REPORT,

ON

THE MEDICAL TOPOGRAPHY AND STATISTICS,

OF

THE MYSORE DIVISION OF THE MADRAS ARMY.

COMPILED FROM THE RECORDS

OF THE

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MYSORE DIVISION.

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DIRECTIONS TO THE BINDER.

MYSORE DIVISION.

This divison of the Army includes the entire of the country of the Rajah of Mysore, which is at present under the general management of a Commissioner appointed by the supreme Government, in consequence of difficulties, both of a political and financial nature, from which the country suffered for many years, whilst under native government.

The city of Mysore is the present capital, and the residence of the Rajah; Seringapatam formerly the chief city, and of such vast importance, having been abandoned as a military station, in consequence of the deadly character of an endemic fever which prevailed there, and which for several years carried off vast numbers both of Europeans and natives; and it is now fast falling into decay, and becoming every year more and more deserted.

The principal military stations in Mysore, are Bangalore the head quarters of the division; Hurryhur, to the north of Bangalore; and the French-rocks, within a few miles of Seringapatam; to which may be added the grazing and breeding farm for public cattle, established at Hoonsoor.

The depôt for remount horses being on the same table land, also comes to be noticed in this division, although five miles beyond the borders, in the Salem district.

The principality of Coorg is likewise annexed to the Mysore Division of the Army, but will more properly form the subject of a separate report.

Situation and extent. The country of Mysore is a high table land, lying between 74° 40, and 78° 40 east longitude; and extending from north latitude 12° 30, to 15°; it contains about 37,000 square miles, and is chiefly situated on an angle formed by the junction of the eastern and western ghauts; the most southern part of the former, being the well known Neilgherry hills. The elevation of the country varies a good deal, thus, Paidnadurgum is 1,907, Baitmungalum 2,519, Bangalore 3,000, Mysore 2,513, Seringapatam 2,558, Serah 2,223, Narsapore 2,904, Colar 2,800, Naikennary 2,221, and Hurryhur, 1,831 feet above the level of the sea, according to barometrical observations.

Mountains. The Sevagunga mountains, about 25 miles N. W., of Bangalore, one of the highest ranges in Mysore, rise to 4,600 feet above the level of the sea; but some of the peaks of the Bababooden mountains in the district of Nuggur, attain an elevation of upwards of 6,000 feet.

The Ghauts, forming the east, west and south limits of the province, are high ranges of mountains, covered with wood and bamboo jungle, but to the northward the country is more plain and open, and the level descends considerably.

It is altogether an inland country, but its north-western angle approaches to within about fifteen miles of the sea, from which however it is separated by the western ghauts; on the eastern side, it does not approach nearer to the bay of Bengal, than within about 100 miles, and its southern point is 50 miles from the Malabar coast. The general aspect of the country is rather undulating than hilly, although there are several detached ranges, and clusters of rocky mountains, from which the rains have washed away the earth, leaving masses of primitive rock piled as it were one upon another, with only a scanty herbage around their bases, and a few stunted shrubs, rooted in the clefts on their sides.

Large tracts of low jungle, and open waste ground, are interspersed with cultivated spots, and there is also a con-

siderable extent of grazing ground throughout the province. There are no marshes of any extent, but there are numerous tanks, upon which the Mysore ryot depends, in a great degree, for the irrigation of his rice fields; they are usually constructed by throwing strong embankments across the lower parts of valleys, in order to dam up the rain water, and lakes of several miles in extent are thus formed, from which the water is drawn off as required, for the cultivation of the lower grounds.

Divisions of Mysore, and boundaries.

The province is divided into the districts of Bangalore, Mysore proper or Astragam, Chittledroog, and Nuggur, and is in extreme length about 257 miles, and in breadth about 238. It is bounded on the north by Soonda and the Ceded districts; on the east, by the Ceded districts and North Arcot; on the south, by Salem and Coimbatore; and, on the west, by Malabar and Canara. The small territory of Coorg having lately been placed under the commissioner of Mysore, is likewise considered as annexed to the Mysore division.

Rivers.

The chief rivers are the Toombudra, which takes its rise in the western ghauts by two sources, the Toongah, and Budra, which unite at Holyhonore; it traverses the Nuggur district from south west, to north east, and leaves the country on its north east frontier at Hurryhur; the Hugry, or Vadawatty which rises in Nuggur, and traverses Chittledroog; the Pinnaur which rises in Oosscottah, from a chain of tanks near Nundidroog, and passes to the southward, and eastward into the Salem district near Ryacottah; the Cauvery which rises in Coorg, and traverses the southern part of Mysore, previous to entering the Coimbatore country; and the Hummawaty river, and its tributary the Lagachy, which are also valuable streams, neither of them being ever quite dry; the entire country is intersected by small rivers, but except the above mentioned, none are of sufficient consequence to be named, as they become dried up after the monsoon season.

Droogs, and hill forts. The most curious of the geological features of the country, are the isolated hills, or *Droogs;* the principal of these are Nundy-droog, Chittle-droog, Severn-droog, and Ootra-droog. Forts were generally built on the summits of these hills, which are elevated from 1,000, to 1,500 feet above the level of the surrounding plain, rising abruptly from a base of not more than one or two miles in circumference; they are chiefly composed of masses of granite, gneiss, and hornblend, and most of them were fortified by the native governments. These forts, which are now nearly all in a dilapidated state, are generally inaccessible except on one, or two of their sides. Small tanks and springs of fresh water, are found on the summits of some of them.

Rocks. The rocks in Mysore, are generally of primitive formation, such as black and grey granite, hornblend and gneiss, containing masses of quartz, feltspar, and occasionally mica; either hornblend, gneiss, or laterite are found to protrude every where through the soil.

Climate. Mysore has always been celebrated for the mildness of its climate, the temperature of which, to the feelings of the European, is most agreeable; at Bangalore the general annual average range of the thermometer at noon, in the house, is 76° of Far.—The nights are seldom hot,and the mornings and evenings are always cool, if not cold; and there is an elasticity in the air which is truly delightful; nevertheless, to strangers it often proves treacherous, particularly should they expose themselves much to the sun—for the cold of the mornings followed by the heat of a tropical sun, is hurtful to most constitutions. The thermometer exposed in the open air, constantly ranges forty degrees between sun rise and noon.

The following may be taken as a fair estimate of the climate.

From the end of January to the end of March, the days become gradually hotter; and from the last week in February, to the end of March, high and most disagreeable winds prevail, from the north and north east. The mornings and

evenings at this time, are however cool and pleasant, but as the season advances, the nights become close; this is found to be the least healthy period of the year.

From the end of March to the end of June, heavy showers from the west, with thunder and lightning are to be expected, and if rain should fall in March, the weather immediately becomes cool; June is a pleasant month, being cloudy and cool, and the country is then usually clothed with verdure;—the mornings and evenings at this time, are more equable than at any other season throughout the year.

From the end of June to the middle of August, the weather is cool and pleasant, and from that period to the end of September, the temperature gradually rises.

From the end of September to the end of January, the weather again becomes pleasant, the mornings and evenings being cold, and the mid-day cool; heavy fogs are frequent in the mornings, at this period of the year.

The climate of Mysore may be said to be more pleasant than healthy, there being very few parts of the country which are not subject to severe visitations of epidemic remittent fever, from which Europeans appear to suffer less severely than natives; amongst the native inhabitants the disease is very fatal, and is a principal cause of the population being so thin in some parts of the country.

Prevailing diseases. The prevailing diseases are catarrhal, remittent and intermittent fevers,—the latter being called the Mysore fever;—influenza, diarrhœa, and dysentery occur at the change of the monsoons; and during the prevalence of the strong north easterly winds, exposure to cold brings on rheumatic complaints, and occasions a disagreeable dryness of the skin. Bilious remittent fever is endemic in all the jungly districts, more particularly in Nuggur and Astagram; but Chittledroog has for the last few years been less unhealthy than heretofore. No part of the country is better situat-

ed, or freer from the influence of jungle miasm than the cantonment of Bangalore; remittent fever being nearly unknown amongst the troops, except as the result of occasional, and in many instances, imprudent exposure in unhealthy districts.

Elevation of the country, its effects on the salubrity of the climate.

The elevation of the country becomes gradually less from Bangalore, 3,000 feet above the level of the sea, to the banks of the Cauvery; Seringapatam being 2,159 feet, Socilla 2,105 and from thence, a further descent of 1,000 feet occurs, to an island on the river, which is peculiarly unhealthy; Seevasamoodrum 2,023 feet, nearly the same elevation as Seringapatam, is equally unhealthy, this place is surrounded by water and jungle, and near it is one of the falls of Cauvery. The French-rocks, a station only nine miles from Seringapatam, 2,419 feet above the level of the sea, and only 300 higher than Seringapatam, is healthy, and comparatively free from fever; from thence to Munjerabad, and the foot of the Bababooden hills in Nuggur, a gradual rise takes place; Munjerabad is 3,200 feet above the level of the sea, and Bababooden attains an elevation of 5,768, the highest point of the range being 6,347; the two latter places, which are thinly inhabited jungles, are, notwithstanding their elevation, fertile sources of malaria.

Various localities have changed their character for healthiness from time to time.

Several localities in Mysore, which have been peculiarly productive of fever, have after the lapse of a few years, been known to become again perfectly healthy; thus Nundidroog from the year 1805, to 1823, was a tolerably healthy military station, it gradually however altered its character, and becoming extremely unhealthy, was abandoned. It is now again said to be healthy, and free from febrile diseases. Chittledroog, Seerah, and Santa Bednore, have all similarly changed their characters at times, though to all appearance, excepting atmospheric changes, the other exciting causes have remained unaltered. The stations in the valley of the Cauvery, have however never altered, as Seringapatam, Mysore, and Hoonsoor. The hilly and jungly

districts, to the north and west of Mysore, are also very feverish, as Munjerabad, Hassan and part of Nuggur. A singular instance illustrative of the foregoing remark happened at Ooscottah, a considerable town a few miles from Bangalore, which in the year 1836 became suddenly very unhealthy. After the prevalence of an easterly wind, vast numbers of persons were seized with symptoms of catarrhal influenza, which rapidly became infectious, assuming a typhoid type, and upwards of two thousand of the inhabitants, of this populous place, fell a sacrifice to the disease; several travellers stopping at the place for a night, were attacked; and the tappal runners were afraid to pass through it. The town which is now healthy, is situated on low ground, close to a very large tank. Similar epidemic visitations are by no means uncommon in Mysore, whole villages becoming suddenly depopulated from fever, which the natives attribute to the effects of the cold and dry winds, which even to Europeans, are painfully disagreeable.

Ooscottah, the epidemic of 1836

Soils. The soils in Mysore, may be divided into the black, or cotton ground; a rich red earth, produced by the disintegration of rocks containing much iron; common, or reddish brown soil, containing iron in the state of protoxide; a white silicious unproductive earth; and, a clayey mould found in the valleys and below tanks; for a more particular account of these, see the report of Bangalore.

Vegetable produce. Coffee and tobacco grow well in the Nuggur district, which supplies the Malabar coast with the latter article. Sandal and teak wood are found in the forests of Coorg, Nuggur, and Astagram; cardamoms, cinnamon, pepper and ginger, are grown every where; and sugar, and sugar candy are made all over the country. In Munjerabad and the Wynaad jungles, the sago palm thrives well. Potatoes grown at Nundidroog are nearly equal in quality to those of England; silk worms were introduced by Hyder Ally, and silk of good quality is produced, though the articles manufactured, from it, are of coarse texture. The poppy is grown in

many places, but the opium produced is inferior to that of Turkey or Bengal, and is said to contain less morphine.

Mineral productions. The iron found at Mudgherry, Chennapatam and other places, is converted into steel, which the natives consider to be of superior quality, when prepared with bamboo, or bungarry charcoal. Glass is also made in many places; and impure muriate of soda, a black salt, procurable in the bazaars, is obtained from the soil by lixiviation, it contains a small portion of iron.

Sheep. Chittledroog is famous for its breed of sheep, and for its blankets, or cumblies,—very generally worn by the Wool. natives,—which are manufactured from the country wool; a finer sort of cumbly not unlike serge, being also made in limited quantity.

Fruits and vegetables. European fruits and vegetables thrive well in the climate of Mysore, the peach, apple, and strawberry are plentiful, and peas, carrots, and knol-khole are procurable in the bazaars, at the military stations.

A list of fruits, grains, vegetables, &c. the produce of Mysore, is given in an appendix, the native names being those in common use; many of the English names are taken from Ainslie's Materia Indica.

Twenty two varieties of paddy, and ten of ragghy are found in the bazaars.

A table shewing the season in which many of the crops are sown and reaped, is also annexed.

The manufactures are confined almost entirely to silk and cotton cloths, the latter being strong and well adapted for trowsers, and for native use.

Bourbon cotton. The Bourbon cotton, lately introduced by the Commissioner, has succeeded admirably, and not only are the crops far more abundant than those from the common country cotton, but the wool is cleaner, and of a better staple; the

plant also possesses the peculiar advantage of growing best in the red soil, which prevails throughout the country, and in a few years it may be expected that Mysore will supply itself with this article, much being at present imported from the Ceded districts; the Bourbon cotton already sells in the bazaar, at double the price of the country cotton, and its only disadvantage appears to be, that it is more liable to be destroyed by insects before being cleaned.

Proportion of cultivated, to uncultivated lands.

Of the 37,000 square miles, which the province is said to contain, the cultivated lands do not probably amount to more than 3,817, or 1-10th, or 1-11th, of the whole; and dry cultivation bears about the proportion of 4½, to 1 of wet; the red soil forms about 5-16th of the arable lands; the black 3-16th; lands of mixed quality 4-16th; and mixed, and stony about 4-16th.

Rivers, and water courses &c.

There are 28 rivers throughout the province, the waters of which are used for the purposes of irrigation, and 1850 water courses; besides which, great facility exists in obtaining water from wells and tanks; but notwithstanding these favorable circumstances, the natives prefer dry cultivation, to wet.

Villages.

Villages and hamlets are very numerous, and scattered over the country in every direction.

Materials for road making.

The materials for road making are of an excellent description, and every where abundant; but if much care be not taken to keep the roads in repair after heavy rains, they soon become cut up and intersected with ravines.

Roads.

The principal roads are, a direct line of communication from Madras to Mangalore, which crosses the peninsula from east to west, in nearly a straight line, and enters Mysore at the Naickenairry ghaut, passing through Bangalore, Coongul, Chenroypatam, Hassan and Bisly, into Canara.

A road from Madras which leaves Seringapatam to the north, passing through Mysore and the Wynaad jungle, to Cannanore; this is not so direct a line as that through Coorg.

A road also runs from Mysore, due south by Goondelpett, where it divides into two branches, one going west to the Neilgherries, and the other east, round these hills, into the Coimbatore country by Guzzlehutty; a good road runs also to Bombay, viâ Hurryhur and Dharwar; and another line in a northerly direction proceeds to Hyderabad, by Nundidroog and Bullapoor; there is likewise a communication with Cuddapah, by Nundidroog; and lastly a road from Madras to Bangalore, has lately been opened viâ Oossoor, through the Amboor valley, avoiding the steep ascent of the ghauts. Most of the passes into Mysore, are in the Madras territories, having been ceded to the Company in 1792.

Population. The natives of Mysore are in general of small stature, but are a well formed and active race, the population is apparently scanty, and there are very few parts of the country which could not be made more productive, than they at present are.

The following estimate of the population has been drawn up as carefully as possible, with reference to the number of ryots paying taxes, and the number of merchants and other classes, in the several towns and villages, but it is not altogether free from error.

The Bangalore District contains,

Talooks,	Villages,	Population.
28,	11,073,	2,60,800.
	Mysore,	
29,	8,895,	8,55,536.
	Chittledroog,	
32,	5,649,	4,26,607.
	Nuggur,	
14,	5,319,	4,59,842.
	Total Population.	20,02,785.

To the above must be added at least 1,000,000 souls, as women and children are not included in the returns for the Bangalore and Mysore districts, and in those for which they are given, they exceed the number of males; the entire population of the country may therefore be estimated at about 3,000,000, or 786 inhabitants to each square mile of cultivated land.

Site of villages. Bangalore and Mysore, are the most populous districts, and Chittledroog the least so; the situations generally selected for the sites of villages, are sheltered spots on the sides of hills; the villages being usually surrounded either by mud walls, or thick hedges, which serve the double purpose of defending the inhabitants from the attacks of wild animals, and from what they fear quite as much, the dry easterly winds; and the nearest high ground to a tank, is frequently selected without reference to the healthiness of the locality.

Houses. The houses are built of mud, having low thatched or tiled roofs, they are ill ventilated there being seldom any aperture for light or air, except the door ways, of which there is often but one, rarely more than two, and these so low as not to admit of a person entering without stooping; this is in some instances owing to the regulations of caste, which do not permit the doors being more than a certain height.

Many of the better class of natives have privies, in a yard behind their houses, formed by excavating deep circular pits, which are covered with a large flat stone, having a narrow opening in the centre; when requisite they are either cleansed out, and the contents used as manure, or covered over, and fresh pits made. Some villages appropriate a small space of ground, enclosed with a mud wall, for the purposes of a public necessary.

Clothing. A cloth round their waist, and a black cumbly, is the universal attire of the ryots; but natives in good circumstances wear broad cloth and flannel, in the wet and cold seasons.

After sun set, and generally when in the open air, a cloth is worn tied over the head, and ears; and natives always sleep with the entire body, head and face, covered.

Bedding. All who can afford it, have cots or raised platforms for sleeping on, with either a mat or rug, and a cumbly as a covering.

Fuel. Firewood is abundant all over the country, but bratties, or cakes made of dried cow dung, seem to be preferred as fuel, by natives in general.

Police establishment. The police establishment in the cantonment of Bangalore, is under the same regulations as in the Company's territories, but throughout the Mysore country, the police duties are conducted by Candachar peons, or Matchlock men, of whom there are one or two in every village; the head quarters is at Bangalore, and there are two distinct classes, one for the revenue, and the other for the judicial department. The establishment consists of Peons, Duffadars, and Hoblydars; who each receive from three to nine rupees monthly pay. Their arms are generally a sword and matchlock.

Silladar or Mysore horse. A body of men, called the Silladar, or Mysore irregular horse, is also kept up, and under the command of a European officer; they amount to about 2,700 men, who receive 20 Rupees per mensem, and are obliged to be ready at all times, when called on, with their horse and equipments complete. Their dress is a red *ungreka, and trowsers. They are armed with a sword, spear, and short matchlock, and are a well mounted, efficient body of men.

The Silladar horse are divided into seven companies, one of which is stationed at Bangalore, two at Closepet, one at Hussan, one at Chittledroog, one at Letchman, and one at Nuggur.

Mysore infantry. The Mysore infantry, also under the command of a European officer, form an efficient, and very useful body

* A native coat or upper garment.

of men, amounting in number to about 2,200; Bangalore is their head quarters, but detachments are stationed in each district, to assist the police, and for the protection of treasure, &c.

Diseases of horses. Horses are annually subject to an epidemic disease which carries off large numbers, in a few hours illness. The disease both in its course, and the ravages which it commits, is not unlike cholera, it likewise attacks horned cattle.* Horses are also subject to inflammatory attacks, and to weakness in the loins.

Of horned cattle and sheep. Horned cattle and sheep suffer much from a disease appearing in the form of aphthous eruptions on the lips and tongue, often ending in fatal diarrhœa. The treatment consists in the exhibition of pepper, salt, and the highly astringent expressed juice of the flower of the plantain tree, remedies which are considered specifics by the ryots.

During the hot weather in seasons of drought, when the cattle become lean and out of condition, thousands die in the northern parts of Mysore, affected with bloody diarrhœa, and vomiting of a watery fluid, from which few recover.

Large numbers also die from bowel complaints, on the first commencement of the rainy season, caused by the sudden change from dry to green food.

Of poultry. Poultry die in large numbers from diarrhœa, and a disease not unlike small pox, appearing in pustules on the head and tongue; the latter complaint being more especially fatal to turkeys.

Ergot in rice. Rice is often affected with ergot, in wet seasons, the use of which causes diarrhœa; the natives say, that it also produces ulceration of the fingers and toes, which terminates in mortification.

* Post mortem examinations have proved unsatisfactory in these cases, slight congestion of the gastric and intestinal mucous membrane being the only morbid appearances which have been discovered.

Number of persons, and cattle killed by wild beasts.

The number of persons, and of cattle, reported to have been killed by wild beasts in Mysore, from January 1835, to September 1836, is as follows.

	People killed.	Cattle killed.
Bangalore District.....	15	2,397
Astagram do	74	1,498
Chittledroog do	24	714
Nuggur do	224	2,160
Total....	337	6,769

Number of wild beasts destroyed

Rewards having been offered, and inducements held out by Government, for the destruction of wild beasts, the following numbers were killed from January 1835, to September 1836.

	Elephants.	Tigers.	Cheetas.	Leopards.	Bears.
Bangalore District.....	1	22	55	21	8
Chittledroog do	0	82	123	0	55
Astagram do	28	100	0	108	6
Nuggur do	0	145	172	0	44
Total...	29	349	350	129	113

Many of the villages in jungly districts, have been almost uninhabitable, from the ravages of tigers; these animals have been most successfully destroyed, by taking them in pit falls, in which way the greater number of the above were caught.

State of medical science amongst the natives.

Of the popular remedies, in use many are inert, and some are calculated to produce effects, altogether different from those for which they are administered; they chiefly consist of aromatic, or pungent seeds, and gums, with a few mercurial and other mineral preparations, which are extremely rude, and consequently uncertain in their effects.

Fevers.

No distinction is made in the treatment of the several forms of febrile disease; the principal remedy in use

is the following preparation of arsenic—about half an ounce of solid white arsenic, is inserted by a narrow opening, into the fruit of a bitter vegetable, called augulkoy, and a hole being made in the ground about a foot in depth, and nine inches in circumference, the fruit is placed in it, and covered over with dried cow dung, which is set fire to; when the cow dung is consumed, it is taken out of the pit, and the arsenic is submitted a second time to a similar process; after which it is washed several times, in cold water, and exposed to the sun till perfectly dry; it is then ground into a fine paste, in a stone mortar, either with lime juice or honey, and made into pills of about half the size of a small pepper corn.—One pill is given twice a day for three days, rubbed up in about a tea spoonful of honey, or warm water; and low diet is enjoined whilst using them, such as rice and pepper water or rice conjee, but no vegetable or fruit of any kind is allowed; this remedy will, it is said, cure the worst cases of fever, but is liable to bring on dysenteric affections. The use of this rude preparation is also supposed to occasion much of the anasarca, which has been attributed to damp unhealthy situations, and is of frequent occurrence after fever.

Dysentery. The principal remedy used by the natives in dysentery, is opium combined with astringents, prepared as follows; a young pomegranate is scooped out, and a piece of opium about the size of a large nutmeg introduced into it, it is then placed on a slow fire of cow dung, for two hours, or till the fruit is completely charred; after being allowed to cool, the whole is ground in a stone mortar, and the mass made into pills, each about the size of a pea; one is given every night or oftener, for three or four days, and generally with good effect.

The diet in this disease is restricted to rice and ghee, or rice and buttermilk.

Many of the natives treat dysentery simply with castor oil, about an ounce being given every second, or third morning. Bleeding either general or local is not employed, but recourse

is sometimes had to fomentations, when tormina or tenesmus are severe.

Diarrhœa. Pomegranate bark, fennel seed, and nutmeg are employed in diarrhœa, occasionally combined with small quantities of opium.

Epilepsy. Castor, musk and bezoaar are given in cases of epilepsy.

Worms. In intestinal worms, cowhage, and the root of the pomegranate bark, which is known to have formed the celebrated french vermifuge powder, are the chief remedies; the milk of the pappai fruit, is also used for this purpose. The nauk pooche-cottay, or seed of the margosa is given to expel Ascarides. ascarides, and is prepared as follows. The seed being placed in cowdung for a night is opened, and the cotyledon extracted for use; this remedy it is said seldom fails in effecting the expulsion of the worms.

Asthma. Strammonium is smoked as an antispasmodic in cases of asthma; and rue is given with the same intention in Diseases of females. most of the complaints of females, and also to infants.

Leucorrhœa. Oxide of zinc is given in leucorrhœa and weakness of the seminal vessels, with apparently good effect; and gold is supposed to possess powerful aphrodisiac properties.

Surgery. Fractured limbs are frequently seen, which have been very neatly set by potters; their method of treatment being to encase the limb in wet clay, and cow dung; but should inflammation and swelling ensue, this system of treatment must be exceedingly painful, and frequently induce gangrene.

Midwifery. The treatment of puerperal complaints is mixed up with much prejudice and superstition, and is generally Canarese women. highly injudicious. The Canarese women for the first three days after giving birth to a child, are allowed little or no food; on the fourth day, some boiled

rice and toddy are given, with warm water for drink; this diet is continued for seven days, when leavened bread, made of the flour of the noyee-oorvie or achyranthes, is substituted; on the 13th, or 17th day, they bathe, either margosa leaves, marsh mallow, or noochie being boiled in the water. To women of castes who use animal food, stimulants, such as pepper-water and aromatic decoctions, are given immediately after labour.

Coomties. The Coomties refrain from food for the first five days, and bathe on the fifteenth after delivery; and for three months thereafter, their drink is restricted to boiled water. In obstructions of the lochia, betel and catechu are chewed, to promote the discharge.

Brahmins. Brahminy women fast the day after delivery, and the use of salt and acids, are strictly prohibited for some time; from the fourth day to the end of a month, rice boiled and dried, constitutes their chief food.

Puerperal convulsions. In puerperal convulsions, rue, pepper and garlic, are administered in the form of a bolus, and stimulants are applied to the cornea, a practice common in epilepsy, and which frequently destroys the sight. The actual cautery is also resorted to in convulsions.

Treatment of new born infants. Immediately after birth, infants get a dose of rue and castor oil; and in infantile asphyxia and convulsions, the juice of the milk hedge, (euphorbium tirucalli) betel, and russapuspum,—an impure muriate of mercury,—are given in small doses; acorus calamus and crocus sativus, are also employed in these complaints. A powder called "*Thout Russum*" is a favourite remedy in the complaints of infants, it is made by triturating quicksilver, with the juice of the cucurbita hispida, red pumpkin, till perfectly oxydized, it is then mixed with saffron, and musk, and given internally in small doses. The expressed juice of garlic, with lime, is given as a purgative to remove the meconium; and in cases of diarrhœa, astringents combined with nutmeg, are employed.

Purgatives in general use.

The purgatives in general use, are croton and castor oil; the croton is prepared, by first boiling the seeds with cow dung and water, then removing the husk, and macerating in milk for 24 hours, after which they are beaten into a mass, and given either in that state, or the oil is expressed for use. The above process is supposed, and it is believed correctly, to render the oil less acrid, than when obtained from the raw seed. The plant called kurs-allagunny combined with castor oil, is used to purify the blood.

Anti-mercurial medicine.

The bitter juice of a vegetable, called nurry pauvakoy, momordica charantia, Lin: mixed with the juice of the betel leaf, is taken to counteract the effects of mercury.

A general description of the subdivisions of the Mysore Province; viz. Bangalore, Chittledroog, Mysore or Astagram, and Nuggur.

District of Bangalore.

The district or division of Bangalore, is bounded on the east by the Ceded districts, and

Boundaries.

north Arcot; on the south by Salem and Coimbatore; on the north by the Ceded districts; and on the west by Chittledroog and Astagram. The country in general is level, and the soil dry and gravelly, but tolerably productive. It contains 28 talooks, 11,073 villages, and, exclusive

Population.

of women and children, a population of about 2,60,800 souls.

Castes.

The inhabitants are chiefly jains, brahmins, and coonnibees, the latter being ryots; but in the immediate neighbourhood of Bangalore, and in the pettah and bazaars, natives of every caste and description are to be found.

As most of the remarks under the head of Mysore, are likewise applicable to this district, it is requisite to allude only to some diseases peculiar to this part of the country, and their probable exciting causes.

Diseases. In Dhoda pettah, leprosy, eruptive diseases and bilious remittent fevers, are very frequent, pneumonia, fever, chronic, and acute rheumatism, and cephalalgia, are also prevalent, the latter in particular amongst persons who lead a sedentary life. Lues in the most aggravated form, is common. Brahmins are very liable to flatulent colic, and to tympanites. Intermittent fever was endemic in the pettah of Bangalore previous to 1822, and proved very fatal; the natives attribute its subsidence to the principal streets having been planted with cocoanut trees, but increased attention to cleanliness has doubtless been the cause of the beneficial change which has since taken place. Weavers, jewellers, and smiths in advanced years, are said to suffer from sternalgia.

District of Chittledroog. The Chittledroog district is more extensive but less populous than that of Bangalore; it is

Boundaries. bounded on the east by Bangalore and the Ceded districts; on the north by the Ceded districts, on the west by Nuggur; and, on the south by Astagram. It con-

Population. tains 32 Talooks, and 5,649 Villages, the total male population is computed at 1,56,003, and including women and children 4,26,607; of whom one third are supposed to be lingaits and coomties, one sixteenth brahmins, and the remainder other castes.

General aspect of the country. Much of the district consists of jungle and mountain ranges, or rather lines of barren hills, running from Astagram near the valley of the Cauvery, in a northerly direction. These ranges are of no great breadth, and seldom above six or seven hundred feet in height. The country is open to the north; but low ranges of hills at the distance of a few miles, obstruct the view to the west. *The Droog* is the last mountain of this range, and gives the name to the district. The hills and mountains are clothed with small stunted trees, and low jungle.

Nundidroog. Nundidroog a celebrated hill fortress, distant 35 miles from Bangalore, rises in three majestic hills.

This fortress was taken by a portion of the Army under Lord Cornwallis, in 1791. At one time it was famed for the salubrity of its climate, and was frequently visited by invalids from Madras; it however became all at once unhealthy, and has for many years been abandoned as a station. Not far from this place is Deonhutty, a fortified town, at the siege of which Hyder Ally first distinguished himself, and where his son Tippoo was afterwards born. Two granite stones are all that now remain, to mark the site of the palace in which he was born.

Deonhutty.

Soil.

The soil in the vicinity of these places is extremely rich, and much attention is paid to the cultivation of tobacco and sugar cane; the manufacture of the latter was improved under Tippoo Sultaun, who established several Chinese at Deonhutty, and taught the people the mode of manufacturing the finer kinds of sugar.

The soil in the open country is either a red earth, or sandy and gravelly, which however with a little manure produces excellent crops. In the valleys it consists of a rich black loam, formed by decomposed vegetable matter mixed with disintegrated granite; it also in many situations contains iron and saline impregnations, from which latter a black salt is extracted, though not in sufficient quantity for internal consumption. In those places where salt is most abundant, the soil is least productive.

Diseases.

The endemic diseases peculiar to the district, are intermittent fever,—which is often followed by enlargement of the spleen, jaundice or dropsy,—dysentery, pulmonary affections, cholera, and ophthalmia. Fevers prevail during the months of November, December, January and part of February, which the inhabitants attribute to the cold north easterly winds.

Small Pox a few years ago made great ravages, but is now scarcely known, vaccination having since become popular.

Epizooties of horned cattle.

Horned cattle are subject to two forms of epide-

mic disease, one of which, aphthous ulceration of the mouth and tongue, accompained by rejection of food, a dull heavy appearance, diarrhœa and violent griping, is considered to be contagious. The symptoms of the other form of epidemic, are purging, swelling of the belly, suppression of urine, extensive ulceration between the hoofs, and great prostration of strength. These diseases prevail in the hot season at which time grass and water are scarce, and of bad quality. In the former disease, which runs its course in three or four days, the treatment consists in washing the mouth with warm water twice a day, and giving the animal about 3 or 4 ounces of lard in hot water, every morning. In the other disease the animal is kept in a warm stall at night, and fed with unsoaked gram, and dry grass, or straw; the feet being placed in deep mire for several hours during the day.

Of Asses. Asses, which in this country are very generally employed as beasts of burden, are subject to an epidemic in wet seasons; the symptoms of which are enlargement of the belly, rejection of food, foaming at the mouth and nostrils, followed by emaciation and convulsions. The owners are all people of low caste, and the only remedy they employ is firing the animal on both flanks, and on the sides of the nose.

Of Sheep. Sheep are bred in large numbers throughout the district, by two distinct classes of people, called Gwolla and Cooroovur, in the rainy season they are taken to the waste lands, and secured during the night by fences of dry thorns, from the attacks of tigers, and other beasts of prey. In the dry season the flocks are brought to the neighbourhood of the villages, and kept on the arable lands, for the purpose of manuring them.

Sheep are subject to a sort of catarrhal disease in the wet season, which often rages as an epidemic, particularly when they are closely pent up in large numbers. No remedies are employed for its cure.

Wool. Wool, which is of good quality, is one of the chief staple commodities of the country.

Cotton. Cotton is likewise produced, in all parts of the district.

Climate. Chittledroog is peculiarly circumstanced with regard to rain, much less falling in it, than in the other districts, and it is perhaps on this account, that it is so much better adapted for the rearing of sheep; the pasturage is short and dry, and the flocks less liable to the rot, or other diseases, incidental to more moist situations.

It is also celebrated for its breed of carriage bullocks.

Mysore or Astagram. Boundaries. Mysore or Astagram is bounded on the east by part of the Bangalore district, Coimbatore and Salem; on the north by Chittledroog and Nuggur; on the west by Canara and Coorg; and on the south by Wynaad and Coimbatore. The town of Mysore, the capital and residence of the Rajah, is situated nearly in the centre of this, the most extensive district into which the province is divided. The country is populous, well cultivated and contains 29 talooks, Population. 8,895 villages, with a population amounting to about 8,55,536 souls; of these about 18,000 are mahomedan families; 26,570 brahmins; 73,420 lingaits; and 2,663 jains.

There are a considerable number of mahomedans in the town of Mysore, the descendants of families which flourished in the time of Hyder Ally, and Tippoo Sultaun.

Climate. The climate of this part of Mysore is neither so pleasant, nor is it as healthy as that of Bangalore, owing to the latter being more elevated, freer from jungle, and drier.

From January to March, the nights and mornings are cold and chilly, and fogs are frequent, not dispersing till about 8 A. M.; towards the latter end of the month the days become hot and oppressive, with heavy dews at night.

From April to June, the temperature is more equable, the nights become warmer, and there is a considerable fall of dew;

the days continue very hot, but should rain fall in May, which is usually the case, the weather becomes pleasantly cool, though feverish.

From July to September, the weather is cloudy and pleasant, and from that time till December, a refreshing cool wind prevails during the day, and the evenings and mornings are cold.

Heavy showers may be expected in April and May, and the south-west monsoon continues throughout June and July, and is much more severe than on the eastern side of the country, or at Bangalore; the north east monsoon seldom extends to Mysore, except in occasional showers.

This district was formerly divided into two *Fouzdaries*, or military divisions, that of Munjerabad and Astagram, the former comprising the north west portion, and Astagram the remainder. The country to the eastward is open and well cultivated, the soil being similar to that near Bangalore, viz. red earth and quartz. On the banks of the Cauvery where there is much cultivation, it assumes an alluvial appearance, and at a place called Muddoor, it is found to contain lime.

Diseases. The natives of Mysore chiefly rely on change of air in cases of fever, the popular idea being that no one attacked with Mysore fever, can perfectly recover, without a decided change of climate, and the experience of Europeans fully bears out this opinion.

The following are a few of the native remedies most in use.

Popular remedies. Fumigations with camphor and benzoin, are used in hœmorrhoidal affections; preparations of talc in asthma, icterus and dysuria; croton seeds or oil, in splenitis; sulphuretted oil, (or more probably naphtha,) in rheumatism; russa puspum in syphilis; and arsenic in intermittent fever.

Ptyalism is frequently induced by the inhalation of cinnabar, which sometimes occasions convulsions.

Horses. Horses are bred in large numbers, from the country or Silladar mares, by Arab horses, distributed over the country, for that purpose.

Bullocks. The breed of bullocks is small, and hardy; numbers fall a sacrifice annually to epidemic diseases, and the ravages of wild beasts. The chief epidemics amongst them are diarrhœa and fog sickness, catarrhal fever, mange, and the well known disease characterized by aphthous eruptions about the tongue and fauces, previously mentioned.

Produce. The productions of the country are, exclusive of the common grains, cinnamon, pepper, cardamoms, coffee, raw silk, cotton, sugar, sugar candy, teak and sandalwood.

Rice. Rice is cultivated to a considerable extent, in the neighbourhood of the Cauvery, by means of dams or annicuts.

Sago. The sago palm is common in the jungles, and is known by the name of buggeney or marr, it is one of the most graceful of the palm tribe in foliage and appearance, and is found in the greatest luxuriance throughout the jungles of Munjerabad and Nuggur; it grows to a considerable height and must attain a diameter of about two feet, before being fit for use. It thrives best along the edges of ghauts, and in the thickest parts of the forest, where it is sheltered from the sun and wind, and where the soil is consequently moist, and enriched with decayed vegetable matter.

The process of extracting sago is most simple; the tree being felled and the external or woody parts removed by a small country hatchet about two inches broad, the inner substance which is soft and spongy, and devoid of any cavity, has the appearance and taste of a coarse yam. This being chopped into pieces, and pounded in a common rice mortar, is formed into balls, which are held over an earthen pot covered with a thin cloth, and water poured slowly over them. The farina passes through the cloth, and is deposited in the form of a fine paste at the bottom of the vessel; the water is then

poured off, and the paste dried, when it becomes friable, and crumbles into a fine flour.

In Munjerabad, where it is used as an article of food, the flour is commonly made into puddings, and eaten in the same manner as ragghy; but even in this part of the country it does not form a general or favorite article of diet, its consumption being usually confined to those by whom rice is not procurable, and an eater of sago is looked upon with contempt. Though chiefly confined to Munjerabad, where it attains its greatest perfection, the palm is also found in the talooks of Maharajdroog, Arculgode, Yedatoora, Mysore and Astagram. In the latter it is grown for the most part in sooparay and cocoanut gardens, and though generally inferior in size to the tall and handsome palm of Munjerabad, it attains nearly the same height, in situations, which in point of shade and moisture, resemble its native locality.

The quantity of sago which a full grown tree yields has not been correctly ascertained, but it is said to be about three maunds, or ninety pounds weight; the following statement however affords some information on this point. A small tree about twelve feet long, and from 7½ to 9 inches in diameter, was procured from the Wellesley tope, situated on the Mysore road near Seringapatam, and it appeared on examination, that not more than one inch of the outer wood was too solid, to admit of being pounded to a pulp, the whole of the interior, being a soft vegetable structure, which when treated in the manner above described, yielded about 14½ pounds of fine sago; the upper part of the tree was most productive, the fibres being there finer, and the farinaceous matter more abundant.

The sago tree is produced from seed, which may be sown in beds, and transplanted like young cocoanuts, and young plants are frequently found in considerable numbers at the foot of the parent tree. It arrives at maturity in from fifteen to twenty years.

Tapioca. Tapioca is found in Mysore, but not used as an article of diet.

District of Nuggur. The Nuggur district forms the north-western portion of the province. It is bounded on the Boundaries. north by Dharwar, on the south by Astagram, on the east by Chittledroog, and on the west by Canara. From north to south it extends about 110miles, and from east to west 75, forming an area of 8,250 square miles. The nearest point to the sea, is at the Karnee ghaut, in the Saugur talook.

Rivers. It is traversed by the following rivers and streams, viz. the Toonga, Budra, Wurda, Nundery, Seetah, Comdivutty, Natravuty, Moodabanady, Vadawutty, Himavutty, Neting, Heredra, Charavutty, Cooshavutty, Dundavutty, and Nundy, all of which take their rise in the western ghauts. The principal of these are the Toonga and Budra, which have their sources in the mountain of Gungamoola, in the talook of Coopa. They at first diverge in nearly opposite directions, and afterwards flow parallel in a north easterly direction; and after about ninety miles unite at a village named Coodlay, near Holyhonore, eight miles north east of Shemoga, forming by their junction the Toonga-budra which flows in a northerly direction by Hurryhur. The Budra is very serpentine in its course, its stream is rapid, and it has a rocky bed chiefly of granite, which in some parts is in blocks of great size; the banks are high and steep, and several very populous villages are situated on them. Its water is considered very unwholesome.

The Wurda also deserves particular notice, it has its source among the hills in the north west extremity of the district, in the Saugur talook, and winding northward, passes within five miles west of the village of Anawutty, and afterwards flows into the Toonga-budra, at Meewoonee.

Several other streams or rivulets, the principal of which commence above Nuggur, take a north westerly course, and flowing over the ghauts, form the celebrated cataract of Joysee,

which falls over a perpendicular precipice of about nine hundred and fifty feet in height, into a vast chasm or abyss.

Tanks. Tanks are numerous in the open country, and several are of very large size; the most extensive is the Soolykerry lake, which owing to the failure of rain during 1835, 36 and 37 became nearly dry. Magnificent springs or wells are found on the tops of some of the highest hills, as the Motteetalab; and the Ghalikere, on the Bababooden, the last being Wells. said by the natives to have no bottom. Wells are also numerous throughout the country, and generally of considerable depth, but the water is often brackish. The neighbourhood of Shemoga abounds in springs; and in the Mulnaad, the water is good, and met with near the surface.

Mountains. Several ranges of hills, or spurs from the ghauts, intersect the district, running in parallel lines from north to south. The most remarkable is the Bababooden mountain, on the top of which is a small extent of table land, rich in mineral and vegetable productions, and possessing a mild and temperate climate. The greater part of the mountain contains iron ore, from which large quantities of iron and steel are manufactured.

The hills in the Mulnaad are generally covered with jungle; in other parts of the district, the summits are quite bare.

Hill forts. The principal hill forts are Chundere, Gooty, Cowlidroog, Cuppadroog, Comendroog, Cubdroog, Gooerhangerrydroog and Belaroyendroog, the two first and the last named, are in good preservation, but the others are completely dismantled.

Forests. One half of the western side of the district is termed the Mulnaad, it is a dense forest of large trees, and thick underwood, extending to within six or seven miles of Shemoga. The teakwood which it produces is valuable, and in great abundance, as are also sandal-wood and ebony; it like-

wise produces the nux vomica, gurdenia damitorum, (used as a substitute for ipecacuanha,) and the chloroxylon dupada, a beautiful large tree, which yields the Indian rosin or dammer, from the seed of which a medicine is also obtained by boiling, and used by the natives as an embrocation in rheumatism and bruises.

That part of the district which lies to the eastward of the Toongabudra river, below its junction with the Loom at Holyhonore, is for the most part flat, and not very densely wooded.

Population. The population of the Nuggur district is computed at between 450,000 and 5,00,000; and the number of villages 5,319.

Houses. The habitations of the natives in general are low, thatched, mud buildings, having a small hole or two for ventilation; the more respectable inhabitants however have tiled houses, but with an equal disregard to ventilation; they are usually built in squares, with a small paved court in the centre, having a channel to carry off water, the rooms are small and dark, but the principal sitting apartment is commonly open in front. Many of the ryots houses are long and narrow, with sheds at the ends for the use of cattle. The villages usually consist of one principal street running through the centre, intersected at right angles by narrow lanes. There is in general a great want of cleanliness observable, and in many streets dunghills are formed on either side, as well as in front of some of the houses.

The inhabitants of the Mulnaad are a good looking race, and live less in groups than those of the plains, their dwellings being often detached from villages on the banks of streams, close to their fields and gardens; their cottages have a comfortable and cleanly appearance.

Shemoga is the *Cusbah*, or head quarters of the district, and is situated on the left bank of the Loongah river, about one hundred and ninety miles north-west of Bangalore. It is a

populous village, the principal streets are wide and clean, with gutters for drainage, and several good roads have lately been made leading to it. The most respectable inhabitants are brahmins who live in comfortable tiled houses, several of which are upstair buildings. It has a good bazaar, the inhabitants in general are healthy, and their habits are not different from those of the Mysoreans generally, except that in the Mulnaad, they are more active and industrious, cleaner in their persons, and more attached to their birth place, often pining away when removed from it.

Food. Rice, ragghy and joharree, constitute the chief articles of food, but the inhabitants of the Mulnaad live entirely on rice; the poor use various edible roots, found in different parts of the country, as well as greens, plantains, and jack fruit.

In Shikarpoor, Shemoga, Terrikerry and the Cadoo talooks, ragghy is the common food; and joharree in the talooks of Honally, Hurryhur and Chennegherry. Rice is either eaten boiled with curry, or with charoo, which is prepared by adding spices and tamarind to dholl water, horse gram being substituted by the poor; tyroo or curdled milk is frequently eaten with rice, particularly by brahmins; ragghy is prepared by grinding it, and boiling the flour with water, when it is eaten with chatney, butter milk, or the charoo; cakes are sometimes made of ragghy flour with the addition of a little jaggery; joharree is also made into cakes, and eaten with greens or other vegetables and chatney; sometimes it is coarsely ground and made into conjee. Ghee and oil are very generally used, as also chillies and spices; animal food is seldom eaten, and only on particular occasions, by those whose caste permit it. The lower castes are fond of toddy, which is obtained from the cocoanut, the caryota urens, or bhyni, and the wild date tree; arrack is distilled chiefly from jaggery.

Grain is cheap and plentiful, two seers of ragghy, one and a half of joharee, or one of rice being sold for a pice. In

times of scarcity the seed of the bamboo, called beder-akkee or bamboo rice, is also eaten; the husk is removed by pounding, and the grain is then ground and eaten like ragghy; in such seasons also, the poor in the Mulnaad, live on flour obtained from the sago palm, called by them *bhynitrit;* and it is said that a much larger quantity of flour is procurable from the tree, in times of scarcity, than at others; its continued use occasions griping pains, this however may be owing to the imperfect manner in which it is prepared.

Amusements. Strolling players from below the ghauts occasionally visit this part of the country, and people sit up all night in the open air to witness their performance. Puppet shows are also common about Chennegherry, domberdassaries, men dressed in female clothes, go about dancing in the villages with music, and jugglers and rope dancers, are occasionally seen. Various games are played with cards and dice, as also chess.

Cock and quail fighting are common amusements, and shooting is likewise a favorite pursuit; large hunting parties occasionally assemble, and game is in consequence scarce. In Coppa and Cowlidroog, bows and arrows are still in use, but have generally been superseded by matchlocks.

Popular remedies. In fever the most universal remedy is the warm bath; the patient is well smeared with common oil, and immersed up to his neck in a tub or trough of warm water, he is then well dried and made to drink a quantity of warm conjee, after which he is wrapped up and sweated profusely. A common domestic remedy at the commencement of fever, is a decoction of kalifeera, (sweet fennel,) and black pepper, sweetened with sugar. Honey, black hellebore and creyat, (justicia paniculata,) are given in fevers, but the disregard to proportions renders native prescriptions valueless. Mineral preparations are seldom used, nor are the native Doctors so well informed, or so bold practitioners as those on the eastern side of the province; they trust chiefly to nature, and to religious ceremonies.

Condition of the poor.

The poor are mostly day labourers, the greater part being paid annually in kind, they live in miserable huts, grouped together outside the villages; the daily hire is four pukkah seers of grain, or, in money, three or four pice, and half that amount to females; but when sent to work at a distance, the wages is six pice per day. There are no public institutions for the support of the poor, and consequently those who are unable to work, live by begging.

Children are reared in general with very little care, no attention is paid to their education till they are seven or eight years old, and then only among the brahmins, and more respectable inhabitants; of those who attend school, most are withdrawn as soon as they are able to assist in cultivating land. There are schools in almost every village, and many of the wealthy employ private teachers, and allow the children of their poorer neighbours to participate in the benefits of the instruction—the pay of these teachers is about two rupees monthly, an estimate may therefore be formed of the state of learning, when the teachers are thus remunerated. Where the houses are much scattered, the teachers go about from house to house, and it may be supposed that this desultory mode of instruction cannot induce habits of very strict attention, either in the pupil or the teacher. Of the poorer classes few even learn to read.

Diseases of Cattle.

The following information respecting the diseases of cattle has been obtained from the * Aumildars.

Dodo Judda.

Dodo Judda or, great disease, prevails throughout the entire division. The symptoms are general heat of surface, watery mouth, prostration of strength, aversion to food, thirst, watery purging, sometimes mixed with blood, and inability to stand; it affects animals once only during life, and generally appears in cold weather. It is supposed to be contagious. The common remedy is firing on the chest and sides.

* Native civil Officers.

Kalbae. Kulbae Judda, or feet and mouth affection. This is also a very common disease, and has been noticed by nearly all the Aumildars as prevailing chiefly in the cold season, some cases however occur in the hot weather, but it is seldom seen in the rains. The symptoms are ulceration with fetid discharge from the edge of the coronet, and a copious flow of offensive saliva from the mouth, in which are numerous pustules, preventing the animal from taking the least nourishment, and consequently producing great debility. One of the natives describes the disease as follows, "between the hoof and integuments above it, are observed several cracks which expose the flesh, and fissures likewise appear on the jaws, gums and tongue, from which issues a watery discharge;" both it and the last mentioned disease are said to be produced by the use of impure water, unwholesome grass, and feeding on young joharree. The treatment consists in washing the feet carefully, and anointing the affected parts with oil. Oranges and the tender shoots of the bamboo, are given internally. In Soorub a paste made of cobweb, tobacco, and chunam, with ghee, is applied to the feet; and ripe plantains, with common oil, and nellee koye, (emblic myrobolon) are given internally. At Shemooga the animal is made to stand in a puddle, and an orange or lime cut in two, and sprinkled with turmeric powder and salt, is well rubbed on the tongue. In Terrikerry, dung and boiled rice are applied to the feet, and lime juice to the mouth; water in which rice has been washed is given as drink.

Gollalay. Gollalay, swelling in the throat, is mentioned as affecting cattle chiefly in the wet season, from the use of green grass. The treatment employed is firing the tumor, or scarifying the part, by drawing a branch of thorns several times over it.

Hulleegay. Hulleegay, pain and swelling in the chest, is a disease of common occurrence among cattle. It is caused by want of wholesome grass and water, and is most prevalent in the hot weather, firing on the chest and sides is the principal remedy, and if not resorted to in time, the disease proves fatal.

The following list has been collected from the Aumildar's reports, those above mentioned however, are considered the principal diseases.

Diseases of Cattle.

Nuldoo,—Dryness of the nose with shortness of breathing, belly puffed and confined, urine scanty, breath hot, the animal refuses both food and water; is caused by the use of muddy water, and is prevalent in hot weather.

Karloo,—Severe purging and swelling of the belly, with great weakness and inability to stand, considerable emaciation. Caused in hot weather by eating grass covered with dust, and in the wet season by grazing on karloo grass.

Shalay,—Restlessness, foaming at the mouth with oppressed breathing, said to succeed the disease called Nuldoo; prevails in hot weather.

Nar Nuldoo,—Evacuations consisting of small balls of thick tenacious matter, which may be drawn into fibres followed by leanness; the name signifies wasting of the body.

Ungullah Guppay,—Inflammation and enlargement of the tonsils.

Thullay Sooteenah or Erree Roga,—Turning of the head, the animal falling to the ground as in fits or staggers.

Toraburray Roga,—Difficulty of breathing, and inability to move.

Ludlay Roga,—Puffing of belly, with borborygmus and loss of appetite; prevails in hot weather.

Koray Hulloo,—A bony excrescence in the jaw.

Pinjavee Roga,—Great emaciation, langour and difficulty of breathing, prevails at uncertain seasons; probably caused by worms.

Shidaboo,—An eruption like itch over the body.

Hampayra,—Swelling and suppuration of the glands in the neck; prevails in cold weather.

Kurnamoodla,—Discharge of blood and matter from the ears, with swelling.

Hoatcha Roga,—Looseness.

Ructa Baythee,—Purging of blood; prevails during the rains.

The most unhealthy season for cattle appears to be the hot weather, when water is not only scarce, but stagnant, muddy and offensive; the grass also is parched, and affords but little nourishment, and is moreover covered with dust. Young joharree plants, and the tender shoots of the castor oil, are said to be particularly injurious, as also a species of grass having a thick blade, called karloo, growing in water along the borders of tanks, and which harbours small insects. The rainy season is not considered in general unhealthy for cattle.

Diseases of horses. Of the diseases with which horses are affected, the following are the most prevalent.

Koorkooree. Koorkooree or gripes, prevails in the hot weather, and is caused by irregularity in feeding, three species of this disease are mentioned, viz. *kutcha koorkooree,* or wet gripes, in which the action of the bowels is healthy, but the urinary secretion is suppressed; *sooka koorkooree,* or dry gripes, the most fatal, in it, retention both of the dung and urine occurs; *bathee koorkooree* an intermittent form of the disease, the animal is attacked at intervals of from four to ten days, the paroxysms are but of short duration, and the symptoms are comparatively slight. One of the remedies in use consists of the following articles made into balls, tobacco, brinjal root, root of the castor oil plant, pepper, black hellebore and ghee; another is, one rupee and a half weight of kooteekee powder, given in a seer of arrack; a third consists of quarter of a seer of ghee, a pice weight each of pepper and adjuvan, and quarter of a seer of the juice of the bark of the castor oil plant soaked in water. In dry koorkooree one rupee weight of chillies, with a quarter of a seer of tobacco, adjuvan, lime juice, and radish juice, mixed and given as a drench.

Catarrhs. Colds or catarrhs are treated by inhaling the smoke of burnt gunny, and giving green ginger and assafœtida internally.

Jaharbad. **Jaharbad,** a swelling commencing about the navel, and extending to the sheath and hind legs, occurs in rainy or cold weather; the treatment consists in giving cloves, mustard, assafœtida, ginger and mace, pounded together, and made into balls with the juice of the green ginger; fomentations with leaves, or warm sand, are likewise applied to the affected parts. Moonga, an eruptive swelling of the palate, with a discharge of mucus, and slight fever, prevails in the hot weather, and is treated by rubbing the mouth with powdered turmeric, and giving a mixture consisting of gajeegah, suppod, gajeegah thirooloo, with the leaf and kernel of the grey bonducca nut, chillies, pepper and tobacco.

Horses frequently die suddenly as in the Coorg country, from an inflammation of the larynx, attended with swelling of the glottis, which sometimes causes suffocation, in a few hours. The disease is not unlike quinsy.

Table of the disease of horses.

Singada,—Swelling, and suppuration of the glands of the neck; prevails in cold weather.

Paseenah,—An affection of the frog with a highly offensive discharge, the same disease when affecting the coronet is called *gird;* it prevails in cold weather.

Barrsatee,—Prevails in wet weather all over India.

Varvoo Anuth Oothurnah,—A disease of the testicles, in which one is retracted into the belly, with lameness of the corresponding hind leg; prevails in cold weather.

Aduzungah Varvoo,—Pain in the loins, with loss of muscular power; prevails in cold weather.

Bomanee Kamurz,—Falling off of the hair on the tail and mane, with numerous small tumours at these parts; said chiefly to affect grey horses.

Bowkeedah,—Pain in the chest, supposed to be caused by worms; the animal rolls on his back, and strikes the chest with the fore legs.

Moonjah,—Worm in the eyes.

Diseases of Sheep.

Dombay Roga,—A disease of the lungs with impeded respiration, and foaming of the mouth, occurring in damp weather.

Dodda Judda,—Or great disease, severe purging of blood and slime, passing lumps resembling pieces of flesh, aversion to food, watery discharge from the mouth; is very fatal, and prevails in hot weather.

Kul-bae Judda,—Or feet and mouth affection, similar to the disease of the same name affecting horned cattle.

Shullay Marrooloo,—Staggers.

Shiddooboo,—A very fatal and contagious disease similar to small pox, which occurs usually every five or six years.

Kul Jurrah,—Foot fever.

Malay Roga,—Cracking of the mouth.

Kennoo Roga,—Inflammation of the eyes.

Gona Roga,—Nostrils filled with viscid mucus, which impedes respiration, with dullness of spirits and loss of appetite.

Bil Roga,—Violent spasm drawing the body backwards, hence its name, which signifies bent in bow shape. Is very fatal.

Sheep as well as horses suffer most during the rains; they do not thrive well, and are not numerous in this part of the country.

Longevity of the inhabitants.

The inhabitants of this district are said to be long lived, and the following statement has been procured from the Aumildars.

	Talooks.	Ages of men now living.
Mulnaad.	Nuggur.	From 85 to 90 ten, from 70 to 74, three 75, 76, 78, 79, 85, and 90, one each.
	Saugur.	Of 90 two, 60 two, 65 two, 70 and 80, one each.
	Sorub.	Of 94 one, 70 to 78 five, 80, 81, 82, 85, 87 and 88, two, 90 and 92, one each.
	Cowlidroog.	Of 90 two, 70, 71 and 74 two each, 75, 76, 78, 80; 81, 85 and 86, one each.
	Coppa.	Of 70 eight, 73 two, 75, 80, 85 and 95, one each.
	Suckwoolly.	Of 70, 80, and 85 six each, of 75 four, 80 to 84, three.
Open Country.	Shikarpore.	From 80 to 100, nine.
	Chicamogaloor.	Of 72 three, 75 four, 77 two, 78 three, 80, 85 and 90, one each.
	Shemogah.	Of 90, 91, 92 and 95 three.
	Honally.	Of 70 four, 75 and 77 three, 80 two, 82 and 90 one each.
	Hurryhur.	Of 70 three, 75 five, 80 two, 85 three, 95 one.
	Chennegherry.	From 80 to 100, fourteen.
	Terrikairy.	70 to 73 seven, 80 to 85 two, 90 two, 95 and 105 one each.
	Cadoor.	70, 72, 73, 75, 77 and 80 five each, 85 three, 90 two.

The people of the hill country, appear from the above table to be the longest lived.

Diseases of

The most common disease throughout the district is intermittent fever, which is particularly prevalent in the Mulnaad, and many of the inhabitants have their constitutions completely broken from repeated attacks, and a considerable number labour under its common sequelæ, enlargement of the spleen, and visceral disease, terminating in dropsy. The type of fever is chiefly the quotidian, although tertians and quartans are met with, the latter as usual being the most

obstinate. Rheumatism, asthma, epilepsy, cancer and tænia capitis, are also frequent.

Diseases of Prisoners. The prevailing diseases amongst the prisoners, are intermittent and remittent fevers, catarrh, dysentery and diarrhœa. Intermittent fever has lately been so mild, that the greater number of cases might have been marked as ephemeral; remittents prevailed with peculiar severity in the month of March 1836, when the weather was hot and oppressive, while no cases occurred in the corresponding month of the preceding year. In February 1835, an epidemic catarrh broke out among the prisoners and inhabitants of Shemoga, but the disease was of a mild character; great variation of temperature with high S. E. winds prevailed at the time. Dysentery was very common in the jail during the years 1835 and 36, in the months of May, June and July. In June 1836, it was particularly severe, at which time the monsoon had just set in. Diarrhœa has always proved to be the most fatal disease among the prisoners, particularly in those who suffered from visceral derangement, the effects of fever.

Influence of season on health. May and June are usually unhealthy, sickness continuing until the monsoon fairly sets in; and it again increases at the change to the N. E. monsoon. The natives being lightly clothed, suffer much from the influence of the cold chilly mornings, and heavy dews which usually prevail, during the months of November, December and January. In some localites the hot weather is stated to be healthy, when the previous monsoon season has been favorable. The Shikarpore, Terrikerry and Cowlidroog talooks, are said to be healthy during the rainy season. With respect to the effect of winds, the natives all concur in stating the easterly wind to be the most unhealthy.

In the hot season bilious remittents and fevers, of a typhoid character, frequently occur, as also dysentery, bilious vomiting and purging, and ophthalmia.

The vicinity of tanks are found to be unhealthy, and the inhabitants of villages near them, are frequently seen with a pale bloated countenance, enlargement of the abdomen and thin emaciated limbs; the tanks are most unwholesome when they have been imperfectly filled by the rains. There are no tanks in Suckwoolly, but several families use the water from ponds at the foot of hills, which are filled by springs from above, these people are said to have pale countenances and to be subject to swelling of the abdomen.

Soil. The soil under cultivation in the Mulnaad, is either a whitish clay mixed with sand, or in the open country, black cotton ground; in Hurryhur, Buswapattam, Adjumpore and Çadoor, three fourths of the soil is cotton ground, and in Honally, about one fourth. The soil in the Shikarpore and Shemoga talooks is generally red and stony, mixed with sand.

Mounds of chowl munnoo, or earth containing an impure carbonate of soda, are met with in Chennagherry, Cadoor and Terrikerry.

Roads. There are no good roads throughout the district, except those in the neighbourhood of Shemoga.

Granite. Immense blocks of granite are seen in all parts of the country; and laterite is found in the talooks of Saugur, Nuggur, Sorub, Cowlidroog and Coppa. In Hurryhur, Chennagherry, and part of Honally, Kuttah kullo a soft laminated stone, is plentiful in the beds of nullahs, in the Toombudra river, and it is also met with in digging wells. Gravel is found in some parts Holyhonore, Hurryhur, Honally, Cowlidroog, Suckwoolly and Shemoga.

Produce. The following is a list of articles, the produce of the Nuggur district, omitting grains which are common to the province at large. Tobacco, silk, cotton, earth salt, sandalwood, ebony, blackwood, wax, honey, rattans, wild cinnamon, wild arrowroot, coffee, sago, wild cardamoms, teak, capeladye, lac, cassia fistula, iron, iron ore, wool, biliany, talc, civet, ochre, hill oranges, limes and citrons.

Manufactures. The manufactures are pig iron, ploughshares, crow bars, maumutties, nails, horse shoes, steel in bars, cumblies, coarse cloths, cotton carpets, women's cloths, gunny, date mats, rush do., bamboo do., bamboo baskets, brass utensils, cotton thread, earth salt, hand-mill-stones, coarse paper, castor oil, gingilie do., corasanie do., cocoanut do., sandal do., linseed do., coasavi do., margosa do., doopada do., ghee, sugar, jaggery, dye stuffs, sealing wax, glue, and lime.

TOWN OF MYSORE.

Situation. The town of Mysore, the capital of the province, is situated in latitude 12° 18′ N; and longitude 76° 42′ E., at an elevation of about 2,450, feet above the level of the sea, both it and the fort are placed on a declivity formed by two parallel ranges of elevated ground, running north and south.

It is distant 9½ miles south of Seringapatam; 294 south west of Madras; and 129 east of Cannanore, the nearest station on the Malabar coast.

Fort of Mysore. The Fort *forms nearly a square, three sides of which are each about 450 yards in length, the fourth being somewhat longer, it is situated on a gentle slope, the town being on the north-west and south sides, with a tank on the east. The fort wall is built of stone, having several bastions, and a deep double ditch, except on the eastern, or tank side.

The walls are about the height of the houses within them, most of which are two storied. There is a sloping glacis varying in breadth, from about 100 to nearly 200 yards, round three of its sides; the tank on the eastern side being confined by an embankment, upwards of 1,000 yards in length, running from the south eastern corner. The Agrarum, a part of the town occupied by brahmins, extends from the bund of the tank round the south and west faces of the fort, in which direction there are numerous gardens.

* See plan annexed.

The Rajah's palace within the fort, is an extensive building forming three sides of a square, and the remaining space which is thickly populated, is occupied by substantially constructed houses, the residences of the Rajahnuds, and principal men about the court.

Pettah. The principal pettah, which lies to the north of the fort, is enclosed by a fortified wall. The Residency church, the Rajah's hospital, some gardens and a few native houses, occupying the space to the north east.

Many good and substantial houses of two and three stories high, are to be found in the pettah; and the streets are laid out with considerable regularity, the principal one running north and south, with others at right angles. The upper stories of the houses are supported on pillars, the intermediate spaces, in which small windows are left, being built up; the houses generally are covered with a pent tiled roof, except a few of the best which are terraced; and teak-wood, which grows abundantly in the neighbourhood, is much used in their construction. In the suburbs, there were likewise many good houses, but they are now falling much into decay.

Population. The number of houses in the town of Mysore, including the fort, is 9,558 and the population is estimated at 65,000, of whom about 14,000 are mahomedans, and 12,000 brahmins. Both the fort and pettah being fortunately placed on sloping ground, much of the filth which would otherwise accumulate, is carried off by the common sewers during the rains, and at other times is removed by scavengers for manure.

Surrounding country. From the pettah wall, the country slopes gradually to the north as far as the Cauvery river, on the road to Seringapatam. The Chaumundee hill, about a mile and a half to the south, rising abruptly to a height of nearly 1,000 feet, is of an irregular figure, and about 2½ miles in length. It is of granitic formation, and its sides are covered with low brushwood, and stunted sandal-wood trees.

Soil. The soil, in and about Mysore, is red and gravelly, lying chiefly on decomposed basalt and gneiss, except in the vegetable gardens, and low situations near tanks, where it has been much improved, and is a dark alluvial mould.

Water. The water of wells is generally speaking, not good, being much impregnated with soda, and strangers are supposed to suffer attacks of fever and bowel complaints from using it; the inhabitants themselves prefer the water of tanks, the supply of which however occasionally fails, as happened in the year 1837, when much inconvenience was thereby experienced.

Poorniah's canal. During the time the *Dewan Poorniah was in office, a canal was opened for the purpose of supplying Mysore with water from the Cauvery, it was a work of vast labour and expense, having, in many places, to be cut through solid rock to the depth of 50 or 60 feet. The canal commences near Yeddatorah, about 27 miles from Mysore, crosses the Letchmanteert river, and in its windings traverses an extent of 73 miles; it enters the pettah at its northern angle, and joins the outer ditch of the fort. This canal has for several years been useless, in consequence of its banks having been destroyed not far from its source, and not, as stated by Fullarton, from the level being too high to admit of its being filled; and it is much to be regretted that it is not repaired, as although the estimated expense is very considerable, it would most materially contribute both to the comfort and health of the inhabitants of Mysore, independently of its value, as a means of irrigating the country through which it passes.

Roads. There are four principal roads leading into Mysore, affording free communication with the surrounding country, but they are at present much out of repair.

Climate. The climate of Mysore is, as might be expected from its elevation, comparatively cool,—the annual mean temperature in the shade being about 76°. The fall of rain is usually greater than at Bangalore; the prevailing winds are

* Prime Minister.

the north-east, and south-west, the former blowing from October to May, and the latter from May till October. The south-west monsoon, from June to August, affords the chief annual supply of water, though rain likewise falls during the north east monsoon, in October and November. The winds from December till April, are usually high and disagreeable; in December and January they are cold, and remarkably dry, causing furniture, which may have stood the heat of the Carnatic or Ceded districts, to crack and split. Fogs are very frequent in the mornings, after the termination of the south-west monsoon, and continue till January; but the country south of Mysore appears to be more subject to them than Mysore itself; this is apparently caused by the influence of two extensive ranges of hills, the Belgeerungum distant about 30 miles to the eastward, and the Neilgherries, about 40 to the south; the extensive plain stretching between them and the Chaumundee hill, being frequently seen covered with thick white fog, when the country to the northward is perfectly clear.

Prevailing diseases.

Mysore has long had the character of being very subject to fever, it is certainly still the prevailing disease, but it is believed to be less frequent than in former years, there are however no authentic records from which it can be ascertained if such is really the case. The type of fever is chiefly the intermittent, though severe remittents are occasionally met with. Affections of the spleen and anasarca, are the frequent consequence of obstinate intermittents. The period of the year at which fevers prevail, is the commencement of the south-west monsoon, when after continued drought and heat, the solar rays being then most intense, decomposition rapidly takes place, causing noxious exhalations to arise; the next most frequent period of sickness, is at the termination of the monsoon, and setting in of the cold weather, when however, the fevers are of a much milder type. At this season, rheumatism and bowel complaints are also very frequent. Ophthalmia is not so common in the Mysore country, as in the Carnatic; though cases of cataract are frequent.

As to hereditary diseases, the only one that can be looked on as such, is scrofula, severe cases of which occasionally present themselves at the Rajah's hospital.

There are no diseases peculiar to the different classes of manufacturers, trades being usually carried on here, as in other parts of India, so much in the open air, that the miseries seen in manufacturing districts in England from confinement, are unknown.

On the whole, the Mysoreans may be said to be a healthy race, and octogenarians are not unfrequently seen.

Longevity. Tables of marriages, births &c. are not procurable, and any calculations made from the police records, would be but of little value.

Management of children. Children are often nursed much beyond the period usual in Europe, not being weaned till the third or fourth year, though at the same time, they are allowed the ordinary food used by their parents.

Food. The food of the better classes is the same as in other parts of India, the lower orders live chiefly on dry grains, which are much cheaper than rice.

Clothing. The same remark applies to the clothing of the better classes; amongst the poor from the nature of the climate, the cumbly is in general use, the best and warmest descriptions of which, are made from the wool of the small Mysore sheep. A great variety of carpets and rugs, are likewise manufactured from this wool.

BANGALORE.

Description of cantonment & vicinity.

Bangaloor or Bangalooria, as it is called by the natives, a city and cantonment in the province of Mysore, formerly of considerable importance during the mussulmaun dynasty of Hyder Ally and his son Tippoo Sultaun, is now the head quarters of the Mysore division of the Madras army. It lies in latitude 12° 57 N, and longitude 77° 38′ E., and is celebrated for the coolness and salubrity of its climate, being situated on one of the highest ridges of the table land of Mysore, 3,000 feet above the level of the sea; it is nearly midway between the coasts of Coromandel and Malabar, being distant 205 miles from Madras, and 230 from Mangalore. The military cantonment, with its extensive pettah and bazars, is nearly 2½ miles in length, by about a mile in breadth, and lies 2 miles east of the fort of Bangalore.

Its appearance at a distance, is peculiarly pleasing to the eye of one accustomed to view the brown arid plains of the Carnatic; on approaching the cantonment, trees are so thickly planted in the different compounds, as to give a beautiful wooded appearance to the scene. The immediate surrounding country is generally barren, and the ground extremely undulating, the ridges which are not of any very great height, running for the most part in an easterly and westerly direction.

Geological observations.

The soil is more or less of a reddish colour, and is intersected with deep ravines in all directions; around Bangalore it may be divided into the very red, the reddish brown, the clayey, and the white silicious, or stony earths.

On the eastern or Madras side, from the village of Kistnarajapoorum, and some way beyond, to about two miles before reaching Bangalore, white soil prevails, the ground being barren and little of it under cultivation, beyond a few

acres near some of the villages. Granite and gneiss rocks are scattered over the face of the country, with occasional rocks of hornblende jutting out; near the village of Madapullay, about two miles beyond Kistnarajapoorum, a range of hornblende hills runs in a southerly direction for some miles, flanked by rocks of granite and gneiss. The soil around this range is of a redder colour than that around the granitic formation. Near the above mentioned village of Madapullay, the greater part of the kunkar which supplies Bangalore with chunam, is found in a valley running nearly north and south, below the bund of a tank,—rude kilns are erected on the spot, for burning it, and the kunkar which exists in nodules, lies at the depth of from seven to nine feet from the surface. In digging for it a light brown earth is first met with, for a depth of two feet, next to which is a layer of white clay one foot in depth, to this succeeds a blue clay intermixed with a little red earth, of four or five feet in thickness, and then a whitish earth or clay in which the nodules are embedded. To the south east of Bangalore, a valley extends from near the fort to a village called Agram, in which direction, numerous tanks are seen, particularly during the wet season.

To the south and north west, the country is covered with immense blocks of granite and gneiss,—the large masses of granite heaped one upon another, assuming fantastic shapes, forming rocky hills, which from time, and the effects of climate, are gradually mouldering away.

In the neighbourhood of Bangalore, there is much bleak uncultivated ground, overgrown with long grass; patches of cultivation only being met with near tanks, and around the villages. The nearest jungles are distant fifteen miles, in a south westerly direction.

Gneiss is the most abundant rock, and it has been correctly observed by Dr. Benza, in a paper published in the Madras Journal of Literature and Science, that "gneiss is the universal subjacent rock, in the table land of Mysore." The process of decomposition of this rock, is proceeding most rapidly,

as can be distinctly traced in the several ravines; and large masses are to be found retaining their shape, although in a soft crumbling condition; the only parts not affected being veins of quartz by which they are traversed.

In digging to any depth, as in forming wells, after several feet of a reddish brown soil have been passed through, gneiss rock in almost a perfect state of disintegration is met with, in the form of a whitish stony earth. In the valleys felspar decomposes into clay, which is used by potters or chatty manufacturers. Several quarries of gneiss are worked close to the cantonment, and the process is regulated according to the direction of the strata; if horizontal, which is most usually the case, logs of wood are burnt for two or three days over the part of the rock marked out to be separated, small iron wedges are then inserted at certain distances, and struck forcibly with a large hammer, one after the other, till the block cracks and comes away, when large veins of quartz run through the rock the operation becomes more difficult, as the fire has little or no effect on them. Dr. Benza mentions that cold water is thrown on the slab or stone after being heated, but it appears that this is not always requisite. When the strata proceed vertically, heat is not necessary, wedges alone being sufficient to separate the slabs.

The felspar, which enters so largely into the composition both of granite and gneiss, is generally white, but it is also at times of a pale flesh colour; and the proportion of mica is occasionally large. The deep ravines met with throughout Mysore disclose changes that otherwise would pass unnoticed. Mica, felspar and quartz, are found to be undergoing rapid decomposition, extensive beds of mica, veins of quartz, and masses of felspar being seen in a crumbling state. Mica decomposes into a beautiful white, greasy or viscid earth, called shidy munnu, which is used as a sort of white wash. Quartz becomes oxydised, and often assumes a pale violet colour, and with the mica and felspar forms a variegated coloured earth, of a pinkish hue; this change however only takes place in ravines of the greatest depth. Mica occurs

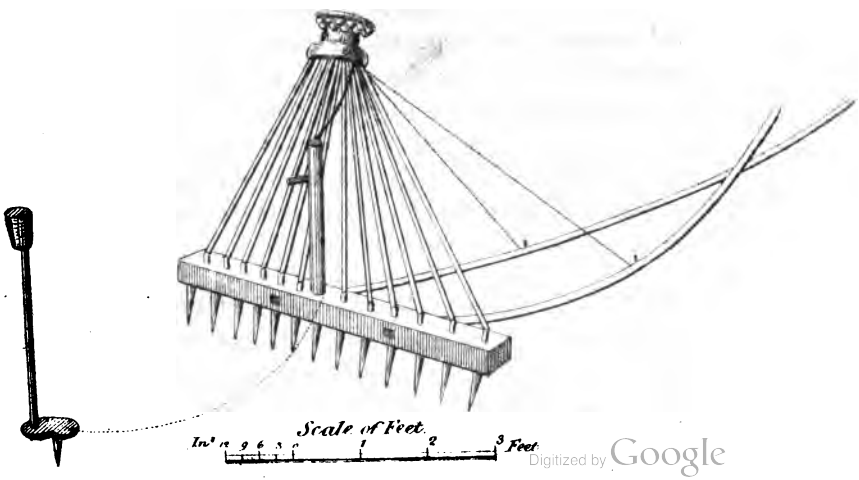
in large masses, and is of a blue metallic colour; and the sand at the bottom of ravines, glistens with the quantity of this substance washed down by the rains; when mica unmixed with quartz or felspar becomes decomposed, it forms a beautiful greenish yellow earth. Hornblende in some of the nullahs, is found between masses of gneiss, and decomposes into a red soil, it first passes into slate, and then yellowish earth; quartz-pebbles are found adhering together through the medium of a clayey earth, these masses become in time very hard, and answer to the description given of the Nellore laterite, by Mr. Cole in the Madras Journal of Literature and Science. On the surface of the hornblende, a coating of iron may frequently be seen; and iron stone is often found in close proximity with it. At the north-west angle of the pettah, a basaltic dyke is seen traversing gneiss, and another is found at some distance to the eastward.

Earthquakes. Slight shocks of earthquakes have been felt at different times, and after one of these in 1829, the water in some wells is said to have become brackish.

Iron. Gold. Iron is found in great abundance in Mysore, and gold was discovered by Lieutenant Warren in 1802, at Warrigrum, a small village 4½ miles S. W. of Baitmungalum, and also on the banks of the Palaur river, and the Ponian near Coargoory. Gold was also found at Marcoopium, three miles south of Warrigrum, where mines were formerly worked. It having been ascertained in the time of Tippoo, that the produce merely balanced the expence, he discontinued working them. The ore was found in large stones of a silicious or quartzy nature, and of a black, changing to deep rust colour, to which generally adhered an orange coloured soft clay. The proportion generally obtained by Lt. Warren was one grain of gold, in 12 baskets of earth, taken indiscriminately.

Agriculture. Agriculture is not in a very advanced condition in Mysore, and the fields are scratched by a plough, of very primitive construction, so small as to be capable of being carried on a man's shoulder; decayed leaves, and the ashes of cowdung, usually form the only manure used. Raggy or

natchny, the cynosurus corocanus, is the most common grain, and forms the principal food of the lower orders. It is sown in the beginning of the wet season, and cut about November. In good seasons, on an average for the last 10 years, the produce has been from 50 to 80 fold. It is used both in puddings and cakes; and the straw is eaten by bullocks, but is said to cause mange in horses. Next to the raggy, is the mutchay cottah, dolichos lablab, a plant bearing pods which contain from 3 to 6 beans each, it is planted in rows between the raggy, and is given to bullocks mixed with gram; it is said to increase the quantity of milk in cows. Jowary, or pigeon pea, is also much cultivated. The cholum, great millet, the common food of the inhabitants in the Mahratta country, is grown for cattle, but is not eaten by the people; according to Ainslie, it is the dourra of Niebhur, it grows to the height of 10 or 12 feet, terminating in a large head or cluster of seed. The poolchei keeray, or hemp leaved hibiscus, a plant with a large and beautiful flower, of a delicate yellow colour, the leaves of which are eaten boiled, and taste like sorrel; the calyx is used in tarts and jelly; and small rope, is made from the stalks. The raggy, mutchay cottah, jowary, cholum, and poolchei keeray, are all sown together in the same field, by means of a simple wooden machine something like a harrow, a sketch of which is here given.



Much colloo, or horse gram, is grown and also the ver cádálay, or Manilla gram, although not in the least resembling gram; it is the ground nut of the West Indies. The mukka cholum, or Indian corn, is only cultivated in gardens in small quantities. Wheat is not grown in the neighbourhood, but is brought from the Salem and Darwar districts, that from the latter is considered the best; wheat flour is said to be sometimes mixed with cholum, and when so adulterated the bread soon becomes mouldy and sour.

Tobacco, spirits and intoxicating drugs.

Tobacco thrives best in the red soils; the contract for the exclusive sale of this article, in the cantonment bazaar, is sold for about 27,000 Rupees annually. A revenue is also derived from the sale of the contract for spirituous liquors, and intoxicating drugs, amounting to about 1,00,000 Rupees annually.

Flower gardens.

Gardens are attached to almost every house in the cantonment, in which most European flowers grow luxuriantly; rose trees, of which there is considerable variety, blossom throughout the entire year; the violet, honey suckle, and sweet briar also thrive well, and the two former produce an uninterrupted succession of flowers. The climate seems extremely favourable to all the varieties of geranimus, and also to dahlias, which can be cultivated to any extent, and in endless variety of colours; they are obtained either from seed or roots, but in the latter mode of cultivation, the same colours only are perpetuated; the copaiba tree is found in some of the gardens; the myrtle, the wax plant, or gigantic jessamine, also the white and yellow jessamine, the coral plant, satropha multiffida, china pinks, the yacca or dwarf aloe, the cape broom, balsams, stocks, sweet william, mignionette, carnations, wall flowers, leadwort, larkspur, lupins and holyhocks, are all common.

Fruit.

Strawberries are abundant and in great perfection, but the plants soon degenerate, the beds requiring to be renewed every year; the vine is not much cultivated, but good grapes are occasionally produced; peaches grow very well, and

bear twice a year, they are produced either from seed, grafting, budding, or from layers; a large blue plum grows well, but is rare; the aracado, or aligator pear, arrives at great perfection, and is much esteemed; the loquat tree, mespilus japonica, is found in almost every garden; oranges and limes abound, but lemons are scarce; the pumplemose is small and indifferent; water melons are good, but musk melons do not grow well. The mangosteen tree thrives, it however seldom produces fruit, and when it does, it is unfit for use. The mango is of an excellent quality and improves by repeated grafting. Apples are common in all the gardens, and are pretty good; the trees are produced either by grafting or budding on the stalk of a small country apple, or on the loquat; several persons cultivate apples for the market, and send the produce to different parts of the country. The pear tree produces fruit, but of a very inferior kind.

Vegetables. It will be sufficient to enumerate the vegetables, which are generally excellent and almost always in season; cabbages, cauliflowers, broccali, carrots, turnips, radishes, knol-kole, asparagus, peas, beans, celery, lettuces, endive, chervil, and pot herbs of various kinds; parsnips do not come to perfection for want of frost. Potatoes are excellent, and as good as those grown on the Neilgherry hills; they succeed best in the light red soil.

An Horticultural Society was established a few years since, from which much was expected, no part of southern India being better adapted for carrying on experiments in agriculture; it has however been broken up for want of general support.

History of Bangalore. The Romulus of Bangalore, is recorded to have been a personage of the name Campa Gond, or Kempa Gonda, he was lord of the country of Yellavunkum, about eight miles from Bangalore, lived nearly 300 years ago, and built a famous Pagoda at Ulsoor. It is mentioned that once whilst out hunting, a hare suddenly attacked his dog, and considering this extraordinary circumstance to indicate the place being warlike ground, he cut down the jungle

and erected a small fort, with a pettah, on the spot, which he made his principal residence. He built and endowed several pagodas, established a mint, and governed Bangalore for 45 years, and is said to have ruled with justice. One benevolent act of his is recorded, that of suppressing the barbarous custom in his family, of cutting off some of the fingers of the females, as offerings to the deity, and substituting fingers of gold and silver in their place. He was succeeded by his son Emadee Campa Gond, who reigned for 45 years, and was defeated by an army from Beejapoor, and obliged to fly from his country. Shahajee Rajah the conqueror,then took possession of Bangalore, and made it his capital; he was succeeded by his son Soombhajee—Rajah Surut Sing afterwards ruled 20 years, and Eckogee Rajah 23 years. At this period, Ramad Oolla Khan, arrived from Beejapoor in order to settle the affairs of the Carnatic, and constituted Cassim Khan Foujdar of the talooks of Bangalore and Hooscottah, he attacked the fort and pettah of Bangalore, and after a protracted siege, with the assistance of the Mysore Rajah, it was taken, when Eckogee fled to Tanjore. In consideration of the assistance of the Mysoreans, a negociation was opened, and the Rajah of Mysore purchased the district of Bangalore and fort, from the Mogul, for three lacs of Pagodas, equal to £105,000 sterling. From this period to the usurpation of Hyder Ally, Bangalore belonged to the Rajahs of Mysore, and was ruled by them sixty eight years. In 1758, Hyder as a reward for his services in suppressing a mutiny in the Mysore army, received Bangalore as his personal jaghir, and in the reverses he met with before obtaining the supreme power, frequently fled to the fort for protection. Under this prince, the fort was re-built from its foundation with stone and chunam, and was mounted with 72 guns. On the 5th March 1791, Lord Cornwallis' army took ground in the neighbourhood; the pettah was first stormed and taken; and on the 21st of the same month a breach having been effected in the wall, the fort was carried. It was again thoroughly repaired, by Purneah the celebrated minister of the Rajah of Mysore, in the year 1802.

Pagodas. There are several Pagodas about half a mile distant from the fort, which are held very sacred by the natives. On a hill immediately in a line with the Mysore gate, are three of these, one of which contains an immense figure of Ganesha, the god of wisdom, a huge personage with an elephant's head, and an enormous pot belly. On the top of an adjoining hill, is the Basawana pagoda, containing a large bull cut out of stone. To the westward there are some other hills, in one of which some caves have been built over, and converted into a pagoda, dedicated to Siva, and considered extremely sacred; near to this is a beautifully constructed bund of a tank, which was cut through during the reign of Hyder; all these objects are well worthy of inspection, but the fables and absurdities attached to them are beyond credence. Around Bangalore are several small towers; one on the rock at Ulsoor, another on an eminence to the north west, called the *belfry*, said to have been placed there by Kempa Gond, to indicate the vast extent to which the city founded by him, was expected to reach. On the centre of the bund of the Ulsoor tank, is an immense rock of gneiss, from which there is an extensive view of the northern side of the cantonment. The following legend, relative to Kempa Gond, is attached to this rock. "It is related that Kempa Gonda fell asleep one day somewhere near Ulsoor, and that the god Sowswar, who was buried in the sand near, appeared before him and informed him, that seven brass vessels full of money were buried under the rock; he was desired to take them, and build therewith a Pagoda, to be dedicated to himself; which Kempa Gond accordingly did." The Pagoda so built still remains, and was some years ago thoroughly repaired, it is a very large building, and may be called the "Westminster Abbey" of Bangalore.

Many influential natives of high caste, attached to the public departments, reside near it, in consequence of its sacred character; and it is imagined to this day, that there are caverns beneath the rock, in which are contained much treasure.

Military force. The force usually stationed at Bangalore consists of the following troops, viz.

1 Regiment of European Cavalry.
1 do. of Native do.
1 Troop of European Horse Artillery.
1 do of Native do. do.
1 Company of European Foot do.
1 Regiment do. Infantry, and from
2 to 4 Regiments of Native Infantry.

General arrangement of the cantonment.

The cantonment, aplan of which is given, was first garrisoned in 1809, although the erection of barracks was commenced some years previously; it stands on an elevated ridge of ground running east and west, and sloping to the north and south. On the highest portion of the ridge, at the extreme right, are the barracks of the horse artillery, and on ground somewhat lower, those of the foot artillery; a distance of about a quarter of a mile intervening between them. Next to these are the cavalry and European infantry barracks; then the places of arms of the native regiments, parade ground and main guard, all of which are nearly in a line, extending about two and a half miles. The native cavalry lines are thrown back to the northward, near to the Ulsoor tank.

The village of Ulsoor at the entrance to Bangalore, on the eastern side, lies low, the ground rising gradually from thence, to the west end of the cantonment, where the infantry review ground is situated, and a little beyond this is a slight eminence, on which is the *belfry*, the highest spot of the table land of Mysore. Another ridge runs also east and west, immediately above the cavalry lines, and between these, or rather on the slope leading from the one towards the other, is the general bazaar. In the valley below the bazaar there is a deep, but not broad nullah, which carries off the water from the northern side of the cantonment, and into which the drains from the barracks also empty themselves; this nullah terminates in the Ulsoor tank, the water from which after irrigating a large tract of paddy fields, on the borders of the village, passes round it, into another reservoir called the Dumalore tank.

The water from the southern aspect of the cantonment, flows into the Sumpengy tank, on the road leading to the fort.

Race course. The race course, which stands on an open elevated piece of ground, forming the boundary of the cantonment on the south east side, is a mile and a half round, and has a handsome wooden stand, and racket court attached to it, both erected by the present Rajah of Mysore.

European burial ground. Not far from the race course is the European burial ground.

Leading from Ulsoor to the west end, are the two principal roads, an upper and a lower one, connected by means of cross streets ; on the sides of these are many of the houses occupied by the officers, placed in extensive compounds.

European cavalry barracks. The *Dragoon* barracks, built of brick and tiled, and surrounded by a wall nine feet in height, are admirably situated ; they consist of eight ranges of buildings at the distance of 126 feet apart, one for each troop. The ground on which they are built is a reddish soil, sloping gently towards the north, so that no water can collect near them ; the buildings run north and south, each range being 224 feet in length, 43 in breadth, and 12 feet in height; having 8 doors, and 32 windows, and surrounded by verandahs 9½ feet wide. At both ends of each barrack, are two non-commissioned officer's rooms, 8 feet wide, and 18 feet long, having one door and 3 windows. The space from the barrack to the south wall, is 58 feet, and to the north wall, 400 feet; along the north wall are the huts for the married soldiers, the defaulter's-room, cook-room, school-room, and orderly-room; and at each end of the south wall are three cells, and a round tower or magazine. In the middle of this wall, is an arched way forming the principal entrance, above which are three guard rooms lately erected; within the walls are also situated the serjeant major's quarters, the canteen, a skittle ally, racket court, gram godown, the regimental store room, and two ranges of privies.

Horse lines. Between the barrack and the tank are the horse lines, each troop occupying two ranges, along which trees are planted to afford a shade for the horses,—at the top of the lines are the sick stables.

Hospital. The hospital is situated outside the barrack, 107 yards from the eastern wall. It consists of two buildings, the largest forming three sides of a square, facing the south, and surrounded by a verandah 7½ feet wide, it is divided into four wards; the largest, occupying the whole length of the south side, is 101 feet long, 18 broad, and 12¾ high,—the east ward is 61 feet in length, and 18 wide,—the west end is divided into two wards, one 34¼ feet long, and 18 broad, the other being 25 feet by 18. At the distance of a few yards from the principal building, is a convalescent ward, 84 feet by 18, and surrounded by a verandah. There is also a surgery, dead house, godowns, cookroom and a privy with a covered way leading to it.

These buildings are surrounded by a wall 9 feet high, the extent of the enclosure being from north to south 270 feet, and from east to west 200 the distance from the hospital to the wall being about 40 feet.

The following are the dimensions of the several appartments in the hospital.

Description.	Length and Breadth.
Hospital Serjeant's quarters	25 feet by 12.
Guard room	12¼ do. do.
Cook do	38 do. do.
Store do	20 do. do.
Pupils do	20 do. do.
Surgery	12 do. do.
Verandahs	7½ feet wide.
Acute cases, ward	101 feet by 18.
Womens do	27 do. do.
Ophthalmic do	34 do. do.
Surgical do	61 do. do.
Convalescent do	84 do. do.
Privy	25 do. 10.
Water shed	14 do. 8.
Dead house	21 do. 10.
Bathing rooms	7½ do. 7½.

European Infantry barracks. The European infantry barracks are inferior to those of the *dragoons*, and are only separated from the bazaar by a road. They are situated on somewhat elevated sloping ground, are built in the form of a square, and consequently not surrounded by an outer wall, or verandah.

The south, east, and west sides of the square, are occupied by the soldiers; the south side is divided into three apartments, 135 feet by 18 each, and 14 feet high,—the east and west sides are also divided into three apartments, each of 166 feet in length, by 18 in breadth, and these rooms are from three to four feet higher than those in the southern range. The north side of the square consists of the non-commissioned officers apartments, also the orderly rooms, stores, cooking houses and privies. In consequence of there being no verandahs to the outer faces of the square, the apartments are hot during the day, and also at night when the windows are closed, and when left open, currents of air are produced, which give rise to catarrhal and febrile affections. The accommodation is in other respects good, and sufficient for a regiment of 800 men; ventilators are placed on the roofs of all the apartments.

The entrance to the barracks is by a gate way in the southern range, over which, is the officers guard room, 18 feet by 12.

Hospital. The hospital, which is surrounded by a wall of about 8 feet in height, is situated immediately in rear of the barracks; it consists of two parallel ranges, of one story high, distant 51 feet from the compound wall, and 61 feet from each other.—Each range is 158 in length by 18 in breadth, and 11 feet high, with verandahs 8 feet wide, and is divided into two wards, one 105, and the other 53 feet in length,—at the inner and north side of each range, are two other wards 19 by 18 feet.

It is built of brick and chunam, and the floors are raised three feet from the ground. The windows are 5½ feet high,

by 4 wide, and are furnished with double shutters, the upper half being glazed; the door ways are nearly 7 feet in height, by 4 in width. Six small buildings are ranged along the southern wall, facing inwards, which are used as the surgery, office, dead house, cook-rooms, godowns, &c.; and there are likewise two privies near the north wall, which communicate by covered ways with the hospital.

In rear of the hospital, are the canteen, ball and skittle courts, the regimental bazaar, and parcherry, the latter forming nine rows of cottages, for the married soldiers.

The whole of these buildings occupy a space of 434 yards in length, by 234 yards in breadth.

Main guard. Next in line to the European infantry barracks, is the main guard and brigade major's office, in the same building, and at regular distances of 250 yards, the Places of arms. places of arms for four native regiments,—behind which are the houses occupied by the European officers, and in Native hospitals. rear of these, the hospitals. The places of arms and hospitals are constructed on a uniform plan, the latter consisting of one large ward, upwards of 90 feet in length, and about 20 in breadth, with a surgery at one end. They are built of brick and tiled.

Sepoy's lines. The sepoys are hutted near the western end of the bazaar, and it may be observed, that immediately in rear of the houses and close to the bazaar in most of the lines, are small burial grounds, almost in contact with them.

Garrison hospital. The garrison hospital in the fort, consists of eight wards, those on the right hand side on entering, being for the accommodation of native, and those on the left for European sick. The surgery is in the centre of the front range, on each side of which is a large ward, 70 feet in length. The side wards are 65 feet by 18; the rear part of the building consists of an office, and two apartments used as store rooms. The other offices consist of a dead-room, cook-room and privies, in separate buildings, belonging to the European part of the hospital,—and a

congee-house, cook-room, and privies for the natives. The whole is surrounded by a wall, and it is much the best hospital at the station.

Lock hospital. The lock hospital was also formerly within the fort.

General bazaar. The general bazaar is situated immediately in rear of the European infantry barracks, and occupies a considerable extent of ground.

The roads which are made of laterite, are kept in excellent order; and the compounds belonging to the European officers are generally large.

Besides the Episcopal church, before mentioned, there is a chapel in the native infantry lines, belonging to the "London missionary society," lately erected by subscription; and another in the dragoon lines, belonging to the "Wesleyan establish-
Public rooms. ment." The public rooms, a commodious building containing a theatre and a library, are opposite the cavalry barrack.

The fences dividing the compounds are formed either of the aloe or milk hedge, and every endeavour is making to remove the former altogether, and to substitute the milk hedge, which is much cleaner. Trees are planted along the sides of the roads as well as in the compounds, and unless planting is restricted, Bangalore will in a few years become a complete jungle. The trees are chiefly varieties of the Indian fig, the neem, and the poplar leaved hibiscus.

Climate. Bangalore may be considered one of the finest climates in India, being cool and pleasant throughout the greater part of the year. The sun is generally powerful, but in the shade, and in the house it is always cool. The mornings and evenings, during the months of October, November, December, January and part of February, are cold, and blankets are indispensably necessary at night. The mornings in these months, particularly December and January, are often moist and chilly—there is generally much fog, or the clouds

approach so near as to rest on the surface of the earth, and there are likewise heavy dews. March, April and May, are somewhat disagreeable, in consequence of the prevalence of strong dry winds, which raise clouds of dust, but the nights are seldom oppressive even in the hottest seasons. In April and May, there are sometimes what are called mango showers, but these are very uncertain, and frequently fail altogether. About June the south west monsoon commences, the approach of which is known by clouds collecting for some time before the rains commence. June, July and August constitute the wet season. The monsoon months are very agreeable when the sun is obscured, but should the sky be but partially overcast, the heat often becomes intense, from the refraction and concentration of the sun's rays.

The following general remarks on the weather, with a tabular statement shewing the average thermometrical and barometrical range for each month, during a period of five years, may be considered interesting.

	Thermometer in the house.				Ther. exposed.			
	Extreme range during the month.	Extreme daily range.	Min. daily range.	Average daily do.	Highest in the sun.	Lowest when exposed.	Extreme variation in the open air.	Range of Barometer.
January,—The mornings and evenings are cold and chilly; mornings frequently hazy and sometimes foggy, much dew, no rain, wind easterly, and north east.	from 64° to 77°	10	3	7	108	57	51	from 26° 98″ to 27° 09″
February,—Pleasantly cool and agreeable, mornings and evenings chilly. Wind for the most part easterly and variable, occasionally rather high,—4 rainy days in 1831,—5 in 32, and 1 in 34; none in 33, or 35.	from 67° to 83°	12	6	8	112	61	51	from 26° 94″ to 27° 08″

March,—The beginning of the month pleasant, towards the end rather close, and heat of sun oppressive. Wind easterly and very high towards noon; blowing in strong gusts, with clouds of dust, vegetation parched, and withered—6 days of rain in 1831, 2 in 34, and 1 in 35, none in 32 or 33.	from 71° to 87°	12	6	9	112	64	48	from 26° 92″ to 27° 09″
April,—Hot and oppressive, sky generally cloudless, a few partial showers, air hot dry and parching. Winds variable, often easterly in the morning, and westerly towards evening, following the course of the sun. In 1835, 6 days of partial rain with thunder and lightning, none in 1831, 32, 33, or 34.	from 73° to 86°	11	5	8	111	64	47	from 26° 88″ to 27° 00″
May,—The weather less oppressive, particularly towards the end of the month, often cloudy; 15 days of rain in 1831, only 5 very partial showers in 1832, 13 days rain in 1833, scarcely any in 1834, and 10 days in 1835.	from 73° to 89°	11	5	8	110	67	43	from 26° 82″ to 26° 99″
June,—Cool pleasant & cloudy, with constant showers; 15 days rain in 1831, 10 days light rain, and 4 days of rather heavy rain in 1832, 11 days light rain in 33, much rain in 1834, on the 8th of the month 4 inches fell, and on the 23d, 5 and 3-5th, altogether 13 and 4-5th, in 1835 there were 10 days of heavy rain.	from 70° to 84°	11	4	7	102	66	36	from 26° 80″ to 26° 93″
July,—A very pleasant month, much rain, mornings hazy, sky cloudy and weather often squally; evenings pleasantly cool; 18 days rain in 1831, scarcely any in 32 or 33, except partial showers, 3 inches and 4-5th 1834, and in 35 nearly 6 inches.	from 68° to 81°	9	3	7	93	65	28	from 26° 77″ to 26° 91″

August,—Also a rainy and cloudy month, and in consequence pleasant to the feelings, but sometimes raw and chilly with frequent heavy squalls, mornings often hazy; 22 rainy days in 1831, scarcely any rain in 32 or 33, except towards the latter end of the month, when much rain fell, with a complete change of temperature, 8 inches and 1-3d having fallen, 4 and 4-5th in 1834, and 4½ inches in 35, when there were light rains on 27 days.	from 68° to 79	9	2	6	98	64	34	from 26° 79″ to 26° 96″
September,—A pleasant month, evenings & mornings agreeably cool, sometimes much rain & cloudy, 21 rainy days in 31, 17 in 32, some heavy rain in 33, in 1834, 6° 08 inches, and 14 inches in 1835, of which 6 inches fell between the 25th and 29th.	from 68° to 79°	8	2	5	105	65	40	from 26° 80″ to 26° 95″
October,—Mornings chilly and hazy, days sometimes cloudy, some heavy showers, 17 days rain in 1831, 8 days in 1832, 7 in and 4-5th in 33, in 34, 3 and 3-4th, and in 1835 it rained 14 days, when more than 5 inches fell.	from 69° to 79°	8	2	4	108	66	42	from 26° 80″ to 27° 00″
November,—Mornings foggy with dews, air cold and bracing, little or no rain, sky clear, cloudless, 9 rainy days in 1831, and only 2 in 1832, partial showers in 1833, 7 days of heavy showers in 1834, when 3 and 3-5th inches fell; 13 days of very partial showers in 1835, when 1½ inches fell.	from 66° to 77°	8	2	4	108	64	44	from 26° 89″ to 27 08″
December,—Weather very cold and chilly in the mornings and evenings with much dew, mornings frequently hazy and often foggy, atmosphere during the day clear, 5 days light rain in 1831, but little rain in 32, and only 1-10th of an inch in 33, none in 34 or 35.	from 66° to 77°	8	3	5	109	60	49	from 26° 93″ to 27° 07″

Table of admissions from principal diseases in the 13th Dragoons, for twelve years, with a statement of the Thermometric range, during the corresponding periods.

		1820																1821																1822															
		Average strength.	Monthly range of Thermometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.		Average strength.	Monthly range of Thermometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.		Average strength.	Monthly range of Thermometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.	
			Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.		Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.		Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.
1st Quarter or	January....	701	78	77	76	47	0	13	2	56	6	18	0	18	5	2	0	664	71	67½	64	25	0	23	2	19	1	2	0	2	0	9	2	634	75	68½	62	22	0	20	3	16	1	9	0	3	0	4	2
	February...		85	73½	62														80	74	68														84	76	68												
	March.....		85	78	71														84	78	72														89	80½	72												
2d do. or	April.....	713	86	79	72	29	2	27	1	33	6	3	0	0	0	5	0	656	89	80½	72	39	4	16	2	25	3	3	0	10	0	10	0	626	88	80½	73	20	0	16	2	38	2	4	0	6	0	2	2
	May.....		85	76½	68														87	78½	70														86	78	70												
	June.....		80	73½	67														86	78	70														82	76	70												
3d do. or	July.....	718	78	72½	67	22	1	27	2	32	3	6	0	2	0	0	0	640	80	74	68	31	2	13	0	20	4	16	0	18	0	8	0	620	78	73½	69	12	0	17	2	18	3	5	0	8	0	0	0
	August.....		76	72	68														78	73	68														78	73	68												
	September..		76	72½	69														78	73	68														78	73	68												
4th do. or	October....	672	78	73½	69	31	0	23	1	35	4	3	0	2	0	2	0	639	76	72	68	17	0	25	1	20	1	5	0	3	0	3	0	656	76	72	68	23	0	13	2	23	1	6	0	2	0	3	0
	November..		75	70	65														75	71	67														76	70	64												
	December...		74	69	64														76	70½	65														72	68	64												
	Total..					129	3	90	6	156	19	30	0	22	5	9	0					112	6	77	5	84	9	20	0	33	0	30	2					77	0	66	8	95	7	24	0	19	0	19	4

Table Continued.

1823

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January....		78	70	62												
February...	650	80	71	62	22	0	34	1	22	2	6	0	2	0	2	0
March......		82	75	68												
2d do. or April.......		88	79	70												
May........	637	88	84	80	36	2	33	1	29	4	11	0	0	0	2	0
June.......		86	78½	71												
3d do. or July........		80	75	70												
August.....	652	80	74	68	35	0	11	1	26	1	6	0	3	0	5	0
September..		78	73	68												
4th do. or October....		81	75½	70												
November..	647	82	75	68	25	0	21	1	17	1	8	0	0	0	11	0
December..		79	72	65												
Total..					118	2	99	4	94	8	31	0	5	0	20	0

1824

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January....		78	71	64												
February...	630	85	78	71	32	1	31	0	17	1	8	0	0	0	4	0
March......		86	78	72												
2d do. or April.......		87	80½	74												
May........	625	88	80	72	29	0	28	0	26	1	22	0	5	0	9	0
June.......		86	79	72												
3d do. or July........		84	78	72												
August.....	639	83	77½	72	22	0	40	5	37	2	15	0	5	1	0	0
September..		85	78¼	72												
4th do. or October....		81	75¼	70												
November..	631	78	72	66	24	0	19	1	30	2	15	1	3	1	2	0
December..		79	70	61												
Total..					107	1	118	6	110	6	60	1	13	2	15	0

1825

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January....		80	72	64												
February...	630	88	77½	67	22	1	26	0	24	0	20	0	1	0	7	0
March......		75	84	73												
2d do. or April.......		99	86	80												
May........	614	93	83½	74	31	0	18	0	21	1	21	0	4	0	7	0
June.......		85	78¼	72												
3d do. or July........		85	76½	68												
August.....	645	84	77	70	9	1	22	2	41	1	15	0	2	0	6	0
September..		84	77	70												
4th do. or October....		78	74	70												
November..	630	77	73	69	23	0	23	5	21	1	24	0	0	0	3	0
December..		78	71	64												
Total..					85	2	89	7	107	3	80	0	7	0	23	0

Table Continued.

		1830																				
		Average strength.	Monthly range of Thermometer.			Monthly range of Barometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic. Disease.	
			Max.	Med.	Min.	Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.
1st Quarter or	January....		71	66½	62	0	0	0												
	February...	612	80	72½	65	0	0	0	23	1	17	0	20	4	9	0	0	0	5	0
	March......		84	77½	71	0	0	0												
2d do. or	April.......		87	80	73	0	0	0												
	May.........	609	87	78½	70	26·97	26·91	26·85	41	1	26	1	37	1	12	0	5	1	4	1
	June........		84	77½	70½	26·95	26·95	26·96												
3d do. or	July........		79	74½	69½	26·97	26·95	26·93												
	August.....	664	77	72¾	68½	26·96	26·92	26·87	23	0	14	0	33	1	15	0	3	0	5	1
	September..		77½	72¾	68	26·95	26·91	26·87												
4th do. or	October....		79¼	73¾	68	26·95	26·94	26·94												
	November..	660	79	73½	68	26·95	26·92	26·90	32	0	17	1	23	2	12	0	1	0	6	1
	December...		76	70½	65	26·95	26·94	26·94												
	Total..								119	2	74	2	113	8	48	0	9	1	20	3

Table Continued.

1831

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Monthly range of Barometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
Jaunary.. ..		78½	68¾	64	27·10	27·10	27·10												
February...	658	83	75½	67½	27·10	27·10	27·10	24	0	24	0	22	0	11	0	2	1	19	3
March......		83	75¾	68½	27·10	27·10	27·10												
April.......		89	81½	74	27·10	27·08	27·00												
May........	679	87	80½	74	27·10	27·01	26·95	53	0	37	1	51	0	5	0	5	1	8	1
June...		85½	77½	69½	27·05	26.99	26·94												
July...		83	76	69	27·10	27·02	26·95												
August.....	678	80	74½	68½	27·10	27·02	25·95	20	0	26	1	38	0	7	0	2	0	5	0
September..		78	74¾	67½	27·12	26·52	25·92												
October....		78	71¾	65½	27·17	27·04	25·92												
November..	674	76½	70	63½	27·20	27 05	26·91	25	1	18	1	17	0	8	0	0	0	7	1
December..		74½	71½	68	27·36	27·23	27·10												
Total..								122	1	105	3	128	0	31	0	9	2	39	3

1832

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Monthly range of Barometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
Jaunary.. ..		75	69½	64	27·30	27·16	27·08												
February...	670	79	72½	66	27·27	27·15	27·04	19	0	21	2	13	0	7	0	4	0	6	0
March......		86	78½	71	27·16	27·07	26·98												
April.......		88	80½	74	27·15	27·06	27·97												
May........	685	90	81½	73	27·12	27·03	26·94	32	0	22	1	15	0	13	0	0	0	10	0
June...		86	78	70	27·06	26·96	26·86												
July...		81	74½	68	27·04	26·98	26·93												
August.....	682	81	75½	70	27·08	26·99	26·90	18	1	11	1	18	1	1	0	1	0	8	0
September..		81½	75½	69	27·10	27.09	26·91												
October....		80½	74¾	69	27·16	27·04	26·93												
November..	678	81	74½	68	27·25	27·15	27·05	33	0	12	0	14	2	4	0	3	1	7	1
December..		81	74½	68	27·20	27·10	27·00												
Total..								101	1	72	4	60	3	25	0	8	1	31	1

Table Continued.

		1833. H. M. 13th Light Dragoons.																		1833. H. M. 39th Regiment Foot.											
		Average strength.	Monthly range of Thermometer.			Monthly range of Barometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.		Average strength.	Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.	
			Max.	Med.	Min.	Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.		Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.
1st Quarter or	January....	668	80	73½	67	27·03	26·98	26·94	32	0	12	0	18	0	11	0	58	4	111	0	652	32	0	7	0	50	0						
	February...		85	77½	69	26·97	26·91	26·86																								
	March.....		90	82	74	26·98	26·91	26·84																								
2d do. or	April.....	659	91	83½	76	26·94	26·88	26·83	65	1	11	0	63	0	6	0	135	10	7	0	728	77	1	14	0	82	1						
	May.....		91	82½	74	26·88	26·78	26·69																								
	June.....		88	79	70	26·85	26·80	26·75																								
3d do. or	July.....	649	86	78	70	26·84	26·78	26·73	41	0	16	2	44	3	6	0	4	1	15	1	718	38	0	19	1	44	4						
	August.....		83	76½	70	26·90	26·81	26·73																								
	September..		82	76	70	26·82	26·77	26·72																								
4th do. or	October.....	642	80	75½	71	26·92	26·83	26·74	26	0	16	0	30	1	6	0	5	0	7	0	713	49	0	7	0	36	1						
	November..		77	73	69	26·97	26·91	26·85																								
	December..		78	73½	69	26·91	26·87	26·84																								
	Total..								164	1	55	2	155	4	29	0	202	15	140	1		196	1	47	1	212	6						

Table Continued.

		1834. H. M. 13th Regiment of Light Dragoons.																		1834. H. M. 39th Regiment Foot.											
		Average strength.	Monthly range of Thermometer.		Monthly range of Barometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.		Average strength.	Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.	
			Max.	Med.	Min.	Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.		Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.
1st Quarter or	January....	629	79	72½	66	26·95	26·89	26·84	25	1	10	0	18	0	4	0	5	0	12	0	714	29	0	14	1	13	0						
	February...		94	75½	67	26·95	26·89	26·84																								
	March.....		89	80½	72	26·95	26·89	26·83																								
2d do. or	April.....	627	79	75	71	26·93	26·85	26·79	35	0	18	2	31	0	5	0	14	0	8	0	753	76	0	18	0	86	6						
	May.....		90	83½	75	26·95	26·87	26·80																								
	June.....		84	78	72	26·83	26·73	26·74																								
3d do. or	July.....	638	82	75½	69	26·78	26·71	26·65	20	0	16	1	40	2	13	0	4	0	15	0	778	7	0	9	2	35	1						
	August.....		81	75	69	26·85	26·77	26·70																								
	September..		79	74	69	26·85	26·79	26·74																								
4th do. or	October.....	623	80	77	74	26·86	26·70	26·71	20	1	16	1	11	0	5	0	1	0	5	0	795	47	1	11	0	23	2						
	November...		78	71½	65	27·00	26·94	26·88																								
	December...		78	71	64	26·99	26·94	26·90																								
	Total..								100	1	60	4	100	2	27	0	34	0	40	0		159	1	52	3	147	9						

Table Continued.

		Humidity.		1835. H. M. 13th Regiment Light Dragoons.																			1835. H. M. 39th Regiment Foot.												
				Average strength.	Monthly range of Thermometer.			Monthly range of Barometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.		Average strength.	Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.	
		Inches.	Hunds.		Max.	Med.	Min.	Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.		Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.
1st Quarter or	January....	0	0		78	70	62	27·10	27·05	27·00																									
	February...	0	0	636	84	75¼	67	27·11	26·99	26·87	21	0	9	1	22	1	7	0	0	0	9	0	783	57	4	17	1	22	2						
	March......	0	35		87	80	73	27·00	26·94	26·85																									
2d do. or	April.......	4	16		88	79½	71	27·00	26·91	26·82																									
	May........	5	89	616	86	82¼	79	26·91	26·83	26·75	38	0	15	0	27	0	10	0	3	0	3	0	770	48	1	23	2	23	5						
	June........	3	24		81	75	69	26·86	26·79	26·73																									
3d do. or	July........	4	88		81	74½	68	26·82	26·77	26·72																									
	August.....	13	13	646	78	72½	67	26·68	26·68	26·68	19	0	11	0	5	0	11	0	0	0	7	0	766	30	0	8	2	22	0						
	September..	5	97		78	73¼	69	26·98	26·85	26·72																									
4th do. or	October....	5	10		78	74	70	26·91	26·80	26·70																									
	November..	1	30	639	76	70½	65	27·01	26·89	26·78	21	0	10	0	9	0	10	0	3	0	13	0	770	24	0	11	0	11	0						
	December..	0	0		75	68½	62	27·00	26·92	26·84																									
	Total..	44	02								89	0	45	1	63	1	38	0	6	0	32	0		159	5	5[illegible]	5	78	7						

Remarks on the foregoing tables.

From these tables it appears, that April and May are generally the hottest months, and that the hottest year was 1825, when the average maximum of the Thermometer was in April, 92, and in May 93. It also shows that the coolest months are December and January, and that the lowest temperature 61,° occurred in December 1824. The range of the Barometer has been given for 1830, 31, 32, 33, 34 and 35; and that of the Pluviometer for 1835 only, when 44 inches of rain fell. Comparing the 5 years ending in 1835, it appears that the average mean temperature within doors has been 75°; the average lowest range being 69¼°, and the highest 81½°, the greatest variation in the 24 hours 10¼°, the least range 4°, and average 7°. The average mean temperature in the open air has been 83°, highest average range 99½, lowest average 67°.

The table also shows, that fevers were most numerous in 1820 and 1833; hepatitis in 1824 and 1831; dysentery in 1820 and 1833; rheumatism in 1824 and 1825; and pulmonic diseases in 1833 and 1834. It is a common observation of those who have resided many years at Bangalore, that the climate has altered much, and that it is hotter than formerly, and that less rain falls. In the year 1823, some of the compounds produced four crops of hay, shewing that much rain must have fallen. In 1822 there was an extraordinary fall of ice, about 12 miles north west of Bangalore, and some of the hail stones were so large, that numbers of cattle were killed by them.

Diseases of horses.

Fever occasionally prevails amongst the cavalry horses at Bangalore, and the disease called "gripes" carries off numbers very suddenly, during the hot season. Another disease, the pathology of which is not well understood, occasionally occurs, namely enlargement of the tail, which becomes covered with large black tubercles constantly increasing in size and number, the tail becomes enormously enlarged, and as the disease extends the animal pines and dies. It appears to be of a *melanotic* character, and on dissection, a black secretion has been found likewise in the

lungs, liver, kidneys, and in other viscera, and in one case a melanotic spot was discovered in the heart.

In the year 1834, during the hot months, an inflammatory disease appeared amongst the horses of the 13th Dragoons, which carried off such numbers, that the regiment was removed to a distance of about five miles from the cantonment, and after remaining there for about fifteen days, it disappeared. The symptoms were as follows, much uneasiness indicated by the animal constantly lying down and rolling, pulse weak and indistinct, ears and limbs cold, cold sweats over the body, and mouth covered with a brownish crust, emitting a disagreeable odour. The horses lingered from six to fourteen days; in some cases the bowels were relaxed in others costive, the evacuations were generally fluid and as black as charcoal, occasionally mixed with mucous or a sort of membranous secretion, and attended with tenesmus. The urine was high coloured, passed often, and with difficulty; three quarts of stones were raked out of the rectum in one bad case which recovered, and in some others a few stones were passed. It is affirmed by persons in attendance on the horses, that stones were frequently passed the previous year, when a similar epidemic prevailed. On dissection, inflammation and ulceration of the mucous coat of the stomach, resembling the effect of an acrid poison were found, with a similar state of the mucous membrane of the colon; large quantities of gravel and stones of a black colour, were contained in the intestinal canal; the lungs were occasionally diseased and full of matter. It appears to be undecided, whether the presence of the stones occasioned inflammation, or whether they were instinctively swallowed by the animal, as a remedial agent. At the particular seasons of the year when the disease raged, the grass was dry and full of indigestible roots, and the water in the Ulsoor tank, muddy which would naturally excite disease in the digestive organs. It seems probable that the animal, feeling an oppression after food and difficulty of digestion, takes into its stomach all the small pieces of stone and mud within reach, and that these

acting as foreign and unnatural agents, excite inflammation. One of the veterinary surgeons was of opinion, that the stones were taken in by the horse to relieve a specific inflammation of the stomach; another opinion was, that there existed either some acid generated in the stomach, or such a want of tone in the digestive organs, as to induce the horse to swallow them to neutralize the acid or increase the powers of digestion, as is done by persons suffering from chlorosis and cachexia africana, or *mal d'estomac*. A peculiarity of the disease, was its not attacking either the horses of the native cavalry, or artillery; the horses of the 13th dragoons were watered at the west end of the large tank near the entrance of the drains, and at the dirtiest and most muddy part; which has also been assigned as a very probable cause of the disease, for on removing to camp where the water was pure, it speedily disappeared.

In 1835, an epidemic broke out amongst the poultry at Bangalore, and carried off vast numbers; the most healthy birds being often suddenly attacked; it was attended with watery purging, and spasms, resembling cholera; male birds especially, suffered from the disease.

General character of diseases at Bangalore.

The diseases of Bangalore in general require more active measures in the early stages, than in less bracing climates. The climate is particularly congenial to the European constitution; sores quickly take on a healthy action, and convalescence from acute diseases is rapid, often in a remarkable degree; and the protracted convalescence and low chronic state of disease, seen in other parts of India, are seldom met with at this station.

Prevalent diseases.

The prevalent diseases in Europeans are *Fever*, *Dysentery* and *Hepatitis*.

Fever.

Fever is very frequent, and, whatever type it assumes, is generally of a mild form, but few deaths being occasioned by it. In 12 years the proportion of deaths to

sick treated, in the 13th dragoons, has been 1 in 62. There are however several parts of the Mysore country, where fevers are endemic, as for example the droogs or hill forts; and all localities may be suspected as being more or less unhealthy, which are either much elevated, or situated below the ordinary level, as Serah, Seringapatam, and Mysore in the valley of the same name, extending from Seringapatam in a northerly direction, nearly as far as Chittledroog, and north easterly beyond Serah. The fevers of these places are not only of a dangerous character, but they are apt to return periodically for many years.

The average annual number of admissions in the 13th dragoons, for 12 years has been 110, and the annual average number of deaths $1\frac{3}{4}$. The cases were most numerous in 1820, and 1833. In 12 years, 21 died, the proportion of deaths to sick treated, being 1 in 62. The common type of fever is the ephemeral, remittents are however of frequent occurrence, and often of a dangerous character, requiring in addition to the ordinary treatment, the free exhibition of mercury.

In 1820, and 21 the two first years after the arrival of the dragoons in India, remittent fever was more prevalent than at any subsequent period, and the cases were particularly severe, resembling in many respects the yellow fever of the West Indies. The symptoms observed in these cases, were a jaundiced appearance of the surface of the body, attended with partial cold sweats emitting a disagreeable odour, constant vomiting, extreme restlessness, pain in the temples, forehead and orbits, with uneasiness and pain in epigastrium. This type of fever has not been endemic in Bangalore since the above period, and many of the fatal cases since met with, were contracted out of the cantonment. With regard to fever the following extract from a report by one of the medical officers is interesting. "Four men sent in ill health from St Thomas' mount, and five absent from Bangalore on leave, remained for two days at the village of Oosscottah, at a

time when fever prevailed there very generally; soon after their arrival at Bangalore, they were all attacked and one died; the fever was an irregular bilious intermittent, attended with severe headach and irritability of the stomach, great prostration of strength, a dull heavy aspect and yellow suffusion of eyes, and over the surface of the body, much nervous tremor and anxiety; in two instances the type became remittent. In the treatment it was found that quinine had not much power over the disease, but it yielded at once on ptyalism being established.

Dysentery. Dysentery is occasionally very severe, and next to fever, the most prevalent disease. The annual average number of admissions for the 12 years, in the 13th dragoons, has been 105, and the annual average number of deaths 5¾. It was most frequent in the years 1820, and 1833. The total deaths were 70, or 1 in 18 of the sick treated. It does not frequently occur in an acute form, but when it does, it runs its course rapidly. The most active treatment is at once required, and on the mouth becoming affected by mercury, the symptoms usually give way, the return to health being rapid, though a chronic form of diarrhœa occasionally remains for some time, which is benefitted by a change to the Carnatic. Out of 32 dissections, abscess in the liver was found to exist in 11 cases.

Hepatitis. Hepatitis has been considered endemic by all who have written on the climate or diseases of Bangalore. It may be observed, that almost every climate has some peculiar tendency to excite, or call into morbid action, the functions of particular organs, in preference to others; and, that when the exciting causes of disease act upon the constitution, the organ so predisposed chiefly suffers. In India this is very frequently the liver, and why acute inflammation of this viscus should be so frequent here and not in West Indies, is a subject worthy of consideration, the attempt to explain which, may throw some light upon the disease, particularly as regards acute inflammation terminat-

ing in abscess; whilst the chronic form of the disease, is found to prevail more or less in almost all other tropical countries. The West Indies consisting of groups of small islands surrounded by the ocean, enjoy an equability of temperature, unknown on continents; in them the vicissitudes of climate are but trifling, day and night being equally oppressive, but on the continent of India, the changes are great, and to one who has sojourned in the other hemisphere, very striking. A hot and oppressive day in India is frequently preceded by a cold wind in the morning, or followed by chilly evenings; this is peculiarly the case with the Bangalore or Mysore climate, and to it may be attributed the frequency of acute hepatitis. That extreme heat cannot be the sole cause, is proved by the fact, that the medium temperature of the island of Jamaica, which according to observations for an extended period, is found to be 75°, is the same as that of Bangalore. The reports published by Mr. Annesly shew that in the year 1825, only 36 cases of hepatitis were admitted into the regimental hospitals in Jamaica, out of a force of 2,682 men, whereas 89 cases were admitted into the regimental hospital of the 13th dragoons alone, stationed at Bangalore that year; the regiment being under 700 strong. In Jamaica, in 1824, out of a force of more than five regiments, there were 72 admissions of hepatitis; in Bangalore in the same year, in one regiment, there were 118. The cases in Jamaica also, it is believed, followed attacks of intermittent and remittent fevers, and were not cases of idiopathic hepatitis. It would appear therefore that hepatic disease in India is not attributable to heat alone, but to the vicissitudes of temperature. In Bermuda, where the heat is sometimes very great, hepatitis is scarcely known amongst the inhabitants; and the 74th regiment, during a period of more than 18 months residence there, had scarcely any admissions from that complaint. Dr. James Clark mentions, that the mean annual temperature of the West India islands near the level of the sea, is about 80°, and that during the six months which include the winter season, the temperature is only 2° lower. Contrasted with this, the daily maximum range in the open air

at Bangalore, for 5 years is here shewn. In 1831, the greatest difference was 50°, in 1832 41⅓°, in 1833, 39⅔°, in 1834, 41¼° and in 1835, 41°, the average was therefore 42°.

The sun in the West Indies moreover has not the same insufferable feeling of heat, as in the East; and Europeans constantly expose themselves to it, generally without any bad effect.—In the West Indies the sun is also in a certain degree exhilirating, the spirits become excited, the mind inclined to activity, and too often to dissipation. In the East, the sun seems particularly to affect the brain, a sensation of heaviness and weight being experienced, and the system becomes prostrated by exposure to its rays. The European troops who are almost the only sufferers from hepatitis, subject themselves to frequent attacks, as well by careless and dissipated habits, as by exposure to the night air when on duty. It must be borne in mind, that generally at Bangalore, throughout the year, a cold and rather strong wind prevails, and the soldier after being buttoned up, and exposed to the heat of the sun, on entering his barrack room, immediately throws off his jacket to enjoy the cold breeze, whilst in a state of profuse perspiration which becoming suddenly checked, the mass of blood is directed to the liver or large intestines, thereby exciting inflammation in these organs.

Hepatitis, is by no means so common amongst those who avoid exposure, particularly at night, and women and children very seldom suffer from it. The annual average number of admissions for 12 years, in the 13th dragoons, has been 79, and the annual average number of deaths 4⅓. The cases were most numerous in 1824, when the *greatest variation* of temperature occurred. In 12 years, 52 men died of the disease, the proportion of deaths to the number treated, being 1 in 18⅓. The treatment in the acute form, has been at first, copious bleeding to the amount of from 16 to 30 ounces, according to the strength, and constitution of the patient; and repeated a second, or even a third time if requisite though to a less extent; after which leeches and

blisters have been applied, and repeated till pain on pressure was removed. One or two scruple doses of calomel were usually given at the commencement, followed by a purgative, and repeated in smaller doses with antimonial powder, till the mouth became affected, when the disease was observed generally to abate. Convalescence from acute hepatitis has usually been rapid, however active the treatment may have been.

Out of 34 dissections, in only *one* instance was the *left* lobe of the liver the seat of abscess, without the *right* being also implicated; this occurred in a scrophulous patient, in whom there was found an almost cartilaginous state of the pancreas, and also disease of the lower maxillary bone. In the whole, abscess was found in both lobes, in 5 cases; in 28, the abscess was confined to the upper surface of the right lobe, which was generally adhering to the diaphragm. Two cases only are recorded of abscess occupying the *lower* portion of this lobe. Three out of the 34 cases, occurred in scrofulous patients, in each of whom either the spleen or pancreas was found to be indurated.

A comparative statement of the extent to which hepatitis prevailed in two European regiments at this station, viz. the 13th dragoons, and H. M. 39th is here given.

The 13th in 1833, had $8\frac{1}{3}$ per cent. of admissions, of hepatitis, upon the effective strength, the 39th $6\frac{2}{3}$; in the 13th, there were 3 per cent. of deaths, upon the admission—in the 39th, 2 per cent. The 13th, in 1834, had $9\frac{1}{2}$ per cent. of admissions, upon the effective strength, the 39th $6\frac{2}{4}$; in the 13th, $6\frac{2}{3}$ per cent. of deaths upon the admissions occurred, and in the 39th, $3\frac{7}{8}$ per cent. The 13th, in 1835, had 7 per cent. of admissions, upon the effective strength, the 39th, $7\frac{1}{3}$; in the 13th there were $2\frac{1}{4}$ per cent. of deaths, and in the 39th, $8\frac{1}{2}$ per cent.

The disease was thus in the years 1834 and 1835, more prevalent in the dragoons, which had been nearly 18 years in India, than in the 39th, only about 3 years in the country;

but in 1835, the admissions and deaths in the 39th preponderated, so that in their third year of Indian service, they had about one per cent more of admissions, and 6½ per cent more deaths, than in the first.

In a dragoon regiment there must always be a greater number of admissions than in an infantry corps, from the more active nature of the duties the men have to perform, the infantry soldier has perhaps only a parade to attend, for a short time in the morning, whilst the dragoon has horse drill perhaps twice a week, and also the additional duty cleaning and attending to his horse.

Chronic hepatitis is not a very common affection, for acute inflammation of the liver runs its course very rapidly, and terminates soon, either in recovery or death.

Rheumatism. Rheumatism is very frequent, particularly in old soldiers, the cases are sometimes tedious, and resist every mode of treatment.

Pulmonary disease. During a service of 18 years in India, the 13th dragoons lost only 20 men from disease of the lungs, and in 12 years at this station, the annual average number of admissions from pulmonary disease, has been 34. Out of the 20 deaths, 6 were from phthisis ; an epidemic catarrhal visitation which occurred in 1833, has been previously alluded to.

The admissions and deaths from the three principal diseases, viz. fever, dysentery and hepatitis, at Arcot, Arnee, and at Bangalore during the years 1827, 28, 30 and 31, are shown in the following table.

General tables of diseases similar to those for the preceding divisions of the army, with a few observations, are given at the end of the report.

Years.	Strength.	Total admissions.	Total deaths.	Per centage. Admissions to effective strength.	Per centage. Deaths to the admissions.	Stations, Arcot and Arnee.	Admitted.	Died.	Per centage. Admissions upon the effective strength.	Per centage. Deaths upon the admissions.	REMARKS.
						Fever.. ...	208	7	35 1/4	3 1/4	
1827	586	1232	40	210 1/4	3 1/4	Dysentery	163	15	27 3/4	9 1/4	
						Hepatitis.	144	10	26 1/8	6 1/8	
						Fever... ..	169	2	32	1 1/4	
1828	528	1277	41	241 3/4	8 1/8	Dysentery	136	7	25 3/4	5 1/8	
						Hepatitis.	85	4	16 1/8	4 3/4	
								45			

Years.	Strength.	Total admissions.	Total deaths.	Per centage of Admissions to effective strength.	Per centage of Deaths to admissions.	Station, Bangalore.	Admitted.	Died.	Per centage of Admissions upon the effective strength.	Per centage of Deaths upon the admissions.	REMARKS.
						Fever.	119	2	18 3/5	1 1/4	
1830	635	919	19	144 2/3	2 1/8	Dysentery	113	8	17 3/4	7	
						Hepatitis.	74	2	11 2/3	2 3/4	
						Fever.....	122	1	18 1/4	3/4	
1831	672	1012	12	150 2/3	1 1/8	Dysentery	128	0	19	0	
						Hepatitis.	105	3	15 1/8	2 3/4	
								16			

HURRYHUR.

Situation of the cantonment.

The cantonment of Hurryhur, is situated on a widely extended plain, about 1,500 yards from the right bank of the Toombuddra river, at an elevation, according to Hamilton, of about 1,900 feet above the level of the sea, which is distant 90 miles at the nearest point on the Malabar coast. It lies in latitude 14° 26″ north, and longitude 75° 56″ east; being 186 miles from Bangalore, 395 from Madras, and 400 from Bombay.

The cantonment is somewhat elevated above the surrounding plain, having a gentle inclination towards the river. The distance at which it lies from the river is felt to be inconvenient by the sepoys and their families; but this disadvantage is counterbalanced, by their being so far removed from the influence of its noxious exhalations. The water of the river is very pure, but occasionally slightly turbid, or whitish, apparently from an impregnation of sulphate of lime; it is generally preferred to that from wells. Water in wells is obtained at a depth of about 40 feet from the surface, the supply however is very uncertain especially in the officers lines, owing to their greater elevation; but in the neighbourhood of the regimental lines, barracks, and hospital, well water has hitherto been abundant.

There are no marshy lands in the vicinity of the cantonment or of the river, the banks being sufficiently high to prevent their being overflowed during the rains, and a sandy deposit is left on its bed, in the dry season. The fish found in this river, but more especially the cat fish, sometimes prove very deleterious, and much precaution is at all times requisite in the use of it.

Surrounding Country.

The country is clear and open, for from eight to sixteen miles round, the nearest jungle being in a south westerly direction.

Soil. In the immediate vicinity, the soil is either black cotton earth, or a red sand irregularly distributed, that on which the cantonment stands, is sandy or gravelly.

Climate. The climate is pleasantly cool for the greater part of the year, though hot for about six weeks or two months in May and June, previous to the setting in of the south west monsoon, during which and also in the north east monsoon, strong winds prevail, more rain falling in the latter, than in the former season. It has been generally remarked, that during the south west monsoon, the wind is to the feelings not unlike a sea breeze, from its cooling and invigorating effects; it usually sets in about 3 P. M. and continues to blow till about 7 P. M.; it is however believed to occasion rheumatic complaints, especially of a chronic nature, in those exposed to its influence, if precautionary measures as regards clothing, are not observed.

The site, construction and elevation of houses, are also objects requiring much attention in this climate, to guard against the effects of this wind.

A few detached hills are to be found at a distance of about 7 or 8 miles, in a northerly direction, but they appear to exert no other influence on the climate, than perhaps attracting clouds at the commencement and termination of the monsoons, and diverting from the station, rain which would otherwise fall there. These hills are barren, bleak, and difficult of access, they therefore hold out no advantages in a sanatory point of view, as a place of resort for invalids.

For an account of the vegetable productions, see the report of the district of Nuggur.

Amongst the minerals the principal are iron, and lime.

Manufactures. Cumblies and coarse cloths are the only articles manufactured at Hurryhur.

Population. The population, is widely dispersed in small villages, the houses being built of mud and thatched. In the talook of Hurryhur there are five divisions, containing 52 villages, and 2,552 houses, with a population in 1837, of 3,630 males, upwards of 6 years of age; 1,892 males under six; 3,344 females upwards of 12 years of age, and 1,354 under 12. In all 10,220 souls.

The poor have a squalid and sickly appearance, although there are no indications of extreme poverty visible, the necessaries of life being usually cheap and abundant.

Prevailing diseases. Fevers, cutaneous diseases, rheumatism especially during the westerly monsoon, and painful rheumatic hemicrania in the cold season, are the most prevalent diseases amongst the natives. Cholera occurred in 1833 and 1840, but not to any great extent, see table. Jaundice and dropsy are observed occasionally as the sequelæ of protracted intermittents. Ulcers of obstinate character are very common, dependant it would seem on poverty, innutritious diet, and want of cleanliness and comfort. The mortality from small pox, which usually prevailed in the autumn, has greatly diminished since the introduction of vaccination. The natives though they do not object to be vaccinated, do not however voluntarily present themselves for that purpose.

Neighbouring villages, unhealthiness of. In the villages situated near the banks of some of the large tanks in the neighbourhood, the inhabitants are subject to agues, followed by organic enlargement of the spleen, and dropsical accumulations; and from the failure of the rain of late years, the beds of tanks have been much encroached upon for cultivation, but being at a distance from Hurryhur they do not affect the health of the station, which is remarkably free from fogs, dews, and miasmata.

Public buildings. The place of arms is situated near the sepoys lines, towards the south west corner of the parade ground, close to which are two solitary cells, both well ventilated; on

the north side of the parade, are the powder magazine and the regimental school house.

The sepoys lines run east and west, and are considered to be eligibly situated, they present a gradual descent towards the river.

Hospital. The hospital, which is situated in rear of the sepoys lines, was erected in 1828, it faces due east and west, is a commodious and substantial building, and consists of one long ward, 130 feet by 18, capable of containing the average sick of two native corps. It is elevated about eighteen inches from the ground, has seven venetianed doors on each side, and one at each end, with three ventilators in the roof: at each angle is a convenient room for the dispensary, medical and commissariat supplies, and a bath room, the latter being occupied occasionally by patients requiring restraint, or separation.—Detached from the hospital in the rear are the cookroom and privy, all in good repair.

In conclusion it may be stated, that the climate of Hurryhur has hitherto been favourable to the health of the troops stationed there; fevers especially of the intermittent type and rheumatism being the most prevalent diseases, as will be seen by the following table.

Table exhibiting the number of admissions into hospital, and deaths amongst the native troops stationed at Hurryhur, from 1832 *to* 1841 *inclusive.*

CLASSES.	DISEASES.	From 1832 to 1841 inclusive. Aggregate strength 8,500. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers..	Febrisephemera	480	2	288	0								
	,, intermittent quotid.....	456	6	356	4	1137	10	687	10	1824	20	21 ·458	1 ·096
	,, tertiana....	37	0	16	0								
	,, remittens..	30	1	17	2								
	,, com. cont..	134	1	10	4								
	Cholera.....	25	13	35	11	25	13	35	11	60	24	0 ·705	40 ·000
Diseases of the abdominal viscera.	Diarrhœa.....	62	3	46	1								
	Dysenteria acuta et chronica.	36	1	56	7								
	Obstipatio.....	31	0	12	0	175	5	143	9	318	14	3 ·741	4 ·402
	Dyspepsia.....	38	1	23	0								
	Hœmorrhois....	7	0	4	0								
	Hepatitis.....	1	0	2	1								
Diseases of the lungs.	Catarrhus.....	123	2	89	2								
	Asthma.....	4	1	13	4								
	Phthisis pulmonalis.....	5	3	1	1	137	10	107	7	244	17	2 ·870	6 ·967
	Pneumonia.....	2	1	0	0								
	Dyspnœa.....	3	3	4	0								
Diseases of the brain.	Apoplexia.....	2	2	3	0								
	Epilepsia.....	2	0	4	0								
	Paralysis.....	2	0	1	0	13	4	19	2	32	6	0 ·376	18 ·750
	Amentia.....	1	0	4	0								
	Mania.....	5	1	6	1								
	Hydrophobia...	1	1	1	1								
Eruptive Fevers.	Variola.....	9	0	3	2								
	Varicella.....	28	0	3	0	43	0	10	2	53	2	0 ·623	3 ·773
	Rubeola.....	2	0	4	0								
	Erysipelas.....	4	0	0	0								
Dropsies.	Anasarca.....	1	0	7	3	3	0	9	3	12	3	0 ·141	25 ·000
	Ascites.....	2	0	2	0								
Rheumatic affections.	Rheumatismus acutus et chronicus.....	235	0	202	3	235	0	202	3	437	3	5 ·141	6 ·864
Venereal affections.	Syphilis primitiva.....	56	1	38	0								
	,, consecutiva	5	0	3	0								
	Gonorrhœa.....	48	0	28	0	131	1	87	0	218	1	2 ·564	0 ·458
	Hernia humoralis.....	22	0	16	0								
	Strictura urethræ.....	0	0	2	0								
Specific diseases.	Atrophia.....	2	2	0	0								
	Beriberi.....	0	0	1	1								
	Dracunculus....	11	0	7	0	18	2	14	1	32	3	0 ·376	9 ·375
	Lepra.....	0	0	1	0								
	Scorbutus.....	2	0	1	0								
	Scrophula.....	3	0	4	0								
Diseases of the eye.	Morbi oculorum.	68	0	100	0	68	0	100	0	168	0	1 ·976	0· 000
Do. skin.	,, cutis.....	111	0	239	0	111	0	239	0	350	0	4 ·117	0· 000
	Other diseases..	687	4	585	6	687	4	585	6	*1272	10	14 ·964	0 ·786
	Total....	2783	49	2237	54	2783	49	2237	54	5020	103	59 ·059	2 ·051

NOTE.—Percentage of deaths to strength 1·211. * Including Phlogosis.. 499 1 Do. do. Ulcus 195 1

FRENCH ROCKS.

Situation. The French Rocks, a station for a Native corps, is situated seven miles north west of Seringapatam, above which it is elevated about 300 feet, and about 2,300 above the level of the sea. It covers a space of ground of about half a mile square; lies in north lat: 12 39, and east long: 76 50. It is bounded by two ranges of hills, rising at some little distance to the east and north-west of the station; that to the eastward running in a northerly direction, and the other taking a north-west course. The Cantonment itself is on a gently rising piece of ground, and is in consequence well drained. The general appearance of the country is hilly, rocky, and barren; and it is intersected by numerous deep ravines.

Soil. The soil is gravelly, except a few occasional patches of light red loam, where a little dry grain is cultivated, such as raggy, cholum and coulty.

The rocks and hills, consist chiefly of grey and black granite; but green stone, felspar, iron stone, and mica, are also found. There is no wet cultivation in the immediate neighbourhood of the station, except to a very small extent under the bund of a tank, which is formed beneath a high rock to the right of the cantonment; there are very few trees about the place, and these are for the most part stunted banyans.

Water. Water is procured chiefly from a tank, which from the rocky nature of its bottom and great depth, affords an abundant supply throughout the year; there are besides several springs, the water in which is good, and free from impurities.

There are no jungles, marshes, pools of stagnant water or swampy ground, near the place.

Roads. A line of communication exists with Seringapatam and Mysore, but the road is much out of repair.

Climate. A humid atmosphere, and heavy dews prevail more or less throughout the whole year, but more particularly during the months of January, February and March, when fogs also occur. The weather becomes warm from the middle of February, to the setting in of the south west monsoon, which happens about the middle of June, though the heat bears no comparison to that at Seringapatam. During the above period the thermometer seldom reaches above 85°, in the middle of the day; and the nights and mornings are always cool. The periodical rains usually cease about the middle of September, but the north-east monsoon is also sometimes attended with heavy rains, when the weather becomes cool and pleasant; and in the months of December and January it is cold, the thermometer not rising above 72° at midday, and falling as low as 50°, in the open air, at sun rise.

Diseases. The 19th Regiment N. I. which arrived at the station in the month of April in 1834, suffered from acute rheumatism, and fever of the continued type; this may be accounted for from the men having just come off a long march, and being new to the climate, which was colder than that of the Carnatic from whence they had lately arrived—the huts were in bad repair, and many of them without roofs, the men being consequently exposed to the cold damp night air; when however the sepoys became accustomed to the climate, were better housed, and more warmly clothed, these complaints became much less frequent.

Intermittent fever chiefly of the quotidian type, prevailed to some extent during the months of October and November in the same year, attacking not only the sepoys, but the followers of all descriptions, and was supposed to have been occasioned by some noxious quality in the atmosphere brought from a distance, as the cantonment from its elevated position, was apparently free from the ordinary supposed causes of fever, the soil being dry and there being no under ground

moisture, decaying vegetation, swamps, or stagnant pools of water. This fever continued to prevail till the end of February in the following year, and was very fatal in some parts of the adjacent country. It may be said to be the principal endemic,—see table.

Barrack & hospital. The only public buildings are the place of arms, the hospital, a store room and the sergeants' quarters.

The place of arms is in the centre of the cantonment, facing the south, the ground in front of which forms the parade; a few paces in the rear is the regimental store room, and 200 yards further back stands the hospital, which is a substantial tiled building, fronting the south; it is raised about two feet from the ground, and consists of one ward measuring 130 feet by 18, with a verandah in front and rear, of 8 feet in breadth; each end is enclosed forming four small rooms, one the dispensary, another a bath room, a third is allotted for hospital stores, and the fourth for the use of the assistant apothecary. The height of the wall is 12 feet, it has a stone flooring, and is capable of accommodating sixty patients; the ward is well ventilated having seven half venetian doors, on each face, and one at each end. The verandah rooms measure 14 feet by 8, each having a door, and 3 windows. The building is in good repair, and is surrounded by a brick wall seven feet high. There are 40 cots for the use of the sick, the frames of which are of wood, with taped bottoms, each measuring six feet by three, and having the usual supply of bedding. The cook room is in the eastern corner of the enclosure, has a stone flooring, and measures 15 feet by 8. The necessary in the western corner, is of the same dimensions, having two entrances, with a curtain wall in front. No disease has ever been met with, attributable to the locality of the hospital.

Officers houses. The officers dwellings are irregularly disposed on either side of the public buildings; the compounds are small, and the houses themselves very indifferent; they are

built of sun burnt bricks, and are mostly tiled, but some are thatched.

The roads in the cantonment are bad, and irregularly laid out owing to the inequality of the ground. The sepoys lines are situated in the rear of the hospital, and separated from the other parts of the cantonment by a road. The bazaar occupies the central street of the lines, the streets being broad and clean, and the huts comfortable and in good repair. The bazaar affords every necessary of life, supplies of unexceptionable quality being procured in abundance from Mysore and Seringapatam.

Bazaar.

Village. There is a small village called Errode, contiguous to the sepoys lines on the eastern side, consisting of between 30 and 40 huts, and containing a population of about 150 people, chiefly cultivators. There are only two other villages in the immediate neighbourhood of the French Rocks, these are situated pretty close together, and about half a mile in its front, they contain merely a few mud huts, and not more than a dozen families, who are also cultivators.

Concluding observation. From what has been above stated, it will be seen that the French Rocks possess many advantages as a military station, both as regards the health of European and native troops; and from the statements of the medical officers who have been stationed there, the sources of malarious disease as compared with other parts of the Mysore country do not exist to any great extent in its vicinity. The European officers have enjoyed excellent health at this station hitherto.

Table exhibiting the number of admissions into Hospital, and deaths amongst the native troops stationed at the French Rocks, for nine years ending 1841.

CLASSES	DISEASES.	For nine years. Aggregate strength 7891. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Percentage of sick to strength.	Per centage of deaths to sick treated.
Fevers.	Febris ephemera	126	0	60	0								
	„ intermittent quotid.	683	1	845	3	1178	6	1147	10	2325	16	29 ·463	0 ·688
	„ tertiana	52	0	64	0								
	„ remittens	58	2	36	2								
	„ com. cont.	259	3	142	5								
	Cholera	123	51	39	15	123	51	39	15	162	66	2 ·052	40 ·740
Diseases of the abdominal viscera.	Diarrhœa	114	10	48	5								
	Dysenteria acuta et chronica.	36	5	33	7								
	Obstipatio	1	0	4	1	171	18	103	14	274	30	3 ·472	10 ·948
	Dyspepsia	15	1	16	0								
	Hœmorrhois	4	0	0	0								
	Hepatitis	1	0	2	1								
Diseases of the lungs.	Catarrhus	20	0	20	1								
	Asthma	7	1	16	3								
	Phthisis pulmonalis	2	0	0	0	39	2	55	6	94	8	1 ·191	8 ·510
	Pneumonia	6	1	11	1								
	Dyspnœa	4	0	8	1								
Diseases of the brain.	Apoplexia	0	0	1	0								
	Epilepsia	2	1	0	0								
	Paralysis	8	0	4	2	14	1	7	3	21	4	0 ·304	19 ·047
	Amentia	0	0	0	0								
	Mania	4	0	1	0								
	Hydrophobia	0	0	1	1								
Eruptive fevers.	Variola	4	0	3	0								
	Varicella	59	0	6	0	64	0	12	0	76	0	0 ·963	0 ·000
	Rubeola	1	0	2	0								
	Erysipelas	0	0	1	0								
Dropsies.	Anasarca	6	4	3	2	7	5	5	3	12	8	0 ·152	66 ·666
	Ascites	1	1	2	1								
Rheumatic affections.	Rheumatismus acutus et chronicus	197	4	235	0	197	4	235	0	432	4	5 ·474	0 ·925
Venereal affections.	Syphilis primitiva	35	0	38	0								
	„ consecutiva	3	0	3	0								
	Gonorrhœa	23	0	17	0	79	0	71	0	150	0	1 ·900	0 ·000
	Hernia humoralis	16	0	12	0								
	Strictura urethræ	2	0	1	0								
Specific diseases.	Atrophia	6	1	21	2								
	Beriberi	2	0	1	0								
	Dracunculus	6	0	5	0	16	1	31	2	47	3	0 ·595	6 ·382
	Lepra	2	0	2	0								
	Scrophula	0	0	2	0								
Diseases of the eye.	Morbi oculorum	94	0	110	0	94	0	110	0	204	0	2 ·585	0 ·000
Do. skin.	„ cutis	136	0	231	0	136	0	231	0	367	0	4 ·650	0 ·000
	Other diseases	551	1	604	1	551	1	604	1	*1158	2	14 ·674	0 ·172
	Total	2672	87	2650	54	2672	87	2650	54	5322	141	67 ·443	2 ·649

NOTE.—Percentage of deaths to strength 1·772. * Including Phlogosis 416, ulcus 249.

Description of the station and Farm of Hoonsoor.

Situation. Hoonsoor, situated about 30 miles west of the town of Mysore, is the head quarters of the public cattle department, and the residence of the superintending Officer.

The grazing lands, are divided into tracts of pasturage named *kawles*. The kawles are scattered over Mysore, and are of various extent; the marshy grounds yield the most nutritious pasturage, and as the land becomes elevated, it is more scanty and deteriorates in quality. The majority of the kawles contain jungle, more or less dense, and several have salt springs, impregnated with muriate of soda, which is considered a quality of great importance.

At Hoonsoor, there are always a number of elephants and camels, and a supply of horned cattle fit for service; there is likewise a tannery, which supplies leather for the accoutrements and appointments of the army; and a wood yard, in which barrack and hospital cots are manufactured.

Teak which is the only wood employed in making up cots, is procured from the neighbouring forests, and is generally allowed five years for seasoning, before being used.

At the tannery, hides are converted into common leather, and also into the variety called buff leather, required for military purposes.

The village stands on a gradual declivity, and contains about 4,000 inhabitants, of whom, about 2,500 are ryots, the remainder belong to the public service.

The accompanying plan, will convey a clear idea of Hoonsoor. The horned cattle lines, consist of five tiled sheds 112 feet long, by 16 feet broad, and the cattle kept in them, are always fit for service. They are sent out to the grazing grounds, or kawles in the immediate vicinity during the day, and are brought to the sheds at night, in order that the superintending officer may have an opportunity of inspecting their con-

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dition. These cattle constitute only a small number of those ready for service, the remainder being kept permanently on the other kawles, not far from Hoonsoor.

The elephant lines are situated on a rising ground, having no shelter, as an elevated exposed situation is considered to agree better with these animals, than a sheltered one, for when kept in a place of the latter description, near the banks of the river, they were not so healthy, as in the present locality. Some remarks on elephants and their diseases are hereafter given.

The camels are likewise kept in an unsheltered situation for a similar reason; some notice of their diseases is also given.

Station hospital. The station hospital is a tiled building 93 feet long, by 19½ broad, and is capable of accommodating 30 patients.

River. The village is supplied with water principally, from the river Letchmenteert which rises about forty miles to the south west, being a tributary of the Cauvery, into which it falls ten miles below Hoonsoor, where it is about 100 feet broad. It contains water throughout the year, though according to the inhabitants, it becomes deteriorated in quality during the dry season, when it is considered unwholesome.

Wells. Wells are another source of supply, they are sunk in green stone, and the water in them and also that of the river, is impregnated with muriate of soda.

Climate. By barometrical measurement, Hoonsoor is 2,970 feet above the level of the sea. The temperature of the climate is pleasant, but the country around being jungly, partakes more or less of the unhealthiness of similar situations. Fevers, and chronic enlargements of the spleen, are of frequent occurrence amongst the inhabitants. Ulcers on the lower extremities are also common, and such as arise from accident often assume a foul appearance, shewing an impaired state of the constitution.

The country has an undulating appearance towards the east and north, in other directions, and in the vicinity of Hoonsoor, it is hilly. To the southward are seen the Neilgherries, distant about 100 miles; and to the west the rugged outline of the Coorg mountains; towards the north, it is comparatively open, and in other directions, it is for the most part covered with jungle.

Soil. The cultivated land is either a light soil, or rich black mould, dry grains are principally cultivated on the former, the land being generally too hilly to admit of being watered. The irrigated ground is in the immediate vicinity of the river, across which numerous dykes or drains are thrown. From the artificial height of water thus obtained, proceed several conduits, most of them being upwards of two miles in length. A succession of reservoirs are formed, and considerable tracts of country which would otherwise admit only of dry cultivation, are made to produce luxuriant rice crops.

Geological formation. The prevailing rock formations in the vicinity of Hoonsoor, are veined granite, and green stone. The country is extensively intersected with dykes of the latter; so much so, that it is in many places difficult to say whether green stone or granite is the prevailing formation. The hills for the most part, consist of that variety called concentric basalt of igneous formation.

The following observations respecting the breeding, general management, and diseases of public cattle, are extracted from the reports of the medical officer in charge of Hoonsoor.

Whether the breed of horned cattle employed in the public service of the Madras presidency, be aborigines of Mysore or not is unknown. The improvement of bullocks was particularly attended to, by the late Sultan Tippoo, and at the fall of Seringapatam, his breeding herds and cattle fit for service, became the property of the honorable Company. The breeding establishment was entrusted to the care of the

new Mysore government, and the *public cattle* department, that is, the description of cattle fit for service, placed in the hands of an agent. The government however finding the breed to be deteriorating, in 1813, took the whole establishment into their own hands, and placed it in the charge of the Commissariat department, under which it still continues.

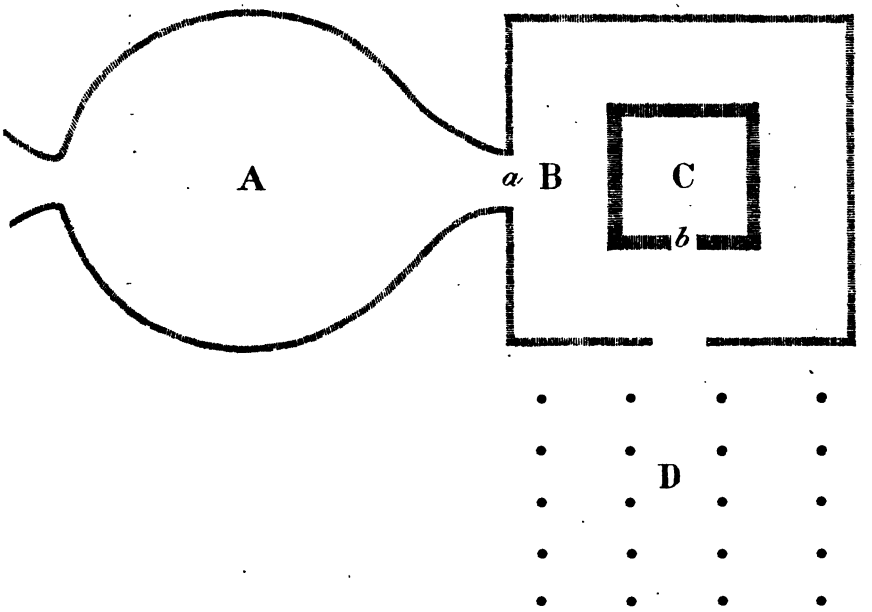
The following remarks respecting horned cattle may be best arranged under the heads of *breeding*, *training*, and *public cattle* department; the diseases to which they are subject will be noticed subsequently.

Breeding Establishment.

The numerical strength of this establishment, is fixed at 18,000 head of cattle, divided into 35 herds, the strength of each being about 500. The breeding season commences in February and March. The bulls are never separated from the cows, and the proportion of the former to the latter is, as 1 to 20. The average annual amount of births is 50 per cent, on the number of cows; and the proportion of male and females calves is nearly equal. The calves are weaned at five months, the female being preserved for the department. The males are castrated between the age of five and twelve months, and in the sixth year they are transferred to the training department. Though a herd consists of both males, and females of various ages, they are not allowed to graze in immediate company, each being divided into 7 lots, called *pauls*, to prevent their injuring one another; thus the cows big with young form one division, and so on. The average number of attendants or graziers, is one to every fifty head of cattle.

Training Department

At the age of six years the training of bullocks commences, previous to which they are nearly as wild as the inhabitants of the jungle. At the training depot, about five miles from Hoonsoor, there is an enclosure, of which a diagram is here given.



The bullocks are first driven into the large enclosure A, which they are made to enter without much difficulty, they are next driven through a, into B, and last of all into the inner enclosure C, which is about 20 feet square, and surrounded with a strong fence, made of wooden posts, placed close together, and about 12 feet high; when they are collected in this, the opening b, is closed. The trainers then ascend on the top of the fence enclosing C, and throw a noose round each of the bullocks horns; this done the end of the rope is passed between the posts near the ground, and the animal is drawn close up and secured, by people on the outside.

The passage b, is then opened, and old trained bullocks admitted, one of the latter is bound by the neck to one of the wild animals which being done, the rope is lossened, when he immediately endeavours to escape; his trained comrade however to whom he is coupled restrains him, though but partially, accordingly the two leave the enclosure at tolerable

speed. The rope by which the untrained bullock was originally noosed, is allowed to remain attached to his horns, and when they approach one of the strong posts placed in the immediate vicinity of the enclosure, as represented at D, the rope is quickly turned round it, by which the animals are again brought up. The untrained bullock is then well secured by the neck with as little latitude of motion as possible. There he is kept alone for about two days, until he becomes considerably tamed, and worn out by unceasing efforts to escape. The next operation consists in attaching to the animal, a couple of blocks of wood, so heavy as to be moved with some difficulty, and giving him as much liberty as this admits of. He is then admitted into the company of old trained cattle, and from the two fold effects of example, and partial restraint, he gradually becomes submissive. After this, he is yoked in company with a trained bullock, first to a log of wood, which they drag along the ground, and then in a bandy or cart, and when perfectly steady, the operation of training, which usually occupies 60 days, is completed.

When the trained animals are classed into artillery, draught, and forage bullocks, the best are selected for the artillery, the medium for draught, and the third are used as forage bullocks.

The general characters of a good bullock are, a round barrel, short strong legs, and broad forehead; the average height is 48 inches, and 50 inches is about the highest standard. Of course weight is also a material consideration. The average weight is about 12* maunds, but hitherto no means have been adopted to determine this exactly.

Public cattle Department.

This department, includes draught and forage bullocks; for although those of the Artillery are also public cattle, they are transferred entirely from the Commissariat, and are therefore not referred to here. The public cattle are divided into 28 karkanahs, each consisting of 100 draught, and 10 forage

* *about* 43 *stone.*

bullocks; 10 karkanahs being attached to Hoonsoor, each of which gives employment to 43 persons.

Of the diseases of horned Cattle.

In order to obtain a knowledge of this important subject, two principal objects have been kept in view, the first of which was, to obtain all the information possible from experienced natives; the second, to study such cases as occurred, and to endeavour to ascertain by dissection the nature of the maladies in all fatal cases. The knowledge of the natives, is of a very meagre kind, confined to the exhibition of a few mussals, the receipts for which have been handed down from generation to generation, the precise mode of action of these is not understood, and there are no fixed principles for their exhibition. Superstitious feeling has evidently had much to do in practice, thus tigers flesh is considered an important ingredient in many of their compounds. The following is a copy of a recipe.

The dry flesh of a tiger well bruised and mixed in water, to be given to sick cattle; after which instead of water, a decoction of raggy and umbly, in which the following ingredients are to be mixed is to be used as common drink, viz. onions ½ cutcha seer, cumin seeds ¼ do., dill ¼ do., tire 2 pucka seers, turmerick ¼ cutcha do. Should a tiger enter into a herd of sick cattle, it is believed that disease soon disappears from the effects of the smell of the animal.

Firing is an universal practice in the cure of disease, and much weight is placed on the pattern of the eschars, care being taken that a certain number of round marks be made in some places, and that in other figures, the "prescribed pattern" be adopted, especially that the line terminates in a certain sign used to represent their gods.

The efficient part of their practice consists almost entirely, in counter-irritation by firing, and in the exhibition of stimulants. Bleeding is not practised, and there is no doubt that if the natives were taught the use of this powerful remedial measure, and to give a proper purgative, or injection

at the commencement of inflammatory diseases, many animals would be saved, whose death is expedited by mismanagement.

Such being the knowledge of the diseases of animals possessed by natives, it cannot be expected that much rational information on the subject of treatment, can be obtained; possibly a few herbs possessing medicinal powers, may be brought to light, nevertheless it is desirable that an insight into their ideas should be attained, in order if possible to correct errors.

The nomenclature of diseases, is nearly as meagre as the knowledge of their treatment; as the following list shows.

Diseases of horned Cattle.

Canarese	Hindoostanee	English name or explanation of disease.
Dod Rogah.	Burra Azar.	Purging.
Nundoo.	Sooka.	Constipation.
Kaal gerah	Mou ka murz.	Eruption of the mouth.
Bye gerah	Paon ka murz.	Cow Pox, eruption of the feet.
Pingeree rogah.		Inflammation of lungs.
Toliah.	Pipsa ka murz.	Disease of lungs.
Sillaih.		Catarrh.
Bao.		
Ageen bao.	Ageen Boa.	

Burra Azãr.

Burra Azãr, is a destructive epidemic resembling the murrain, which carries off cattle in large numbers

Dissections have shown that it is connected with an inflammatory state of the serous membranes, and its fatality appears to depend on an effusion of serum into the cavity of the skull, and spinal canal, the pressure of which, appears to be the immediate cause of death.

From this opinion of the nature of the disease, bleeding is evidently the most appropriate remedy, and on a late occa-

sion, it was practised on several animals, some of whom immediately before the operation were stertorous and insensible. The first effect of the bleeding was to remove the stertor, some attempted to run away, having recovered sufficiently to observe that they were surrounded by strangers, and others commenced feeding. But the final result was by no means so successful, as the favorable indications at the commencement led the operator to anticipate. It is very possible however, that these cases came under treatment in too advanced a stage of the disease.

At the commencement of the attack, the hair stands erect, the ears fall and the animal has a sickly aspect; the body becomes hot, the nostrils red, and a watery discharge flows from the eyes; after the lapse of an indefinite period, generally about two days, purging supervenes, the evacuations being very offensive, and containing slime and blood; there appears to be much griping, and the stools are ejected with force. The urine during the progress of the disease, becomes bloody, the breath very offensive and maggots are generated in the nostrils.

Cattle are liable to be attacked with this complaint at all ages, and it is most prevalent during the hot season; its duration is usually from three to ten days.

The native treatment consists in firing near the eyes, and along the spine, and the following *mussal* is given three times daily.

Canarese.

Mudgega.	Butter milk—1 seer.
Jeerga.	Cumin seed—¼ seer.
Eroolee.	Onions ½ seer.
Raggy	Natchenny 1 seer.
Neer.	Water 1 ¼ seer.

Ageen Bao.

The symptoms of this disease are constipated bowels, suppression of urine, hurried breathing, and diminished secretion

from the nostrils and mouth, that from the nostrils being sanious; bullocks of every age are subject to this affection, it occurs at all seasons, and is generally supposed to be caused by eating noxious herbs.

The native treatment consists in the exhibition of purgatives, and branding on the back, belly, forehead and temples.

Case.—5th October. A draught bullock 8 years old, ceased grazing about noon. In the evening on returning to the shed, walked unsteadily and lay down on arrival at the lines; the abdominal muscles were frequently and forcibly contracted, breathing rapid.

Had four pice weight of hog's lard, and was branded on the back, belly and head; cloths dipped in cold water, were applied round the body, and a quarter of a seer of the leaves of a native herb, called oothamany, which possesses carminative properties, was given.

On the following day, the animal was considered moribund, nevertheless it was bled to three pints, and had five injections; during the night a small scybalous stool was passed with slime and some blood. The blood drawn separated into serum and coagulum. On the third day, injections with half a seer of salt, were administered six times; the spasms of the abdominal muscles however increased. On the fourth day, some more hardened fæces were passed with slime, and in the evening the animal died.

Dissection six hours after Death.

On separating the head from the body, by cutting through the ligaments connecting the skull with the spine, a flow of sanious fluid occurred. The blood was gelatinous, in some of the vessels semitransparent, and admitted of being drawn into strings, of a foot in length.

In one of the lobes of the lungs, there was a cyst about three inches in diameter, lined with a white coagulum, and containing transparent fluid, in other respects, they appeared

healthy; the heart was found filled with gelatinous coagula, which retained the form of the containing cavities.

The many-plies, was distended with dry fæces of a black colour, particularly where in contact with the folds of the organ.

The small intestines were vascular in some places, but did not exhibit signs of disease; the fæces in the lower bowel were scybalous, and covered with mucus. The bladder was distended with urine.

It would appear that in this case venesection was necessary, and should have been followed up by active purgation, as the proximate cause of the disease, it is probable, consisted in inflammation of the many-plies or omasum.

Case of Bao.

November 30th, a bullock 14 years old was seized with purging, dung watery and green coloured, subsequently passed blood, no fever; was bled to two seers on the 1st December, blood inflammatory, after bleeding a cold infusion of the bark of aulamurrum was given, the purging stopped, the stools became healthy, but the animal would not eat, and it died on the 5th day.

The disease is said to be epidemic; it is always treated with an infusion of aulamurrum bark, and firing.

Inspection of the Carcase.

The large bowels slimy, but otherwise healthy; no vascularity except near the head of the colon, two feet from the valve.

About three yards of the small gut were vascular, and the healthy parts had a greenish hue, and were covered with slime. The gall bladder full of yellow bile, liver healthy.

The left lung emphysematous, which in the opinion of the natives is the immediate cause of death; the spinal canal contained much watery fluid.

The brain was healthy, perhaps rather exsanguinous, the theca vertebralis appears to have been the chief seat of the disease.

The instructions given in "Clater's cattle doctor," and in "White on cattle medicine," have been found useful in the ordinary diseases of these animals.

For opacity of the cornea, a common result of injury of the eye, the application of solid lunar caustic is the best remedy.

Elephants.

The elephants employed in the public service are procured from Bengal. These animals abound in the jungles adjoining to Hoonsoor, and frequently commit great depredations on the crops, but are of a comparatively weakly description, and totally unfit for work; the elephants of the Coimbatoor jungle, were likewise found to be useless.

Of the diseases of Elephants.

The knowledge possessed by the Mahouts or attendants is very limited, their notions of the nature of internal disease being vague; and they have no principles to guide them in the exhibition of their mussals, for which they have numerous formulæ, the chief ingredients of these are stimulants, but several inert substances are also prescribed, such as peacock's feathers, silk, sheep's lungs, &c.

The subjoined list includes some of the diseases to which the elephant is subject.

Hindoostanee.	English name or explanation of disease.
Wae gollah.	Colic or windy pain.
Shool.	Pain in bowels.
Kutcha zhaar baad.	Collection of water, commencing at the navel, and extending rapidly in the direction of throat.
Ageen Boa.	Vesicles arising on the head, neck, ears, and upper part of trunk; not dangerous.

Khaandy.	Ulcer under the nails.
Baambood.	Ulcer of foot.
Khurwah.	Ulcer over haunch bone.
Cheeta.	Opacity of cornea.
Unjun.	Staphyloma.
Dhaak ka murz.	Trembling and restlessness.
Bao-ka-murz.	Vomiting.
Bummony.	Ulceration of the joints of the tail.

Case and dissection of an animal, which died of daak ka murz.

Daak ka murz.

17th October 1835, a male elephant aged 35 years, emaciated for four years past, during which period it has laboured under the disease called som-ka-zhaar-baad, or thinness of blood, appetite has been good, alvine evacuations variable, being sometimes loose, for eight or ten days together, during which period two kinds of worms were passed, one of a white colour about two inches in length, and the thickness of a stout pin, the other red and oval shaped; urine healthy. Its present complaint, daak-ka-murz, commenced on the 15th instant. Zhaar baad, impossibility of swallowing came on yesterday morning, and pipsa-ka-murz inflammation of the lungs yesterday evening.

No stool since yesterday morning, urine passes freely, surface cold and shrivelled, is tranquil, sits for a few minutes occasionally at night, but has not lain down for the last three days or slept, which is indicative of severe illness, vomits all it eats and drinks. There is hardness and swelling in the neck, occasioning the difficulty of swallowing; frequently vomits a glairy fluid in small quantities.

On the 15th about 6½ P. M., gave the following mussal.

Hindoostanee.	English Names.
No. 1 Pipla mod, three pice weight.	
„ 2 Kootkee, three pice weight.	
„ 3 Udrak, six do.	Green ginger.

„ 4 Googaal, three do.	
„ 5 Inderjote, six do.	
„ 6 Palaas paupery six do.	
„ 7 Hing, one pice weight.	Assafætida.
„ 8 Sh'hud quarter seer weight.	Honey.
„ 9 Sohagah three pice weight.	Borax.

Roasted Nos. 7 and 9, which with all the other articles, except No. 8, were reduced to powder, and rubbed together in a mortar, No. 8 was then added, and the whole mass made into a bolus wrapped in grass, and put into the animal's mouth, when it was forced to swallow it.

The above was retained, but the animal vomited about an hour afterwards.

At 9 P. M. the vomiting increasing, the following was given.

Hindoostanee.	English Names.
No. 1 Send ke chumra, ten pice weight.	Milk hedge bark.
„ 2 Sage ke, do. do. do.	Horse radish tree bark.
„ 3 Musumber, six pice weight.	Aloes extract.
„ 4 Googal, three do.	
„ 5 Kootkee, two do.	
„ 6 Baaroot, three do.	Gun powder.
„ 7 Lasson, half seer.	Garlic.
„ 8 Raye, six pice weight.	Mustard.

No. 2, cut into small pieces, was put into a chatty with the remaining articles, and boiled with one seer of children's urine, till the urine was evaporated; the mass whilst soft was formed into three doses; one of which was rolled up in grass, put into the mouth and apparently swallowed.

During the 16th several mussals, consisting of the following ingredients, were put in the mouth, but the animal could not swallow.

Hindoostanee.	English Names.
No. 1 Sont, two pice weight.	Dried ginger.
„ 2 Peppla mor, two pice weight.	
„ 3 Pepple, two do.	
„ 4 Mohur ka pur, one pice weight.	Peacock's feather.
„ 5 Ashes of taftee ka cupra, one pice weight.	Silk.
„ 6 Peepsa buckra ka, quarter seer.	Goat's lungs.
„ 7 Hurtall, one pice weight.	Arsenic, yellow sulphuret of
„ 8 Dickee malee, three pice weight.	

All these articles were reduced to powder, and made into a mass with half seer of honey, sufficient for four doses.

During the 16th, eat some grass, but rejected the mussal, drank occasionally, and appeared to swallow part of the fluid.

In the evening a fire was lighted to windward, to warm the body.

17th Irritability of stomach continues. A liniment—tiddaree—composed of send-ka-dood, or the juice of the milk hedge, and the juice of the prickly pear, was rubbed on the neck.

The wood of the milk hedge with garlic, mustard and chillies, boiled in goat's urine, was applied moderately hot as a fomentation to the neck.

The elephant died 2 P. M. 18th October.

Dissection.

The pharynx very vascular, as also the interior of the wind pipe and gullet, the wind pipe contained a quantity of froth.

The gullet was filled with masticated food, down to the diaphragm, where it was contracted, inflamed and covered

with purulent matter; the stomach was highly vascular, and very much contracted; the lungs did not collapse, and were inflamed; the blood in many of the arteries of a gelatinous appearance.

The inner coat of the rectum was thickened.

The cavity of the abdomen contained a great quantity of fluid.

The disease of which this animal died, appears to have been inflammation of the stomach in the first instance, which extended up the œsophagus, and subsequently to the trachea and lungs.

The vomiting indicated that the gullet was unobstructed in the early part of the disease, so that the impactment of masticated food, might have arisen from spasm of that part of it which it passes through the diaphragm. The stomach contained no food, but was as mentioned above, very vascular, and had a viscid substance covering its surface.

The powerfully antispasmodic effects of venesection, would if early resorted to, in all probability have removed the irritability of the stomach, and also the spasm of the diaphragm; and it is evident, that preventing the animal from taking food is essentially necessary to prevent impaction in the gullet. A second case of this disease occurred in an elephant, which was bled freely, but at too late a stage, as the swelling in the gullet indicative of impaction, was distinctly perceptible.

As this disease, according to the experience of the mahouts, uniformly proves fatal, it was considered advisable by the medical officer in charge, to address the following letter to the superintendent.

Sir,

I have the honor to state, that I have minutely dissected the elephant that died yesterday, and that on comparing the history of the progress of the disease, known amongst the

mahouts by the name, daak-ka-murz, as it shewed itself in the animal just alluded to, and in one that died a few months ago from the same complaint, as also from the appearances on dissection, I feel much confidence in recommending, when symptoms of this disease first shew themselves, that the animal be freely bled; very eligible places for this operation are the large veins on the back of the ear, near the base. The veins of both ears ought to be opened, and the animal bled to twelve pounds, and repeated a couple of hours afterwards, if the vomiting continues. Secondly, the animal ought most rigorously to be prevented eating any solid food, until every symptom of tendency to vomiting has disappeared.

The principle on which the treatment by bleeding is founded, is that the disease is of an inflammatory nature, and the withholding of solid food is requisite because spasm of the lower part of the gullet appears to exist, preventing the passage of food into the stomach; when the animal swallows, the food becomes impacted in the gullet throughout its whole extent; palsy of the gullet takes place from over distension, and it afterwards inflames and mortifies, and death appears to result from mortification. The efforts of the animal's constitution might overcome the inflammatory part of the disease; but are unable to do so with respect to the stuffing of the gullet.

The promulgation of the treatment above recommended might be of great benefit. The average number of the elephants here during the last nine months has been eighteen: and two have died of the disease under consideration.

Hoonsoor,
22d May, 1836.

I have the honor, &c.
(Signed) W. GILCHRIST.

The next disease of the elephant, an opportunity of treating which has occurred, is inflammation and suppuration of the subcutaneous cellular membrane. This usually though not always, arises from external causes, such as unequal pressure of the animals load on its back, or of the

ropes employed in securing it; the inflammation is often succeeded by sloughing of the parts below the skin, which being half an inch in thickness, is seldom so much injured, as to admit of the discharge of pus; it consequently having no orifice for escape, gradually undermines the skin, destroying the subjacent membrane. The native treatment is rational if resorted to early, viz. making an incision for the escape of the pus, the error is in delay; as this measure is not adopted until a large accumulation has formed, and absorption of the skin to a certain extent has taken place; the consequence is usually a very extensive and unnecessary undermining, and of course proportionate tardiness of cure.

Sometime ago an elephant came under treatment, four and a half square feet at least, of whose back was undermined, and upwards of a year elapsed before the animal was cured; whereas had the cyst been opened early, it would have been much sooner available for duty, and moreover much more efficient, as a long period must elapse before the new skin attains a firm structure.

In many cases, carelessness on the part of the mahouts, has been the cause of this affection; and in others, it has been occasioned by the faulty construction of the elephant's furniture, more especially of the ropes, which should be flat, and not less than three or four inches in breadth; whereby the pressure on a narrow space, unavoidable in the case of a round rope, would be prevented. Detergent applications, as a solution of blue stone, or camphorated oil, should be applied after incision, to produce a healing action on the surfaces of the cyst, and subsequently pledgets, to admit of adhesion going on regularly, from the circumference towards the line of incision.

The common principles of surgery in the treatment of foul ulcers, and of ulcers with obtuse or undermined edges, have been advantageously introduced in the treatment of public cattle of every description.

Lungun or Fasting.

The disease known by the above name, depends on the existence of flat roundish parasites in the intestinal canal, producing irritation of the bowels, and occasioning fetid and slimy evacuations. Whether the worm is generated in the bowels or not, is uncertain. They have been found in great abundance, in the biliary ducts of an elephant, while none were observed in the intestines.

The treatment consists in copious purging with aloes, which speedily effects a cure.

It may not be uninteresting to give a statement, shewing the weight of one of the elephants, and the relative weight and dimensions of several of the viscera.

Weight of carcase.....	cwt. 23, qrs. 2, lbs. 2
The brain free of all membranes, weighed	lbs. 9 avoirdupois
Liver.....	„ 65
Lungs.....	„ 60
Heart.....	„ 24
Length from tip of trunk to end of tail....	18 feet
Height from ground to top of shoulder.....	7½ „
The rectum measured.....	8 feet in length
Colon.....do.....	22 do.
Small intestines.....do.....	30½ do.
Stomach.....do.....	4 do.
Gullet.....do.....	3½ do.

Total length of alimentary canal 68 feet.

The average of the circumference of the colon was 3½ feet.

Camels.

The following is a list of the diseases to which camels are subject.

Hindoostanee.	English name or explanation of disease.
Kapalee.	Disease of head.
Zhaar baad.	Dropsy of legs and abdomen.
Sool.	Colicky pain of belly.

Jholah	Rheumatism.
Pepsah-pool-ta-so.	Lungs turgescence of
Raafa	Ulceration of raafa, or hard substance on sternum.
Coodke	Cough.
Dundee.	Disease of penis.
Sool gutteah.	Swelling of joints.
Kadda.	Swelling of neck.
Dumma.	Hurried respiration.
Kurrk.	Broken winded.
Sozaak.	Gonorrhœa.
Adrung.	Stiffness of legs.
Cummaan.	Tetanus.
Goorooz.	
Runduck pith.	Ulcer of back.
Unjun.	Opacity of cornea.
Kaarash.	Itch.
Murghee ka murz.	Fits of an epileptic character.

An affection for which numerous camels have been under treatment, is ulceration of the back, occasioned by neglected abrasions from the saddle.

The treatment consists in the use of the actual cautery in severe cases, which proves the best detergent, a solution of blue stone, or camphorated oil, being used in milder cases, and also removing undermined edges with the knife, and laying open such as are of a fistulous character.

Kaarash or Itch.

This affection shows itself in dark coloured spots over the neck and body. In the treatment a liniment composed of sulphur, marking nut and gingilee oil, with an occasional purgative, proves very efficacious.

Raafa.

The raafa is that large tuberosity on the sternum of the camel, on which it rests when in a *couchant* position. The substance of the raafa is condensed cellular membrane with some cartilaginous matter. It is subject to sloughing ulceration, and deep seated extensive fistulæ occasionally causing the death of the animal.

The native treatment consists of firing, which tends more to aggravate than to assuage the disorder. The inflammation of the raafa is much of the nature of a carbuncle, and incision down to the seat of the affection is the proper treatment, with detergent dressings.

Murghee-ka-Murz.

The murghee-ka-murz is of an epileptic character. The animal being occasionally seized with a convulsive motion of the limbs; the attacks have sometimes regular periodical intervals of two or three days. If standing when attacked it falls down, the neck is drawn backward, the limbs continue to be convulsively agitated, it appears insensible, continues to make a loud guttural sound, and when the fit which lasts about four or five minutes is over, it gets up, and commences eating as if nothing had occurred. The attacks generally come on whilst feeding.

The native treatment consists of firing, and the exhibition of stimulating boluses, but appears to be inert.

Bleeding has been found to check the occurrence of the fits, on one occasion they did not recur for a fortnight afterwards, and on another for twenty days; no opportunity of trying this treatment at an early period of the disease, has however yet occurred, and the case in which it was resorted to terminated fatally, but not during a paroxysm. The animal died apparently from debility.

Inspection of the bodies of two camels which died of this complaint, showed a large quantity of sanguineous watery fluid in the spinal canal; the pressure of which on the cord, is probably the immediate cause of death.

It may be here remarked, that on the dissection of several carcases of camels, cysts in the lungs have been observed, varying from the size of a nut to that of an orange, and containing a transparent fluid. These cysts are very elastic, and when cut into, project the contents to some distance. They are met with in animals out of condition, and although not incompatible with life, are associated with a disordered state of the constitution.

Remarks on bleeding in the Elephant, Camel and Bullock.

The most eligible and appropriate situation for venesection *in the elephant,* is in a large vein behind the ears, where as the skin is thin, the operation can be easily performed, with a two-edged scalpel.

In the camel, venesection is easily performed in the external jugular vein. This vessel, for about eight inches of its course in the upper part of the neck, is very superficial, and being about an inch and a half in diameter, blood can with every facility, be abstracted by means of the common horse fleam. Previously to performing the operation, the animal must be made to assume the "*couchant*" position, its legs are then to be secured to prevent its rising, a rope must also be passed around the lower portion of the neck to impede the flow of blood towards the heart, and to cause the vein to swell.

In the bullock, the external jugular vein, is also the most eligible place for bleeding; but owing to the skin being extremely loose and moveable, it has been found that bleeding horned cattle, is not so easy an operation, as it is in either the elephant or camel. The two-edged scalpel or large abscess lancet is a much more useful instrument than the fleam, and the operator is more certain to succeed if an incision is made in the skin over the vein, before opening the vessel. The operation ought therefore to consist of two stages, the advantage of which is, that if the skin moves, which usually happens, a larger opening being made in it, prevents the wound in the vein from being overlapped.

Camphorated oil, the sulphate of copper in solution, and turpentine more or less diluted, have been found very efficient detergents in foul ulcers; and with respect to purgatives, the extract of aloes has been found to be the best in each description of animal.

For the elephant the average dose is.....℥vi.
the camel.....℥iv.
horned cattle.....℥ii.

Glauber salts in doses of ℥viii. operates as an aperient on horned cattle; but in ℔i. doses, repeated twice or thrice, produced no effect on camels.

REMOUNT DEPOT.

The Remount depôt, though not in the Mysore division, may be included in the topographical account of that territory, being on the same table land five miles from the borders, in the Salem district. It lies 26 miles south-east of Bangalore, and 4 due south of the town of Ossoor. The situation which was originally selected by Major Hunter is particularly healthy, being open and free from jungle and swamps, and having a dry gravelly soil. The ground occupied by the depôt, extends over about 200 acres. The chief cultivation around is dry grain, with some paddy and sugar cane, in the vicinity of tanks. The lines which slope towards a large tank to the north west, are sufficiently extensive for upwards of 1,200 horses, and are easily kept clean and dry. The horses are watered from the tank, and colts from troughs filled from a large well, of which there are a great number, affording an abundant supply of excellent water throughout the year.

The establishment has lately been increased by the addition of a breeding farm; and the breed from the Arab stallion, and the large country mare, is found to be well qualified for cavalry and artillery duties—and in general equal to most of the horses brought for sale by Arab dealers

The stabling and paddocks are in the vicinity, and under the same superintendence. The European establishment consists of an officer of the commissariat department, and two overseers, of the rank of conductors, one of whom superintends the remount, and the other the breeding establishment. The horsekeepers and servants have lines close to their duty, which are kept clean and in good order.

The climate resembles that of Bangalore, and is considered particularly healthy, bracing and exhilirating.

The prevailing diseases are chiefly slight cases of intermittent fever, with a few of the remittent form, the latter occurring usually in May and November; but they are generally very tractable. Cholera is the only epidemic that has shown itself for many years, and that not to any great extent, the average deaths at each visitation, not exceeding sixteen.

There is a medical subordinate attached to the depôt, who attends the public servants at their own houses, there being no hospital. The average daily number of sick is about eight, the numerical strength varying from seven to fourteen hundred.

The horses are in general very healthy, but sometimes in the months of March or April, slight febrile diseases prevail, but seldom prove fatal. No epidemic has ever occurred among them, since the station was first occupied.

There is a party of 25 troopers from the regiment of native cavalry at Bangalore, stationed at the depôt for the purpose of superintending the grooming and *longeing* of horses, and another consisting of 12 sepoys, for the protection of public property.

REMARKS ON THE GENERAL TABLES.

Remarks on the general tables of diseases.

The general tables of disease appended, will shew the nature and amount of sickness and mortality each year, for a period of ten years, from 1829 to 1838 inclusive, both in the European and native soldiery.

That for the European troops gives 163 admissions per cent annually, on the strength, and 1·718 as the average annual per centage of deaths to the sick treated; whilst the per centage of deaths to strength has been 2·803.

In the years 1833 and 1834 these averages were somewhat exceeded, the increase being produced by cholera, dysentery, diarrhœa and fever. In the latter year as has been mentioned, an unusual state of the atmosphere prevailed.

The general abstract table No. 2, which includes all the admissions and deaths during the ten years, shews that a considerable increase of sickness but more especially of mortality, has taken place during the first half yearly period, attributable to the influence of the south west monsoon; at this time febrile disease and bowel complaints become prevalent, and the mortality from the latter, and from cholera, increase the number of deaths in the first half yearly period, nearly one third above that in the second half of the year.

The most numerous diseases have been *fevers* of the various types but especially the *continued, cholera, dysentery, diarrhœa, hepatitis, rheumatism and syphilis;* and the most fatal have been *dysentery, cholera, hepatitis, fevers and affections of the chest.* The per centage of admissions from these diseases to the strength, and of deaths to the sick treated, will be at once seen on reference to the table No. 2.

The tables No. 3 and 4, shew the amount of sickness and mortality amongst the native troops both at head quarters, and at the out stations in the division, for the same period of ten

years. The total number treated has been 46,976, and 991 deaths have occurred from an aggregate strength of 70,016; thus giving 67·093 admissions annually for every 100 men, and 2·109 deaths per cent on the number treated, and 1·415 deaths per cent on the strength.

The number of admissions greatly exceeded the average now stated in 1834, the year of famine, from the prevalence of fever, diarrhœa and dysentery. The mortality was much above the average in 1829, 31, 32 and 1833, occasioned almost exclusively by cholera.

Table No. 4, exhibits a considerable increase of admissions and deaths in the first half yearly period, in the native as well as amongst the European troops, and principally from acute diseases, cholera, diarrhœa, dysentery and fever; the number of deaths during this period, compared with that which occurs in the second half year, being 594 to 397—or fully one third more.

The most numerous admissions have been from *cholera, diarrhœa, dysentery, fevers,* especially of the *intermittent type, ophthalmy, rheumatism, syphilis* and *thoracic complaints;* and the mortality has chiefly resulted from *cholera, diarrhœa, dysentery, fever, thoracic diseases and rheumatism.*

In the larger and more comprehensive tables, No. 5 and 6, for five years, the diseases are classified, as in those given for the preceding divisions, both for European and native sick. The total admissions amongst the European troops amount to 13,498, with 183 deaths, from an aggregate strength of 8,069 men; the per centage of admissions to strength being 167·282, of deaths to sick treated 1·355, and of deaths to strength 2·267; in these respects coinciding closely with the results in the preceding table for ten years.

The corresponding table No. 6, for the native troops, gives 76·552 as the annual number of admissions for every 100 men, and 1·617 deaths per cent on the sick treated, while the per centage of deaths to strength during the same period has

been only 1·237; the total admissions amounting to 27,085, with 438 deaths, from an aggregate strength of 35,381 men.

The tabular statements No. 7, 8, 9 and 10, exhibit at one view the proportion and per centage of admissions and deaths from the most important diseases, and from the principal classes of disease both amongst European and native troops.

In conclusion a few observations relative to the influence of the climate of Mysore on the health of native troops arriving in this division may be given.

It has been observed that native troops are peculiarly liable to fever on their first arrival, and more particularly those coming from the western coast or the Carnatic; For example the 20th N. I. arriving from Cannanore, in 1834—the 27th in the same year, from Palaveram, the 4th N. I. in 1835, and the 32d N. I. in 1836, from Cannanore; all these regiments suffered severely for nearly two years from fever, but when the men became acclimated it almost wholly disappeared. On first arrival the 27th had 637 admissions within six months, and in the second year they fell below one third of that number. On the other hand it has also been observed, that regiments coming from the northward to Bangalore, suffer less severely, e. g. the 38th N. I. from Kamptee, and the 34th N. I. from Secunderabad, in 1838; the returns from these two corps exhibiting but a trifling increase above the average sickness.

The general type of the fever is the quotidian intermittent, the mortality attending it not being above 1¼ per cent. The most severe cases of this form of fever, and a considerable proportion of the remittents, have occurred amongst the detachments sent to Yelwall, and other places,* and in regiments marching. The 32d regiment N. I. passing through the Wynaad jungle in 1837, contracted many bad cases of remittent fever, the mortality in which form of the disease is nearly 4½ per cent on the sick treated.

* A detachment of 20 troopers of 8th Cavalry in 1838 were attacked to a man, another of the 7th Cavalry in 1832, also all suffered at Mysore, and a party of the 27th N. I. in 1834 suffered greatly from remittent fever.

In both forms relapses are frequent, and although the deaths are by no means numerous, yet many of the sepoys become greatly emaciated, and are inefficient as long as they continue in the Mysore province; and even for a considerable time afterwards, it has been observed in many instances, in the regiments above mentioned, that they do not speedly regain their strength. Enlargement of the spleen and dropsy are mentioned by medical officers as frequent sequelæ, diarrhœa also and a state of general debility or permanent atrophy, are not unfrequent.

With regard to the treatment of fever, in intermittents for the most part, after the usual primary means, bark was had recourse to before a cure could be effected, but of late years sulphate of quinine has superseded this medicine. In the remittents depletion has been generally requisite, usually by leeches, but occasionally by the lancet; mercury has been more freely exhibited in this than in the other forms of fever; it has been given along with the antimonial powder or ipecacuanha; in many instances it was necessary to carry it to the extent of salivation before the disease would yield. It is frequently observed in the reports of the medical officers, that after the first few days of treatment, the disease so far yielded as to assume the intermittent form, when the sulphate of quinine has been given with immediate success.

Connected with these effects of climate, the following extracts from the general reports on the health of the troops by the superintending medical officer, are worthy of being recorded.

"In the month of July the sick of the regiment (27th N. I.) amounted to 85, and amongst the families nearly 400 were suffering from fever. The records of admissions clearly proved that almost every man had been admitted twice, and many of them several times with fever; that the first exposure to the night air on guard, or other duty, brought on a relapse, and that during several months the regiment has been nearly non-effective. The state of the regiment was reported to the

officer commanding the division, and it was recommended that the corps should be relieved from all duty for ten days. In seven days the sick in hospital were reduced to 55, and amongst the families a corresponding improvement was obvious, as the several members had not then to go with provisions for the men, who before were on duty in the fort. The benefit of this exemption from duty was so decided, that unsolicited a further exemption was granted, and to this indulgence, may be imputed the restoration of this regiment to its usual proportion of sick; but the fever left many of the men in a sickly and debilitated state."

"The cause of this fever does not appear to be connected with the locality of the lines, for none of the four infantry lines have ever been exempted from fever on the arrival of corps from the Carnatic or a warmer climate; it requires that the men coming from a warmer climate to the Mysore division should have time to be acclimated."

"The 27th N. I. arrived at Bangalore from Palaveram in March 1834; soon after, fever appeared amongst them; a part of the regiment was detached to the French Rocks and Mysore, both of which suffered equally with the head quarters at Bangalore."

"The sickness which has occurred in the 32d N. I., lately arrived and occupying the lines of the 4th N. I. (who had left in a healthy state) may be adduced as another instance of the peculiarity of the constitution of men arriving in this division from the low country, as being unsuited to the Mysore climate, until it has become habituated to it. The fever this corps has suffered from was the bilious remittent or jungle fever; the period for the intermittent form is usually immediately after the first heavy fall of rain."

"The 6th regiment light cavalry arrived at Bangalore on the 31st October last from Trichinopoly, this regiment has hitherto escaped fever, but the change of climate has not failed to develope a state of the system in men unprepared for

the change to a cold climate. The slightest injuries have quickly run into extensive ulceration, whilst nothing of the kind was experienced in the 8th light cavalry which had been some time at the station, although the men were daily receiving kicks and other injuries from the horses." Dated 31st December, 1836.

"The chief mortality occurred in the 32d N. I., which arrived here in January from Cannanore, since which 19 men have died. The sickness which invaded this corps on its march was remittent fever, evidently produced by miasma while passing through the Wynaad jungle ;* some cases of bronchitis also occurred, the result of the great change of temperature to which the men were exposed in ascending the Mysore country, and probably also in part owing to a want of energy in their constitutions from the low diet, the Malabar coast usually affords, consisting chiefly of fish ; the effects of long continued exposure to a moist atmosphere producing a relaxed condition of the system, thereby rendered them less capable of resisting disease."

"That these circumstances have their influence as predisposing causes it is fair to infer, from the comparatively healthy state of the 4th N. I. which proceeded in the same season from hence to Cannanore, without experiencing any particular sickness either on the march, or after its termination." Dated 30th June, 1837.

Rheumatism. *Rheumatism* is of frequent occurrence, and generally very obstinate ; it is occasioned by the coldness of the climate and the sudden changes of temperature. In some cases mercury is beneficial, in others colchicum with opiates ; but in many, nothing short of a change of climate is attended with any permanent good result.

Diarrhœa. *Diarrhœa.* The cases of this affection have generally occurred while regiments have been marching, especial-

* The Wynaad jungle is considered more or less unhealthy or malarious at all seasons of the year ; but the most favorable period for passing through it, is from September till about the middle of February. At the end of the latter month the sickly season sets in ; the most unhealthy or dangerous period throughout the year being considered the months of March, April and May ; and, owing to the excessive rains of June, July and August, the roads during these months may be deemed impracticable.

ly in 1834, during the Coorg campaign, and in 1837 when disturbances arose in Mercara; caused by exposure to cold under canvass.

Cutaneous affections are also very numerous, consequent upon obstructed perspiration, from cold, and want of due attention to cleanliness.

Dracunculus. *Dracunculus* is very uncommon in this country, and of the cases seen in the abstract table No. 4, no fewer than 72 occurred in the 18th regiment N. I. in the first half year of 1838;—this corps had been stationed at Madras during the early part of the previous year, in a locality where the disease is known to exist; and, as the period of time the *Filaria* takes for its developement in the human system, is supposed to be twelve months, it must have entered the bodies of these men whilst stationed at Madras in the months of February, March and April, 1837.

s the general table No. 1, for Europeans, includes the of the Hussars and H. M.'s Infantry regiment, and also H. C.'s Artillery at Bangalore, the following have been ied to exhibit the admissions and deaths in each separate- for the purpose of comparison, as regards the most im- ant diseases. The table for the Hussars comprises a od of nine, and that for H. M.'s Infantry regiment eight plete years, when the same regiment occupied the station ng a period of 12 months; those for the Horse and Foot llery embrace a longer period (11 and 12 years respec- y) in order to obtain larger numbers, and so to exhibit e accurate inferences, the numerical strength not being re 200 men.

No. 11 and 12.	Hussars 1830 to 1838. Strength 5771.		Per centage of sick to strength.	Per centage of deaths to sick treated.	Infantry 1831 to 1838. Strength 5778.		Per centage of sick to strength.	Per centage of deaths to sick treated.
	Ad.	Died.			Ad.	Died.		
.....	1029	9	17· 830	0· 874	1369	16	23· 693	1· 168
.....	76	18	1· 316	23· 684	200	58	3· 461	29· 000
ea.....	90	4	1· 559	4· 444	553	11	9· 570	1· 989
eria acuta.....	909	27	15· 751	2· 970	753	45	13· 032	5· 976
aronica.....	25	0	0· 433	0	16	3	0· 276	18· 750
tis acuta.....	649	35	11· 245	5· 392	474	17	8· 203	3· 586
hronica.....	24	2	0· 415	8· 333	97	5	1· 678	5· 154
hus.....	201	0	3· 482	0	432	1	7· 476	0· 231
is pulmonalis....	8	7	0· 138	87· 500	25	11	0. 432	44· 000
ptysis.....	2	2	0· 034	100· 000	4	0	0· 069	0
nonia.....	168	4	2· 911	2· 380	158	4	2· 734	2· 531
exia.....	12	4	0· 207	33· 333	18	5	0· 311	27· 777
sia.....	35	1	0· 606	2· 857	28	1	0· 484	3· 571
.....	3	0	0· 051	0	10	0	0· 173	0
sis.....	41	5	0· 710	12· 195	21	1	0· 363	4· 761
um tremens.....	32	2	0· 554	6· 250	90	5	1· 557	5· 555
matismus acutus..	319	0	5· 527	0	449	0	7· 770	0
hronicus.....	40	0	0· 693	0	92	1	1· 592	1· 086
diseases.....	6097	29	105· 648	0· 475	5442	21	94· 184	0· 385
Total..	9760	149	169· 121	1· 526	10,231	205	177· 068	2· 003

Hussars, per centage of deaths to strength.....2·581.
H. M.'s Infantry, do. do.....3·547.
Total deaths, per centage to aggregate strength....3·065.

es No. 13 and 14.	H. Artillery 1829 to 1842. Strength 1246.		Per centage of sick to strength.	Per centage of deaths to sick treated.	F. Artillery 1830 to 1841. Strength 1111.		Per centage of sick to strength.	Per centage of deaths to sick treated.
	Ad.	Died.			Ad.	Died.		
s.....	226	0	18· 138	0	190	3	17· 101	1· 578
era.....	6	1	0· 481	16· 666	10	2	0	20· 000
rhœa.....	110	1	8· 828	0· 909	133	2	11· 971	1· 503
nteria acuta.....	78	7	6· 260	8· 974	111	9	9· 991	8· 108
chronica	9	0	0· 722	0	3	0	0· 270	0
titis acuta.....	83	5	6· 661	6· 024	134	2	12· 061	1· 492
chronica.....	16	1	1· 284	6· 250	16	1	1· 440	6· 250
rrhus.....	103	0	8· 266	0	30	1	2· 700	3· 333
hisis pulmonalis....	0	0	0	0	0	0	0	0
moptysis.....	0	0	0	0	0	0	0	0
umonia.....	18	2	1· 444	11· 111	32	0	2· 880	0
oplexia.....	1	1	0· 080	100· 000	4	2	0· 360	50· 000
lepsia.....	1	1	0· 080	100· 000	5	0	0· 450	0
nia.....	1	0	0· 080	0	1	0	0· 090	0
alysis.....	6	0	0· 481	0	3	1	0· 270	33· 333
irium tremens.....	9	1	0· 722	11· 111	26	2	2· 340	7· 692
umatismus acutus..	97	0	7· 784	0	105	0	9· 450	0
chronicus.....	26	0	2· 086	0	27	1	2· 430	3· 703
r diseases.....	1328	3	106· 581	0· 225	1232	0	110· 891	0

rse Artillery, per centage of deaths to strength...1·845.
ot Artillery, do. do.....2·340.
tal deaths, per centage to aggregate strength.....2·078.

MYSORE DIVISION.

No. 15.—*Table exhibiting the sickness and mortality amongst the OFFICERS of H. M.'s regiments (Hussars and Infantry) at Bangalore, during a period of eight years.*

CLASSES	DISEASES.	Hussars 1830 to 1838. Strength 232. Ad.	Hussars Dd.	Infantry 1831 to 1838. Strength 289. Ad.	Infantry Dd.	Aggregate strength 521. Total Admitted.	Total Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers.	Febris intermit.. quotid.....	2	0	11	0	206	1	39 ·539	0 ·485
	„ remittens...	10	0	3	0				
	„ com. cont..	77	0	103	1				
	Cholera..... ..	1	0	5	1	6	1	1 ·151	16 ·666
Diseases of the abdominal viscera.	Diarrhœa	37	0	33	0	350	2	67 ·178	0 ·571
	Dysenteria acuta et chronica.	46	0	21	0				
	Obstipatio.....	41	0	9	0				
	Hœmorrhois....	6	0	7	0				
	Dyspepsia.....	49	0	30	0				
	Icterus..	0	0	2	0				
	Hepatitis.....	33	0	36	2				
Diseases of the lungs.	Catarrhus	70	0	59	0	147	4	28 ·214	2 ·721
	Asthma.....	10	0	0	0				
	Hœmoptysis....	1	1	1	0				
	Pneumonia.....	3	1	2	1				
	Palpitatio.....	0	0	1	1				
Diseases of the brain.	Apoplexia.....	0	0	1	0	9	1	1 ·727	11 ·111
	Epilepsia.....	0	0	0	0				
	Paralysis.....	1	0	2	0				
	Concussio.....	0	0	2	0				
	Delirium Tremens.....	1	0	2	1				
Rheumatic affections.	Rheumatismus	46	0	34	0	80	0	15 ·355	0 ·000
Venereal affections.	Syphilis primitiva.....	12	0	13	0	105	0	20 ·153	0 ·000
	Gonorrhœa.....	19	0	41	0				
	Hernia humoralis.....	2	0	7	0				
	Strictura urethræ.....	4	0	7	0				
Diseases of the eye.	Morbi oculorum	6	0	5	0	11	0	2 ·111	0 ·000
Do. skin.	„ cutis.....	2	0	8	0	10	0	1 ·919	0 ·000
	Other diseases..	159	0	221	1	380	*1	72 ·936	0 ·263
	Total....	638	2	666	8	1304	10	250 ·287	0 ·766

Per centage of deaths to aggregate strength, 1·919.

Hussars, per centage of deaths to strength, 0·862. Infantry, do. 2·768.

* A severe contusion.

MYSORE DIVISION.

No. 16.—*Table exhibiting the sickness and mortality amongst the WOMEN of H M.'s regiments (Hussars and Infantry) at Bangalore, during the same period.*

CLASSES.	DISEASES.	Hussars 1830 to 1838. Strength 846. Ad.	Dd.	Infantry 1831 to 1838. Strength 587. Ad.	Dd.	Aggregate strength 1433. Total Admitted.	Total Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers	Febris int. quot	1	0	4	0	263	6	18 ·353	2 ·281
	„ remittens	14	2	0	0				
	., com cont.	72	0	172	4				
	Cholera	25	5	22	4	47	9	3 ·279	19 ·148
Diseases of the Abdominal viscera	Diarrhœa	4	0	25	0	288	14	20 ·097	4 ·861
	Dysenteria	36	4	66	6				
	Colica	2	0	20	0				
	Dyspepsia	5	0	17	0				
	Obstipatio	5	0	24	0				
	Splenitis	1	0	1	0				
	Enteritis	7	1	3	0				
	Gastritis	3	0	1	0				
	Hepatitis	27	3	41	0				
Diseases of the Lungs	Catarrhus	22	1	28	1	64	4	4 ·466	6 ·250
	Asthma	6	0	0	0				
	Phthisis pulmon	1	1	1	1				
	Pneumonia	3	0	3	0				
Diseases of the Brain	Apoplexia	0	0	2	2	15	5	1 ·046	33 ·333
	Epilepsia	2	0	0	0				
	Paralysis	2	1	3	0				
	Hysteria	1	0	3	0				
	Tetanus	1	1	0	0				
	Delirium Tremens	1	1	0	0				
Eruptive fevers	Variola	1	1	1	0	3	1	0 ·209	33 ·333
	Varicella	1	0	0	0				
	Anasarca	2	1	3	1	5	2	0 ·348	40 ·000
	Rheumatismus	11	1	12	0	23	1	1 ·605	4 ·347
	Febris Puer	1	1	0	0	8	1	0 ·558	12 ·500
	Menorrhogia	1	0	6	0				
	Morbi oculorum	13	0	73	0	86	0	6 ·001	0 ·000
	„ Cutis	1	0	1	0	2	0	0 ·139	0 ·000
	Other diseases	44	2	127	1	171	3	11 ·933	1 ·754
	Total	316	26	659	20	975	46	68 ·039	4 ·717

Per centage of deaths to aggregate strength, 3·210.

Hussars, Per centage of deaths to strength, 3·073. Infantry do. 3·408.

MYSORE DIVISION.

No. 17.—*Table exhibiting the sickness and mortality amongst the CHILDREN of H. M.'s regiments (Hussars and Infantry) at Bangalore, during the same period.*

CLASSES.	DISEASES.	Hussars 1830 to 1838. Strength 1356. Ad.	Dd.	Infantry 1831 to 1838. Strength 1003. Ad.	Dd.	Aggregate strength 2359. Total Admitted.	Total Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers..	Febris intermit. quotid.....	3	0	8	1	767	24	32 ·513	3 ·129
	„ remittens...	35	4	3	0				
	„ com. cont..	509	13	209	6				
	Cholera.....	35	8	17	13	52	21	2 ·204	40 ·384
Diseases of the abdominal viscera.	Diarrhœa.....	45	2	66	8	448	60	18 ·991	13 ·392
	Dysenteria.....	230	23	82	18				
	Marasmus.....	2	2	5	5				
	Colica.....	0	0	12	1				
	Hepatitis.....	3	1	3	0				
Diseases of the lungs.	Cynanche.....	21	2	6	0	349	15	14 ·794	4 ·298
	Catarrhus.....	206	3	106	7				
	Phthisis pulmonalis.....	0	0	1	1				
	Pneumonia.....	3	2	5	0				
	Pertussis.....	0	0	1	0				
Diseases of the brain.	Convulsio.....	32	17	7	6	62	40	2 ·628	64 ·516
	Epilepsia.....	2	1	0	0				
	Hydrocephalus.	0	0	18	14				
	Tetanus.....	0	0	2	2				
	Chorea.....	0	0	1	0				
Eruptive Fevers.	Variola.....	18	2	11	6	289	26	12 ·250	9 ·000
	Varicella.....	29	0	21	0				
	Rubeola.....	117	1	93	17				
	Dentitio.....	46	3	6	3	108	7	4 ·578	6 ·481
	Vermes.....	41	1	15	0				
Diseases of the eye.	Morbi oculorum.	335	0	544	0	879	0	37 ·261	0
Do. skin.	„ cutis.....	196	0	22	0	218	0	9 ·241	0
	Other diseases..	190	0	128	1	318	*1	13 ·480	0 ·314
	Total....	2098	85	1392	109	3490	194	147· ·944	5 ·558

Per centage of deaths to aggregate strength, 8·223.

Hussars, per centage of deaths to strength, 6·268. Infantry, do. 10·867.

* A severe burn.

MYSORE DIVISION.

Table shewing the number of persons successfully vaccinated, from 1829 *to* 1838 *inclusive.*

DISTRICT OR STATIONS.	Class and sex of Patients.						Total vaccinated.		REMARKS.
	Christians.		Hindoos.		Mahomedans.				
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
Bangalore.....	45	35	9,264	7,014	121	88	9,430	7,137	
Seringapatam*..... ..	12	18	429	440	137	114	578	572	*Embraces a period of 2 years viz. 1829 and 1830, at this station.
Mysore Province.....	153	130	27,674	24,200	1,718	1,398	29,545	25,728	
Grand Total..	210	183	37,367	31,654	1,976	1,600	39,553	33,437	

Number of vaccinators employed have been 1st class, 3, and 2d class, 25.

APPENDIX.

List of fruits, grains and vegetables, the produce of the province of Mysore.

CANARESE.	ENGLISH.
Untoo Toghurree.	A species of dholl.
Cumboo.	Cumboo.
Harka.	A species of rye.
Hurry Jolah.	Black Indian corn.
Yennay garroo Jolah.	White do.
Mukkah Jolah.	Yellow do.
Vugaroo Jolah.	Red do.
Samay.	Millet 1st Sort.
Hedgeunnay,	Do. 2nd do.
Navoonay.	Italian panicle.
Hoorooly.	Madras horse gram.
Curray Hoorooly.	Black do.
Hoochelloo.	Oriental sesamum.
Hoochelloo.	Inferior do.
Ullay Suntha.	A species of gram.
Hesroo.	Pigeon, or green gram.
Woothoo.	Variety of do.
Umbuttoo.	Inferior do.
Kuddlay.	Bengal horse gram.
Pullavullic Kubboo.	Varieties of sugar cane.
Rustalie Kubboo.	
Kurrag Kubboo.	
Chitta Busward Kubboo.	
Chagnee Kubboo.	
Murrah Kubboo.	
Chitta Urralloo.	Small castor seed.
Murra Urralloo.	Large do.
Balligunnah Urralloo.	Jungle do.
Sassavay.	Mustard seed.
Lamunchabay.	Smelling, kuskus root.
Koossumnah beezah.	Safflower seed.
Dlmbbah Uvaray.	Red Indian bean.
Ulsee Uvaray.	Creeping do.
Chinnagunnah Uoaray.	Garden do.
Gothee.	Wheat.
Ilpay Urralloo.	Ilpay oil seed.
Vungah Urralloo.	Soap nut.
Bayvinah Urralloo.	Do.
Buddamee.	Country almond.
Sopoo.	Anise seed.
Wovoo.	Bishop's weed, seed.
Gugginee Gudda.	Carrot.

Shavintagahoo.	
Cothamarree beezah.	Coriander seed.
Geerahgah beezah.	Cummin do.
Suppah Uggahaa beezah.	Dill do.
Mentha.	Fenugreek.
Beeloola.	Garlic.
Hussee Soontie.	Green ginger.
Unjoor.	Grapes.
Nimbay Unnoo.	Lemons.
Murgah.	Mint.
Kurrah Koye.	
Nellee Koye.	Country gooseberry.
Erolu.	Onion.
Mensinah Koye.	Chilly.
Ipillee.	Long pepper.
Nagpaullah.	Croton nut.
Ullahdah Unnoo.	Pomegranate fruit.
Kush kuppay.	Poppy heads.
Nagahthallee.	Garden rue.
Cappoor Elley.	Camphor leaf or sage.
Salamisree.	Salep.
Vudjay.	Sweet flag.
Hoonsay Unnoo.	Tamarind.
Kurray Oombuttay.	Stramonium.
Arrsienah.	Turmeric.
Bunghee Sopoo.	Leaves of the hemp.
Veelathellay.	Betel leaf.
Uddikay.	Betel nut.
Sunnaboo.	Hemp.
Boothe Koombleekaie.	Common pumpkin.
Koomblee Kaie.	Sweet, or red pumpkin.
Butthenee Kaie.	Brinjal.
Ahgullah Kaie.	Bitter cucumber.
Sorah kaie.	Pumpkin, wild.
Goree kaie.	Long fruit.
Benda kaie.	Hibiscus esculentus.
Puddavullah Kaie.	Snake gourd.
Noghee Kaie.	Horse radish.
Ugheessee Kaie.	Gourd.
Southa Kaie.	Cucumber.
Ghennoosoo Gudda.	Sweet potatoes.
Hoorloo Gudda.	Round potatoes.
Udwee Ghennoosoo.	Yam.
Mahvinah Unnoo.	Mangoe.
Balay Unnoo.	Plantain.
Kittellee Unnoo.	Orange.

Chekatha.	Pumplemose.
Thaingheenee Kaie.	Cocoanut.
Moollinghee.	Radish.
Kuddlae Kaie.	Earth nuts.
Thoopathaheera Kaie.	
Nusgoonie Kaie.	Cowitch.
Puttannee.	Peas.
Cuntha Ghedday.	Country yam.
Unnoo Ulsoo.	Pine apple.
Punnareloo Unnoo.	
Sabee Unnoo.	Guava.
Billvapathee Unnoo.	Billumby.
Cumblie Unnoo.	Mulberry.
Echulloo Unnoo.	Date.
Jumboo Narralie Unnoo.	Rose apple.
Kull Ungadie.	Common melon.
Gaie Beezah.	Cashoo nut.
Ullsanah Unnoo.	Jack fruit.
Elcha Unoo.	A species of blackberry.
Pekun Koye.	Acute angled cucumber.
Kurbooze.	Water melon.
Purringhee Unnoo.	Pappaie fruit.
Seethapulloo Unnoo.	Custard apple.
Ram pulloo.	Bullocks heart.
Bellada Unnoo.	Wood apple.
Shendah.	Toddy.
Googullah.	Bdellium.
Aseem.	Opium.
Hiudlay.	Cotton.
Hogay Suppoo.	Tobacco.
Boondoo Beeza.	Coffee.

Table shewing the seasons in which several of the crops are sown and reaped.

Names of Grain.	Months in which the seed is sown.	Harvest months.
Arakee	August	Dec. and Jan.
Bengal Gram	November	March
Black Gram	June	November
Buller	August	February
Burragay	October	December
Chillies	October	December
Cotton	November	April
Cummin seed	Jan. and Feb.	Feb. & March
Gingely Oil	March	September
Ginger	May	October
Green Gram	June	November
Hemp	July and Aug.	Dec. and Jan.
Horse Gram	Sept. and Oct.	Feb. & March
Jonnooloo red	June	November
Do. white	October	March
Mustard	August	October
Navoonnay	July and Aug.	Dec. and Jan.
Oil Nuts	do.	March
Paddy	June and July	Nov. and Dec.
Do. watered	July and Aug.	Nov. Dec. Jan. and Feb.
Ragghy	do.	Dec. and Jan.
Red Gram	June and July	do.
Saumay	October	February
Sugar Cane	March & April	March & April
Sudjay	July and Aug.	Dec. and July
Tobacco	August	March
Do. watered from wells	Jan. and Feb.	June and July
Turmeric	May	October
Wheat	October	March