitful, ungrateful and false.

Their women and children all labour in the fields at the time of harvest, as well as in preparing the ground for seed, and by this combination of industry it is easy to foresee to what a successful extent their farming operations might be carried, if a better system of husbandry could be introduced amongst them. The total number of Burghers resident on the Neilgherries in December 1847 has been found by the census to be as follows :—

Males.....	3346
Females.....	3223
Total Souls ,	<u>6569</u>

including children of both sexes, viz.

In Todanaad	2039
In Parungenaad	2377
In Meykenaad	2153

Total . . 6569 Souls.

The Eūrelars.

The number of this singular tribe is small amounting only to Males 225

Females 236

Total Souls . . 461

including children of both sexes. They are found principally in the Eastern part of the Hills, where they cultivate the lower slopes, forming the broad deep vallies which run in the vicinity of Rungaswamy's Peak towards the plains. They raise crops of Raggee, Koralley, Shazmee and Mustard seed chiefly, but to no great extent, being very improvident in their arrangements, and eating up all their produce at once without laying any by for the rainy season, when they subsist chiefly on Plantains, Jack and other fruits which they cultivate in patches near their villages, and which thrive in consequence of the lower level on which the Eūrelars are mostly settled. They also work occasionally as coolies on plantations preferring employment in the jungle to working in the field; and being expert fellers of trees, hewers of planks, rafters, &c. They worship Rungaswamy and some other inferior Deities, and enjoy the high privilege of tending the temple and idol on "Rungaswamy's Peak," where two or more of their number officiate as priests at the period of the great festival in August and September, when thousands of Hindu pilgrims flock to the sacred Peak from all parts of the adjacent country with offerings of all descriptions of produce, and occasionally money. They pay kist to Government according to the nature and quantity of their crops; but they make no offerings to the Todars in the shape of "Goodoo," probably from their occupying land rather below the plateau to which the Todars lay claim. When driven to extremities for food the Eūrelars betake themselves to the jungles on the slopes of the Hills, and seem-

Are Priests of Rungaswamy's temple on the Peak.

ing to have no fear of wild beasts, hunt and destroy sambre, spotted deer, jungle sheep and other game with great expertness. They also search for bees wax which finds a ready sale in the plains. But many lose their lives in this pursuit through the bears which are numerous in the Eastern part of the Hills, and whose fondness for honey often brings them into contact with the collectors of wax.

The Coorumburs.

The Coorumburs are not, strictly speaking, a tribe of Mountaineers, since many sects of the same people are found in various parts of the plains, especially towards the Southward, and those who do frequent the Neilgherries inhabit the lowest slopes, and are perpetually migrating from spot to spot, erecting their little huts usually on grassy patches in the midst of the densest and most wild forests. Those who are met with on the Eastern side of the Hills are called "Mooloo-Coorumburs" implying "thorny" or jungle Coorumburs, to distinguish them in some degree from the Coorumburs of the West country.

They are small in stature, and their squalid and uncouth appearance and wild matted hair might seem to give some cause with so timid a race as the Burghers, for imputing to them the fiendish and preternatural powers with which their superstition invests them. If a Burgher meets a Coorumbur, not summoned at seed or harvest time, in his path, he will fly from him as from a wild beast, and if too close to escape his dreaded glance, he will return home and resign himself to a fate which he deems inevitable, often in fact inducing sickness by the prostration of body and mind which is thus supervened. I may here mention that a popular belief exists that the Coorumburs have an equal proprietary right in the soil of the Neilgherries, having come to them at a period coeval with or antecedent to the migration to them of the Todars. The Coorumburs cultivate some land on the lower slopes of the Hills and raise small crops of dry grain, but they depend for their supplies chiefly on the fees in kind which they receive from the Burghers for the offices performed by them in consecrating their crops and seed, as has been already described in treating of the Burghers. Those however who are met with in the forests on the Western slopes of the Neilgherries are more industrious, employing themselves chiefly in felling timber for the sawyers and contractors, in making baskets, and, to a small extent, in cultivation.

These Coorumburs appear for the most part to come from Malaya-lum, where they exist in a state of slavery to opulent natives, who claim their persons as their property—a claim however not much regarded. The Coorumburs from their almost always residing amongst the forests have a considerable acquaintance with the properties of medicinal herbs, gums and roots, and hence often effect cures of simple diseases amongst the Burghers and others when called in to disenchant a member of a family supposed to be bewitched. This success is of course attributed to preternatural agency and a failure in their mode of treatment of a disease is usually set down to its baneful exercise, a result which often leads the officiating Coorumbur into trouble. As has been already remarked, it has been found impossible to obtain any return of the number of this tribe, but it must be very inconsiderable.

Employment.

In the preceding description of the different tribes inhabiting the Neilgherries their habits have been sufficiently set forth to explain the nature of the employment or occupation which each pursues. Following however the argument of this Synopsis it may be necessary under this head briefly to recapitulate them.

The Todars.

Their occupation is purely pastoral; their only manual labour being the milking of their Buffaloes and converting portions of the milk into butter and ghee. They let their herds loose during the day to wander about, almost always unattended by a herdsman, to the annoyance of travellers on the public roads; and but for the caution observed in approaching these animals to their great danger.

The life they lead is eminently a most idle and useless one, involving the performance of no offices, and the undertaking of no duties, which tend in any way to the benefit of the community at large. Especially marked by nature as a race upon whom labour demanding great physical exertion and bodily prowess should devolve, they are found abjuring the performance of manual labour of any kind, subsisting upon the hard won earnings of others, and acting no part in the great work of social duty and improvement, which Society demands that all its members should co-operate to advance.

The Kothers.

Their occupation is both agricultural and mechanical.

They are tolerably good workers in iron and execute carpenters' work in a rough way. They tan ox and buffalo hides and make baskets and their women manufacture the only earthen pots, or chatties produced on the Hills.

The Burghers.

Their occupation is solely Agricultural, and their numbers having of late considerably increased there is always a superabundance of hands available for employment as carrying coolies and out of doors labourers, when their own crops are either in the ground or reaped and stored, which constitutes them the most really useful tribe on the Hills.

The Eurelars and Coorumburs.

Their employment is Agricultural and also in a measure vagrant, since lacking sufficient energy or industry to draw from the soil the utmost of its productive powers, they subsist between harvest and harvest upon whatever they can extract from the natural resources of the forests through which they wander.

Languages.

The Neilgherries being situated within the limits of the Coimbatore District, Tamil is the language employed in the public departments and in the bazaars and other resorts of the Natives from the low country ; but amongst all the Hill tribes Canarese is the colloquial. The Todars have a language peculiar to themselves, but they communicate with the Burgher and other tribes in Canarese. The Todar language has a singular accent and a quaint original style and seems to bear no analogy whatever to that spoken by any other race of Natives in Southern India. The Coorumburs have also a peculiar dialect of their own, but it seems to be based on the Canarese.

Condition.

Under this head a very favorable report may be made, as with the exception of the two inferior tribes, the Eurelars and Coorumburs who from their improvident and vagrant mode of life are often in a state of great destitution, all the Hill tribes live in comparative comfort and affluence. This is as to their physical condition, but in regard to their moral state the aspect is not so favorable. The accomplishments of reading and writing seem almost entirely unknown amongst them, while their morals are tainted by the arts of dissimulation, cunning, and falsehood, which seem to be

instilled into their minds at an early age. Superstitious to a degree almost incredible and prejudiced against all innovation and improvement I fear they offer but a barren field to the German Missionaries who have established themselves on the Neilgherries to labour amongst the Hill tribes, and who are endeavoring to form village schools in the hope of inducing parents to send their children to them for instruction in their own tongue. Upon this point it is not easy to obtain correct information, as all the natives have an insurmountable aversion to entering a Hospital, and though they value and respect the opinion of a Medical officer they are not found to come voluntarily forward to seek assistance and advice. From observation in their villages and of the coolies and others who come to the houses of European residents for employment, we are led to conclude that all classes of natives located on these Hills whether of high or low caste, aborigines or modern settlers, enjoy the most robust health, shewing that the pure atmosphere and invigorating climate have the same genial effect upon the Native as upon the European frame and constitution. The most prevalent diseases amongst the Burghers, who may be considered the mass of the Hill

population, are Small Pox, occasionally Fever, and an affection of the eyes resembling Ophthalmia.

The first of these is however the only one which can be called common amongst them, and is the greatest scourge by which they are visited, and as vaccination is not practised, the disease often commits fearful ravages in their villages, carrying off whole families in a brief space of time. There is no doubt that the mountaineers would willingly take advantage of the existence of a Vaccine Depôt if one were to be established on these Hills; and as the disease certainly seems local and peculiarly virulent on them, and as it is totally impossible for the two Medical Officers stationed in Ootacamund to quit the scene of their constant and extensive duty amongst the sick Officers and their families resident there, to introduce and practise vaccination in the Burgher districts, it would be a great blessing to the District if such an Institution could be formed in it, and be the means unquestionably of saving many lives.

Health and diseases of Troops. with the presumed causes of healthy or diseased state,

The impending measure for the location of European troops on these Hills will it is to be hoped before long furnish striking and favorable evidence

and the treatment, (not strictly medical) found to be useful.

upon this subject. At present it can only be inferred that the beneficial and renovating effect which even a few months' residence on them produces on the enfeebled constitutions of Officers, must in an equal degree be exerted on the condition of the private soldiers who may be sent to them ; and that not only physically, but morally, since the constant out of doors employment and recreation which they would be enabled during the greater portion of the year to find and enjoy, would remove them from the influence of that most demoralizing of all agencies, the dull, monotonous irksomeness of the almost constant confinement to barracks, and of the life of utter idleness which they are compelled to in the plains. To the unfortunate wives and children of the European soldiery the effects of this wise measure will produce incalculable benefit, for it needs only to consult the tables of mortality in the records of almost any European Regiment serving in the plains to perceive that upon them, and the latter especially, the hardships and sufferings of a barrack life there fall with aggravated cruelty. Under the discipline of a good school, and with constant employment found for them, relieved by the healthful exercise which will always be within their reach, it is not too much to say that hundreds of lives may be annually saved, many too possibly to be devoted to the service of the state in the persons of useful and well educated servants. I think that on the first arrival of fresh troops on the Hills, much care and attention will be necessary to adapt the habits of the men to the entirely new climate (comparatively speaking) in which they will find themselves, avoiding very early and very late Parades, and making all guards and sentries put on great-coats before sunset, and wear them till after sunrise, and generally keeping the men out of the influence of the night air as much as possible. The site which I have had occasion to recommend for the new Cantonment, in the valley of Jakatulla, is situated at an elevation of 6100 feet above the sea, and enjoys a most temperate and agreeable climate ; but the rapid change of temperature which follows the withdrawal of the Sun's rays there as in all other parts of the Hills, demands care and precaution especially in the case of men whose constitutions, and liver especially have become injured by long residence in the low country.

Men suffering from dysentery will, with care, do well in Jakatulla, at all events in the dry weather, if too much exposure to the Sun and

to the dry Easterly winds is avoided. Indeed there appear to be few diseases contracted in the plains which are not, unless too far advanced, speedily cured here—speaking of the Hills generally—with the exception of liver complaint, which if abscess has already formed, usually assumes a more aggravated form through the cessation of the action of the skin, after a short residence, and compels the patient to proceed to Sea as the only alternative.

W E A L T H.

Education and mode
of pursuing it.

Amongst the Hill tribes it may be said that there is no education whatever. The German Missionaries, referred to in a preceding section are now endeavouring to establish schools amongst the Burghers, and to prevail upon the parents to send their children to them, but I believe with very indifferent success. They have so little ambition or desire to see their children rise beyond the position in which they are born, that reading and writing are looked upon as very unnecessary accomplishments, and as an illustration of this I may mention that a philanthropical gentleman who has settled on these Hills and who devotes much of his time to the task of attempting the moral regeneration of the Burghers is only able to draw children to a school which he has established by the payment of 1 anna daily to each! The Kothers, Eurelars and Coorumburs are all equally degraded in regard to education, or to the desire to acquire it, and with the Todars it is of course quite out of the question.

Amongst the Native settlers from the plains the case is very different; in the settlement of Ootacamund there are 5 Native schools which are attended by many of the children whose parents can afford the small fee payable to the schoolmaster.

The instruction imparted in these schools is of course confined to reading, writing and a sort of arithmetic.

There is also a very good school conducted by an European for the education of the sons of Europeans and East Indians, which is supported by voluntary contributions; and is under the general superintendence of the Chaplain of the Station

European Schools.

for the time being. It is situated in Ootacamund, where also two seminaries have been recently established for the children of the better class, one for boys and one for girls, both of which I believe are well supported and prove of great advantage to Officers and others whose means will not admit of their sending their offspring to England when they have attained the age beyond which it is considered unsafe to keep them in the plains.

Proposed Proprietary School. It has been in contemplation to establish a Proprietary School upon a large scale on these Hills, with a view to rendering the expence to parents as small as possible while at the same time the best system of education should be adopted in the establishment ; but owing to pecuniary difficulties this excellent scheme remains for the present in abeyance.

Charitable Institutions. Excepting the Government Hospital and the Dispensary, there is no Charitable Institution, properly so called, on the Hills. There is an association amongst the European residents of the Cantonment for granting out-door relief to aged and indigent poor, who attend daily at the door of the Church to receive it in the form of food, money, or clothing ; but there is no establishment into which Paupers are received and sheltered. The Public Choultry or Caravanserai is intended more for the accommodation of travellers and market men from below than for a refuge for the sick and poor.

The Hospital is in charge of the Senior Medical Officer, but owing to the prejudice which exists amongst the Natives against such an institution, a patient is very seldom received within its walls.

State of litigation and of crime. The most fruitful sources of litigation are disputes about boundaries of land, trespassing of cattle, and adverse claims to the right of water from particular channels.

These, especially in the Cantonment, run very high at times ; but it is to be hoped that the permanent fixing of all boundaries by means of the present survey, will put an end to these difficulties in a great measure.

Crime is certainly not common on these Hills ; as beyond cases of petty theft, and these for the most part confined to the Cantonment,

the general Criminal Calendar is a very light one. Murders have been committed, and possibly are so still, at rare intervals, upon the persons of unfortunate Coorumburs, accused of witchcraft, by both Burghers and Todars ; but as such deeds are generally massacres perpetrated by a whole village, it has frequently been found impossible to trace the actual murderers. Upon the whole it must be admitted that in spite of their proneness to lying and dissimulation, all the tribes inhabiting these Hills are free from the stain of serious crimes. Drunkenness and violence are unknown amongst them, and in this respect they offer a striking contrast to the other native residents, who, both Malabars, Mysorians, and other emigrants from the plains are much addicted to spirits which are unfortunately to be obtained readily, and at a very low rate.

With regard to the Cantonment of Ootacamund when the peculiar nature of its native population is considered, consisting as it does of petty traders, Brinjarries, Lubbies, and servants of all castes, and from every part almost of India, combined with the means which all classes possess of obtaining Arrack, and also Opium, it must be esteemed very creditable to the authorities that so little crime is committed within its precincts.

That such should be the case is doubtless chiefly to be attributed to the constant presence of a Magistrate (who is also Commanding Officer of the District) aided by a Tahsildar and Cutwall resident on the spot, around which the bazaars and abodes of the native inhabitants are drawn so closely and so little scattered, as to bring them all readily within the range of a close surveillance.

Police ; number, remuneration and efficiency.	<i>Pay.</i>	The Police of the Neilgherries consists of
	Rs. 400 per mensem.	The Joint Magistrate.
	„ 50 „ „	The Tahsildar, who is also “ Head of Police.”
	„ 42 „ „	The Cutwall, whose duties are con- fined to Ootacamund.
	„ 17 „ „	The Peishcar, or Tahsildar’s depu- ty, who has charge of the Eastern portion of the Hills.
	„ 10½ (Cutwall’s and	5 Duffadars, and
	„ 7 Sebundy)	75 Peons.
	5 ; 4: and 3½ „	

But of these two last, 3 Duffadars and 43 Peons belong to the Sebundy Establishment, and are employed at the proper season in collecting the Revenue. Six Peons also are exclusively employed in the charge of the forests which are scattered about the environs of the Cantonment to prevent Wood cutters from wantonly destroying them, or cutting in parts where they are prohibited from felling trees. Besides these 2 Duffadars and 20 Peons, under the immediate orders of the Cutwall, remain in Ootacamund to carry on the Police duties of the Bazaars.

The orderly state of the chief settlement, Ootacamund, sufficiently attests the efficiency of the Cantonment Police, as does also the comparative absence of crime in the Hill district generally, that of the Sebundy or rural Police.

C O M M E R C E.

Manufactures.

There are no manufactures carried on on the Neilgherries, unless a few earthen pots made by the Kothers, and principally at a village near Soloor, to the Westward of Mootenaad, may be called by that name. From the great command however of water power all over the Hills, and especially near the summits of the Passes or Ghauts, many of the products of the plains requiring to be wrought by heavy or steadily driven machinery, such as cotton for yarn, oil seeds, &c., might no doubt be profitably converted from the raw state on the Neilgherries, or on their lower slopes. The wheat raised on them might also be ground into flour by machinery turned by water very economically, and it seems strange that at the present time, although a large quantity of flour is consumed in the settlements and considering how many Europeans who must have some knowledge of ordinary machinery are resident on the Hills, not one flour mill is in existence, all the wheat being ground by manual labour in the common ancient native mill of two circular stones, the lower fixed and the upper one revolving.

Capital employed.

No capital to any extent is invested at the present time except in Mulberry and Coffee plantations, the amount of which I have no means of ascertaining, and in house building in the Cantonment, which is not considerable. The return on the latter investment appears to be about 15 per cent.

The following articles are imported into the Hill district from the adjacent provinces of Malabar, Mysore, and Coimbatore :

Imports.	Cotton cloth,	Salt,	Tobacco,
	Sugar,	Turmeric,	Oils,
	Salt fish,	Cocoa-nuts,	Almonds,
	Sheep,	Bullocks,	Poultry,
	Sulphur,	Lime,	Furniture,
	Gram,	Raggee,	Chollum,
	Ghee,	Spices,	Limes,
			Artificer's tools,
			Betel nut,
			Native peas,

and of European articles : wines and spirits, wearing apparel, cambrics, woollens, flannels, muslins, shoes, books and stationery, earthenware and glass, hardware, groceries, beer and porter, candles, and all kinds of supplies for the table.

To this list, strange to say, is to be added wheat, which is imported to some extent from Mysore where it is cultivated on the higher steppes of the table land. The bakers buy it because it is cheaper than the Hill wheat, although not nearly so good, and mixing it with the corn purchased from the Burghers turn it to profitable account. There is generally a difference of 3 to 4 seers per Rupee in the prices of the Mysore and of the Hill wheat, in favor of the former, in spite of the extra cost of transit to the Cantonment market up the Seegoor Ghaut, a circumstance which tends to support the idea of the misappropriation and mismanagement of this district through the ignorance and apathy of the Hill cultivators.

The exported articles are coffee, silk, potatoes, barley, hides, opium, wax, dammer or resin, and wheat, which being bartered by the Burghers for low country necessaries with the itinerant traders, thus becomes an article both of import and export.

No statement can be furnished of the quantities of the above mentioned goods which are imported or exported, since in consequence of the transit duties having been abolished they pass through no office in which their amount might be registered.

Money is readily obtainable for bills on Bombay or Madras from the native merchants who having disposed of their goods on the Hills are anxious to remit the proceeds

Exchange.

for re-investment. Hence cash on such bills is generally obtained at par, or at the utmost at 1 per cent. discount. No other exchange operations are carried on in the settlement, all business with England being transacted through Agents at Madras or Bombay.

Weights. The weights in use in the bazaars of the three Settlements are : The maund of 25 lbs. avoirdupois.
 „ viss „ 2 „ do.
 „ pound of 40 Rs. or Tolas weight,
 „ seer „ 25 „ „ do.

The Burghers sell all their produce by measure, excepting opium, which they rate at so much per seer of 24 Rupees weight, being one Rupee under the seer of the bazaars.

Measures. The bazaar measures are the seer, $\frac{1}{2}$ seer, and $\frac{1}{4}$ seer in use all over the country. The Burghers sell their grain by the “Kolagum” the contents of which when heaped up is about 226 cubic inches, or somewhat more than 2 seers.

Coins. The Coins issued from the Honorable Company’s Mint are the only monies in circulation on the Hills, viz. Rupees, half and quarter Rupees, 2 Annas, quarter and half Annas and Pice.

It is supposed that a good deal of Coin goes out of circulation in the district owing to the Burghers and others either hoarding it by burying, or getting it converted into ornaments.

Banking operations. A Bank was recently established in Ootacamund, but it failed in consequence I believe of the ignorance and want of standing of the managers. But considering that there is almost always a large community of Europeans, chiefly in the service of Government, congregated at the station, together with a not inconsiderable number of native traders possessed of capital, it seems obvious that if conducted upon proper principles, and by parties of mercantile respectability and intelligence, such an establishment could not fail to prosper, and to prove a source of great convenience and benefit to the public.

Lending and borrowing. Money is lent in the bazaar amongst the natives at the usual usurious rate of interest : 2 per cent being given for loans with security of Jewels or other

convertible property, per month, and 3 per cent per month for money lent on personal security only.

Modes of transit and communication.

1. By land.

The Neilgherry district communicates with the neighbouring provinces by means of six Passes or Ghauts, the roads in which have been cut and kept in repair at the public expence with the exception of one, the "Manaar" or "Soondaputty" Ghaut which has gone out of general use. The only one of these passes which is ascended by wheel'd conveyances is the "Seegoor;" the mode of transit on all the others being by bullocks, coolies and, to a small extent, by asses. By the "Seegoor," Ghaut however, cart loads of 1000 lbs. weight, or 2 candies are brought up, an additional pair of bullocks being required to help the cart over the steepest parts of the ascent.

The Goodaloor Pass.

Commencing at the N. W. angle of the plateau the first Pass which presents itself is that leading from Neddiwuttum to Goodaloor forming the communication between the Hills and Cannanore, Tellicherry and the Western Coast towards Bombay through the Wynaad country, and also with Calicut by the most direct road which exists to that city, descending the Carcoor Pass and passing through Nellumboor parallel to the Beypoor river to the Coast. The "Koondah Ghaut," having however obtained a preference over this line for the journey to Calicut, the Tappal runners have lately been taken off it and posted along the other; in consequence of which the ferries by which several large streams are crossed are not now regularly attended, and through the absence of a constant and sustained traffic along the line the jungle is encroaching and becoming rank and dangerous, both from Malaria and beasts of prey. The public Bungalows also along this line are badly situated as regards health; but this I understand will before long be obviated by the erection of a new one in an open space clear of the encroachments of the jungle, and free from fever. It is much to be regretted that this road should be allowed to fall into disuse as the line is a most convenient one for reaching the Hills from the coast by Calicut where all invalids from Bombay now land, and as the Ghaut, being a short one of only $5\frac{1}{2}$ miles and on a very good trace, can be easily and economically kept in repair.

The Rajah of Nellumboor is I believe bound to keep up the ferries between the town of that name, and the foot of the Carcoor

Pass, so that the expence of keeping this line of road open would fall very lightly upon Government. The road on from Neddiwuttum into Ootacamund is an excellent one, and has been recently repaired throughout so as to be perfectly practicable for laden carts. The Ghaut is also in good order and a laden bandy can descend it with safety ; but the ascent is impracticable in consequence of some very steep acclivities up which the road is carried. The Pykara or Moyaar river forming the boundary between the districts of Malabar and Coimbatore, the road from thence to the Westward is under the Collector of the former province, by whom the greatest attention appears to be given to it.

The Seegoor Pass. This Ghaut which is the most frequented of all in consequence of its being practicable for laden carts and other wheel'd conveyances, is carried down the Northern face of the Hills, commencing the descent near Mootenaad and ending it near the village of "Seegoor." By this Pass the communication is kept up with Bangalore, Madras and all places to the Northward, and the chief bulk of European supplies, heavy baggage, horse gram, rice, &c., comes to the settlement by it. It also affords the means of transit for the teak timber used on the Hills in the form of rafters, planks, &c. the road passing near the forests where teak tress are cut under sanction of Government, about Tippacadoo and Musneumcoil. The trees are felled by Coorumburs and others, and are then after being lopped and roughly dressed dragged on rude bandies by buffaloes to the road side where they are sawn into building pieces, and sent on bullock bandies to the Ootacamund market by the Seegoor Ghaut.

The Kotergherry Pass. In the North East angle of the plateau of the Hills, at Kotergherry is another Ghaut communicating with Matepolliem in the low country, and thence to Coimbatore and the Salem road.

This is the oldest road cut for the ascent of the Neilgherries at the expence of Government, and it led formerly to the original sanitarium at Dimhuty. It has been constructed in a very sound and substantial manner originally, but having been neglected and suffered to fall into very bad order, it was found necessary last year to give it extensive repair throughout, owing to which it is now in a very practicable state, though too steep for wheel'd carriages.

This, and all the other Ghauts, could be kept in repair at a very trifling expence, if some person were entertained, whose duty it should be to go down the entire line once a month with coolies to see that no drains or channels had got choked ; for the interruption of one of these outlets for the heavy falls of rain which now and then occur, and which might if remedied in time be done by 1 man in an hour, often causes breaches in the road which it takes 20 or 30 men to repair. This Ghaut is of considerable importance to the Eastern part of the Hills, as a great deal of traffic in the produce of the Coffee plantations and of the Burghers' lands goes on by it ; and large quantities of low country goods are brought up it for sale and barter. It is also favorably situated for gaining the summit of the Hills on the Eastern side, as the ascent of a long spur on which the lower part of the road is carried, is commenced almost immediately after quitting Matepolliem without having to pass through much low jungle.

Troops therefore marching to the Hill Cantonment could by leaving their camp at Matepolliem at day break, ascend into a cool climate before the sun was high enough to distress them.

The Coonoor Ghaut. The Coonoor Ghaut on the other hand, which is the next to the Eastward, does not commence its ascent until after 7 miles of bad jungle have been passed through after leaving Matepolliem. It is however the most frequented by travellers in Palanquins and on horseback, as the road on from the summit at the settlement of Coonoor leads more direct from Ootacamund than that from Kotergherry, besides having the advantage of a public Bungalow conveniently situated near Coonoor, while at Kotergherry there is none. The Coonoor Ghaut has been very well constructed, especially the lower half of it which could be ascended by laden carts having an extra pair of bullocks. The upper part has not been so well traced, the gradients being less favorable and irregularly arranged. There is an immense traffic on this Ghaut entirely by bullocks which ascend it by thousands on the Ootacamund market day, and indeed almost daily, laden with every description of low country produce and other supplies. Travellers from Madras and the South almost invariably come by this road as the journey from the East coast by Salem is both the most easy and occupies less time than by Bangalore and Seegoor.

The Mailloor Ghaut. The Mailloor or Soondaputty Ghaut appears in former years to have been much frequented by travellers journeying from the Eastern parts of the Presidency by Coimbatore to the Hills from which town there was a road to Soondaputty, a village at the foot of the Southern part of the Neilgherries, though what the direction of it was I am unable to say, as the country between Coimbatore and that part of the base of the Hills appears never to have been surveyed, and is left blank in the Atlas of India. This Ghaut which gains the summit of the Hills near "Shoondabetta" is only now used by smugglers and by the Burghers who cultivate land about Mailloor and Keel Koondah to carry down their produce for barter for clothes, tobacco, salt, &c. The remains of a very good road still exist from the top of this Ghaut all the way to Ootacamund, but it has become impassable in many places owing to bogs having formed in the hollows and closed over it.

The Sispara or Koondah Ghaut. This magnificent Ghaut forms the line of communication between the Western Coast (Calicut) and the Neilgherries, across the "Koondah" mountains. Viewing this latter tract as one likely to become before long of the greatest value and importance as a producing country, I should describe the Sispara Pass as one to which attention should be particularly drawn. Since however the survey of the "Koondahs" has not yet been executed, it will be proper to defer a description of it and of the public buildings and bridges which have been lately erected along the line of road by which Ootacamund is approached from its summit, until it can be introduced into the "Memoir" prepared to accompany the map of that part of the Hill district together with a table of roads and distances from the nearest halting places in the plains at the foot of the respective Ghauts.

Communication by water. None, internal, or, naturally, with any other district.

Impediments and their duration. Impediments very rarely occur on any of the lines of communication to the Hills. Sometimes in seasons of long continued rain masses of overhanging rock getting loosened by the washing away of the soil beneath, fall upon the road and cause some inconvenience, but never to the ex-

tent of suspending the traffic upon any of the Ghauts. The most serious impediments have been occasioned by the washing away of the bridges near the foot of the Passes, as at Tippacadoo near Seegoor, and Matepolliem, during the past year. But a temporary remedy being at hand, only a brief suspension took place in the transit of goods along those lines of road. Along the lines of road on the plateau diverging from Ootacamund to the summits of the various passes, impediments more frequently occur, owing to the perishable nature of the timber with which small bridges are constructed to carry the road over channels, and to the sinking of the rough stone causeways laid across swamps. By degrees however a better system is being introduced, and more permanent works are now taking the place of these temporary and inefficient structures. It is unwise, and I think bad economy to construct any road bridges on these Hills of jungle wood, unless it has been cut long before it is required for use and thoroughly seasoned, as the alternations of heat and cold are so very extreme, and the changes of weather from dryness to moisture so continuous, that the fibres of unseasoned wood soon yield to their influence. Only teak beams should be used, unless jungle wood can be cut and kept to season for use in convenient situations, or unless a brick arch is not considered expedient.

Fords.

Fords are numerous on the Hills, but are all insignificant as being merely the crossings of small streams, except near Pykara where there is a good ford across the Moyaar, over a dyke of trap rock which runs at right angles to the course of the stream.

Ferries.

The only ferry on the Hills is that near the public bungalow at Pykara for carrying the road to Neddiwuttum across the Moyaar. It is used by travellers in palanquins and on horseback as also by carts; but the ford, which is close by, affords the readiest means of crossing to foot passengers. The ferry boat which consists of a platform laid on two canoes or barges, and is moved by hauling on a cable of twisted rattan stretched from bank to bank, is the property of Government and 2 ferry men to work it are maintained at the public expence, receiving 6 Rupees each per mensem. No toll is levied on passengers making use of it.

Bridges. There is a substantial brick bridge at Coonoor crossing the great stream which descends the Pass at that place ; another on the Neddiwuttum road about half way between Ootacamund and Pykara ; one at Cotacamund connecting the extremities of embankments run out from bank to bank of the Lake to form a road across it ; and another at the entrance of the Cantonment by the Coonoor road over the stream which feeds the Lake. These bridges are all single arched, but the span is inconsiderable, and they are not worthy of more particular description. Two large and substantial timber bridges have been recently constructed on the Koondah road, one over the principal feeder of the Bowany (called by the Burghers the "Porthy" or "Porutty" river) and the other at the entrance of the "long valley" on the Koondahs, which together with the bridges which occur along the Sispara Pass will be described in the Koondah memoir.

There are innumerable small jungle wood bridges upon all the lines of road over petty streams and nullahs, which do not demand particular description.

Postal arrangements.

There are 3 Post Offices on the Hills, the chief one at Ootacamund, where the Post Master of the district resides, and one at each of the minor stations, Coonoor and Kotergherry. Owing to the great number of Europeans congregated on these Hills, the duties of the Postal Department are very onerous and extensive, especially as in addition to the management of the mails it devolves upon the Post Master to station Dawk Palanquin bearers for all travellers requiring them for the ascent of the various Passes.

Madras Mail.

The Madras mail travels by the most direct route, viz. that through Salem, Errode, and Matepollieum, and reaches Ootacamund, in favorable weather, in 81 hours, the distance being 332 miles : separate bags are made up for the two minor stations which are detached at Coonoor, and the Kotergherry bag sent to that station by the cross road, there being no tappal runners employed on the direct road from Ootacamund to Kotergherry. Letters from this latter station have therefore to be sent via Coonoor if destined for stations the routes to which lie through Ootacamund, but if

Calicut Mail.

for Madras and the Southward, they are sent direct from Coonoor. The mail from Calicut travels by the road across the "Koondahs," ascending the Sispara Pass from

Wundoor, and Cholakull. As the Peninsular and Oriental Co.'s Steamers now touch regularly at Calicut on their voyage to and from Bombay and Ceylon, bringing an English Overland mail each way, this mail has become one of the most important of all, and it is one of the best carried in spite of elephants and other impediments at the foot of the Hills. It reaches Ootacamund from Calicut in favorable weather in about 31 hours: the distance being about 104 miles, of which fully 50 are over hilly and difficult ground. It was the custom until the erection of the timber bridges alluded to as having been recently thrown over the two great streams on the "Koondah" line, to take the runners off it, and post them along the Neddiwuttum and Goodaloor road, as soon as the South West Monsoon set in; and continue them there until the rainy weather had ceased, when they were restored to the "Koondahs." But this system which caused much inconvenience has now been altogether abandoned, and the "Koondah," road continues open from January till December without interruption. The

Cannanore Mail.

Cannanore mail travels through the Wynaad country by Manantoddy and comes up the Hills by the Goodaloor Pass to Neddiwuttum. By this mail, Bombay letters, sent by the Ceylon Government Steamer are received, as that vessel touches at Cannanore on her voyage down with a Government mail. All the Northern mails come by the Seegoor Ghaut, through Bangalore, including that from Calcutta which reaches the Hills in 15 to 16 days. The Southern mails from Madura, Trinnevelley, &c. come through Coimbatore and by the Coonor Ghaut. The total number of Dawk runners, or Mail carriers, entertained on the Establishment of the General Post Office of the Neilgheries is 26 of whom 20 receive 7 Rupees per mensem, and 6 only Rupees 5, being employed below the Ghauts where provisions are cheaper and warm clothing not required. Their distribution is as follows:—

	10 runners on the Madras road.
Tappal runners.	8 " " " Mysore "
	4 " " " Calicut "
	and 4 " " " Kotergherry "

In the Dawk or Palanquin bearers Department,

	1 Maistry at 10 Rupees per mensem.
Bearers.	and 28 bearers at 7½ " " "

are retained on permanent Government pay, with an annual allowance

of a suit of warm clothing; and when employed by travellers, in pursuance of an application to the Post Master for their services, they are charged for at the rate of 12 Annas per mile. The following is a statement of the entire establishment of the Post Office Department entertained on the Neilgherries:—

- At Ootacamund 4 writers and 4 letter carriers.
- At Kotergherry 1 „ „ 1 „ „
- At Coonoor 1 „ „ 1 „ „
- 1 Post Master, Superintendent, and 26 Tappal runners.
- Total abstract drawn monthly Rupees 484.

Revenue derived from Post Office, Rs. 13,000. The net Revenue of the Post Office for the year ending 31st December 1847, after deducting abstracts for the year amounted to Rs. 12,953 12 5.

Taxation. In addition to the land tax or assessment already fully described in the Table at page 27, the quit rent on lands held by Europeans, and the tax on the Todars, buffaloes, described at page 58, may be enumerated the excise or tax on arrack, sold on the Hills, which is collected by farming out the monopoly of the right of selling the spirit, as is customary in all districts under this Presidency; and the “Koopoverrey” a municipal tax levied by the Cutwal on all householders in the bazaars of the Cantonment for the maintenance of a department of Scavengers, &c., for keeping the streets clean. The following is a statement shewing the gross amount of Revenue derived from each source referred to in the Memoir, in 1847, viz.—*For the Coimbatore Talook of the Neilgherries.*

Sources of Revenue and produce of each tax.	Fully 1250 or A. D. 1846-7.	Assessment in lands from Burghers, &c. including Todars' buffalo tax and Pullooverry, and quit rent on lands of Europeans	Rs.
			7,820
		Arrack contract, sold for.	16,300
		Koopoverry or Scavengers' tax surplus after expences.	300
		Rent of a shop in the bazaar belonging to Government.	24
		Fines levied in the Police Court	875

Carried forward. . Rs. 25,319

Brought forward..	Rs. 25,319
Stamped Paper and transfers.....	,, 126
Post Office Revenue.....	,, 12,953
District Postage realized	,, 164
For the Coimbatore portion—Total Revenue..	<u>Rs. 38,562</u>

The Revenue derived from the Malabar, or Western portion of the Neilgherries amounted to (Fusly 1256 or A. D. 1846—7) Rs :

The following is a statement shewing the expenditure on the Hills :—

Tahsildar.....	per mensem,	Rs. 50	0	Revenue Dept.
Cutwall.....	,,	,,	42	0
2 Ghomastah's (at 10 8)..	,,	,,	21	0
1 Peishcar's Ghomastah ..	,,	,,	5	0
1 Peishcar.....	,,	,,	17	0
1 Shroff.....	,,	,,	7	0
5 Duffadars.....	,,	,,	41	0
63 Peons.....	,,	,,	317	8
2 Ferryman at Pykara....	,,	,,	12	0
Stationery.....	,,	,,	19	8
3 Ghomastahs (Moonsiff's and Magistrate's Dept.)	,,	,,	46	0 Magistrate's Dept.
2 Inferior do. do. ..	,,	,,	24	0 do. do.
14 Peons... do. ..	,,	,,	70	0 do. do.
Stationery.....	,,	,,	20	8 do. do.
1 Head writer.....	,,	,,	42	0 do. do.
1 Conicopoly, Commissariat Department.....	,,	,,	21	0 Commissariat Dept.
1 Bandy Duffadar do. ..	,,	,,	7	0 do. do.
5 Bandy drivers do. ..	,,	,,	28	12 do. do.
1 Maistry, Engineer Dept..	,,	,,	14	0 Engineer Dept.
1 Conicopoly..... do. .	,,	,,	14	0 do. do.
1 Road Serjeant, extra pay.	,,	,,	20	0 do. do.
1 Maistry for Road Dept. (temporary).....	,,	,,	7	0 do. do.
12 Peons in charge of Public bungalows.....	,,	,,	70	0

Carried forward.. Rs. 916 4

Brought forward, Rs. 916		4
1 Serjeant employed in the Staff Dept. extra pay per mensem,	27	8
Commanding Officer and Joint Magistrate	,,	,, 400 0
Church Establishment—		
1 Chaplain	,,	,, 700 0
1 Clerk	,,	,, 17 8
1 Sexton 10 8; 2 lancers, each 5 4.	,,	,, 21 0
1 Peon	,,	,, 7 0
Total expenditure per mensem		<u>Rs. 2,089 4</u>

Mode of Collection. The land tax or assessment on cultivated lands is collected by the Tahsildar and Peishcar who make a progress through their respective divisions accompanied by the Ghomastahs and Sebundy Peons, and collect it according to the rate fixed by the Ghomastahs on inspection of the state of the crops on the land. The excise duty on arrack is collected by a sale of the privilege to one individual from whom the amount is received without further trouble to the Government functionaries. The quit rent is collected upon bills sent to each landholder signed by the Collector, and the amount received by the Ghomastahs who attends with the document. The "Koo-pooerry" is collected by the Cutwall as already stated. All fines levied for misdemeanour in the Tahsildar's or Magistrate's Court are paid into the Talook Treasury. The receipts of the Post Office, after deducting the amount of the monthly abstract for the pay of the office establishment are paid in to the Talook Treasury.

The District postage is received from parties sending letters to See-goor and other places in the Talook to which no regular mail is sent from the Post Office.

The Principal Collector visits the district once a year on "Jumma-bundy" when the Revenue accounts are settled for the past year, and all complaints of over assessment examined into and adjudicated.

The total number of Peons employed in the collection of the Revenue is 43, with 3 Duffadars, and 3 Ghomastahs; the Peons and Duffadars are also

Number in Sebundy or other Corps engaged in collecting Revenue.

available for general Police duties under the orders of the Tahsildar, who, next to the Joint Magistrate, is the Head Police officer of the Hill district.

History :
and
Antiquities.

The utmost obscurity hangs over the early history of the Neilgherry Hills, for beyond the period of the immigration of the "Todars" or "Todawars," tradition amongst the present inhabitants, affords no clue whatever to trace it. That they have been in former ages inhabited, and that by a very peculiar race, evidence sufficient to shew is furnished by the existence of the numerous "Cairns", or rude tombs found upon the summits of almost all the loftier mountains in every part of the Hills, the origin of which is so remote that the Todars, recognized as the most ancient inhabitants, have no tradition amongst themselves bequeathed by their ancestors which even guides us to a surmise as to the race of people by whom they were constructed. As affording thus almost the only land marks by which speculation as to the ancient state of this remarkable region can be guided, these "Cairns" seem to merit a brief description. They are invariably situated, as has been already mentioned on the highest summits of the Hills, sometimes single, but more frequently in groups or rows of from 3 to 6. They are circular in form, raised with large unhewn blocks of stone 4 feet or more above the level of the ground, and varying in diameter from 12 or 15 feet to 25 or 30. The interior is hollowed out to some depth below the original surface usually until the solid rock is reached, and the space thus cleared filled with earthen pots with the covers strongly luted on, pieces of bone, charcoal, and fragments of pottery, all tightly packed in a soil so black and finely pulverized as to give cause to suppose it to be decomposed animal matter. On breaking these pots or urns which many of them are in the form of, they are found to contain ashes, charcoal, and pieces of half calcined bones; with sometimes a small quantity of a pure scentless fluid, which in two instances I found to be pure water slightly impregnated with lime. Images of tigers, elk, bison, leopards, and some domestic animals, pieces of half decomposed bronze resembling spear heads, tripods, &c. are also found occasionally, mixed with the other remains, but it is a singular fact that on breaking up the strong pavement of slabs of stone with which the Cairns are covered in and mining down until a second pavement is come

upon which from its tightness and weight has to all appearance never been disturbed since it was first laid, we find on removing it that the contents of the vault below instead of being laid in the order befitting the repose of consecrated ashes, are generally smashed and broken up and mixed with the soil, leaving barely one or two pots of bones and ashes entire, just as though the pickaxe of the destroying explorer had been already there. Some ingenious writers have

Todars believed by some to be descendants of the ancient Scythians.

endeavoured to build up upon the evidence of these Cairns a theory to the effect that their constructors must have been a tribe of the ancient Scythians, who

having wandered into this remote part of Asia, preferred a settlement on the Hills they had discovered to the hopeless undertaking of a return, and pursuing their hypothesis and discovering instances in the customs and habits of the present Todars which assimilate them to the race which history describes under the name of Scythians, they pass on to the conclusion that their ancestors were the founders of these tombs and the

Cairns afford no clue to the History of the Todars.

descendants of the ancient Scythians. But this assumption is in my opinion erroneous. So prejudiced and bigoted a race as the Todars would naturally

cherish with the utmost veneration and solicitude any vestiges of mortality which their most vague tradition should point to as monuments of their ancestors; and therefore when we find them offering not the slightest objection to the Cairns being broken open and their contents rifled, and even voluntarily guiding strangers to unexplored ones aiding them in the work of destruction, it is reasonable to conclude that they form no link of communication between the present race of Todars, and any tribe of people by whom these singular monuments may have been raised.

All clue being thus lost, it would be idle to follow out further any speculation as to the History of the Neilgherries prior to the first coming to them of the Todars, for as no coins or inscriptions or even Hieroglyphics have been found in any of the Cairns, or on their contents, there exists no evidence whatever by which enquiry could be guided into the right course.

With the Todars then commences the only (partially) known history of the Neilgherries.

At the time of their immigrating they probably found no aborigi-

nal inhabitants settled on them, and seeing in the solitary and inaccessible character of the mountain region which they had discovered a fitting spot for the undisturbed exercise of their singular religion and peculiar pastoral habits, for the former of which they had possibly endured persecution amongst the tribes of the plains, they determined on permanently occupying it. Ages, according to their belief, must have passed while they remained in undisturbed possession of the Hills, extending over such a space of time that they express their

The coming of the Kothers to the Hills.

belief that the founders of their tribe were created on them, until at length a small band of Kothers found their way up from the plains and besought permission to till certain tracts of land which they indicated. From this era may be said to have commenced the self arrogated sovereignty of the Todars over the land forming the plateau of the Neilgheries, as, conceding the privilege sought for by the new comers they stipulated that a certain proportion of all the grains which they might produce from the soil should be annually presented to them as "Goodoo" or tribute, in acknowledgment of their feudal right over the territory. Not long after

The coming of the Burghers.

this, and according to their traditions, 3 or 4 centuries ago, a party of "Burghers," or "Buddughurs" emigrated from the "North country," (probably the Northern part of Mysore and Canara,) and came to the Neilgheries; and being good cultivators, at once perceived the advantages offered to them in the virgin and rich soil which they saw on all sides. They accordingly appear to have obtained permission to settle and cultivate land upon the same terms as those granted to the Kothers, and inviting more of their brethren to join them they soon swelled into a memerosus tribe and spread over the Hills, constructing their villages, and enclosing their fields (and doubtless clearing away much forest) in all directions. I can find no evidence of any sovereign ruler having been acknowledged amongst the Hill people until about a century before the reign of Hyder

The 3 Princes or Chiefs of the Neilgheries.

"Mullaycotta."

Ally in Mysore, when according to the tales of the Kothers and Burghers, there were 3 Princes or Chiefs who had sway over them, one in Todanaad who resided in a fortress called Mullay cotta, the walls and ditch of which still exist on a Hill to the Eastward of the village of "Shboloroo," and Westward of Mootenaad and the Seegoor Pass, (vide B sheet of Map); one in Meykenaad in the

“Hoolicul Droog.”

“Konagerry,”
the three ancient
Forts.

fortress, the ruins of which are now called “Hoolicul Droog” situated on a lofty ridge overlooking the Coonoor Pass, and a third in Parungenaad in a fort the site of which is still pointed out near Kotergherry and called “Konagerry,” though no vestige of a fort remains now recognizable. Their traditions state that at this time in consequence of disputes between the Burghers and Kothers regarding their respective boundaries, a general settlement of their lands took place under the auspices of the three Chiefs, when the lines of demarcation were definitively fixed, and though only by oral indication in consequence of the ignorance of reading and writing which then, as now, prevailed, the limits of the territory of each tribe were so distinctly identified, that ever since up to the present time no disputes about them have ever been known to occur.

What became of these three Chiefs cannot be guessed from their traditions; but it seems probable, that Hyder Ally, having sent emissaries to lay the Hill people under contribution had his attention called to the value of the territory both as a producing district and as a strong post from which he might harass his enemies in Malayalum and Coimbatore. He accordingly appears to have seized upon two of the three forts which commanded the Passes to those Countries, viz., Hoolicul Droog and Mullay cotta, and having deepened their ditches, heightened their walls, and otherwise strengthened them, he put strong garrisons into them which both controlled the Hill tribes, and observed and harrassed the kingdoms helow them. This tradition is borne out by the present appearance of these two forts which although partially ruinous, yet retain sufficient evidence of comparatively modern occupation, while the third (Konagerry) has become entirely obliterated. With

Taxation by Hyder. Hyder the system of taxation must first have commenced on the Hills, and the imposts levied both by him and by his son Tippoo on the mountaineers must have been very severe. Old inhabitants who have a clear recollection of those times through the tales of their fathers and an imperfect one through their own retrospect, state that whole villages used to be despoiled of their year's grain and fodder by Hyder's Officers who made incursions continually amongst them and forced the villagers to carry their own plundered pro-

perty down the face of the Hills to Danaikencotta, where the Mysoreans had a strong fort and an extensive magazine. Hence to the Hill tribes the overthrow of Tippoo and the transfer of their territory to the East India Company, was a change fraught with the most beneficial results and I imagine the tranquillity and security which they have ever since enjoyed have rendered these people a portion of the most contented of the host who now acknowledge the Honorable Company's sway.

With the exception of the buildings erected along the various lines of road for the accommodation of travellers, the public buildings of this district are chiefly congregated within the limits of the Cantonment of Ootacamund. They consist of

- Public Buildings.**
- 1st. A Public Office—containing the Magistrate's, and Commanding Officer's establishments ; the Pay Office, Post Office, and rooms for the security of property in the charge of the Magistrate and Commanding Officer.
 - 2d. A Church very substantially built with a sufficiently extensive burial ground attached, and with vestry room, &c.
 - 3d. A Dispensary, a tiled building, commodious within, but requiring more godowns.
 - 4th. A Jail, so called because when convicts used to be employed on the roads in the Cantonment they were quartered in sheds erected in the compound attached to this building. It is at present unappropriated and useless, which is a pity as it is one of the most substantially built houses in the settlement, having been originally designed and occupied as quarters for sick officers.
 - 5th. A Choultry or Caravanserai for the accommodation of native travellers, situated in the main bazaar, near an open spot on which the weekly market is held, and which is about to be occupied by a covered market place now building at the expence of Government, and which is much needed to afford shelter in the rainy monsoon to the market people from the low country and their goods.
 - 6th. A Kharkahna or building for the housing of the Government cattle employed in bringing gravel for the Cantonment roads, for which purpose 5 bandies and an establishment (costing Rs. 56-12) per mensem are kept up.
 - 7th. A Cutwall's Choultry for police purposes having a lock up house attached for the safe custody of prisoners.
 - 8th. A Tahsildar's Cutcherry, for the usual purposes of Revenue, &c.

- 9th. A Meteorological Observatory erected at the expence of Government on the summit of Dodabetta, in which the Meteorological Instruments lately sent out by the Honorable Court are deposited.
- 10th. A Traveller's Bungalow at Pykara.
- 11th. A do. do. at Neddiwuttum.
- 12th. A do. do. at Kullhuty.
- 13th. A do. do. at Coonoor.
- 14th. A do. do. foot of the Koondahs called the "Avalanche."
- 15th. A do. do. summit of Koondahs at Sispara.
- 16th. A Chettrum for Natives at Nunjanaad.
- 17th. A do. do. at Coonoor.
- 18th. A do. do. at Avalanche.
- 19th. A do. do. at Sispara.
- 20th. A do. do. at Koondahs in the long valley.
- 21st. A do. do. at Wallakadoo in the Sispara pass.
- 22d. A do. do. at the Kaitee valley.
- 23d. A do. do. at Berliar in the Coonoor pass.
- 24th. A do. do. at Kullhuty, Seegoor pass.

These Chettrums are almost all new buildings with substantial walls, roofs of tiles and doors and windows; but so singular are the ideas of Natives regarding accommodation for themselves that they prefer passing the night in little thatched huts built by wayfarers, and seldom use the Chuttrums except to cook their food in. The bridges have been already enumerated under the proper head.

KOTERGHERRY;
NEILGHERRY HILLS, }
29th February 1848. }

J. OUCHTERLONY, Captain,
Superintendent, Neilgherry Survey.

STATEMENT of the POPULATION of the CANTONMENT of OOTACAMUND, (Natives.)

TAMIL.	NAME OF CASTE.	ADULTS.		CHILDREN.		REMARKS.
		Male.	Female.	Male.	Female.	
வெள்ளாழி	Vellalers.....	137	144	88	84	Bricklayers, butlers, &c.
வெள்ளாழிமுதலிகள்	Vellaler Moodliars...	17	18	4	5	do.
ராசபத்தூர்கள்	Rajpoots.....	11	11	7	7	Vendors of sweetmeats.
மறட்டையர்கள்	Mahrattas.....	60	52	26	34	Tailors.
ஆண்டிகள்	Aandies.....	10	0	0	0	Cloth merchants.
லடகசாயகள்	Lodakaseys.....	29	27	18	19	Mutton butchers.
தாசிகள்	Dancing Caste.....	18	37	2	3	Dancing girls and players.
கமாளாழி	Kummaulers.....	59	57	30	28	Goldsmiths, iron smiths, carpenters, &c.
செட்டிகள்	Chetties.....	17	8	5	3	Merchants.
கொமட்டிகள்	Comaties.....	4	0	0	0	do.
ஆலுகர்கள்	Mussulmauns ..	142	151	124	118	Butchers, timber dealers, peons, shopkeepers, &c.
செட்டிகள்	Saides do.	25	7	3	2	Bombay Hawkers, or itinerant merchants.
பாரீஷ்கள்	Parsees.....	1	1	1	1	Baker.
லப்பகள்	Lubbies.....	152	18	8	9	Bazaarmen and traders.
அமட்டர்கள்	Barbers.....	18	16	8	7	Barbers.
புள்ளர்கள்	Pullers.....	22	24	14	7	Hunters or Shikanees.
பறப்பர்கள்	Madras Pariahs ..	196	233	120	106	Cooks, horsekeepers, maties, &c.
சங்குப்பையன்	Chungoo do.	117	86	59	44	Coolies for carrying loads.
தேயர்கள்	Teayers do.	1	1	0	0	Malayalum man.
போட்டிகள்	Portuguese.....	7	6	3	2	
தோட்டிகள்	Toties, Pariahs	46	36	18	22	Scavengers.

		Chiefly in the public offices, Do. and servants. Tailors.																	
						HOUSES.		CATTLE, &c.											
						Tiled houses.	Thatched houses.	Tiled shops.	Thatched shops.	Bullocks.	Cows.	Calves.	Buffaloes.	Calves.	Bands.	Horses.	Schools.	Mosques and temples.	
பிராமணர்கள்	26	16	6	6														
கவிரர்கள்	6	5	2	2														
மருடமுயற்சிகள்	2	0	0	0														
கம்மாண்டர்கள்	3	2	2	2														
East Indians	2	1																
Total....		112	957	548	509	189	454	120	5	24	15	7	0	0	10	9	2	3	

Uggarum.

Native Population of Ootacamund, &c. (continued.)

TAMIL.	NAME OF CASTE.	ADULTS.		CHILDREN.		REMARKS.
		Male.	Female.	Male.	Female.	
வள்ளாளர்கள்	Vellalers.....	19	16	3	6	Bricklayers, &c.
கவரோகர்	Gentoos	16	19	6	11	Carpenters, gardeners, &c.
மாடமுயற்கள்	Maharattas	2	0	0	0	Tailors, peons.
கெங்கிடகாரர்களாகள்	Gengeda Kunawadies..	25	18	0	10	Coolies working in gardens, &c.
ஒக்கலிகர்	Okeleyar.....	3	3	1	2	do.
தொறாயற்கள்	Toreyoor.....	6	4	5	3	do.
கமாளர்கள்	Kummaulers.....	5	0	0	0	Smiths, carpenters, &c.
துலுக்கர்கள்	Musulmaans.....	4	5	3	4	Peons, gardeners, &c.
சாணர்கள்	Sanaars.....	2	2	2	3	Toddy dealers.
தியற்கள்	Teahers	3	2	1	2	Malayalum.
பறயற்கள்	Madras Pariahs.....	49	53	25	19	Cooks and servants, horsekeepers, &c.
சங்குப்பறயற்கள்	Chungoo do.	20	14	21	10	Coolies.
சுகலிகர்	Chucklers do.	7	7	6	3	0 111 0 1 6 54 19 4 1 2 0 1 0
கெங்கிடகாரர்களாகள்	Gungadee Kunnaddies.	22	24	18	14	
கள்ளவணலார்	Kunnady Washermen..	1	1	0	1	
பறகள்ளவறயற்கள்	Pariah Kunnadies ...	6	3	2	3	0 32 0 0 4 92 28 20 6 0 0 0 0
கெங்கிடகாரர்களாகள்	Gungadee Kunnadies ..	39	29	23	17	
பறகள்ளவறயற்கள்	Pariah Kunnadies	11	6	4	6	
பறயற்கள்	Madras Pariahs	50	56	28	33	
சங்குப்பறயற்கள்	Chungoo do.	18	11	6	6	0 71 0 0 6 38 11 6 1 0 0 0
Total ...		308	278	167	153	0 214 0 1 16 184 58 30 8 2 0 1 0

Ottey, (site of former Otteyka-Mund.)
 Ootacamund.
 Bandy soleys
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THE NEILGHERRY MOUNTAINS.

Native Population of Ootacamund, &c. (continued.)

TAMIL	NAME OF CASTE.	ADULTS.		CHILDREN.		Tiled houses.	Thatched houses.	Tiled shops.	Thatched shops.	Bullocks.	Cows.	Calves.	Buffaloes.	Calves.	Asses.	Bands.	Horses.	Temples.	Schools.	
		Male.	Female.	Male.	Female.															
Vannar-trey.	வெள்ளாயர்	5	5	4	3															
	வண்ணாரப்பறையர்கள்	16	14	11	10															
	பறையர்கள்	17	16	13	11	0	36	6	0	4	1	0	0	0	0	0	0	0	0	1
Ootput-trey.	வெள்ளாயர்	6	6	5	6															
	சங்குப்பறையர்கள்	5	2	1	1	0	5	0	2	1	8	3	1	0	0	0	0	0	0	0
Uttarcara-treeroo.	குலுகர்	7	5	4	3															
	பறையர்	17	10	9	4															
	சாடகர்கள்	1	3	0	0	0	25	0	0	8	0	0	0	0	0	0	4	0	0	0

CENSUS of the POPULATION of the NEILGHERRY HILLS taken to the 1st of December 1847.

To which is appended a statement of the number of dwelling houses, temples, cattle, ploughs, &c. belonging to each village with general explanatory remarks.

THE TODAS.

Particulars of Toda-munds in the "Toda-naad" Division of the Neilgherries.

Number.	Name of Mund,		Adults.		Children.		Buffaloes.		Calves.		No. of Temples.	No. of breeding Huts.	No. of Cattle Pens.	REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.				
1	Tharnadoo	கார்நாடு	3	2	2	5	6	86	4	12	3	1	1	
2	Beyvermund	பெய்வர்மந்து	3	4	5	9	6	60	3	15	2	1	1	
3	Gurreealoomund	கரியானமந்து	2	3	2	3	5	55	7	16	3	1	1	
4	Thalapetharymund	தலப்பிதேநரிமந்து	4	2	4	7	30	90	13	25	3	2	1	
5	Coneycoraymund	கொணிகொரோமந்து.	3	3	5	4	7	30	4	9	2	1	1	
6	Thanadoomund	தேநாடுமந்து	3	2	3	4	30	120	16	32	4	2	2	
7	Baitthomund	பெட்ட தோமந்து	3	2	1	3	14	32	3	8	3	1	1	
8	Emmagulumund	பெட்ட மெகலமந்து	2	2	2	1	4	30	3	9	3	1	1	
9	Neercoonjee	நீர் குண்ணி	3	2	1	3	7	26	5	9	2	1	1	
10	Maulcodoo	மால்கோடு	4	3	4	2	5	16	2	3	2	1	1	
11	Nathanry	நாந்தேநெரி	2	1	3	2	16	70	7	14	4	2	2	
12	Pinnapool	பின்னேப்பூல்	2	1	1	1	14	40	9	16	2	1	1	

Particular of Toda-murds in the Toda-naad Division of the Neilgherries, (continued.)

Number.	Name of Mund.		Adults.	Children.		Buffaloes.		Calves.		No. of Hutts.	No. of Temples.	No. of breeding Hutts.	No. of Cattle Pens.	REMARKS.
	English.	Tamil.		Male.	Female.	Male.	Female.	Male.	Female.					
40	Bethencoodoo..	Brought forward..	71	55	77	82	299	1285	146	332	102	44	43	
41	Thoraygoodoo..	பெதகன்சூடு	0	0	0	0	0	0	0	0	2	1	1	1
42	Codanalay ..	தொரோசூடு	0	0	0	0	0	0	0	0	3	1	1	1
43	Mootonaad ..	கடதேலே	0	0	0	0	0	0	0	0	1	1	1	1
44	Athen Tharnaad ..	முததுநாடு	0	0	0	0	0	0	0	0	2	1	1	1
45	Kytharagoo..	பெததிவ் தார்நாடு	0	0	0	0	0	0	0	0	4	1	1	2
46	Currycul ..	கைதேரகு	0	0	0	0	0	0	0	0	2	1	1	1
47	Coodyagadoo ..	கரிவீல்	0	0	0	0	0	0	0	0	4	1	1	2
48	Baircadavoo ..	கொடியேகாடு	0	0	0	0	0	0	0	0	2	1	1	1
49	Condalary ..	பொர்க்கடவு	0	0	0	0	0	0	0	0	3	1	1	1
50	Buggoolah..	கொண்டலேரி	0	0	0	0	0	0	0	0	3	1	1	2
51	Cubbulgoodoo..	பக்குளா	0	0	0	0	0	0	0	0	2	1	1	1
52	Oothal	கடபல்கூடு	0	0	0	0	0	0	0	0	2	1	1	1
53	Oonna	உளதார்	0	0	0	0	0	0	0	0	2	1	1	1
54	Thabagoodal ..	ஒன்னே	0	0	0	0	0	0	0	0	3	1	1	1
55	Argo	நாபேபகுடல	0	0	0	0	0	0	0	0	2	1	1	1
56	Coorathal ..	ஆர்கோ	0	0	0	0	0	0	0	0	3	1	1	1
57	Porthy	கூரோதார்	0	0	0	0	0	0	0	0	2	1	1	1
		பொர்தி	0	0	0	0	0	0	0	0	1	1	1	1

PARTICULARS of TODA-MUNDS in the PARUNGENAAD DIVISION.

Number.	Name of Mund.		Adults.		Children.		Buffaloes.		Calves.		No. of Huts.	No. of Temples.	No. of breeding Huts.	No. of Cattle Pens.	REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.					
78	Narkodemund.....	தாற்கோடுமந்து	73	58	80	84	315	1359	149	348	192	82	83	85	
		Brought forward..	2	1	1	1	2	6	1	2	2	1	1	1	Tenu mund in ruins and 3 others.
79	Beydookul ,,	பேடுகனமந்து	3	2	2	2	2	15	2	3	2	1	1	1	
80	Koroomodoo ,,	கோமூடோடு	4	3	2	2	3	9	2	3	3	1	1	1	
81	Koreekul ,,	கேழிகள	0	0	0	0	0	0	0	0	2	1	1	1	
82	Kodakudoo ,,	கோடகூடு	0	0	0	0	0	0	0	0	2	1	1	1	
83	Koditaal.....	கோடித்தாள	0	0	0	0	0	0	0	0	2	1	1	1	
84	Hallyoor.....	அலையூர்	2	5	2	4	3	4	1	2	3	1	0	1	
85	Buttamund.....	பட்டமந்து	2	1	0	1	4	25	3	8	1	0	1	0	
	Total in the Parungenaad..		13	12	7	10	14	59	9	18	17	7	7	7	
	GRAND TOTAL....		86	70	87	94	329	1418	158	366	209	89	90	92	

THE BURGHERS.

PARTICULARS of BURGER VILLAGES in the TODA-NAAD DIVISION.

Registered No.	Name of Village.		Adults.		Children.		Buffaloes.		Calves.		Cattle.		Calves.		No. of Ploughs.	No. of Houses.	No of breeding Huts.	No. of Cattle Pens.	REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.					
1	Cadanaad.....	கடநாட்	5	7	4	8	2	2	3	2	8	6	3	4	3	4	2	4	
2	Unneycoray (3) ..	ஆட்டிடழ	20	17	9	12	10	14	4	9	40	45	10	17	22	22	3	15	
3	Uttavally (4)....	அண்ணிககொரோ ..	23	22	11	9	16	112	4	19	68	54	16	18	36	22	10	14	
4	Adhutti (2).....	அட்டவாளே	6	7	5	6	4	16	0	8	6	4	2	4	5	4	2	4	
5	Thoonary.....	தூநேரி	18	20	13	17	12	30	4	6	28	42	9	13	14	26	10	9	
6	Kenggamoody	கெங்காமூடி	1	2	1	2	2	1	1	2	0	0	0	0	0	2	1	3	
7	Cothavamoody	கொதவமூடி	20	21	12	13	9	22	2	4	22	19	8	9	10	21	4	14	
8	Edoovutti	எடுவட்டி	5	6	5	7	2	2	2	1	4	4	2	1	3	6	1	4	
9	Mooratoothal	மூரட்டுதாள்	5	4	2	2	2	4	1	1	6	4	2	3	3	7	1	4	
10	Thorayhutti	தூரோயுட்டி	5	6	5	4	1	2	1	0	6	6	2	1	3	6	1	3	
11	Osayhutti	ஓசையுட்டி	4	3	3	2	1	3	3	2	6	7	2	3	3	6	1	3	
12	Oormalay	ஓர்மலே	5	9	5	4	2	4	3	2	7	5	1	2	3	4	1	4	
13	Ooloputti	ஓலுப்பட்டி	3	3	2	1	1	2	2	2	2	1	1	0	2	5	1	3	
14	Kadanaadoo ooroo.	கடநாடுபாளூ ..	17	19	15	18	4	23	4	14	23	19	5	12	15	19	2	4	
Carried forward..			142	146	92	105	68	237	34	72	231	216	63	87	122	154	45	88	

Population of Burgher Villages in the Toda-Naad Division, (continued.)

Registered No.	Name of Village.		Adults.		Children.		Buffaloes.		Calves.		Cattle.		No. of Ploughs.		No. of Houses.		No. of breeding Huts.		No. of Cattle Pens.		REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
15	Thavanay	Brought forward.	142	146	92	105	63	237	34	72	231	216	63	87	122	154	45			88	
16	Koonthachuppay	தாவனே	17	18	16	14	2	15	2	4	28	9	2	4	14	12	3			7	
17	Thoommanahutty	கூந்தச்சுப்பே	6	7	5	6	2	2	2	2	27	4	4	4	14	8	2			4	
18	Kenthooray	தூமமன அட்டி	7	9	6	7	7	10	1	4	14	12	4	2	6	8	1			6	
19	Cuppuchy	கெந்தூரே	6	7	3	6	2	1	0	0	8	6	4	3	4	7	1			5	
20	Thimmanadah	கப்ப சுகி	8	10	4	5	5	2	2	3	10	9	4	2	4	10	2			4	
21	Moreyculloo	திமநாடா	4	4	2	2	2	2	1	2	6	5	2	1	3	5	1			3	
22	Cumbhuty	மோரிகலலு	6	5	2	3	2	3	2	0	0	0	0	0	0	7	1			3	
23	Pilloocumbay	கமமட்டி	6	6	3	4	2	3	1	1	5	7	2	2	4	7	1			4	
24	Cove'a	பிலூகம்பே	4	5	2	4	2	1	0	0	6	6	2	2	3	6	1			3	
25	Murrayculloo	கவவே	6	5	3	6	3	3	0	3	8	10	2	4	4	6	1			4	
26	Kavelooray	மடக்ககலலு	4	4	3	4	1	3	1	2	6	8	1	3	2	5	1			3	
27	Odayhuty	காவலூரே	5	6	3	3	1	2	2	2	6	6	2	3	3	6	2			4	
28	Covedhuty	கூடைஅட்டி	13	13	12	12	4	19	4	11	34	22	4	0	12	15	1			4	
29	Culhuty	கவுட்டட்டி	7	9	5	6	2	3	2	2	14	8	2	4	6	9	2			5	
30	Vunneymarahutty	கலலட்டி	16	18	16	16	3	23	2	6	28	18	4	3	14	18	3			6	
31	A keconey	வனனிமர அட்டி	4	4	4	2	2	3	2	2	4	1	1	0	2	3	1			3	
32	Thuttanarey	பெக்கோணி	9	10	10	12	9	20	6	14	16	12	4	5	7	13	4			4	
		தட்டடேநீரி	6	6	4	5	3	4	4	5	8	4	2	1	3	8	2			3	

33	Karapilloo..	.....	காலப்பினு	.....	4	4	2	3	2	2	1	5	3	1	2	2	5	2	4
34	Oolluthy...	.....	உலவத்தி	.....	9	11	6	6	7	4	4	16	14	4	2	2	3	11	2
35	Mailooroo ..	.....	மெலூரு	.....	14	14	12	11	4	16	5	4	18	6	2	2	9	16	2
36	Mullygaray ..	.....	மலவிகரே	.....	4	4	2	3	0	0	0	0	4	2	1	1	2	4	1
37	Uthycul .....	.....	அத்திக்கல்	.....	3	3	4	4	0	0	0	6	0	0	0	3	4	1	3
38	Nunjanadoo ..	.....	நஞ்சதாடு	.....	9	11	13	6	8	18	5	7	14	12	5	4	9	15	4
39	Cooroothoogoolee..	.....	குந்தக்துளி	.....	5	5	2	3	7	8	6	5	8	9	7	4	7	6	2
40	Bickacunda .....	.....	பிக்ககேண்டே	.....	6	8	3	5	9	11	4	3	20	7	5	4	10	8	2
41	Soloaroo ..	.....	சொலூரு	.....	17	17	13	16	12	44	13	22	44	11	7	4	21	12	4
42	Maikoda.....	.....	மேயக்கோடே	.....	6	7	3	4	6	4	2	3	12	8	6	2	8	8	2
43	Kodutty ..	.....	கோட்டடி	.....	7	9	4	7	3	4	2	2	16	12	4	3	8	9	2
44	Ocoopolliam .....	.....	உக்குப்பாளையம்	.....	19	19	15	17	5	22	3	12	26	18	6	4	17	19	2
45	Abanaifoo ..	.....	யெப்பேநாடு	.....	11	13	17	10	7	9	5	7	24	24	9	7	12	14	4
46	Maraygoodoo .....	.....	மாரோகூடு	.....	5	5	2	3	2	12	1	4	4	2	1	0	2	7	2
47	Cumbhutti .....	.....	கம்பட்டி	.....	3	3	1	2	0	0	0	2	4	1	1	1	4	1	3
48	Coonoroo.....	.....	குணூரு	.....	6	6	3	4	10	3	2	6	6	2	1	3	8	2	6
49	Benthutti.....	.....	பெந்தட்டி	.....	7	8	4	6	2	6	2	4	4	6	2	3	2	10	3
50	Ujjooroo.....	.....	அச்சூரு	.....	7	7	3	4	4	3	2	1	12	4	2	4	10	1	5
51	Theanhutti .....	.....	தினட்டி	.....	14	14	12	13	6	20	4	10	24	13	2	4	12	16	1
52	Cuckoochoo.....	.....	கக்கூச்சு	.....	7	8	3	5	4	6	2	4	8	7	4	1	6	8	1
53	Banahutti .....	.....	பனேஅட்டி	.....	6	6	2	4	4	4	2	4	8	10	3	5	6	8	1
54	Calyganutty .....	.....	கலிக்கட்டி	.....	3	3	1	2	0	0	0	0	6	6	2	2	3	4	1
55	Pygoola .....	.....	பைபுஞார	.....	4	5	2	4	0	0	0	0	6	5	2	1	3	5	1
56	Thahervanoo .....	.....	தாந்தர்வேலு	.....	3	4	2	3	4	6	2	3	6	5	2	0	4	4	1
57	Kookal.....	.....	கூக்கல்	.....	14	16	15	19	12	26	6	12	34	25	9	8	20	22	2
58	Kookulthoray .....	.....	கூக்கல்தோரே	.....	26	29	10	13	6	30	6	10	20	80	9	13	10	30	2
59	Ovelutty.....	.....	உயிலட்டி	.....	15	16	18	19	6	19	7	14	18	8	3	3	9	12	2
				Carried forward.....	510	547	369	418	246	640	154	275	830	670	205	213	423	586	126	296

Particulars of Burgher Villages in the Toda naad Division, (continued.)

Registered No.	Name of Village.		Adults.		Children.		Buffaloes.		Calves.		Cattle.		Calves.		No. of Ploughs.	No. of Houses.	No. of breeding Huts.	No. of Cattle Pens.	REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.					
	Brought forward.		510	547	369	418	246	640	151	275	830	670	205	213	423	586	126	296	
60	Potooray	பொடூரே	7	9	4	6	6	8	4	2	16	6	2	2	8	10	2	6	
61	Segoola	சீகுளா	8	10	4	8	8	18	4	6	22	6	2	4	10	14	2	8	
62	Cooroomoody	கூரூமுடி	6	6	4	4	8	10	4	6	20	4	3	2	9	10	2	6	
63	Aloomatchinggooly	பெலம்படச்சுங்குளி	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	In ruins.
64	Thagaley	தேகலி	6	6	4	6	4	6	1	1	8	4	1	1	4	8	1	4	
65	Onaythlay	ஒனாதலை	6	7	4	6	6	14	2	4	18	4	2	2	7	8	1	3	
66	Ooroo	உளரு	3	2	4	2	0	0	0	0	4	2	1	1	2	4	1	3	
67	Sodalaroo	சொடாலேரு	3	5	2	3	2	2	0	0	2	1	1	0	2	4	1	2	
	(Toda-naad) Total.....		549	592	395	453	280	698	169	294	920	697	217	225	465	644	136	328	

PARTICULARS of BURGHIER VILLAGES in the MEYKENAAD DIVISION.

1	Kaity	கேசுதி	10	8	5	6	2	7	1	2	10	12	3	5	5	12	4	3	
2	Oolladah	உல்லாடா	16	17	9	13	2	7	1	2	30	12	3	5	15	13	6	5	
3	Ellanully	பெல்லனளி	18	17	8	9	3	5	2	3	30	15	6	3	15	17	2	2	
4	Kecketty	கேக்கட்டி	10	12	10	5	0	0	0	0	16	12	3	6	8	10	2	2	

In ruins.

5	Mokuty	மொககட்டி	2	3	2	3	0	0	0	0	0	2	3	1	2	1	6	1	2
6	Colungarab	கொலங்கர	5	5	6	2	0	0	0	0	0	6	4	1	2	3	3	1	1
7	Manaputtoo	மனப்பட்டு	2	2	3	1	0	0	0	0	2	3	1	2	1	5	1	1	1
8	Uchnakulloo	அச்சனகலு	10	11	6	7	1	2	1	1	8	12	5	6	5	10	5	2	2
9	Keryadar	கிரை ஆடா	20	21	17	19	8	11	7	8	20	40	10	11	10	20	6	7	7
10	Cummunthoo	கமமுந்தி	5	6	4	5	0	0	0	0	6	4	2	3	3	5	1	1	1
11	Mail Oodirutty	மேலமையாட்டி	11	9	6	9	4	4	2	3	12	15	8	9	7	10	4	3	3
12	Keil Codirutty	கீள்மையாட்டி	3	4	3	5	1	1	1	1	4	6	2	2	2	4	1	2	2
13	Sogalhooray	சோகத்தூர்	9	10	5	7	2	3	1	2	12	12	6	3	6	9	3	5	5
14	Arenully	அரீர்நளனி	2	3	2	4	0	0	0	0	4	3	1	2	2	4	1	1	1
15	Kartary	கார்ட்டேரி	25	30	15	16	2	6	2	3	30	30	10	12	16	25	6	7	7
16	Theothutty	தூத்தி	5	5	3	6	0	0	0	0	8	9	4	5	4	5	2	1	1
17	Nadoovutty	நடுவட்டி	4	4	3	5	0	0	0	0	6	6	2	3	3	4	1	1	1
18	Theothooroo	தூநூர்	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Kodaroo	கோடேரு	4	5	3	2	0	0	0	0	6	4	2	3	3	4	1	2	2
20	Maungaudah	மாணிஆடா	4	4	4	2	0	0	0	0	12	0	0	0	4	4	1	1	1
21	Athycarutty	அதிகாட்டி	40	46	20	21	9	12	6	9	50	60	30	20	26	30	6	10	10
22	Aanyhutty	ஆணிஆட்டி	4	4	2	3	0	0	0	0	4	0	0	0	2	4	1	1	1
23	Mootynadoo	முடநாடு	9	9	8	9	2	6	2	3	20	20	10	8	9	9	2	3	3
24	Theindoculloo	திண்டுக்கலு	4	4	3	5	0	0	0	0	4	0	0	0	2	4	1	2	2
25	Thamutty	தாமட்டி	13	14	12	9	3	5	2	3	20	20	8	9	10	14	4	4	4
26	Kelooroo	கீரூரு	2	2	1	3	0	0	0	0	2	4	0	0	1	2	1	1	1
27	Alatanay	ஆளட்டனே	4	4	2	3	0	0	0	0	4	0	0	0	2	4	2	1	1
28	Munjacumbay	முஞ்சகம்பே	5	6	3	6	0	0	0	0	6	0	0	0	3	5	1	1	1
29	Kotheyvane	கோத்திவேன்	2	4	2	3	0	0	0	0	2	0	0	0	1	2	1	1	1
30	Vengulloo	வேங்கலு	4	4	2	3	0	0	0	0	4	0	0	0	2	4	1	1	1
31	Maincelay	மயனிலே	6	6	3	2	1	2	1	1	4	4	2	1	2	5	1	1	1
		Carried forward..	258	279	172	193	40	71	29	41	344	310	120	122	173	253	70	75	75

Particulars of Burgher Villages in the Meykenaad Division, (continued.)

Number.	Name of Village.		Adults.	Chil- dren.		Buffa- loes.		Calves.		Cattle.		Calves.		No. of Ploughs	No. of Houses	No. of breeding Huts.	No. of Cattle Pens.	REMARKS.
	English.	Tamil.		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.						Male.
32	Thanaadoo	Brought forward.	258	172	193	40	71	41	344	310	120	122	173	253	70	75		
33	Mailooroo	தேநாடு	8	9	6	2	3	1	8	8	4	3	4	7	4	2		
34	Osayhutti	மேட்டூரு	9	10	8	0	0	0	6	7	2	3	3	9	4	3		
35	Mailutti	ஓசாஅட்டி	6	6	5	0	0	0	4	0	0	0	2	7	1	1		
36	Causalay	மேலட்டி	4	4	3	0	0	0	4	0	0	0	2	4	1	2		
37	Veckecoodul	காசாலேவல்	4	4	2	0	0	0	4	0	0	0	2	4	1	1		
38	Kooduhutti	விககிசூட	19	19	16	2	10	2	3	16	9	8	8	18	4	3		
39	Valacolay	குடலட்டி	5	5	3	0	0	0	8	4	2	3	4	5	0	1		
40	Meecaroo	வாளககுலே	15	16	17	4	8	4	20	20	10	12	10	15	4	4		
41	Maunyhutti	மீககேரு	12	10	9	2	5	2	3	20	5	8	10	11	4	5		
42	Aulacoray	மணிஅட்டி	30	30	20	4	7	4	30	40	10	12	15	30	4	7		
43	Thungadoo	ஆலககோரே	5	5	3	1	1	1	8	6	2	3	4	5	0	3		
44	Oornully	தங்காடு	8	9	5	1	2	1	16	17	8	3	8	9	4	3		
45	Cunnary	ஓர்னளளி	20	20	10	2	4	2	1	20	10	8	10	20	4	5		
46	Munthana	கனளேளி	7	8	3	0	0	0	10	12	4	2	5	7	1	2		
47	Bembutti	மந்தனே	5	6	3	0	0	0	8	6	2	3	4	5	1	1		
48	Baitthaul	மேம்பட்டி	8	8	3	1	2	1	10	12	4	6	5	8	1	2		
49	Uttabylee	மேல்தான்	9	9	8	1	3	2	14	12	5	4	7	8	3	3		
		அட்டட்டி	6	6	3	2	4	2	3	8	10	4	4	6	2	4		

Particulars of Burgher Villages in the Meykenaad Division, (continued.)

Number.	Name of Village.		Adults.		Children.		Buffaloes.		Calves.		Cattle.		Calves.		No. of Ploughs.		No. of Houses.		No. of breeding Huts.		No. of Cattle Pens.		REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
77	Adacadoo.	பொட்டகாரடி	598	623	402	429	88	234	74	111	763	698	272	253	335	613	165	199					
78	Soonduty.	சுண்டட்டம்	12	10	4	6	2	18	2	14	8	10	2	4	4	14	5	6					
79	Mailkoontha Ooro.	மேல்குந்தேவளூர்	10	8	6	4	2	16	4	12	10	10	2	4	5	12	5	6					
80	Uttoomunoo.	அட்டுமணூர்	8	6	4	5	2	8	2	4	16	10	2	6	7	12	3	4					
81	Koraypoddum.	கொய்ப்பேட்டம்	6	6	3	7	1	4	1	2	8	14	4	4	4	8	4	5					
82	Mooleymalay.	முள்ளிமலை	4	4	2	3	2	6	1	3	6	6	2	2	3	6	3	4					
83	Beccumboo.	பெக்கம்பூ	5	6	4	3	1	3	0	2	6	3	1	1	3	7	2	3					
84	Aresingoo.	அரசிங்கூர்	2	2	0	3	1	2	1	0	4	2	1	1	2	4	2	3					
85	Gagegaputty.	கேசுகிப்பட்டி	2	1	1	4	0	2	0	1	2	2	1	0	1	3	2	3					
86	Kinnakoray.	கிணக்கொரை	2	2	1	3	1	2	1	1	4	2	1	1	2	3	1	2					
			6	8	2	6	2	18	2	14	4	12	4	2	2	6	1	2					
		(Meykenaad) TOTAL..	655	676	429	473	102	313	88	164	831	769	292	278	418	688	193	237					

PARTICULARS of BURGHER VILLAGERS in PARUNGENAAD DIVISION.

1	Melythanoo.	மிள்தேனூர்	28	22	26	23	2	10	2	3	20	35	8	7	13	28	3	6					
2	Karevuttoo.	கேறிவட்டி	26	18	14	7	2	10	2	2	16	17	6	4	10	17	2	8					
3	Osayhutty.	ஓசாஹட்டி	2	2	0	2	0	0	0	0	0	0	0	0	0	2	0	0					

Now building.

4	Cumbhutythoray..	கம்படற-தூரோ	15	12	9	6	0	4	0	0	6	12	4	5	3	12	4	5
5	Cumbhuty	கம்படற	12	11	7	5	1	5	0	1	7	15	4	4	6	4	11	3
6	Baircunny	பேர்கனனி	8	6	6	5	2	11	1	2	6	10	3	5	4	8	2	5
7	Munthyhuty	மந்திதாடு	6	4	2	0	1	5	2	4	4	8	2	1	2	5	2	3
8	Ivooro	அயலூரு	2	2	2	1	1	0	1	0	2	2	0	0	0	2	4	2
9	Kunnarymookoo	கன்னேரிமூக்கு	18	14	10	6	4	1	0	0	8	14	3	6	4	14	2	7
10	Anihuty	அனை அடற	5	4	3	2	7	2	1	0	2	4	1	1	1	5	2	2
11	Thimmuty	திமமடற	18	15	9	7	2	0	0	0	6	14	4	3	3	17	4	5
12	Cadacodoo	கடக்கோடு	10	9	5	3	2	0	2	1	4	9	4	2	2	9	3	4
13	Araycumbay	அரகமலை	5	5	3	3	2	0	0	0	2	5	1	1	1	5	3	3
14	Podyaingy	படியெங்கி	4	4	3	2	1	3	0	0	4	7	2	1	2	4	3	4
15	Koondadah	கூண்டாடா	12	9	6	4	0	0	0	0	4	14	3	2	2	12	4	4
16	Nadoongoolah	நெடுங்கூளா	23	20	10	9	2	6	1	3	14	24	10	6	5	23	6	13
17	Salacothy	செலக்கோதை	18	19	11	8	2	3	1	2	6	20	6	3	3	18	3	5
18	Soonduty	சுண்டடற	15	13	9	5	2	16	0	5	8	15	3	1	3	15	3	7
19	Odanoo	ஒடனூ	8	8	4	3	2	5	2	6	6	6	3	2	2	7	3	6
20	Poymody	பாயமுடி	10	10	7	4	1	7	2	4	8	10	3	2	3	10	2	6
21	Ooloothutto	உலலுத்தடு	3	3	1	1	0	0	0	0	0	0	0	0	1	3	2	1
22	Calygarayooroo	கலிகரோளரு	18	18	12	9	3	15	4	4	16	14	5	4	9	16	3	9
23	Orosolay	ஒருசோலை	19	17	11	6	2	12	10	7	13	16	6	4	8	18	4	8
24	Thanadoo	தந்தாடு	26	20	13	14	6	30	2	5	22	26	9	7	10	26	6	18
25	Thoonary	தூநேரி	12	10	6	4	4	13	2	2	8	8	3	3	4	11	2	10
26	Moothoorabaika	முத்தூர்பேக்கே	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0
27	Thoombymala	தூம்பிமலை	10	9	3	3	0	0	0	0	4	8	2	3	2	8	2	6
28	Mailhuty	மலைடற	9	8	5	6	3	6	0	2	4	12	6	2	2	6	2	4
29	Kengaray	கெங்கரோ	12	11	7	6	1	10	1	3	2	15	4	3	2	12	2	5
30	Adaculloo	அடக்கலலு	6	5	3	5	2	6	1	2	4	6	2	3	2	5	1	5
Carried forward.....			363	318	209	160	56	90	37	53	175	330	145	90	95	307	124	136

Particulars of Burgher Villagers in Parungenaad Division, (continued.)

Number.	Name of Village.		Adults.		Children.		Buffaloes.		Calves.		Cattle.		Calves.		No. of Ploughs.	No. of Houses.	No. of breeding Huts.	No. of Cattle Pens.	REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.					
31	Bungythuttoo	Brought forward	363	310	209	160	56	90	37	53	178	330	145	90	95	307	124	130	
32	Kooneysolay	பங்கிதடூ	5	4	2	1	1	8	1	2	4	4	2	1	2	4	1	4	
33	Soolloogoodoo	கூண்சேரலை	3	3	2	1	1	4	1	1	2	3	1	2	1	3	1	4	
34	Munjambay	சுளஞ்சூடு	13	10	4	6	2	12	2	4	8	16	6	5	4	10	1	8	
35	Beathocumbay	மஞ்சமலை	5	3	2	1	1	6	1	3	2	6	3	1	1	4	1	4	
36	Conacoray	பீதுகம்பே	6	4	4	3	1	9	1	0	4	8	3	4	2	5	1	5	
37	Baitlandah	கோனூக்கரை	31	30	16	31	1	10	2	1	18	20	5	6	12	30	4	15	
38	Jacenary	பெட்டவார்டா	4	4	3	2	1	6	1	2	4	10	1	2	2	4	1	3	
39	Mailhuty	சக்கநாரி	20	20	10	15	4	10	2	3	14	20	4	5	7	20	2	10	
40	Keilhuty	மேலடூ	10	9	8	5	1	5	1	2	4	10	2	3	2	10	2	5	
41	Jacatha	கீளடூ	8	7	6	4	1	6	1	3	4	11	1	4	2	8	2	5	
42	Arayvanoo	சக்கேநா	10	9	7	5	1	10	2	3	10	20	2	3	5	14	2	9	
43	Thoombooroo	அரவேணு	18	12	6	3	1	8	1	2	4	10	1	3	2	10	1	5	
44	Bethuty	தும்பூ	9	8	4	5	1	6	1	2	3	6	3	2	4	8	1	5	
45	Selvelah	பெட்டஅிடூ	5	3	3	4	1	6	1	2	4	10	2	3	2	9	1	5	
46	Gasalahdu	செல்விளா	5	3	2	3	1	3	1	2	4	8	2	3	2	4	3	3	
47	Jacathal	கெசலாட	8	6	3	4	2	7	2	1	4	9	1	4	2	8	1	3	
48	Bairhuty	சக்கேநாள்	30	25	10	11	1	10	4	2	20	30	5	3	12	26	2	10	
		பேர் அிடூ	3	3	2	2	0	0	0	0	2	4	1	2	1	3	1	1	

49	Otheygathuty.	5	4	1	2	0	3	1	0	2	5	1	3	1	4	1	2
50	Munjetho.	5	4	2	3	1	6	0	2	2	6	2	1	1	5	1	1
51	Punthemay	2	2	2	1	0	0	0	0	2	5	1	1	1	2	1	2
52	Oooothalay	13	13	3	4	1	5	1	1	4	10	1	2	12	1	2	
53	Coonooroo	10	11	6	4	1	6	1	2	8	20	2	3	4	10	1	4
54	Bichutty.	12	11	5	6	1	6	1	0	12	20	2	3	6	12	1	6
55	Bogunthuty	10	9	3	4	1	8	1	2	4	10	1	2	10	2	2	3
56	Adapulhy	30	30	12	14	2	22	3	3	10	20	5	3	4	30	8	10
57	Eloothooray.	25	22	9	10	1	21	1	3	8	20	4	4	20	2	7	7
58	Arabettoo.	5	4	2	2	1	10	1	1	2	10	1	2	1	5	1	2
59	Beauty.	5	4	3	4	1	8	1	2	2	8	1	1	1	4	2	2
60	Nadoovuty	10	9	5	4	1	11	2	2	6	10	2	2	2	10	2	5
61	Cuttabettoo.	13	12	6	7	1	12	1	2	6	12	3	2	2	15	2	4
62	Thogooluty	5	6	7	5	0	0	0	0	2	6	2	1	1	6	2	3
63	Beppanoo.	13	10	6	5	1	10	2	1	2	10	1	3	1	8	1	2
64	Alyaroo	3	2	2	1	1	12	1	2	2	10	1	2	1	3	1	2
65	Kairoovanoo.	8	9	6	8	2	6	2	3	4	12	5	4	2	8	2	2
66	Culhuty	11	12	7	9	1	20	3	2	6	20	6	4	3	13	2	3
67	Mailhuty	12	13	9	10	2	17	4	3	4	16	7	3	2	12	3	3
68	Bethalem	16	18	9	8	1	15	2	3	6	20	6	5	3	16	1	2
69	Nadoovuty.	11	13	7	9	2	19	2	4	4	21	7	3	2	10	1	2
70	Pyanggy	4	5	5	3	1	12	2	3	2	8	2	2	1	4	1	2
71	Mail Pyanggy.	3	4	2	3	1	10	1	2	2	9	3	1	1	4	2	3
72	Cuttabettoo	6	7	8	3	2	19	1	4	2	10	2	2	1	6	1	2
73	Nadoovuty	6	10	8	7	1	12	2	3	4	12	3	2	2	10	1	2
74	Alacegroo.	11	12	7	6	1	10	1	2	4	17	4	2	2	10	1	1
	(Parungenaad) Total..	813	729	445	390	107	586	100	146	436	385	227	204	225	760	155	351

ABSTRACT.

Number.	Name of Village.		Adults.		Children.		Buffaloes.		Calves.		Cattle.		Calves.		No. of Ploughs.		No. of Houses.		No. of breeding Huts.		No. of Cattle Pens.		REMARKS.
	English.	Tamil.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
67	Burgbers in	Todanaad.....	549	592	395	453	280	698	169	292	920	697	217	225	465	644	135	328					
86	do.	Meykenaad.....	655	676	429	473	102	313	88	164	831	769	292	273	418	683	193	237					
74	do.	Parungenaad....	813	729	445	390	107	586	100	146	436	885	227	204	225	760	155	351					
		Total..	2017	1997	1269	1316	489	1597	357	602	2187	2351	736	707	1108	2092	483	916					

THE KOTHERS.

1	Badoogolah ..	படுகுளா ..	19	18	14	9	0	0	0	0	16	5	4	1	8	16	2	3					
2	Theroochagady....	திரிசசுகொடி....	26	28	19	18	0	0	0	0	12	7	4	2	6	18	2	5					
3	Koterghery.....	கொத்தகிரி.....	12	12	8	9	0	0	0	0	20	15	4	4	12	12	3	5					
4	Keil Koterghery..	கீல்கொத்தகிரி..	9	8	4	5	0	0	0	6	12	2	3	3	4	9	4	5					
5	Kallymalay.....	கொல்லிமலை ..	20	20	15	12	0	0	0	0	20	40	10	11	12	17	2	6					
6	Kontha Koterghery	கந்தைகொத்தகிரி.	7	6	4	5	0	0	0	0	18	8	2	0	8	9	4	2					
7	Goodaloor Koterghery.....	குடலூர்கொத்தகிரி..																					
		Total..	93	92	64	58	0	0	0	0	92	87	26	21	60	81	17	26					

Situated below the plateau under Neddiwuttum.—Out of the map—account not taken.

THE EURELARS.

1	Syrul.....	சொல்	4	3	4	5	1	2	2	2	1	1	2	1	1	1	4	1	1
2	Mylaroo.....	மயலேரு	4	4	4	2	0	0	0	0	0	0	1	0	1	1	4	1	1
3	Koocaroo.....	கக்கேரு	3	3	4	3	0	0	0	0	0	0	0	0	0	0	3	1	1
4	Echunngo.....	ஈச்சுப்பங்கா	2	2	1	0	0	0	0	0	0	0	0	0	0	0	2	1	1
5	Coonjapana.....	கூஞ்சப்பனா	9	9	6	5	6	0	0	0	0	0	0	0	0	0	9	1	1
6	Velleery.....	வெள்ளி	5	4	2	3	0	0	0	0	0	0	0	0	0	0	4	2	2
7	Aracodoo.....	அரக்கோடு	12	11	8	9	3	8	2	3	2	2	10	2	3	11	16	2	2
8	Mullycuppay.....	மலிக்கோப்பை	15	14	9	7	4	13	3	5	2	2	15	4	2	16	3	3	3
9	Ooryketchy.....	உரிக்கேச்சி	5	5	2	3	1	5	1	2	1	2	6	1	2	5	2	2	2
10	Cogeedah.....	கோகிடா	16	17	5	6	2	12	2	3	2	2	12	2	3	16	1	1	1
11	Covgeedah.....	கவகிடா	5	4	1	3	1	5	1	2	1	4	4	1	0	5	2	2	2
12	Nadvooroo.....	நடுவனூ	16	7	5	6	2	12	2	3	3	3	17	2	5	18	2	2	2
13	Carapanay.....	காரப்பனா	6	7	2	5	0	0	0	0	0	0	0	0	0	6	2	2	2
14	Neercoondy.....	நீர்க்குண்ட	9	8	3	5	1	6	1	2	1	1	10	1	3	9	2	2	2
15	Malapooroo.....	மலப்பூரு	4	8	4	3	1	4	1	2	3	6	6	1	2	6	4	4	2
16	Erapanay.....	ஈரப்பனா	4	5	2	3	0	0	0	0	2	6	6	1	2	4	2	2	2
17	Moolachuppay.....	மூலச்சப்பை	4	4	3	2	0	0	0	0	1	2	2	1	3	4	4	1	1
18	Bawgapanay.....	பாக்கப்பனா	8	9	4	5	1	7	2	3	2	10	10	2	2	8	2	2	2
19	Beathoocumbay.....	பீதூசும்பை	2	2	2	2	1	3	1	1	1	4	4	1	2	2	2	2	2
20	Chumbawnar.....	சும்பானூர்	4	5	2	3	1	0	0	0	0	0	0	0	0	4	4	2	2
21	Mavvoolah.....	மாவூல்	8	8	3	4	1	4	1	2	1	8	8	1	2	8	2	2	2
22	Aravathy.....	அரவதி	3	2	1	1	0	0	0	0	0	0	0	0	0	3	0	0	0
		Total..	148	151	77	86	26	81	19	30	29	122	25	36	150	38			

ABSTRACT
of the **POPULATION of the NEILGHERRY MOUNTAINS.**

Number of Villages or Munds.	Name of Tribe.		Adults.		Children.		Buffaloes.		Calves.		Bulls & Bullocks.	Cows.	Bull Calves.	Cow Calves.	Houses.	Ploughs.	Cattle Pens.	TOTAL SOULS of each Tribe.	REMARKS.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.									
85	86	70	87	94	329	1418	158	366	0	0	0	0	0	0	209	0	91	337	
227	2017	1997	1269	1316	489	1597	357	602	2187	2351	736	707	2092	1108	916	6599			
6	93	92	64	53	0	0	0	0	92	87	26	26	21	81	50	26	307		
22	148	151	77	85	26	81	19	30	29	122	25	25	36	150	0	38	461		
322	2344	2310	1497	1553	844	3096	534	998	2308	2560	787	764	2532	1153	1071	7704	Souls.		

14-665-48.

in No. 396-48.

S U M M A R Y.

	SOULS.
EUROPEANS.....	342
EAST INDIANS.....	154
HILL TRIBES.....	7,704
HINDOOS, MUSSULMAUNS, PARIAHS, &c.....	8,887
TOTAL POPULATION OF THE NEILGHERRIES..	17,087

J. OUCHTERLONY, Captain,
Superintendent Neilgherry Survey.

METEOROLOGICAL

kept at the Survey Office, KOTERGHERRY,

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the air.	Of the Wet bulb.	Direction.	
1	24·104	63·5	„	59·5	Calm	Cloudy.
2	·119	62·5	62·8	61·	Calm	Cloudy.
3	·106	63·	63·2	60·8	Calm	Cum. strat.
4	·112	62·8	62·5	61·	Calm	Cloudy drizzle.
5	·134	62·5	62·	59·8	Calm	Clear.
6	·134	62·5	61·2	58·	Calm	Cloudy.
1848*						
7	·184	61·	60·8	55·5	„	Clear.
8	·178	61·	60·5	56·2	N. E.	„
9	·192	61·5	60·	56·	N. W.	„
10	·195	62·2	62·5	59·8	„	„
11	·200	62·5	62·8	58·2	„	„
12	·213	63·5	63·8	58·5	Calm	Cloudy.
13	„	„	„	„	„	„
14	„	„	„	„	„	„
15	·204	63·5	63·7	60·	Calm	Cirri cumuli.
16	·211	63·5	63·2	60·	„	Clear.
17	·198	64·5	64·9	61·	„	„
18	·192	62·	62·5	58·	„	„
19	·188	62·3	63·	58·	„	„
20	·189	64·5	63·8	61·	„	„
21	·189	64·5	65·2	61·5	N. E.	Cumuli.
22	·191	65·	65·2	59·8	N. E.	Clear.
23	·187	62·	62·5	59·8	N. E.	„
24	·176	63·8	65·8	61·8	N. E.	„
25						
26						
27						
28						
29						

REGISTER,

for the Month of February, $\frac{1847}{1848}$ *

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND,	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
24.090	64.	65.2	60.5	Calm	Cloudy.	1847
.091	63.8	64.8	61.	Calm	Cloudy.	.61
.109	65.5	66.2	62.	Calm	Cloudy.	1.40
.108	65.8	66.5	62.2	Calm	Clear cumuli.	
.139	65.	65.8	61.2	Calm	Clear.	
.152	63.5	65.	61.	North	Cloudy.	.05
.175	65.5	67.5	60.8	Calm	Clear.	.26
.169	64.	65.5	59.5	"	"	
.184	65.2	66.2	61.5	N. W.	"	.44
.191	66.	68.	62.5	Calm	"	.09
.194	65.	67.	61.5	"	"	
.190	65.2	66.9	61.3	"	Cloudy.	2.56
"	"	"	"	"	Clear.	.74
.197	68.	70.	64.	N.	"	1.90
.197	66.	67.7	62.5	N. W.	"	3.06
.194	66.7	68.2	63.	Calm	"	
.184	66.	68.	63.	"	"	
.187	65.5	67.5	62.	"	"	
.175	66.5	68.5	63.2	"	"	
"	"	66.5	"	N. E.	Cumuli.	
.178	67.5	67.8	64.5	N. E.	Cirri.	.04
.183	67.2	69.	63.	N. E.	Clear.	1.74
.174	66.5	68.	"	N. E.	"	.10
"	"	"	"	"	"	.03
Total rain....						13.88
in 1848 " " , , , , ,						none.

The rain register is all for 1847.

For March,

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	"	"	"	"	"	"
2	24.129	62.2	62.5	60.5	Calm	Clear cumuli.
3	.182	63.5	63.5	61.5	Calm	Clear cumuli.
4	.178	61.	60.	57.5	N. W.	Clear cumuli.
5	.191	62.5	62.2	59.8	Calm	Clear cumuli.
6	.181	61.2	61.	57.5	Calm	Clear cumuli.
7	"	"	"	"	"	"
8	.187	62.	62.5	58.	Calm	Clear cumuli.
9	.192	62.	62.8	59.5	Calm	Clear cumuli.
10	.190	65.	64.5	60.	Calm	Clear cumuli.
11	.171	65.	64.6	61.	Calm	Clear cumuli.
12	.180	66.	65.	63.5	Calm	Clear cumuli.
13	.187	63.8	64.	60.8	North	Clear cumuli.
14	.161	"	63.2	"	"	"
15	.191	63.8	63.5	61.	Calm	Cloudy drizzle.
16	.248	63.8	63.8	61.5	Calm	Cloudy
17	.241	63.5	64.	61.	South	Cloudy drizzle.
18	.186	64.	64.	60.2	S. W.	Clear.
19	.180	64.2	64.	61.5	S. E.	Clear.
20	.180	63.5	63.	59.8	South	Clear.
21	"	"	"	"	"	"
22	.184	61.2	61.8	58.5	S. E.	Cloudy.
23	.176	63.8	64.	59.	N. E.	Clear.
24	.140	62.8	63.5	58.2	East	Clear.
25	.153	64.8	64.	60.2	N. E.	Clear.
26	.158	63.8	64.5	61.8	N. E.	Clear.
27	.147	66.5	66.	62.5	N. E.	Clear.
28	"	"	"	"	"	"
29	.146	65.	65.8	59.2	N. W.	Clear.
30	.159	65.5	66.8	63.8	N. E.	Clear.
31	.171	67.	66.5	63.5	N. E.	Cum. strat.

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P M.					RAIN.	
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
"	"	"	"	Calm	"	"
24.160	61.8	66.	62.5	Calm	Calm cloudy.	2.00
.163	65.	65.5	62.5	North	Clear cumuli.	
.182	65.	65.5	60.5	Calm	Clear cumuli.	
.160	63.	64.5	61.	Calm	Clear cumuli.	
.184	61.8	65.2	61.	N. W.	Clear cumuli.	
"	"	"	"	"	"	
.185	65.8	67.	64.	Calm	Clear cumuli.	
.185	65.5	67.	64.	Calm	Clear cumuli.	
.184	69.	70.5	64.2	Calm	Clear cumuli.	
.180	68.	69.	63.5	N. W.	Clear cumuli.	
.179	67.8	68.	64.	Calm	Clear cumuli.	
.142	69.	68.	65.5	Calm	Clear cumuli.	3.18
"	"	66.5	"	"	"	
.150	66.3	66.5	62.8	Calm	Cloudy.	
.225	65.2	65.8	62.	Calm	Cloudy.	.48
.224	65.	65.5	62.	South	Cloudy.	1.02
.192	65.5	66.5	62.5	S. E.	Clear.	.20
.154	65.8	67.	61.5	S. E.	Clear.	
.177	65.8	67.	61.	S. W.	Clear.	
"	"	"	"	S. E.	"	
.168	63.8	64.3	60.5	N. E.	Cloudy.	
.153	67.	69.	65.	N. E.	Clear.	
.144	67.	69.	62.	N. E.	Clear.	
.150	68.	70.	63.	N. E.	Clear.	
.157	67.	69.	64.	N. E.	Clear.	
.128	67.8	70.	65.	N. E.	Cum. strat.	
"	"	"	"	"	"	
.137	67.2	70.5	62.	Calm	Cum. strat.	
.147	67.8	69.	63.5	North	Clear.	
.160	70.2	70.	65.5	N. E.	Cum. strat.	
Total rain . .						6.88

For April,

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND. Direction.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24.168	67.8	67.5	64.	N. E.	Clear cumuli.
2	.167	67.5	67.2	64.2	N. E.	Clear cumuli.
3	.165	67.8	69.	66.	S. E.	Cloudy nimbi.
4	"	"	"	"	"	"
5	.180	68.	68.5	66.	South	Clear cumuli.
6	.175	67.8	67.5	65.5	S. E.	Clear cumuli.
7	.178	67.5	67.8	66.	S. E.	Clear cumuli.
8	.173	68.5	68.5	66.	South	Clear cumuli.
9	.177	69.5	69.	65.8	S. E.	Clear cumuli.
10	.175	68.	68.8	65.2	South	Clear cumuli.
11	"	"	"	"	"	"
12	.159	68.2	68.5	65.	S. E.	Cloudy.
13	.144	66.	65.8	63.8	S. E.	Cloudy.
14	.140	66.5	66.8	64.5	South	Cloudy nimbi.
15	.113	65.	64.5	62.	Squally S. E.	Cloudy mist drizzle.
16	.099	63.8	63.5	61.	Squally S. E.	Cloudy mist drizzle.
17	.023	62.0	62.1	61.7	Squally S. E.	Cloudy mist drizzle.
18	.020	62.7	63.	62.	High wind S. E.	Heavy rain.
19	.049	64.2	64.5	62.2	S. E.	Mist and rain.
20	.104	64.5	65.	62.	S. E.	Clear cumuli.
21	.130	64.	64.8	61.5	South	Clear cumuli.
22	.125	63.5	63.9	59.	S. W.	Clear cumuli.
23	.126	64.	65.	58.5	South	Clear.
24						
25						
26						
27						
28						
29						
30						

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
24·160	70·5	71·	65·	N. E.	Cloudy, nimbi.	
·160	71·	73·	67·5	S. E.	Cloudy, nimbi.	
·150	69·8	71·5	66·	South	Cloudy.	·02
"	"	"	"	"	"	
·160	71·2	72·5	65·5	S. E.	Clear, cumuli.	
·171	71·	73·	44·5	East	Clear, cumuli.	
·170	71·5	73·2	67·2	South	Clear, cumuli.	·14
·166	71·	72·5	66·	S. E.	Clear, cumuli.	·24
·178	70·	71·8	65·5	South	Clear, cumuli.	
·164	71·	73·	66·	South	Clear, cumuli.	
"	"	"	"	"	"	·32
·134	71·2	73·5	66·	S. E.	Cum.-strat.	3·54
·133	68·	69·5	65·	South high	Cloudy, mist.	·10
·135	68·	69·	65·	S. E.	Cloudy, nimbi.	·13
·101	63·8	63·5	61·	South	Cloudy, rain.	1·84
·055	64·	63·2	61·5	Squally S. E.	Rain.	3·97
23·992	63·2	63·2	61·8	Stormy N. E.	Heavy rain.	10·76
24·007	62·7	63·	61·6	S. E.	Mist and rain.	1·50
·040	65·9	67·	63·5	S. W.	Cloudy, nimbi.	
·114	67·	69·	64·	South	Cloudy and rain.	
·126	49·	69·8	65·	S. E. high	Clear.	
·115	67·5	69·	61·5	N. W.	Clear.	
·121	69·	71·	65·8	N. W.	Clear.	
Total rain . .						18·56

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24·082	"	"	"	Calm	"
2	·109	64·5	66·5	64·5	N. E.	Clear, cum.
3	·102	65·	66·2	63·	Calm	Cum. strati.
4	·112	65·	67·	63·	"	Cumuli.
5	"	66·5	67·5	64·	"	Cumuli.
6	"	"	"	"	"	"
7	·104	65·2	66·5	63·5	N. W.	Cumuli.
8	·120	65·2	67·	63·	"	Clear, cum.
9	·103	64·7	66·2	62·5	"	Cumuli.
10	·083	64·9	66·	63·9	Calm	Cumuli.
11	·074	66·	66·5	63·5	"	Cloudy.
12	·060	63·5	64·	61·5	N. W.	Cloudy.
13	"	"	"	"	"	"
14	·046	64·9	65·7	62·	N. W.	Cumuli.
15	·036	64·2	64·7	61·7	N. W.	Cloudy.
16	·035	63·	63·5	60·5	N. W.	"
17	·023	62·5	66·9	59·	N. W.	"
18	·020	65·8	67·5	62·	Calm.	Cumuli.
19	·043	66·2	63·5	64·	"	"
20	"	"	"	"	"	"
21	·015	64·2	64·5	62·	N. W.	Cloudy, drizzle.
22	·013	64·5	65·	61·2	N. W.	High.
23	23·995	62·2	62·8	60·8	N. W.	Squally.
24	·986	63·	64·	61·2	Calm	Cloudy.
25	24·056	63·8	64·8	61·5	N. W.	"
26	·019	65·5	66·2	64·	N. W.	Nimbi.
27	"	"	"	"	"	"
28	23·998	63·2	63·5	62·	N. W.	Cloudy.
29	·984	63·8	64·	62·5	N. W.	Cloudy.
30	24·014	65·5	67·7	63·5	N. W.	Cumuli.

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.

RAIN.

Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.			
24100	67·5	69·5	64	N. W.	Cirri.	
·098	68	71	65	Calm	Cumuli.	
·110	67	69	64·5	S. W.	Cloudy, rain.	0·26
·082	66	67	63	N. W.	Cloudy.	
·092	66	67	63	N. W.	Cloudy.	
·096	67	68·5	63·5	N. W.	Cloudy.	
·083	66·7	69·5	64·5	N. W.	Cumuli.	
·068	67	70	64	Calm	Cloudy.	
·031	66	68	63·5	N. W.	Cloudy.	
·045	64·9	65	61·5	N. W.	Cloudy.	
·030	67	68·5	64	N. W.	Clear, cum.	
·027	66·2	66·5	63	N. W.	Cloudy.	
·029	64·5	64·3	60·5	N. W.	Cloudy.	
·010	66·5	67·5	62	N. W.	Cumuli.	
·009	67·5	69	64	N. E.	Cloudy.	
·032	68·7	71	66	N. W.	Cumuli.	
·013	66·5	66·8	62	N. W.	Overcast.	
23994	64·9	65·2	62	N. W.	Cloudy.	0·5
·975	63·5	63·8	60	N.	Cloudy.	0·6
·983	64·5	65	62	N. W.	Cloudy.	0·4
·014	67	68	65	N. W.	Cloudy.	
23981	63·9	63·9	61·7	N.	Cloudy.	
·983	65·5	65·5	62	N. W.	Cloudy.	
24004	67·5	69·2	65	Calm	Cloudy.	
Total rain..						0·41

July

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND. Direction.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wetbulb.		
1	24.038	64.5	65.9	62.5	Calm	Cumuli.
2	.031	65.	66.5	63.	N. W.	Cloudy.
3	.129	65.7	66.9	63.5	"	"
4	"	"	"	"	"	"
5	.025	65.5	66.	64.	N. W.	"
6	.039	65.	66.	61.8	Calm	Cloudy, nimbi.
7	.053	67.	67.5	63.5	N. W.	Cloudy.
8	.058	66.8	67.	63.2	N. W.	Cloudy.
9	.050	65.	66.2	62.	Calm	Nimbi.
10	.045	65.5	66.	61.5	N.	Clear, cum.
11	"	"	"	"	"	"
12	.045	65.5	67.	63.	N. W.	Clear, cum.
13	.052	65.	65.5	62.7	N. W.	Cloudy.
14	.033	64.	64.8	61.5	N. W.	Cloudy.
15	.030	65.9	67.2	62.	N. W.	Clear, cum.
16	.028	66.5	67.	63.5	N. W.	Cloudy.
17	.030	65.	66.	62.5	Calm	"
18	"	"	"	"	"	"
19	.033	64.5	65.	63.	N. W.	Cloudy.
20	.030	66.2	67.	63.5	N. W.	Clear.
21	.026	65.8	66.2	63.	Calm	Cloudy.
22	.019	63.2	63.8	61.5	N. W.	Squally, cloudy.
23	.015	64.2	64.5	62.5	N.	Cloudy.
24	24.013	65.8	66.5	63.	Calm	Misty, drizzle.
25	"	"	"	"	"	"
26	.009	63.5	64.	61.5	N. W.	High.
27	.001	64.	64.5	61.	N. W.	Cloudy, misty.
28	.002	65.	66.	62.5	N.	Cloudy.
29	.000	66.	67.	64.	Calm	"
30	.025	65.	65.5	63.	"	Misty.
31	.024	61.5	64.8	65.2	N.	Cloudy.

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
24-019	67.	69.9	64.	N. W.	Cloudy.	
'021	68.5	69.9	65.7	Calm	"	
'017	67.	68.2	65.	"	"	
"	"	"	"	"	"	
'025	65.	65.2	60.5	N. W.	Light, cloudy.	
'051	67.5	68.	44.5	N. W.	" "	.41
'054	67.8	68.2	62.5	N. W.	" "	
'042	68.2	69.5	64.	N. W.	" Clear, cum.	
'028	69.	70.5	66.	N. W.	" Cirri strat.	.20
'036	68.5	69.5	64.	N. W.	" Cloudy, nimbi.	.74
"	"	"	"	"	"	
'034	66.7	67.2	63.2	S. W.	Cumuli.	
'031	65.9	66.2	62.5	N. W.	Cumuli.	
'024	65.8	66.5	61.5	N.	Cumuli.	
'023	68.5	70.5	64.7	N. W.	Clear, cum.	
'047	67.2	67.5	64.5	Calm	Cloudy.	
'030	67.	68.5	64.	N. W.	Cumuli.	
"	"	"	"	"	"	
'027	65.8	66.5	66.5	N. W.	Cloudy.	
'025	65.	44.5	63.	N.	Cloudy.	
'019	65.8	44.	43.	N. W.	"	
'010	66.8	67.2	62.2	N.	"	.29
'008	65.2	66.8	63.8	N. E.	Cloudy, drizzle.	
'000	67.8	48.	64.5	Calm	Cloudy.	.46
"	"	"	"	"	"	
23-998	45.	65.8	41.5	W.	Cloudy.	
'997	65.	65.5	61.2	N. W.	"	
'995	66.5	66.	61.8	Calm	"	
24-009	65.5	66.5	64.	"	"	1.04
'010	64.2	44.5	61.	"	"	.56
'017	44.8	47.5	"	N. W.	Light, clear, cum.	
Total rain..						3.70

August

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPRATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the air.	Of the Wet bulb.		
1	24·008	"	"	"	"	"
2	·008	65·	65·7	63·	N. W.	Light, cloudy.
3	·008	65·	65·	63·	"	" cloudy.
4	·016	63·8	64·2	61·8	"	" cloudy.
5	"	"	"	"	"	"
6	·011	64·5	"	63·	N. W.	Cloudy."
7	·006	64·5	64·	66·	"	"
8	"	"	"	"	"	"
9	·027	63·	63·8	42·	"	Cloudy, nimbi.
10	·047	64·8	65·2	42·	"	Clear, cumuli.
11	·073	64·2	65·2	61·8	"	Cloudy, nimbi.
12	·086	63·8	64·2	61·	Calm	Cloudy, nimbi.
13	·081	63·8	64·	61·5	"	Clear, cumuli.
14	·066	62·5	62·8	60·	N. W.	High, cloudy.
15	"	"	"	"	"	"
16	·058	64·5	66·2	62·	N. W.	Cumuli.
17	·050	44·8	65·2	43·	N. W.	Light, clear.
18	·080	65·7	65·0	64·	"	Cloudy.
19	·077	63·9	64·5	61·	"	Light, cumuli.
20	·081	64·	64·9	61·	"	Clear, cum.
21	·094	65·	65·	63·	"	Light, cloudy.
22	"	"	"	"	"	"
23	·076	63·	63·5	62·	Calm	Cloudy.
24	·072	63·8	64·	62·	"	Clear, cum.
25	·090	64·3	65·	62·5	N. W.	Cloudy.
26	·083	63·5	63·8	61·	"	Clear.
27	·081	63·2	63·5	61·5	"	Cloudy and misty.
28	·080	63·5	66·2	61·5	"	Clear.
29	"	"	"	"	"	"
30	·081	64·9	66·9	63·	"	Clear.
31	·068	64·5	65·	62·5	"	Cloudy.

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
3087	66°	66°	63°	N. W.	Light, Cloudy.	.30
3090	66°	63.5	63.5	"	Cloudy.	
4001	66°	64.5	64°	"	Do.	
"	"	"	"	"	"	
006	66°	65.7	63.5	"	Do.	
3991	64.9	64.5	61.9	"	Do.	
"	"	"	"	"	"	
1014	65°	65.5	62°	N. W.	High, cloudy.	
043	65.5	66°	63°	N.	" cloudy.	
067	64.8	65°	62°	N. W.	Cloudy, drizzle.	
081	66.5	68°	63°	N. W.	Cloudy.	
070	65.5	66°	62°	"	"	
062	64.8	65°	61°	"	"	.42
"	"	"	"	"	"	
060	67°	68.5	64°	N. W.	Cumuli.	
063	67.5	68.5	64°	"	"	
077	67°	67°	63.5	"	Cloudy.	
073	67.4	68.8	64.1	N. W.	Clear, cumuli.	
060	68°	70°	65°	"	Light, clear, cum.	
084	67°	67.5	64.9	Calm	Cloudy.	
"	"	"	"	"	"	1.84
074	66.8	66.8	62.5	Calm	Cloudy.	.10
068	65.2	65.2	62°	N. W.	Light, cloudy.	
076	66°	66°	63°	Calm	Cloudy, drizzle.	
070	67.2	67.2	62.8	N. W.	Light, clear.	
072	67.5	67.5	63°	"	Clear, cumuli.	
067	68.5	67°	63°	"	Cloudy, misty.	
"	"	"	"	"	"	
064	66.5	67.5	64°	N. W.	Cloudy.	
054	67.2	68.5	64°	"	Cloudy.	
Total rain....						2.66

September

MAXIMUM PRESSURE OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24·066	65·	66·5	63·	N. W.	Cloudy.
2	·079	65·	66·2	63·5	"	Clear, cumuli.
3	·085	65·9	66·3	62·5	"	Cloudy.
4	·077	64·9	65·3	62·	"	Cloudy.
5	"	"	"	"	"	"
6	·058	62·	63·	60·	N. W.	High, clear.
7	·022	62·9	63·9	60·9	"	" cloudy.
8	·004	63·5	64·2	61·	"	Clear, cumuli.
9	23·991	63·5	64·	61·	"	"
10	24·020	65·2	65·5	62·5	"	"
11	24·025	65·	65·8	62·5	W.	"
12	"	"	"	"	"	"
13	·027	64·5	65·5	61·5	W.	Clear, cumuli.
14	·035	66·	67·	63·2	N. W.	Light cloudy.
15	·047	66·5	67·	64·	Calm	Cloudy.
16	·035	66·5	66·9	64·	N. W.	Light cloudy.
17	·055	66·	66·5	64·	Calm	"
18	·052	64·5	64·9	62·	N. W.	Light, clear.
19	"	"	"	"	"	"
20	·105	62·5	63·	60·8	Calm	Cloudy, nimbi.
21	·101	63·2	63·5	61·5	N. W.	Light.
22	·080	63·5	64·	62·2	"	" clear, cum.
23	·126	60·5	64·	62·	Calm	Cumuli strati.
24	·109	61·7	61·7	57·5	"	Cloudy.
25	·100	63·8	63·	62·7	N. W.	Light, cumuli.
26	"	"	"	"	"	"
27	·101	64·	64·7	62·	Calm	Cloudy.
28	·096	64·	63·5	62·	"	"
29	·158	64·	64·2	61·9	N. W.	"
30	·102	64·	64·7	60·5	"	Light, cumuli.

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
24·066	67·7	68·7	65·	N. W.	Cumuli.	
·070	67·	67·8	65·	"	Cloudy.	
·076	67·5	68·2	65·	"	"	
·175	67·2	68·2	65·	N.	Clear, cum.	
"	"	"	"	"	"	
·024	65·	65·2	42·	N. W.	Cloudy.	
23·999	64·5	64·0	61·	"	"	
·987	66·2	68·	63·5	"	Nimbi.	
·992	67·8	48·9	64·	"	Clear, cum.	
24·000	66·8	68·	63·	"	Cloudy.	
·000	67·	68·	63·5	N.	"	
"	"	"	"	N. W.	Clear, cum.	
·011	67·5	68·8	63·	N. W.	"	
·021	68·2	66·9	64·	"	Cumuli.	
·042	67·5	67·7	64·	"	"	
·043	67·7	68·5	64·	"	"	
·035	66·5	66·9	63·5	"	"	
·111	66·2	67·7	63·	"	Clear, cumuli.	
"	"	"	"	"	"	
·115	67·	68·	65·	Calm	"	
·099	67·	67·5	66·5	"	Cloudy.	·21
·083	67·8	68·5	64·8	"	"	1·01
·086	67·	67·5	61·5	N. W.	Clear, cumuli.	
·097	65·	67·5	62·	"	"	
·098	64·5	61·7	61·	"	"	
"	"	"	"	"	"	
·086	66·5	67·7	63·5	Calm	Cloudy, nimbi.	0·14
·077	66·9	67·2	63·5	"	Cloudy.	
·183	66·2	66·5	63·5	"	"	
·067	66·7	68·5	64·	N. W.	Cumuli.	
Total rain						1·36

October

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24.069	64.	66.	60.	N. W.	Lt. clear cumuli.
2	.085	64.7	65.7	62.2	"	" cumuli.
3	"	"	"	"	"	"
4	.101	65.5	66.2	63.	Calm	Cloudy.
5	.137	66.2	66.	64.	"	Cumuli.
6	.120	64.2	64.5	61.	N. W.	Lt. clear cumuli.
7	.128	63.5	63.8	61.5	Calm	Clear.
8	.138	64.2	64.5	62.	"	"
9	"	"	"	"	"	"
10	"	"	"	"	"	"
11	.141	63.2	63.5	61.8	Calm	Cloudy.
12	.131	65.	65.	63.	"	Cumuli.
13	.125	65.5	65.9	63.	"	Cloudy.
14	.092	61.5	61.8	60.5	N. E.	Cloudy drizzle.
15	.049	62.	62.2	60.5	"	Cloudy.
16	.061	62.5	62.8	61.	N. E.	Heavy mist & driz.
17	"	"	"	"	"	"
18	.103	63.5	64.2	62.5	Calm	Cloudy mist.
19	.080	64.2	66.5	62.5	"	Cloudy.
20	.131	64.8	64.5	62.	"	"
21	.151	64.3	64.3	62.5	"	"
22	.169	64.	64.2	62.	"	"
23	.171	65.	64.2	62.	Calm	Misty.
24	.159	"	"	"	"	"
25	.166	64.5	64.2	62.9	"	Cumuli.
26	.158	64.5	65.	63.	"	Cloudy.
27	.156	65.	65.2	63.7	"	Cumuli.
28	.121	64.7	64.9	63.9	N. E.	Cumuli.
29	.121	61.2	62.	59.	"	"
30						
31						

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.

RAIN.

Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.			
24·059	65·2	66·5	61·5	N. W.	Lt. clear cumuli.	
·070	65·8	66·8	63·5	Calm	Cloudy.	
"	"	"	"	"	"	
·125	67·2	68·5	65·	"	"	0·54
·119	67·8	68·	65·5	"	Cumuli.	·22
·097	64·	66·2	63·5	"	Cloudy.	
·112	65·5	65·8	62·5	N. W.	Clear.	·18
"	"	"	"	"	"	·53
"	"	"	"	"	"	
·099	67·	68·5	64·5	Calm	Cloudy.	·50
·114	68·5	70·	66·	"	"	·82
·091	65·9	65·9	62·	"	"	·14
·020	60·	59·3	57·	N. E.	"	·82
·034	65·	65·5	63·5	Calm	"	·16
·059	66·9	68·7	64·	"	Cumuli.	·16
"	"	"	"	"	"	
·073	65·8	66·2	63·8	"	Cloudy.	·08
·081	67·2	68·	66·2	"	"	·85
·113	66·2	66·5	64·	"	"	·88
·131	64·3	64·5	62·	Calm	Deuse mist.	
·142	66·5	67·2	64·	"	Cloudy.	·20
·145	66·7	67·5	66·5	"	"	4·34
"	"	"	"	"	"	
·131	66·3	66·7	64·	"	do.	·30
·134	66·5	67·	64·5	"	do.	
·126	67·5	68·0	65·	"	Cumuli.	·09
·125	65·5	64·5	61·5	N. E.	Lt. cloudy.	
·123	64·	65·	61·	"	Cumuli.	·42
						·24
						·86
Total rain..						12·33

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24.150	63.5	64.	61.	N. E.	Light, cloudy. fog.
2	.141	62.2	62.5	60.	N. E.	Cloudy, mist.
3	.139	62.	62.2	60.	"	Heavy mist & rain
4	.140	63.9	64.	62.5	Calm	Clear, cumuli.
5	.168	64.2	64.5	61.8	"	Cloudy.
6	.160	63.	63.5	62.	"	Cloudy.
7	"	"	"	"	"	"
8	.131	63.	63.9	62.	Calm	Cloudy.
9	.135	61.5	62.5	60.	"	Cloudy.
10	.135	62.3	62.3	60.	N. E.	Light, cumuli.
11	.154	63.	63.	61.	"	Light, cumuli.
12	.161	62.5	62.8	60.9	Calm	Cloudy, drizzle.
13	.155	63.2	63.2	61.	"	Cloudy.
14	"	"	"	"	"	"
15	.157	59.8	60.	58.	N. E.	Clear, cumuli.
16	.140	57.	56.5	53.	"	Clear.
17	.133	59.5	59.8	56.5	Calm	"
18	.138	60.5	61.5	57.5	Calm	Clear, cumuli.
19	.151	62.	62.5	60.5	Calm	Cloudy.
20	.145	62.5	62.9	60.5	"	Cloudy.
21	"	"	"	"	"	"
22	.148	62.5	62.5	60.	N. E.	Light, clear.
23	.150	61.8	62.5	60.	Calm	Cloudy.
24	.153	63.2	64.2	61.2	"	Clear, cum.
25	.153	64.	64.5	62.	"	Cloudy.
26	.157	63.5	63.9	62.	"	"
27	.150	64.7	64.7	62.7	"	Cumuli.
28	"	"	"	"	"	"
29	.144	64.2	44.2	62.	Calm	Cumuli.
30	.151	64.	44.2	62.	"	Clear, cum.
31						

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
•132	64.	64.	61.	Calm	"	1.93
•133	65.	66.	62.8	"	"	1.08
•081	63.	63.2	61.5	N. E.	High.	1.75
•133	66.5	66.	63.5	Calm	"	1.06
•158	66.2	66.5	63.	"	"	.30
•134	64.	65.2	62.5	Clr. E.	Cloudy drizzle.	0.43
"	"	"	"	"	"	
•105	64.5	65.2	62.	Calm	Cumuli.	
•120	63.	63.7	60.	"	Cloudy.	
•124	64.	65.	62.	N. E.	Light, cumuli.	
•141	65.3	66.0	63.	"	Light, cloudy.	
•144	64.	66.5	62.	Calm	Cloudy.	.47
•152	64.2	64.5	62.	"	Heavy mist.	
"	"	"	"	"	"	
•145	62.5	63.	59.	N. E.	Clear, cum.	
•120	62.2	63.5	53.8	N. E.	Light, clear,	
•111	61.8	63.	58.5	Calm	Cloudy.	
•129	63.5	65.	60.5	N. E.	Light cumuli.	
•140	63.	66.8	60.8	Calm	Cloudy.	
•128	63.0	62.7	60.	N. E.	Rain.	.14
"	"	"	"	"	"	
•132	64.5	66.	62.	Calm	Clear, cum.	
•146	64.5	65.5	62.	"	Cloudy.	.41
•131	65.	66.3	63.5	"	Cloudy, drizzle.	.92
•130	65.5	66.5	64.	"	Cloudy.	.12
•131	65.5	66.2	64.	"	"	
•132	65.7	66.	64.	"	Cumuli.	.94
"	"	"	"	"	"	
•132	66.	66.5	63.5	Calm	Cloudy.	.51
•130	65.	65.5	"	"	Cloudy.	.19
						.37
Total rain....						10.62

December

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24.138	61.	61.2	58.2	.....	Calm, mist and rain.
2	.126	62.2	62.5	61.	.....	Calm, cloudy.
3	.108	62.5	62.8	60.5	.....	N. E. rain.
4	.101	62.8	63.	60.2	.....	Calm, cloudy.
5	"	"	"	"	"	"
6	.129	62.8	62.	61.	.....	Calm, cloudy drizzle
7	.136	62.7	62.2	61.	.....	N. E. cumuli.
8	.132	62.5	62.	61.	.....	Calm, cloudy.
9	.134	62.	62.	60.	.....	do. do.
10	.080	57.2	58.	51.	.....	N. E. cumuli.
11	.070	58.5	59.	56.	.....	N. E. clear.
12	"	"	"	"	"	"
13	.196	58.9	59.5	57.	.....	N. E. cloudy.
14	.194	59.5	59.8	57.8	.....	Calm, cloudy, mist.
15	.046	58.9	59.	58.	.....	" clear, cumuli.
16	.081	59.	69.5	57.8	.....	" nimbi.
17	.063	59.5	60.2	55.	.....	" cloudy, mist.
18	.080	61.5	62.	59.	.....	" cloudy.
19	"	"	"	"	"	" cloudy.
20	.125	62.5	62.2	61.	.....	" cumuli.
21	.137	62.5	62.7	61.	.....	" cloudy, drizzle.
22	.134	63.	62.7	61.	.....	" cumuli.
23	.137	61.5	61.	57.8	.....	" cumuli.
24	.136	58.5	57.7	55.5	.....	" "
25	"	"	"	"	"	" "
26	"	"	"	"	"	" "
27	.135	59.5	59.5	57.8	Calm	Cloudy.
28	.140	59.	60.	58.8	N. E.	Clear, cumuli.
29	.181	59.2	59.5	57.7	Calm	Cloudy.
30	.175	59.5	59.8	57.	"	Clear.
31						

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
·119	65·	65·5	62·5	N. E.	Lt. Clear.	·01
·090	63·9	63·5	61·5	Calm	Cloudy.	·53
·085	63·5	63·8	61·	N. E.	Lt. Cloudy.	·35
·077	64·5	64·8	62·	Calm	Cloudy.	2·56
"	"	"	"	"	"	·64
·125	64·5	63·7	62·	Calm	Cloudy drizzle.	·21
·122	64·5	65·	62·5	N. E.	Lt. cumuli.	
·137	64·5	64·2	62·	Calm	Cloudy.	
·118	63·9	65·	61·	"	Cloudy.	
·053	59·	60·	53·	N. E. lt.	Cumuli.	
·051	58·5	60·	52·8	N. E. lt.	Clear.	
"	"	"	"	"	"	·99
·016	60·	60·	57·	N. E. lt.	Cloudy.	·19
·005	60·2	60·5	58·5	Calm	Cloudy mist.	·03
·034	62·	63·	60·5	"	Clear cumuli.	
·059	62·5	63·	60·5	"	Nimbi.	·21
·062	63·	64·	61·8	"	Cloudy mist.	·59
·077	64·	65·	62·8	"	Cloudy.	·76
"	"	65·2	"	"	"	1·00
·130	64·5	64·	62·	Calm	Cumuli.	
·126	63·9	65·2	62·	"	Cloudy drizzle.	·07
·128	65·	62·	63·	"	Cloudy.	
·123	62·5	62·	60·	"	Cumuli.	
"	"	"	"	"	"	
"	"	"	"	"	"	
"	"	"	"	"	"	
·126	61·8	62·	59·8	"	Cloudy.	1·01
·135	60·5	61·	58·8	N. E. lt.	Clear cumuli.	·42
·180	61·8	62·5	60·	Calm	Cloudy.	
·148	62·5	63·	61·8	"	Clear.	
Total rain..						9·57

METEOROLOGICAL

(January 1847,)

kept at the Survey Office,

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	"	"	"	"	"	Squally.
2	24.252	60.	60.5	57.	N. W.	Nearly mid.
3	"	"	"	"	Slight North.	"
4	24.214	61.2	61.5	58.	N. W.	Clear cumuli.
5	.205	55.8	57.	54.5	Slight North.	Clear cumuli.
6	"	"	56.	53.6	Calm	Clear cumuli.
7	"	"	58.	55.8	N. W.	Clear cumuli.
8	.232	61.	59.	57.	N. W.	Clear cumuli.
9	.167	57.3	57.5	54.	Calm	Clear cumuli.
10	"	"	"	"	"	"
11	.160	16.0	57.2	54.5	Calm	Clear cumuli.
12	.151	55.8	56.	52.	Calm	Clear cumuli.
13	.169	58.	59.	54.	Calm	Clear.
14	.160	58.2	58.5	53.5	Calm	Clear.
15	.169	58.2	58.5	55.	Calm	Clear.
16	.169	58.5	58.2	55.5	Calm	Clear.
17	"	"	"	"	"	"
18	.160	58.2	58.5	54.5	N. W.	Clear.
19	.170	56.5	56.8	53.5	North	Clear.
20	.160	57.6	57.8	54.	North	Clear.
21	.160	59.	59.2	55.5	Calm	Clear.
22	.159	59.2	"	56.	North	Clear.
23	.158	59.8	"	56.	Calm	Clear.
24	.160	59.5	"	56.	Calm	Clear.
25	.144	58.2	"	53.5	Calm	Clear.
26	.106	61.5	"	55.8	Calm	Clear.
27	.102	61.5	"	56.	Calm	Clear.
28	.123	62.5	"	58.5	Calm	Clear.
29	.107	64.8	"	62.5	Calm	Clear.
30	.099	63.8	"	61.	Calm	Clear.
31	"	"	"	"	"	"

REGISTER,

KOTERGHERRY, for the Year 1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
4.200	61.5	61.8	58.2	Squally North.	Heavy mist.	.30
"	"	"	"	"	"	.41
.201	61.2	62.5	59.2	Slight North.	Clear cumuli.	1.04
.185	60.5	62.2	58.5	Calm	Clear cumuli.	
"	"	62.8	58.5	Calm	Clear cumuli.	
"	"	63.5	57.5	N. W.	Clear cumuli.	
.150	61.	63.	56.	Calm	Clear cumuli.	
.140	62.5	63.8	58.	Calm	Clear cumuli.	
"	"	"	"	"	"	
.155	64.	66.	59.	Calm	Clear cumuli.	
.153	63.8	65.8	59.	Calm	Clear.	
.168	64.5	66.	61.	Calm	Clear.	
.158	64.	65.	58.	Calm	Clear.	
.157	63.5	65.5	58.5	Calm	Clear.	
"	"	"	"	"	"	
"	"	"	"	"	"	
.159	61.2	62.5	56.5	Slight North.	Clear.	
.166	62.2	63.2	58.	N. W.	Clear.	
.145	63.5	64.8	59.5	Calm	Clear.	
.143	63.8	"	56.	Calm	Clear.	
.153	64.	"	58.	North	Clear.	
.154	63.	"	58.	Calm	Clear.	
.158	64.5	"	59.	Calm	Clear.	
.120	66.	"	59.	Calm	Clear.	
.080	67.8	"	61.	Calm	Clear.	
.090	66.8	"	61.	Calm	Clear.	
.087	68.8	"	62.	Calm	Clear.	
.103	68.8	"	62.	Calm	Clear.	
.078	67.5	"	60.	Calm	Clear.	
"	"	"	"	"	"	
Total rain....						1.74

METEOROLOGICAL REGISTER kept at the SUR

Days of the Month.	AT SUNRISE.				MAXIMUM PRESSURE, AT 9h. 50m. A. M.				AT APPARENT NO							
	TEMPERATURE.			Direction of Wind about 6 A. M.	TEMPERATURE.			Direction of Wind.	TEMPERATURE.			Direction of Wind.				
	Barometer.	Of the Mercury.	Of the Air.		Of the Mercury.	Of the Air.	Of the Wet Bulb.		Barometer.	Of the Mercury.	Of the Air.		Of the Wet Bulb.			
1	23 037	55.0	53.5	52.5	W. S.W.	23 050	61.0	60.5	58.0	S. W.	23 113	60.75	60.7	62.0	Calm	C
2	067	56	53	52	Calm	101	62.5	62	60	"	104	61	64.5	63	"	"
3	103	56.3	56	55	"	130	62	61.4	59	"	117	65.75	60.25	62	"	"
4	095	57	54	53.5	"	139	61	60.7	58	"	111	64.5	64.5	60.5	"	C
5	071	56.2	54	54	N. W.	113	60.5	60.2	57	"	112	64.2	63.7	60	"	"
6	051	55	53	52	Calm	087	62.5	61	54	"	092	65.5	62.75	57	Calm	N.
7	001	56	52	51	"	012	58	57.8	55	W.	003	59.0	60	56	S. W.	M
8	020	53	51.8	50	W.	028	58.5	58.6	54.2	"	011	61.5	61.75	57	"	C
9	017	55	52	52	Calm	111	61	62.5	59	Calm	113	66.75	65.5	60	Calm	C
10	081	51.5	51.4	50.5	"	136	61.5	60.2	56	"	131	64.75	65.75	59	"	"
11	048	54	52	51.5	"	236	66.7	61.5	57	"	161	68.5	70.25	59	S. W.	"
12	111	51.5	51	48	"	113	65.5	66.5	56.5	"	155	73.3	73.5	59	Calm	"
13	093	57	51	53	"	130	65.3	67	58.5	"	137	68.5	67.5	60.5	"	C
14	130	51	53	52.5	"	194	69	65	61.7	N. E.	173	67	65	61.5	S. W.	C
15	151	58	55.5	55	"	155	61.0	61.8	60	Calm	176	66.5	70.25	62.75	Calm	C
16	159	57	55	54	"	169	64.5	61.5	59.7	"	184	64	65	61	"	D
17	154	51	51	49	"	178	63.5	61.25	61	"	180	68.5	72.75	65	"	N
18	169	51	49.5	48	"	182	62.75	66	58	"	184	67.5	74.5	64	"	C
19	131	50.7	50	49	"	150	64.75	66.75	61	"	156	65	64.5	59.5	"	C
20	103	56.2	55	53	"	130	63.99	61.99	60	"	129	66.09	65.25	61	"	C
21	104	56.5	55.2	53.5	"	22 986	60.5	61.4	60.2	"	002	61.7	62.8	60.2	"	C
22	133	58.0	57.8	54.8	"	23 160	62.75	61.25	59	"	110	65.3	61	59.5	"	C
23	098	58.75	58.75	55.0	"	122	65.5	63.25	61	"	112	68	60	63.25	"	C
24	013	55	54	53.0	"	102	64	61	60.75	"	098	67.5	62.25	61	"	C
25	084	57	55	54	"	136	62	60.5	61	"	133	67	63.5	63	"	C
26	22 980	58	55	53.0	"	683	65.75	62	63	"	061	67.75	67.75	61.5	"	C
27	080	60	50.0	54.5	"	150	75.25	64.25	63.75	"	137	68	66.25	63	"	C
28	941	61	58	56.5	"	22 982	62.8	63.5	62.4	N. E.	22 080	63	65.3	63.5	E.	C
29	960	57.5	56.9	55	"	23 100	62.80	62.1	60.3	Calm	23 151	60.9	65.2	62	Calm	C
30	258	57.7	56.0	54.0	N. E.	121	64.5	63.5	60	"	22 120	67.5	66.5	60.75	"	"

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the air.	Of the Wet bulb.		
1	24·008	„	„	„	„	„
2	·008	65·	65·7	63·	N. W.	Light, cloudy.
3	·008	65·	65·	63·	„	„ cloudy.
4	·016	63·8	64·2	61·8	„	„ cloudy.
5	„	„	„	„	„	„
6	·011	64·5	„	63·	N. W.	Cloudy.
7	·006	64·5	64·	66·	„	„
8	„	„	„	„	„	„
9	·027	63·	63·8	42·	„	Cloudy, nimbi.
10	·047	64·8	65·2	42·	„	Clear, cumuli.
11	·073	64·2	65·2	61·8	„	Cloudy, nimbi.
12	·086	63·8	64·2	61·	Calm	Cloudy, nimbi.
13	·081	63·8	64·	61·5	„	Clear, cumuli.
14	·066	62·5	62·8	60·	N. W.	High, cloudy.
15	„	„	„	„	„	„
16	·058	64·5	66·2	62·	N. W.	Cumuli.
17	·050	44·8	65·2	43·	N. W.	Light, clear.
18	·080	65·7	65·9	64·	„	Cloudy.
19	·077	63·9	64·5	61·	„	Light, cumuli.
20	·081	64·	64·9	61·	„	Clear, cum.
21	·094	65·	65·	63·	„	Light, cloudy.
22	„	„	„	„	„	„
23	·076	63·	63·5	62·	Calm	Cloudy.
24	·072	63·8	64·	62·	„	Clear, cum.
25	·090	64·3	65·	62·5	N. W.	Cloudy.
26	·083	63·5	63·8	61·	„	Clear.
27	·081	63·2	63·5	61·5	„	Cloudy and misty.
28	·080	63·5	66·2	61·5	„	Clear.
29	„	„	„	„	„	„
30	·081	64·9	66·9	63·	„	Clear.
31	·068	64·5	65·	62·5	„	Cloudy.

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.					RAIN.		
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.	
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.			
23·987	66·	66·	63·	N. W.	Light, Cloudy.	·30	
·999	66·	63·5	63·5	"	Cloudy.		
24·001	66·	64·5	64·	"	Do.		
"	"	"	"	"	"		
·006	66·	65·7	63·5	"	Do.	·42	
23·991	64·9	64·5	61·9	"	Do.		
"	"	"	"	"	"		
21·014	65·	65·5	62·	N. W.	High, cloudy.		
·043	65·5	66·	63·	N.	" cloudy.	·10	
·067	64·8	65·	62·	N. W.	Cloudy, drizzle.		
·081	66·5	68·	63·	N. W.	Cloudy.		
·070	65·5	66·	62·	"	"		
·052	64·8	65·	61·	"	"		
"	"	"	"	"	"		
·060	67·	68·5	64·	N. W.	Cumuli.		
·063	67·5	68·5	64·	"	"		
·077	67·	67·	63·5	"	Cloudy.		
·073	67·4	68·8	64·1	N. W.	Clear, cumuli.		
·080	68·	70·	65·	"	Light, clear, cum.		
·084	67·	67·5	64·9	Calm	Cloudy.		
"	"	"	"	"	"	1·84	
·074	66·8	66·8	62·5	Calm	Cloudy.		
·068	65·2	65·2	62·	N. W.	Light, cloudy.	·10	
·076	66·	66·	63·	Calm	Cloudy, drizzle.		
·070	67·2	67·2	62·8	N. W.	Light, clear.		
·072	67·5	67·5	63·	"	Clear, cumuli.		
·067	68·5	67·	63·	"	Cloudy, misty.		
"	"	"	"	"	"		
·064	66·5	67·5	64·	N. W.	Cloudy.		
·054	67·2	68·5	64·	"	Cloudy.		
					Total rain		2·66

September

MAXIMUM PRESSURE OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24.066	65.	66.5	63.	N. W.	Cloudy.
2	.079	65.	66.2	63.5	"	Clear, cumuli.
3	.085	65.9	66.3	62.5	"	Cloudy.
4	.077	64.9	65.3	62.	"	Cloudy.
5	"	"	"	"	"	"
6	.058	62.	63.	60.	N. W.	High, clear.
7	.022	62.9	63.9	60.9	"	" cloudy.
8	.004	63.5	64.2	61.	"	Clear, cumuli.
9	23.991	63.5	64.	61.	"	"
10	24.020	65.2	65.5	62.5	"	"
11	24.025	65.	65.8	62.5	W.	"
12	"	"	"	"	"	"
13	.027	64.5	65.5	61.5	W.	Clear, cumuli.
14	.035	66.	67.	63.2	N. W.	Light cloudy.
15	.047	66.5	67.	64.	Calm	Cloudy.
16	.035	66.5	66.9	64.	N. W.	Light cloudy.
17	.055	66.	66.5	64.	Calm	"
18	.052	64.5	64.9	62.	N. W.	Light, clear.
19	"	"	"	"	"	"
20	.105	62.5	63.	60.8	Calm	Cloudy, nimbi.
21	.101	63.2	63.5	61.5	N. W.	Light.
22	.080	63.5	64.	62.2	"	" clear, cum.
23	.126	60.5	64.	62.	Calm	Cumuli strati.
24	.109	61.7	61.7	57.5	"	Cloudy.
25	.100	63.8	63.	62.7	N. W.	Light, cumuli.
26	"	"	"	"	"	"
27	.101	64.	64.7	62.	Calm	Cloudy.
28	.096	64.	63.5	62.	"	"
29	.158	64.	64.2	61.9	N. W.	"
30	.102	64.	64.7	60.5	"	Light, cumuli.

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
24·066	67·7	68·7	65·	N. W.	Cumuli.	
·070	67·	67·8	65·	"	Cloudy.	
·076	67·5	68·2	65·	"	"	
·175	67·2	68·2	65·	N.	Clear, cum.	
"	"	"	"	"	"	
·024	65·	65·2	42·	N. W.	Cloudy.	
23·999	64·5	64·9	61·	"	"	
·987	66·2	68·	63·5	"	Nimbi.	
·992	67·8	48·9	64·	"	Clear, cum.	
24·000	66·8	68·	63·	"	Cloudy.	
·000	67·	68·	63·5	N.	"	
"	"	"	"	N. W.	Clear, cum.	
·011	67·5	68·8	63·	N. W.	"	
·021	68·2	66·9	64·	"	Cumuli.	
·042	67·5	67·7	64·	"	"	
·043	67·7	68·5	64·	"	"	
·035	66·5	66·9	63·5	"	"	
·111	66·2	67·7	63·	"	Clear, cumuli.	
"	"	"	"	"	"	
·115	67·	68·	65·	Calm	"	
·099	67·	67·5	66·5	"	Cloudy.	·21
·083	67·8	68·5	64·8	"	"	1·01
·086	67·	67·5	61·5	N. W.	Clear, cumuli.	
·097	65·	67·5	62·	"	"	
·098	64·5	61·7	61·	"	"	
"	"	"	"	"	"	
·086	66·5	67·7	63·5	Calm	Cloudy, nimbi.	0·14
·077	66·9	67·2	63·5	"	Cloudy.	
·183	66·2	66·5	63·5	"	"	
·067	66·7	68·5	64·	N. W.	Cumuli.	
Total rain....						1·36

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND. Direction.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24·069	64·	66·	60·	N. W.	Lt. clear cumuli.
2	·085	64·7	65·7	62·2	"	" cumuli.
3	"	"	"	"	"	"
4	·101	65·5	66·2	63·	Calm	Cloudy."
5	·137	66·2	66·	64·	"	Cumuli.
6	·120	64·2	64·5	61·	N. W.	Lt. clear cumuli.
7	·128	63·5	63·8	61·5	Calm	Clear.
8	·138	64·2	64·5	62·	"	"
9	"	"	"	"	"	"
10	"	"	"	"	"	"
11	·141	63·2	63·5	61·8	Calm	Cloudy."
12	·131	65·	65·	63·	"	Cumuli.
13	·125	65·5	65·9	63·	"	Cloudy.
14	·092	61·5	61·8	60·5	N. E.	Cloudy drizzle.
15	·049	62·	62·2	60·5	"	Cloudy.
16	·061	62·5	62·8	61·	N. E.	Heavy mist & driz
17	"	"	"	"	"	"
18	·103	63·5	64·2	62·5	Calm	Cloudy mist."
19	·080	64·2	66·5	62·5	"	Cloudy.
20	·131	64·8	64·5	62·	"	"
21	·151	64·3	64·3	62·5	"	"
22	·169	64·	64·2	62·	"	"
23	·171	65·	64·2	62·	Calm	Misty.
24	·159	"	"	"	"	"
25	·166	64·5	64·2	62·9	"	Cumuli.
26	·158	64·5	65·	63·	"	Cloudy.
27	·156	65·	65·2	63·7	"	Cumuli.
28	·121	64·7	64·9	63·9	N. E.	Cumuli.
29	·121	61·2	62·	59·	"	"
30						
31						

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
24·059	65·2	66·5	61·5	N. W.	Lt. clear cumuli.	
·070	65·8	66·8	63·5	Calm	Cloudy.	
"	"	"	"	"	"	
·125	67·2	68·5	65·	"	"	0·54
·119	67·8	68·	65·5	"	Cumuli.	·22
·097	64·	66·2	63·5	"	Cloudy.	
·112	65·5	65·8	62·5	N. W.	Clear.	·18
"	"	"	"	"	"	·53
"	"	"	"	"	"	
·099	67·	68·5	64·5	Calm	Cloudy.	·50
·114	68·5	70·	66·	"	"	·82
·091	65·9	65·9	62·	"	"	·14
·020	60·	59·3	57·	N. E.	"	·82
·034	65·	65·5	63·5	Calm	"	·16
·059	66·9	68·7	64·	"	Cumuli.	·16
"	"	"	"	"	"	
·073	65·8	66·2	63·8	"	Cloudy.	·08
·081	67·2	68·	66·2	"	"	·85
·113	66·2	66·5	64·	"	"	·88
·131	64·3	64·5	62·	Calm	Deuse mist.	
·142	66·5	67·2	64·	"	Cloudy.	·20
·145	66·7	67·5	66·5	"	"	4·34
"	"	"	"	"	"	
·131	66·3	66·7	64·	"	do.	·30
·134	66·5	67·	64·5	"	do.	
·126	67·5	68·9	65·	"	Cumuli.	·09
·125	65·5	64·5	61·5	N. E.	Lt. cloudy.	
·123	64·	65·	61·	"	Cumuli.	·42
						·24
						·86
Total rain..						12·33

November

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24·150	63·5	64·	61·	N. E.	Light, cloudy. fog.
2	·141	62·2	62·5	60·	N. E.	Cloudy, mist.
3	·139	62·	62·2	60·	"	Heavy mist & rain
4	·140	63·9	64·	62·5	Calm	Clear, cumuli.
5	·168	64·2	64·5	61·8	"	Cloudy.
6	·160	63·	63·5	62·	"	Cloudy.
7	"	"	"	"	"	"
8	·131	63·	63·9	62·	Calm	Cloudy.
9	·135	61·5	62·5	60·	"	Cloudy.
10	·135	62·3	62·3	60·	N. E.	Light, cumuli.
11	·154	63·	63·	61·	"	Light, cumuli.
12	·161	62·5	62·8	60·9	Calm	Cloudy, drizzle.
13	·155	63·2	63·2	61·	"	Cloudy.
14	"	"	"	"	"	"
15	·157	59·8	60·	58·	N. E.	Clear, cumuli.
16	·140	57·	56·5	53·	"	Clear.
17	·133	59·5	59·8	56·5	Calm	"
18	·138	60·5	61·5	57·5	Calm	Clear, cumuli.
19	·151	62·	62·5	60·5	Calm	Cloudy.
20	·145	62·5	62·9	60·5	"	Cloudy.
21	"	"	"	"	"	"
22	·148	62·5	62·5	60·	N. E.	Light, clear.
23	·150	61·8	62·5	60·	Calm	Cloudy.
24	·153	63·2	64·2	61·2	"	Clear, cum.
25	·153	64·	64·5	62·	"	Cloudy.
26	·157	63·5	63·9	62·	"	"
27	·150	64·7	64·7	62·7	"	Cumuli.
28	"	"	"	"	"	"
29	·144	64·2	44·2	62·	Calm	Cumuli.
30	·151	64·	44·2	62·	"	Clear, cum.
31						

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
4·132	64·	64·	61·	Calm	"	1·03
·133	65·	66·	62·8	"	"	1·08
·081	63·	63·2	61·5	N. E.	High.	1·75
·133	66·5	66·	63·5	Calm	"	1·06
·158	66·2	66·5	63·	"	"	·30
·134	64·	65·2	62·5	Clr. E.	Cloudy drizzle.	0·43
"	"	"	"	"	"	
·105	64·5	65·2	62·	Calm	Cumuli.	
·120	63·	63·7	60·	"	Cloudy.	
·124	64·	65·	62·	N. E.	Light, cumuli.	
·141	65·3	66·9	63·	"	Light, cloudy.	
·144	64·	66·5	62·	Calm	Cloudy.	·47
·152	64·2	64·5	62·	"	Heavy mist.	
"	"	"	"	"	"	
·145	62·5	63·	59·	N. E.	Clear, cum.	
·120	62·2	63·5	53·8	N. E.	Light, clear,	
·111	61·8	63·	58·5	Calm	Cloudy.	
·129	63·5	65·	60·5	N. E.	Light cumuli.	
·140	63·	66·8	60·8	Calm	Cloudy.	
·128	63·9	62·7	60·	N. E.	Rain.	·14
"	"	"	"	"	"	
·132	64·5	66·	62·	Calm	Clear, cum.	
·146	64·5	65·5	62·	"	Cloudy.	·41
·131	65·	66·3	63·5	"	Cloudy, drizzle.	·92
·130	65·5	66·5	64·	"	Cloudy.	·12
·131	65·5	66·2	64·	"	"	
·132	65·7	66·	64·	"	Cumuli.	·94
"	"	"	"	"	"	
·132	66·	66·5	63·5	Calm	Cloudy.	·51
·130	65·	65·5	"	"	Cloudy.	·19
						·37
Total rain....						10·62

December

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	24.138	61.	61.2	58.2	.....	Calm, mist and rain.
2	.126	62.2	62.5	61.	.....	Calm, cloudy.
3	.108	62.5	62.8	60.5	.....	N. E. rain.
4	.101	62.8	63.	60.2	.....	Calm, cloudy.
5	"	"	"	"	"	"
6	.129	62.8	62.	61.	.....	Calm, cloudy drizzle.
7	.136	62.7	62.2	61.	.....	N. E. cumuli.
8	.132	62.5	62.	61.	.....	Calm, cloudy.
9	.134	62.	62.	60.	.....	do. do.
10	.080	57.2	58.	51.	.....	N. E. cumuli.
11	.070	58.5	59.	56.	.....	N. E. clear.
12	"	"	"	"	"	"
13	.196	58.9	59.5	57.	.....	N. E. cloudy.
14	.194	59.5	59.8	57.8	.....	Calm, cloudy, mist.
15	.046	58.9	59.	58.	.....	" clear, cumuli.
16	.081	59.	69.5	57.8	.....	" nimbi.
17	.063	59.5	60.2	55.	.....	" cloudy, mist.
18	.080	61.5	62.	59.	.....	" cloudy.
19	"	"	"	"	"	" cloudy.
20	.125	62.5	62.2	61.	.....	" cumuli.
21	.137	62.5	62.7	61.	.....	" cloudy, drizzle.
22	.134	63.	62.7	61.	.....	" cumuli.
23	.137	61.5	61.	57.8	.....	" cumuli.
24	.136	58.5	57.7	55.5	.....	" "
25	"	"	"	"	"	" "
26	"	"	"	"	"	" "
27	.135	59.5	59.5	57.8	Calm	Cloudy.
28	.140	59.	60.	58.8	N. E.	Clear, cumuli.
29	.181	59.2	59.5	57.7	Calm	Cloudy.
30	.175	59.5	59.8	57.	"	Clear.
31						

1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
·119	65·	65·5	62·5	N. E.	Lt. Clear.	·01
·090	63·9	63·5	61·5	Calm	Cloudy.	·53
·085	63·5	63·8	61·	N. E.	Lt. Cloudy.	·35
·077	64·5	64·8	62·	Calm	Cloudy.	2·56
"	"	"	"	"	"	·64
·125	64·5	63·7	62·	Calm	Cloudy drizzle.	·21
·122	64·5	65·	62·5	N. E.	Lt. cumuli.	
·137	64·5	64·2	62·	Calm	Cloudy.	
·118	63·9	65·	61·	"	Cloudy.	
·053	59·	60·	53·	N. E. lt.	Cumuli.	
·051	58·5	60·	52·8	N. E. lt.	Clear.	
"	"	"	"	"	"	·99
·016	60·	60·	57·	N. E. lt.	Cloudy.	·19
·005	60·2	60·5	58·5	Calm	Cloudy mist.	·03
·034	62·	63·	60·5	"	Clear cumuli.	
·059	62·5	63·	60·5	"	Nimbi.	·21
·062	63·	64·	61·8	"	Cloudy mist.	·59
·077	64·	65·	62·8	"	Cloudy.	·76
"	"	65·2	"	"	"	1·00
·130	64·5	64·	62·	Calm	Cumuli.	
·126	63·9	65·2	62·	"	Cloudy drizzle.	·07
·128	65·	62·	63·	"	Cloudy.	
·123	62·5	62·	60·	"	Cumuli.	
"	"	"	"	"	"	
"	"	"	"	"	"	
"	"	"	"	"	"	
·126	61·8	62·	59·8	"	Cloudy.	1·01
·135	60·5	61·	58·8	N. E. lt.	Clear cumuli.	·42
·180	61·8	62·5	60·	Calm	Cloudy.	
·148	62·5	63·	61·8	"	Clear.	
Total rain..						9·57

METEOROLOGICAL

(January 1847,)

kept at the Survey Office,

MAXIMUM PRESSURE, OBSERVED AT 9h. 50m. A. M.

Days of the Month.	Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.
		Of the Mercury.	Of the Air.	Of the Wet bulb.		
1	"	"	"	"	"	Squally.
2	24.252	60.	60.5	57.	N. W.	Nearly mid.
3	"	"	"	"	Slight North.	"
4	24.214	61.2	61.5	58.	N. W.	Clear cumuli.
5	.205	55.8	57.	54.5	Slight North.	Clear cumuli.
6	"	"	56.	53.6	Calm	Clear cumuli.
7	"	"	58.	55.8	N. W.	Clear cumuli.
8	.232	61.	59.	57.	N. W.	Clear cumuli.
9	.167	57.3	57.5	54.	Calm	Clear cumuli.
10	"	"	"	"	"	"
11	.160	16.0	57.2	54.5	Calm	Clear cumuli.
12	.151	55.8	56.	52.	Calm	Clear cumuli.
13	.169	58.	59.	54.	Calm	Clear.
14	.160	58.2	58.5	53.5	Calm	Clear.
15	.169	58.2	58.5	55.	Calm	Clear.
16	.169	58.5	58.2	55.5	Calm	Clear.
17	"	"	"	"	"	"
18	.160	58.2	58.5	54.5	N. W.	Clear.
19	.170	56.5	56.8	53.5	North	Clear.
20	.160	57.6	57.8	54.	North	Clear.
21	.160	59.	59.2	55.5	Calm	Clear.
22	.159	59.2	"	56.	North	Clear.
23	.158	59.8	"	56.	Calm	Clear.
24	.160	59.5	"	56.	Calm	Clear.
25	.144	58.2	"	53.5	Calm	Clear.
26	.106	61.5	"	55.8	Calm	Clear.
27	.102	61.5	"	56.	Calm	Clear.
28	.123	62.5	"	58.5	Calm	Clear.
29	.107	64.8	"	62.5	Calm	Clear.
30	.099	63.8	"	61.	Calm	Clear.
31	"	"	"	"	"	"

REGISTER,

KOTERGHERRY, for the Year 1847.

MINIMUM PRESSURE, OBSERVED AT 4 P. M.						RAIN.
Barometer.	TEMPERATURE.			WIND.	Aspect of the Sky.	Inches.
	Of the Mercury.	Of the Air.	Of the Wet bulb.	Direction.		
200	61·5	61·8	58·2	Squally North.	Heavy mist.	·30
201	61·2	62·5	59·2	Slight North.	Clear cumuli.	·41
185	60·5	62·2	58·5	Calm	Clear cumuli.	1·04
"	"	62·8	58·5	Calm	Clear cumuli.	
"	"	63·5	57·5	N. W.	Clear cumuli.	
150	61·	63·	56·	Calm	Clear cumuli.	
140	62·5	63·8	58·	Calm	Clear cumuli.	
"	"	"	"	"	"	
155	64·	66·	59·	Calm	Clear cumuli.	
153	63·8	65·8	59·	Calm	Clear.	
168	64·5	66·	61·	Calm	Clear.	
158	64·	65·	58·	Calm	Clear.	
157	63·5	65·5	58·5	Calm	Clear.	
"	"	"	"	"	"	
"	"	"	"	"	"	
159	61·2	62·5	56·5	Slight North.	Clear.	
166	62·2	63·2	58·	N. W.	Clear.	
145	63·5	64·8	59·5	Calm	Clear.	
143	63·8	"	56·	Calm	Clear.	
153	64·	"	58·	North	Clear.	
154	63·	"	58·	Calm	Clear.	
158	64·5	"	59·	Calm	Clear.	
120	66·	"	59·	Calm	Clear.	
080	67·8	"	61·	Calm	Clear.	
090	66·8	"	61·	Calm	Clear.	
087	68·8	"	62·	Calm	Clear.	
103	68·8	"	62·	Calm	Clear.	
078	67·5	"	60·	Calm	Clear.	
"	"	"	"	"	"	
Total rain....						1·74

METEOROLOGICAL REGISTER kept at the SUR

Days of the Month.	AT SUNRISE.				MAXIMUM PRESSURE, AT 9h. 50m. A. M.				AT APPARENT NO				
	TEMPERATURE.			Direction of Wind about 6 A. M.	TEMPERATURE.			Direction of Wind.	TEMPERATURE.			Direction of Wind.	
	Barometer.	Of the Mercury.	Of the Air.		Barometer.	Of the Mercury.	Of the Air.		Barometer.	Of the Mercury.	Of the Air.		
1	23 037	55	52	W. S.W.	23 050	61	58	S. W.	23 113	60	57	Calm	C
2	067	56	52	Calm	101	62	60	"	104	61	63	"	"
3	103	56	55	"	130	62	58	"	117	65	62	"	"
4	095	57	53	"	139	61	59	"	111	64	60	"	C
5	071	56	54	N. W.	113	60	57	"	112	64	60	N.	"
6	051	55	52	Calm	087	62	54	"	092	65	57	Calm	"
7	001	56	51	"	012	58	55	W.	003	59	56	S. W.	M
8	020	53	51	W.	028	58	54	"	011	61	57	"	C
9	017	55	52	Calm	111	61	59	Calm	113	66	60	"	C
10	081	51	50	"	136	61	56	"	131	64	59	"	"
11	048	54	51	"	236	66	57	"	161	68	59	S. W.	"
12	111	54	48	"	113	65	56	"	155	73	59	Calm	"
13	093	57	53	"	139	65	58	"	137	66	60	"	C
14	130	51	52	"	194	69	61	N. E.	173	67	61	S. W.	C
15	151	58	55	"	155	64	60	Calm	156	66	62	Calm	C
16	159	57	54	"	169	64	59	"	154	62	61	"	D
17	154	51	49	"	178	63	61	"	180	68	65	"	N
18	160	53	48	"	182	62	58	"	184	67	64	"	C
19	131	50	49	"	150	64	61	"	156	65	59	"	C
20	103	56	53	"	130	63	60	"	129	66	61	"	C
21	104	56	53	"	22 986	60	60	"	002	61	60	"	C
22	133	58	54	"	23 160	62	59	"	150	65	59	"	C
23	098	58	55	"	122	65	61	"	112	68	63	"	"
24	043	55	53	"	102	64	60	"	008	67	62	"	C
25	081	57	54	"	136	62	61	"	133	67	63	"	C
26	22 980	58	53	"	683	65	63	"	064	67	61	"	C
27	080	60	54	"	150	75	63	"	137	68	66	"	C
28	081	61	56	"	22 982	62	62	N. E.	22 980	63	63	E.	C
29	060	57	55	"	23 100	62	60	Calm	23 151	66	62	Calm	C
30	058	57	54	N. E.	121	64	60	"	22 120	67	60	"	C

THE NEILGHERRY
METEOROLOGICAL OBSERVATIONS for 1846.

Days of the Month.	AT SUN-RISE.				MAXIMUM P AT 9h. 50m			AT SUN-SET.				RAIN GAUGE. Inches.	
	Barometer.	TEMPERATURE.		Direction of Wind about 6 A. M.	Barometer.	TEMPERATURE.		Barometer.	TEMPERATURE.		Direction of Wind.		
		Of the Mercury.	Of the Air.			Of the Mercury.	Of the Air.		Of the Mercury.	Of the Air.			
1	24.040	60	60.8	56.4	N.W.	24.018	66	66.5	60.3	58	W.	.12	
2	.089	60.7	60	56	"	.100	65.5	66	.082	60.1	62	57.8	N.
3	.047	58.3	59.1	59.2	Calm	.060	66	66.2	.075	61.1	62	57.6	"
4	.050	59.4	60.3	57	"	.071	65.5	66.2	.056	61.2	62	58	Calm
5	.046	59	60	56.8	W.	.070	67	65.5	.047	61	62	57	N.W.
6	"	"	"	"	"	.068	64.4	65.4	.041	60	61	58.3	W.
7	.014	59.2	60	56.6	W. N.W.	.042	68.5	69	.004	60	61.4	57.6	W. by N.
8	"	"	"	"	"	.065	65.5	66.6	.012	62	62.5	"	"
9	.071	59	60	56	N.W.	23.982	65.2	66	.007	61.4	62	58	N.
10	.041	58.7	58.5	54.3	N.	24.077	67	67.2	.118	62	62.8	57.4	N.
11	.140	59.8	59	55	Calm	.165	67.5	68	.080	60.7	62	58	"
12	"	"	"	"	"	.116	66.5	66.8	.078	60.4	61.2	57.8	N.W.
13	.057	59.1	59.5	56.6	N. N.W.	.095	65.3	65.5	.042	63	64	60.8	N.W.
14	.055	59.5	60	56.2	N.	.096	65.2	65.5	.075	62	63	58.8	Calm
15	.098	59	59.8	56.7	N.W.	.109	66.8	67.2	.071	65.3	66	62.1	N.W.
16	.084	60	60.5	56.4	Calm	.135	64.9	66	.060	63	64	60.7	"
17	.071	59.6	60	57	"	.092	67	68.8	.074	61	62.1	57.4	"
18	"	"	"	"	"	.221	66	67.8	.129	59.2	60.4	58.2	W.
19	.147	59.1	60	55	N.	.195	66	67.5	.148	59	60	57.1	"
20	.140	58.5	59.2	54	N.W.	"	"	"	"	"	"	"	"
21	.137	59	59.7	54.8	Calm	.160	66.3	65.2	.070	64	65	60.9	Calm
22	.086	59.3	60	57	"	.164	66	63.7	.086	61.2	62	58.2	W.
23	.047	60	60.4	57.5	"	.080	64.9	63.5	.036	61.6	62.2	57.8	"
24	.046	59.4	59.8	57.1	"	.194	66.5	66.5	.040	60.7	61.5	57.6	Calm
25	.140	58.8	59	56.2	N.	.200	67.2	66.7	.110	60	61	58.2	"
26	"	"	"	"	W.	"	"	"	"	"	"	"	"
27	.146	57.4	58.2	56.4	Calm	.194	66.8	67	.080	61.6	65.2	61.2	N.W.
28	.142	58.2	58.1	55.1	"	.193	65.5	66.2	.090	65.1	66	59.9	Calm
29	.146	60	60	57	"	.197	68.2	68.8	.097	66.2	67.1	62.4	"
30	.140	58.9	59.2	56.4	"	.161	68	68.7	.092	65.3	66	62.1	"
Total rain, inches....											1.96		

ADDENDA TO THE MEMOIR OF THE NEILGHERRY SURVEY.

Hops.

In connection with the subject of "Beer" alluded to in the foregoing Memoir I am happy to be able to add that my anticipations regarding the success likely to attend the establishment by Government of a Depôt on these Hills for the manufacture and supply of this article to the European Troops have been much strengthened by a confident opinion which has been expressed to me by Mr. McIvor the Superintendent recently appointed by the Honorable Court to take charge of the Botanical Garden at Ootacamund, that Hops will thrive and become highly productive under proper treatment on the Neilgherries—Mr. McIvor gives a preference to situations enjoying a somewhat milder climate than that prevailing at Ootacamund, and has pronounced the land in the vicinity of Kotergherry and the Eastern portion of the Plateau generally very suitable for Hop cultivation. I have therefore in order to test this important project caused a piece of ground selected by Mr. McIvor to be prepared for the purpose in the hope that the Honorable Court may be pleased to order good Kentish Hop seed to be sent out for trial.

I may also take occasion to add that the representation which I have hazarded in the preceding part of this Memoir regarding the suitability for the soil and climate of these Hills for the economical production of Wheat and Barley of a very superior quality as well as of every description of English Farm produce are fully confirmed by the opinion of the same competent authority, (Mr. McIvor) whose anticipations of success in Farming operations of every description if undertaken by competent agriculturists on the Neilgherries, go even beyond those which I have ventured to express.

OOTACAMUND ; }
9th May 1848. }

(Signed) J. OUCHTERLONY, Captain,
Superintending Neilgherry Survey.

F I N I S.