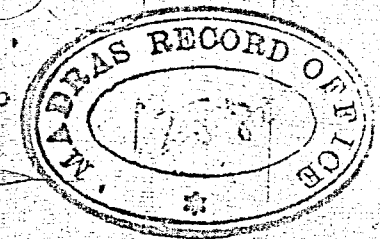


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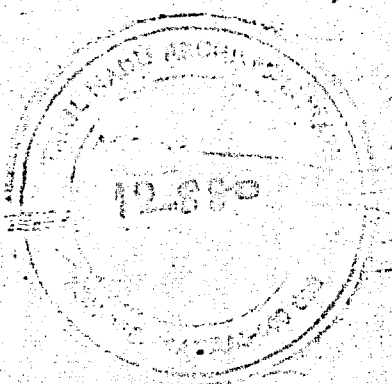
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P R E F A C E.

THE Publisher of the Madras New Almanac, in presenting a fifth volume of the work to the public, feels himself almost relieved from the obligation of saying any thing by way of preface, consequent on the favourable reception which its predecessors have met with from a candid and liberal public. Lest however his silence should be misconstrued, he would not send forth his Annual for 1841 without submitting a few introductory remarks.

The present volume contains, not only the local and other information usually introduced into a work of this description, but also much interesting and useful original matter. The topographical account of the Island of Ramisseram by J. Kellie, Esq. Assistant Surgeon, the Memoir of Cochin by Lieut. Horsley of the Madras Engineers, Notes on the Neilgherries by R. Baikie, Esq. M. D., and the remarks of Lieut. H. P. White on the Southern Mahratta Doab, are not only well worthy of attention, but possess characteristics which cannot fail to recommend them to the approbation of all who feel anxious to extend and generalize their knowledge.

To these Gentlemen, the Publisher begs to express his grateful acknowledgments; being persuaded that the work is intrinsically bettered by their excellent communications, which must enhance its value in the judgment of every enlightened reader.

The article on China is taken from a work published by the Rev. Mr. Medhurst, whose long residence in that country, thorough knowledge of the Chinese language, frequent and familiar intercourse with the inhabitants, and acknowledged qualifications as a writer, are sufficient warrants for the correctness of his statements. The sketch of Chinese Chronology, we trust, will be acceptable to our readers.

The Toxicological chart, on Mineral, Vegetable, and Animal poisons, is a masterly exhibition of all the discoveries that have been made on these important and interesting subjects.

With regard to the other parts of the work, it is not necessary that the Publisher should offer any remarks. He would however express his regret for the want of arrangement which occurs in one or two places, owing to the late period at which some of the matter was received. Thus, the MILITARY SALARIES &c. from page 320 to page 339, should have been placed immediately after the SCALE OF PENSIONS TO WIDOWS OF SOLDIERS at page 190. There is also some irregularity in the paging, which in a work of the kind, is unavoidable; as correct calculations of the exact number of pages that each particular department will occupy, cannot always be made. But these are defects, which, it may safely be hoped, will not lessen the amount of patronage which the work has hitherto enjoyed, more especially as the Publisher has reduced its price from *ten and a half* to *eight* rupees.

ATHENÆUM PRESS, Dec. 31, 1840.

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PART I.

Agriculture and Horticulture.

Hints on the Theory and Practice of Gardening ; Agricultural and Horticultural Society of Madras ; An Outline of the first Principles of Horticulture ; Gardener's Calendar ; Treatise on the Culture of several Plants, viz. the Red Rose, the Strawberry, the Brazil Gooseberry, the Peach, the Mango, the Grape Vine, and Bourbon Cotton.

Hints on the Theory and Practice of Gardening.

A plant is a living being, like an animal requiring, for its continued existence, a constant supply of suitable nourishment, which it obtains by absorption from the soil in which it grows. This is effected through the pores or spongioles of the newly formed fibrous roots, which often extend to a great distance round the base of the stem, occupying a greater circle even than the branches. These pores are only permeable by fluid or gaseous matter, and nourishment must be presented in one of these forms before it can be admitted: to obtain therefore a small quantity of nourishment, a very large quantity of water must be absorbed.

Under the stimulus communicated by exposure to light and heat, the superfluous water thus introduced, is partly thrown off again, in form of perspiration, partly decomposed and converted to nourishment by the leaves, which, at the same time, by their vital powers, aided by the action of light, separate and assimilate the nutritious matters held in solution by the water, forming from them, the proper sap, whence all the various products of vegetation is derived.

While the functions of nutrition and exhalation balance each other, the health of the plant is preserved; if they become deranged, so that either is in excess, disease or modification of form results. On these few and simple facts nearly the whole of the complex system of Horticulture may be said to rest. If it is our object to obtain succulent vegetables, we excite great luxuriance of vegetation by planting in a light rich soil easily permeable by the most delicate fibrils of the root, which, only, are furnished with absorbing pores, and give abundance of water or liquid manure, not confined to the foot of the stem only, but spread over a considerable surface, so as to make sure of supplying even the most remote spongioles with fluid. By this arrangement and free exposure to light, the leaves and stalks are greatly developed, and enabled to assimilate or throw off in form of perspiration the whole of the excess of moisture thus absorbed. But in a like proportion, the production of flowers and fruit is prevented, as those buds, which otherwise would have been developed as flowers, are liable to push into leaves and branches. An opposite plan of treatment;—planting in a light poorish soil and giving little water, by diminishing luxuriance, has a tendency to produce an accumulation of nutritious sap, a deposition of wood, and in due season the free development of flower buds and fruit. Plants cultivated for their succulent leaves, such as all oleraceous vegetables, therefore, require the one method of treatment, those intended to supply flowers or fruit the other.

The equilibrium between absorption and exhalation may be temporarily greatly disturbed, without injury to the health of the plant, by changes in the state of the air: a dry warm atmosphere or windy weather producing copious perspiration, a humid and still one diminishing it. A knowledge of this fact is of great importance in transplanting, the success or failure of which often depends on attention to it.

HEAT. The effect of high temperature, the greatest enemy the horticulturist has to encounter in this country, requires to be more fully considered.

The extremes of temperature which plants are capable of bearing without destruction of vitality, has not been accurately ascertained, but it is known, some seeds may be boiled and still vegetate; and some plants are found to endure the most intense cold known on the earth. Sir John Herschel observed the temperature of the soil of his bulb garden at the Cape, 159° Fahr. between 1 and 2 p. m. and found a seedling fir, of the years planting, quite healthy, while a thermometer buried four inches deep in contact with it, marked one day, (3d December) successively, between the hours of 11½ A. M. and 3 P. M.—148.2°—149.5°—149.8°—150.8° and 148°.

In India, so far as we have been able to ascertain, no similar set of observations has been made, but there is reason to infer, from known data, that when the subject is more attended to in India, the heat of the soil, during our hot weather, will be found much higher than either of these observations indicate. We know, for example, that we never can get cabbages, cauliflowers, knoll-kolls, &c. to flower in the Carnatic, while at the Cape the saving of seed of these plants, as an article of trade, is constantly practised. Dr. Coulter mentions, that in South America, he had observed the temperature as high as 140°, but the circumstances in which the thermometer was placed is not mentioned, which leaves room to suspect the experiment was imperfectly conducted, as Mr. Foggo, of Edinburgh, succeeded in obtaining in July, at that place, with a large thermometer, having the ball covered with black wool, an indication of 150°. In India, it is probable a thermometer so prepared, or the ball simply blackened by being smeared over with a mixture of gum, and lamp black, and suspended fully exposed to the sun's rays, would, at some seasons, indicate as a common occurrence a temperature perhaps a little short of 200°. At this season, (December) it rises to 130°.

In repeating such observations it is desirable that treble sets of experiments should be made: one with the instrument freely suspended, to mark the temperature of the air, another having it simply in contact with the ground, to show to what extent the surface accumulates heat from absorption of the sun's rays, and the third set at 1 and 2 feet deep, to ascertain the mean temperature at the depth to which roots usually extend. In the second set the thermometer should not be placed in herbage, as Mr. Foggo found another thermometer similarly prepared but resting on herbage indicate only 119°.

These observations are introduced here in the hope that many brother Horticultural Amateurs will be induced to repeat them and publish the results. There are no want of registers of the thermometer in India, but not a single observation, neither on the temperature of the soil, nor on the intensity of the sun's rays as received on the blackened ball of the thermometer, do we find any where recorded, though of such vast importance to the Horticulturist.

The first effect of heat on a plant, which has for some time had vegetation checked by exposure to cold, is to expand the air contained in its cells: its fluids become thinner, the excitability of its tissue is aroused, and perspiration commences, the effect of which is to bring into play the absorbing power of the root and thus set the whole machinery of vegetation in action. The degree of heat which different plants can sustain is very different: those of tropical countries require a temperature that would kill those of Europe, and when removed there soon perish from cold, even in the warmest weather, if exposed to the open air. When the temperature is permanently too high for a plant, it is over excited: if the atmosphere is at the same time moist its tissues grow faster than the vital

forces of the plant are capable of solidifying them, its excitability is expended, the vital functions are deranged and a state of debility is brought on. Such plants are soft and watery, with thin leaves and with no disposition to produce flowers; as light lowering of temperature, in this enfeebled state affects them more than in other circumstances, and the abstraction of light rapidly destroys them. But if the atmosphere is dry and the loss of fluid by perspiration is greater than can be made good by the roots, the secretions are elaborated faster than the parts to receive them can be formed, the old leaves dry and the young ones perish as fast as they are formed. From these statements, it appears, that high temperature with moisture, leads to the production of leaves and branches only, while with dryness, within certain limits, it is favourable to the formation of all kinds of secretions.

The effect of cold is to increase their excitability, that is, it renders them more susceptible of being acted on by the stimulus of heat. Heat by its stimulus diminishes excitability, and if long continued would exhaust it altogether. Nature provides against this result by the periodical fluctuations of light and heat of the day and night. During the day every part of the plant is strongly excited, and its powers of evaporation and assimilation most energetic. As evening advances and the stimulus of light and heat is withdrawn, the excitement subsides and reaches its minimum during the night. Plants therefore, like animals, have their diurnal seasons of action and repose. During the day their system is exhausted of fluid by exhalation of aqueous fluid, and during the night, when perspiration ceases, the waste is made good through absorption by the roots.

The alteration of seasons seems intended to produce the like effects in a more extended manner. This is very evident in the temperate zones, where the cold of winter arrests vegetation for months together, and renders the plant so excitable that the rise of a few degrees of temperature in spring at once excites active vegetation.* It is much less so between the tropics, but here also it is observable, as indicated by the fall of the leaf of some trees and the nearly total arrest of vegetation in most, during some part of the hot season.

This wonderful similarity of effects in living beings, originating in the action of opposite extremes of the same cause (heat) has not received the attention which it seems to merit from philosophers, and no satisfactory explanation has yet been given of it. Before indeed any explanation can be given, it is indispensably necessary that our observations, on the proportion usually borne to each other, by the temperatures of the earth and atmosphere, should be more perfect, for, considering the great importance of heat in the economy of plants this knowledge is, for the purposes of gardening, of the greatest consequence.

From observations made in Europe, it has been attempted to deduce the relative temperatures of the air and earth within the tropics. Thus it is ascertained, that in England the mean temperature of the earth is between two and three degrees higher than that of the air, the same ratio will probably be found to hold good in India. This inference is confirmed by one set of observations in New Grenada, the mean temperature of the air of which for the warmest month is about 84½ while that of the earth, at one foot below the surface is 85° during summer. According to this ratio, the temperature of the earth at Madras, during the months of November, December, January, February and March,

* To this state of increased excitability is owing the injurious effects which often result from exposing young and tender plants to the rays of the morning sun.

should be between $79\frac{1}{2}$ and 81° : that of the valley of the Thames in July, one foot below the surface, has been found to be only 64.81° . So great an excess of bottom heat must exert a very injurious influence on plants fitted for the lower temperature, by over stimulating and exhausting their excitability, enfeebling their powers and thereby incapacitating them adequately to perform the functions of assimilation by which their food is converted into suitable nourishment. Is it possible in any way, so far to obviate these injurious effects of excessive heat as to enable us to cultivate plants of colder climates in warm countries?

This is an interesting question to the tropical horticulturist, but cannot, we believe, in the present state of our knowledge receive a satisfactory answer. If with the view of affording plants of colder countries a lower temperature, we cultivate them under shade, we deprive them of light, the agent by the aid of which the vital forces of vegetation are enabled to decompose the water and carbonic acid, by which they are nourished, and carbon in a solid state formed. The quantity of carbonic acid decomposed being in proportion to the quantity of light which strikes the leaf, and the healthiness in proportion to the quantity decomposed, the healthiness should be in proportion to the quantity of light it received by day. This fact goes far to prove that we err when we endeavour to obtain a cooler climate by shading the whole plant, thereby depriving it of the light by the action of which it is enabled to assimilate its juices, in place of the soil only, a view which seems further confirmed by the result of Mr. Foggo's experiment of placing the thermometer on a grass plot, the evaporation from which reduced the temperature 30 degrees. For this reason it seems probable, we shall succeed better, in raising early crops, by shading the soil and keeping it cool, while by liberal watering, we furnish a constant supply of moisture both for evaporation from the soil and for free perspiration by which the plant keeps down its own temperature.

The correctness of this inference was in some measure proved last season in the Madras Horticultural Society's Garden, the finest beet root of the season being raised in beds covered some inches thick with sand, which seemed to have the effect of preventing hardening from too copious evaporation, and preserving the soil below always cool and moist, though comparatively sparingly watered. On this principle it seems not improbable, the true cause of the vigour and luxuriance of melon plants in the hottest seasons, may be partly attributed to their abundant foliage, which, forming a dense shade, preserves the soil cool, whilst the copious evaporation from their large leaves by keeping them cool, counteracts the heat of the solar rays to which they are exposed. Last hot season some beds were planted with the sweet potatoe, the procumbent stems of which rapidly covered the soil as with a carpet: from that time they continued to grow luxuriantly through the whole season, without requiring a drop of water, apparently from the same cause, as the soil under them was kept moist, and found several degrees cooler than that shaded by trees.

The effect of high temperature on a plant is to stimulate and exhaust its excitability, and enfeeble its powers of assimilation: the primary object in Indian horticulture is to prevent these effects by artificial means. At the present season (December 1840), observations made during fine clear weather with bright sun shine show that the thermometer, suspended in the open air and freely exposed to the sun, indicates at sun rise a temperature of about 70, and at 2 p. m. from 120 to 130—(at that high degree it is very unsteady) or a range of from 40 to 50 degrees in eight hours. The heat of the surface of the earth it is probable exceeds even the higher indication. The temperature of the air fluctuates rapid-

ly, and it is probable that in immediate contact with a healthy plant the temperature never exceeds 90° . Not so the soil. It absorbs heat and parts with it very slowly, thereby maintaining a constant high temperature about the roots, keeping up night and day the stimulus and excitement by which the plant is enfeebled. The object of our recommendation is to prevent this accumulation of heat about the roots, and allow plants to enjoy a more perfect period of rest during the night.

We have extended these observations on heat far beyond the limits our space properly permits, in the hope of directing more attention, than has hitherto been bestowed, to the management of this most important agent in all horticultural operations.

Moisture of the soil and watering.

Water is one of the most important elements of the food of plants, partly from their having the power of decomposing it and appropriating its elements to their support, and partly as being the vehicle by which the soluble matters found in the earth are conveyed into the general system of the vegetables.

Plants will not live in soils nearly dry, and excess of water is in many cases injurious to them: it is therefore a nice point in horticulture to ascertain the amount most congenial to the species under cultivation. To determine this point, in tropical horticulture, is one of the greatest importance, and one which must engage much of the attention of every one who would attain perfection in the art. The native practice in the cultivation of nearly all garden produce is to water very liberally, by deluging the ground at least once every day with water. The propriety of this practice we have often heard questioned, but, notwithstanding, it is generally adopted. We should feel happy indeed could we lay down precise rules to guide our readers in this matter, and still happier could we feel justified in stating that, in the native practice, it is used greatly in excess, as irrigation is unquestionably by far the most troublesome and expensive division of Indian Horticulture. That it is often used in excess we are almost certain, that it is often employed injudiciously is about equally certain, but that copious supplies are absolutely necessary in the culture of extra tropical plants is quite indubitable, and must be given to ensure success. We have already shown that the effect of high temperature is to produce very copious perspiration from the surface of the leaves, that during dry warm weather, the fluids are daily exhausted by exhalation, and replenished again by absorption during the night. To provide for this daily waste a moist soil is indispensable, and the lighter and more porous the soil the easier it is kept moist. This is easily explained: soils containing quantities of clay, after a few waterings become puddled on the surface, and quite impervious to water, so that the descent of it to the roots is prevented, and the plants suffer from want of water even when liberally watered every day. Sand is, perhaps, generally speaking, the best remedy for such soils, and is most easily applied by being spread over the roots, as it there performs the double function of keeping the soil below cool, and acting as an excellent conductor to the water. If we do not make sure, by occasional examination of the soil, that the water really does get to the roots by free percolation, we labour in vain in covering our beds daily with water, and if it does pass freely and the soil is shaded, daily watering is not required, except for very young plants, as at that age the perspiration is much more rapid than in older ones, and the absorbing surface of the roots smaller.

Carrots, turnips, beetroots, knoll-kolls and cabbages should have a light soil, through which both the delicate roots and water, can pass

freely. They should be sown and planted in rows* the soil between which is kept loose and permeable to water, and at the same time cool, by being covered with sand or some kind of litter. Thus managed it will never puddle and less than half the quantity of water will suffice, as much evaporation from the soil and the great accumulation of heat, which renders copious watering so indispensably necessary, will thereby be prevented. In Spain and Italy, it is much the practice thus to protect the soil from the heat of the sun.

Mildew, which is often produced by dry air acting on delicate vegetable tissue, is prevented in annuals by abundant watering. Mr. Knight applied this fact to the securing late autumnal crops of Peas. Evaporation both from the soil and leaves is much augmented in windy weather, wind having the effect of increasing the dryness of the air. During the prevalence of such weather, therefore, the supplies of water ought to be more liberal, and gardens ought, if possible, to be invariably sheltered by high hedges, as well as traversed with lower ones, or with trees trained on ornamental trellises, as without such protection it is almost impossible to make annuals and young trees thrive in such weather. And in such seasons peas are peculiarly liable to mildew, so much so, that in some inland stations, where the air is very dry, it is almost impossible to procure a dish of peas, even during the cool season, in clear dry weather. Liberal watering, covering the soils between the rows, and sowing in well sheltered situations would probably obviate this tendency to that disease. While copious moisture is thus indispensable to plants in this hot climate, stagnation of water about the roots is generally injurious, and requires to be prevented by deep digging, and when that is procurable a light absorbent subsoil.

While treating of moisture it may be well to observe that in seed sowing the soil should be merely moist, just so much water as the particles of earth can retain around and among them by the mere force of attraction. In this country therefore pots or boxes in which seed are sown, should be filled with light soil easily percolated by water, placed in well sheltered situations and covered to prevent, as much as possible, the rapid evaporation caused by our warm and dry climate. Irregular variations of heat, light and moisture, by which the process of germination is sometimes accelerated, sometimes retarded, should be particularly guarded against, as such irregularities are apt to destroy the young plant. In sowing seed of plants of cold climates, in this country, the temperature is generally higher than what is considered most advantageous in Europe, and probably leads to the loss of many, which either do not germinate or the young plants soon after die. An instance of this kind was lately communicated to us. Two parcels of Mignonette seed, one direct from Europe, the other saved in Bangalore, were sown at the same time. They both vegetated equally favourably, but the former all died off a few days after they appeared above ground, the latter still survive and are vigorous healthy plants. We have heard it asserted that the idea of acclimating either plants or animals is visionary, this case seems to lead to an opposite conclusion. Lettuce, turnip and carrot seed, saved in Madras, were sown on the Neelgherries and were found to answer much better and produce much finer plants than those raised from English seed, other portions of the same seed sown in Madras are doing well here, though they come far short of the Neelgherry result. Turnip and carrot seed saved at Hyderabad are

* Turnips and Carrots often succeed well, sown broadcast, apparently because the leaves by shading the ground about them keep the beds cool. But they then labour under the disadvantage of being too thickly set.

found to answer better in Madras than those from Europe or the Cape. These few facts seem to lead to an opposite conclusion, and go far to prove that if Horticultural was more systematically pursued in this country much might be done towards acclimating northern plants.

PROPAGATION OF PLANTS. On this useful branch of horticulture much has been written, and many methods are in daily practice besides the one just mentioned by seed,—such as by budding, grafting, eyes, cuttings, layers, &c. nearly all these are pretty well understood in this country, and more or less practised, though probably not so much as they might be. The extreme heat and dryness of the climate during a great part of the year are however greatly against most of them as practised in Europe.

On each of these various methods it is not our intention on the present occasion to dwell, though some of them merit attention, but shall confine our observations to cuttings, which being easily practised is much employed among us, though with less success in many cases than we should experience if well conducted. Of this operation it is remarked, the constitutional differences among plants is so great that some species will strike without any difficulty under almost any circumstances, while there are others which no art has yet succeeded in converting into plants. And it is by no means uncommon to find that, out of a potful of cuttings of the same species apparently all alike, and treated in exactly the same way, one will grow and all the rest fail. From this it is inferred that the principles of striking cuttings are still imperfectly understood, and that this is one of the points of horticulture in which there is the greatest room for improvement.

The point requiring most attention in this operation is, to take the cuttings from well ripened wood, if possible during the season of rest, after the formation of its annual ring of wood and ripening its annual crop of seed or fruit. Such cuttings cut square off, set in small pots with the end resting against the bottom, in light soil, consisting of a large proportion of sand mixed with vegetable earth slightly moist, and kept in a cool rather dark place under a glass frame, to maintain an equally humid atmosphere until they begin to shoot, are placed in the most favourable circumstances for propagation. Provided the cutting continues to live, it is an advantage its not immediately beginning to shoot, and only one bud should be allowed to grow. It is of importance that the end of the cutting should be cut parallel to, and touch the bottom of the pot: the lemon and orange and many other plants, which without this precaution do not strike willingly, will readily do so when this is attended to. The object of it is to prevent the cutting absorbing water, too rapidly, before it is possessed of the necessary apparatus of leaves, to throw it off by perspiration. An ingenious plan was invented by Mr. Forsyth, to answer this purpose rather more perfectly. "He puts a small pot into one of larger size, having first closed the bottom of the former with clay; then having filled the bottom of the outer pot with corks, he fills up the sides with propagating soil in which the cuttings are so placed that their root ends (cut to the proper angle) rest against the sides of the inner pot, the latter is then filled with water which passes very slowly through the sides until it reaches the cuttings" (*Gardener's Magazine*). "In many cases, especially in striking such plants as heaths, gardeners employ a stratum of silver sand, placed immediately over the earth in which such plants love to grow; the cuttings are inserted into the sand but so near the earth, that the roots, presently after the emission, find themselves in it and in contact with a source of food. This sand answers the same purpose as placing the root end of the cutting in contact with the

"It is by paying constant attention to the shifting of the growing plant, by the employment of a very rich stimulating soil, and by a thorough knowledge of the kind of atmosphere which suits them best, that have been obtained those magnificent pelargoniums, cockscombs, balsams, and similar flowers, which have so often and so justly excited the admiration of even the most experienced gardener."

TRANSPLANTING.—The art of transplanting is among the most important business of the gardener, but the principles on which its success or failure depends, seem but imperfectly understood. Hence the discordance of opinion existing among writers on the subject. The following aphorisms from Lindley's first principles Nos. 40, 41 and 42, will explain in very few words what these principles are.

"40. Plants have the power of replacing spongioles by the formation of new ones so that an individual is not destroyed by their loss.

"41. But this power depends on the co-operation of the atmosphere and upon the vital powers of the species.

"42. If the atmosphere is so humid as to hinder evaporation, spongioles will have time to form anew, but if the atmosphere is dry, the loss by evaporation will be so much greater than can be supplied by the injured roots that, the whole system will be emptied of fluid before the new spongioles can form."

In these three propositions we have the key to this useful branch of the art. When a plant is taken out of the ground many of its roots are necessarily injured, and the remainder are less able to support the stem than before. This diminution of power will be in proportion to the degree of mutilation of the roots.

We have remarked above that plants have seasons of repose or inaction, and seasons of growth and activity. During the former of these, which usually happens in this country after the maturation of the annual crop of fruit, the demand on the roots is small, the fluids being stagnant, compared to what it is during the season of action when new leaves and shoots are forming, the flow of sap rapid and perspiration copious. The season for transplanting therefore is during the period of rest, as time is thereby allowed to form new roots and spongioles before that growth returns. For these reasons the best season for transplanting in Europe is immediately after the fall of the leaf, or in ever greens, during wet weather, late in autumn or the beginning of winter. In this country these changes are not so well marked, as most of our trees are ever greens and vegetation is always in progress, but by attending to the criterion furnished by the ripening of fruit we shall not greatly err. In Europe, damp or rainy weather is always considered advantageous, as the perspiration from the bark of deciduous trees and from the leaves of ever greens is then least.

In this part of India unfortunately we are seldom favored with such weather during the season of rest and cannot wait for it, as a fall of rain is almost immediately followed by a renewal of growth. The most favorable time, therefore, for transplanting, is in still cloudy weather, and the plants transplanted should be immediately sheltered from wind by being hedged in with bushes and shaded, to break the force of the wind and cut off the stimulating influence of the sun's rays. Still further to enable the mutilated roots to furnish the fluids required to counteract the effects of too free perspiration, the ground should be previously thoroughly soaked with water.

Next in importance to selecting a fitting season is the preservation of the roots of transplanted trees. Too much care cannot be bestowed on this division of the operation, as the former is of little consequence if the latter is neglected. Every minute fibre of the roots should if possible be saved, as it is by them alone that nourishment is taken up and as they are mostly produced at the circumference of the circle formed by the roots, the earth should be removed at some distance from the tree so as to ensure as many as possible being taken up entire. A convenient method of procuring a large supply of young fibres near the base of the stem is, either to dig a trench round the tree some months before removal by which all the principal roots are cut across, or to cut back the principal limbs, the extremities of which will emit abundance of fibres, which can then be removed uninjured in a moderate ball of earth. As the large roots when torn and bruised in the operation, are apt to lose their vitality and decay, and become the seat of disease that may ultimately destroy the tree, they should all be cut clean off when the wound will heal kindly.

These remarks are applicable to the transplanting of trees or shrubs: the same principles apply to the transplanting of succulent vegetables, which are usually transplanted two or three times to force them to throw out large quantities of fibrous roots and thereby augment their absorbing power.

In transplanting from pots or boxes into the open ground, for early crops of vegetables, the plot ought to be prepared for their reception by being first thoroughly moistened and cooled, which is effected by copiously flooding it daily, for two or three days before, and shading during the heat of the day, the same as if the plants were already there.

The practice of pruning trees when transplanted is one of doubtful propriety except to a limited extent. The reason of this is that the formation of roots depends on the healthy action of the leaves, and the renovation of the injured ones will be only in proportion to the healthy action of leaves and buds, their removal therefore is opposing an obstacle to this renovation. The danger to be feared is that the perspiration of the leaves may exhaust the fluids faster than the roots can replace them. In such cases pruning is necessary, but should be sparingly practised and if transplanting has been well performed will not be required.

ON THE SAVING OF SEED AND ACCLIMATING PLANTS.—We mentioned above that some kinds of seed, saved in this country, give more certain and better crops than that brought from Europe, even though the latter was ascertained to be of good quality by the freedom with which it vegetated. This fact renders it desirable that attempts should unceasingly be made to procure Indian raised seed for use in India, as success in this operation holds out the only prospect of obtaining the long sought desideratum—constant supplies of good table vegetables. We also mentioned above, that to make plants flower and produce fruit it is requisite to store their systems with well digested nutritious juices: to effect this we must reduce their luxuriance by stinting their supplies of water, and giving them a poorer soil to grow in.

Any attempts to procure seed from European plants in this country, must be conducted on these principles, and with much care, as we have in almost, if not actually, insurmountable barrier to overcome in the heat of the climate, which, though it may not be such, as to prevent the plant arriving at perfection as a succulent vegetable, yet may altogether prevent its showing flower or maturing fruit. Such has hitherto been

the case with our knoll-kolls, cabbages, cauliflowers, celery, &c. though all seed freely on the Neilgherries. Not so however at Bangalore, the mean temperature of which is much below that of Madras. The failure at Bangalore is probably owing to imperfect management, and may ultimately be overcome, but until success has crowned their efforts and we are enabled to work with seed raised in that comparatively warm climate, we can scarcely hope for success in the Carnatic, though that ought not to be a bar to our trying. With this view we would recommend, as the most probable method of attaining success that some of the best cabbages, knoll-kolls, &c. be transplanted into pots filled with soil composed of two parts sand, one part red loam, and one part vegetable mould, and for some time watered with liquid manure, prepared by steeping dung in water, until they have recovered from the operation of transplanting. These should then be allowed to rest through the hot season, merely giving water enough to keep them alive until Oct. They might then be planted out and liberally watered for a few times with liquid manure, until they show signs of throwing up a flower stalk; when their supplies ought to be diminished, themselves protected from the monsoon rains, and the seed ripened in the course of the cool season. It seems probable that many failures, even in Bangalore, must be submitted to, before we obtain good seed; but the object is well worth the trouble, and it seems even probable, that if we bring the subject to the notice of European gardeners they could lend us very important assistance by obtaining seed from the warmer countries of Europe, and growing a few plants raised from them in their hot houses, until they have ascertained that under the skilful management of the English gardener these plants can be made to produce seed in a tropical temperature, when we, whatever might have been the amount of previous discouragement would probably resume our experiments with renewed energy determined to succeed as well as they.

Here we bring our hints to a close: not however without expressing the hope that they may prove useful to a few at least of our readers, and that some of these may be induced to favour us with communications explanatory of the results of their experiments, the better to enable us to correct, in future editions, any errors into which we may have fallen in this. Before finally concluding, we think it necessary to state, that nearly the whole matter of these hints is derived from the work several times referred to in the course of them: namely, 'LINDLEY'S THEORY OF HORTICULTURE,' the object of which is to explain on Physiological principles, the principal operations of gardening,—a work of sterling merit, and as being the only one in which a lucid explanation of the principles of gardening is to be found, one, which we would strongly recommend to the special attention of all those desirous of becoming acquainted with the Philosophy of Horticulture, unencumbered with the verbose details of practise, too often erroneous, which constitute the bulk of most of the existing works on gardening.

For those desirous of obtaining practical details, applicable to Indian Horticulture, we would strongly recommend Mr. Speed's Handbook of gardening, recently published in Calcutta, and so favourably received there; that the first edition was exhausted in a few weeks. The printing of a second edition, with many improvements, we are happy to add, is already far advanced, and will, we believe, be published nearly as soon as these Hints.

THE AGRICULTURAL AND HORTICULTURAL SOCIETY OF MADRAS.

ESTABLISHED ON THE 15TH JULY, 1835.

PATRON.

The Right Honorable Lord Elphinstone.

VICE PATRONS.

His Highness the Nabob | Sir R. B. Comyn, Kt.

PRESIDENT.

The Hon. Sir E. J. Gambier, Kt.

VICE PRESIDENTS.

His Excellency Lt. Genl. Sir Samuel Ford Whittingham, K. C. B. and K. C. H. Commander-in-Chief. | Maj. Genl. Sir R. Dick, K. C. B. & K. C. H. The Hon. J. Bird, Esq. The Ven. Archdeacon H. Harper.

MEMBERS OF THE GENERAL COMMITTEE.

Lieut.-Colonel A. Tulloch, C. B.	Major Moberly.
J. Wylie, Esq. M. D.	Colenda Moodelly.
Reverend F. Spring, M. A.	Walter Elliot, Esq.
Major J. J. Underwood.	Captain G. Mackenzie.
J. Arathoon, Esq.	J. Shaw, Esq.
A. F. Arbuthnot, Esq.	J. C. Morris, Esq.

R. Wight, Esq. M. D. *Secretary.*

REGULATIONS.

1. This Society shall be called the Agricultural and Horticultural Society of Madras.
2. The objects of the Society shall be the promotion of Agriculture and Horticulture, in all their branches, within the Peninsula of India.
3. The Society shall consist of Honorary and Ordinary Members.
4. Honorary Members shall be persons eminent for their knowledge of, or for the encouragement they have given to Agriculture and Horticulture, or for services rendered to the Society.
5. The Committee of Management shall have the privilege of proposing honorary Members; but any member may submit to the Committee, the names of persons whom he would wish proposed. The names of gentlemen so proposed shall be stated in the Circular notice, issued to Members, calling the meeting of the Society at which their election is to be taken into consideration.
6. Gentlemen of every nation shall be eligible as Ordinary Members of the Society.
7. Candidates for admission as "Ordinary Members" shall be proposed by two Members, and their names communicated to the Secretary, by whom they will be laid before the next Monthly Meeting of the General Committee, when a majority of votes will determine their election.
8. Ordinary Members are to pay an admission fee of 10 Rupees, and 7 Rupees subscription Quarterly in advance, so long as they continue to reside in India.
9. Ordinary Members, during temporary absence from India, will continue to have their names borne on the list as absent Members, (unless

N REGULATIONS OF AGRICULTURAL SOCIETY.

they express a wish to the contrary) provided they have paid up, on demand, all arrears due to the Society.

10. Any Resident Member allowing four quarterly bills to run into a fifth unpaid, the same having been duly demanded, shall cease to be a Member of the Society, and his name shall be struck off the list. To guard against error or misapprehension, it shall be the duty of the Secretary to bring this Article to the notice of the Member so in arrears previous to his name being removed from the list of the Society. An ex-member thus situated shall not be eligible for re-election, except upon payment of all arrears, in addition to the usual terms of admission, nor will he be eligible for re-admission at any future period, unless he has reserved to himself the privilege, by the payment of all debts due by him to the Society, within two years from the date of his name being removed from the list.

11. If a Member desire his name to be withdrawn without paying up his arrears, he shall be disqualified for re-election at any future period.

12. It shall be the duty of the Secretary to bring these Articles to the notice of parties proposing an ex-member for re-election.

13. The management of the affairs of the Society shall be vested in the Presidents, Vice Presidents, and General Committee of Management.

14. On the 2d Wednesday of December in each year a special General Meeting of the Society will be held, for the election of Office-bearers, and the General Committee for the ensuing year.

15. The Office-bearers shall consist of

- 1 President.
- 4 Vice Presidents.
- 1 Secretary.

16. The Secretary shall *ex-officio* be a member of all Committees.

17. The General Committee shall consist of 12 Members, exclusive of the Office-bearers, who are Members *ex-officio*: 5, including the Secretary, to quorum for the transaction of business.

18. The General Committee shall have the power, in the event of lapses, of completing their numbers by the election of any Member of the Society to be a Member of the Committee.

19. It shall be the duty of the General Committee to conduct the business of the Society, direct the appropriation of its funds, and superintend the management of the garden, subject to the confirmation of the Society.

20. The General Committee shall meet on the first Wednesday of every month for the transaction of business, on which occasions it will be the duty of the Secretary to attend.

21. Special Meetings of the Committee, may at any time be convened, on a requisition to that effect, signed by three Members of the Society, two of whom belong to the Committee; or by five Members, none of whom belong to the Committee.

22. General Meetings of the Society shall be held on the Second Wednesday of the months of January, April, July, and October, to consider and confirm the proceedings of the General Committee; to receive reports on the state of the Society generally, on its finances, and on the state of the garden; to determine the successful candidates in prize competitions and award prizes; and finally, to decide on all other business that may come before it. Seven Members, including the Secretary, shall form

a quorum for the transaction of business. Printed notices, to the Presidency Members, to be issued on the occasion of all General Meetings of the Society. All meetings of the Society are for the future to be held at the garden at 5½ P. M., vide proceeding of meeting held 16th December 1840.

23. Special meetings may at any time be convened by a resolution of the General Committee.

24. It will be the duty of the Secretary to receive all communications addressed to the Society, and lay them before the Committee, that such as are deemed of sufficient importance may be selected for publication in the proceedings.

25. The proceedings shall be published, after they have been approved by the Quarterly General Meeting of the Society, and distributed to Members free of all charges, save that of postage.

26. Authors whose papers are published in the transactions shall be entitled to 20 copies of their contributions: should any more be required they must be paid for at prime cost.

27. The Garden shall be under the management of the General Committee, but more immediately under the direction of the Secretary, through whom it will be the duty of Members of the Committee, or of the Society, to convey all orders to the Superintendent of the Garden; but it shall be competent to the Committee, to delegate this duty to one of their own Members in case of need arising.

28. The objects of the garden are, 1st, to subject to the test of careful experiment all proposals having for their purpose the improvement of agriculture and horticulture: 2dly, the introduction and propagation of new and useful plants of all kinds; but more especially, those possessed of commercial value, which are likely in the event of successful introduction, to extend and improve the commercial resources of the country; and 3dly, the formation of an orchard, of the most valuable fruit trees, of all countries, that can be made to thrive in this climate.

29. All produce of the garden of a perishable nature—fruits—vegetables, &c. shall be sold for the benefit of the institution; to Members first, and then to the community wishing to have their supplies from that source.

30. Ornamental and fruit trees, and shrubs, shall, so often as the stock in the garden will permit, be supplied to Members on payment. Non-subscribers will be permitted to receive such plants from the garden, when there is a superfluity, and the Committee may direct the publication of lists of such superfluities from time to time in the newspapers.

31. The Secretary shall annually, in January, prepare, for transmission to England and the Cape, lists of seeds of whatever sorts may be required, both for the garden and for Members. Of the seed so procured a portion will be distributed in equal shares to all Members desiring them, *gratis*; the remainder, after supplying the garden, shall be sold for its benefit, first to subscribers wishing a larger supply than their share might entitle them to, and secondly, any that may remain, to non-subscribers desirous of supplying themselves from the Society's stock.

32. Members receiving growing plants or seed from the Society must defray all expenses of package and conveyance.

33. Any motion having for its object, the alteration of existing laws, or the enactment of new ones, shall first be submitted to the General Committee, by whom it will be referred to the next General Meeting, when, if two-thirds of the Members present vote in its favour, it will be held carried. The purport of such motion to be stated in the printed circulars calling the Meeting at which it is to be considered.

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AN OUTLINE OF THE FIRST PRINCIPLES OF HORTICULTURE.

I.—GENERAL NATURE OF PLANTS.

1. Horticulture is the application of the arts of cultivation, multiplication, and domestication to the vegetable kingdom. Agriculture and Arboriculture are branches of Horticulture.

2. The vegetable kingdom is composed of living beings, destitute of sensation, with no power of moving spontaneously from place to place, and called plants.

3. Plants are organized bodies, consisting of masses of tissue that is permeable by fluids or gaseous matter.

4. Vegetable tissue consists either of minute bladders, or of tubes adhering by their contiguous surfaces, and leaving intermediate passages where they do not touch.

5. Tissue is called *Cellular* when it is composed of minute bladders, which either approach the figure of a sphere, or are obviously some modification of it, supposed to be caused by extension or lateral compression.

6. When newly formed it is in a very lax state, and possesses great powers of absorption; probably in consequence of the excessive permeability of its membrane and the imperfect cohesion of its cells.

7. Cellular tissue, otherwise called *Parenchyma*, constitutes the soft and brittle parts of plants; such as pith, pulp, the spaces between the veins of leaves, the principal part of the petals; and the like.

8. Succulent plants are such as have an excessive development of cellular tissue.

9. It may be considered the most essential kind of tissue, because, while no plants exist without it, many are composed of nothing else.

10. Tissue is called *Woody Fibre* when it is composed of slender tubes, which are conical and closed at each end, and placed side by side.

11. Woody fibre is what causes stiffness and tenacity in certain parts of plants; hence it is found in the veins of leaves, and in bark, and it constitutes the principal part of the wood.

12. *Vascular tissue* is that in which either an elastic tough thread is generated spirally within a tube that is closed and conical at each end; or rows of cylindrical cellules, placed end to end, finally become continuous tubes by the loss of their ends.

13. The most remarkable form of vascular tissue is the *Spiral vessel*, which has the power of unrolling with elasticity when stretched.

14. Other kinds of vascular tissue are incapable of unrolling, but break when stretched.

15. Spiral vessels are not found in the wood or bark, and rarely in the roots of plants.

16. Vascular tissue of other kinds is confined to the root, stem, veins of leaves, petals, and other parts composed of leaves. It is not found in bark.

17. The common office of the tissue is to convey fluid or air, and to act as the receptacle of secretions.

18. Cellular tissue conveys fluids in all directions, absorbs with great rapidity, is the first cause of the adhesions that take place between contiguous parts, and is the principal receptacle of secreted matter.

19. Adhesion will take place at all times during the growing season, when the cellular tissue of two different parts, or of two different plants, is kept for some time in contact; but as none but tissues of nearly the same nature will adhere, grafting and budding, which are caused by the adhesion of contiguous parts, can only take place either between different varieties of the same species, or between nearly related species;

and even then only when the corresponding parts of the scion or bud, and the stock, are placed in contact.

20. Woody fibre conveys fluid in the direction of its length, gives stiffness and flexibility to the general system, and acts as a protection to spiral and other delicate vessels.

21. Spiral vessels convey oxygenated air.

22. Other vessels probably conduct fluid when young, and air when old.

23. As the bodies of which all Tissue is composed are perfectly simple, unbranched, and regular in figure, having, when elongated, their two extremities exactly alike, they are more or less capable of conveying gaseous matter or fluids in any direction; and, consequently, a current may be reversed in them without inconvenience: hence, inverted cuttings or stems will grow.

24. All parts of plants are composed of tissue, whether they be soft, as pulp: or hard, as the bony lining of a Peach.

25. With regard to Horticultural operations, the parts of plants should be considered under the heads of *Root* (II.); *Stem* (III.); *Leaf-buds* (IV.); *Leaves* (V.); *Flowers* (VI.); *Seeds* (VII.); *Fruit* (VIII.); and *Seed* (IX.).

II. Root.

26. The root is the part that strikes into the earth when a seed begins to germinate, and which afterwards continues to lengthen beneath the soil.

27. It is also the part which is sometimes emitted by the stem, for the purpose of absorbing nutriment from the atmosphere; as in Ivy, Air-Plants, Vines, &c.

28. It is distinguished from the stem by the absence of leaves in any state, of regular leaf-buds (IV.); of evaporating pores or stomata (131.); and of pith in Exogenous plants.

29. Therefore, such underground bodies as those called Tuber (61.) in the Potato; Bulb (96.) in the Onion; and solid Bulb or Cormus (61.) in the Crocus, are not roots.

30. The office of the root is to absorb food in a fluid or gaseous state; and also to fix the plant in the soil, or to some firm support.

31. The latter office is essential to the certain and regular performance of the former.

32. It is not by the whole of their surface that roots absorb food; but only by their young and newly formed extremities, called *Spongioles*.

33. Hence the preservation of the spongirole, as in an uninjured state is essential to the removal of a plant from one place to another.

34. A Spongirole consists of very young vascular tissue (12.), surrounded by very young cellular substance. (5.)

35. It is therefore one of the most delicate parts of plants, and the most easily injured.

36. Hence whatever is known to produce any specific deleterious action upon leaves of stems, such as certain gases (298) and mineral or vegetable poisons, will produce a much more fatal effect upon the spongioles.

37. These organs have no power of selecting their food, but will absorb whatever the earth or air may contain, which is sufficiently fluid to pass through the sides of their tissue.

38. So that if the spongioles are developed in a medium which is of an unsuitable nature, as they will still continue to absorb, they cannot fail to introduce matter which will prove either injurious or fatal to life, according to its intensity.

39. This may often explain why trees suddenly become unhealthy, without any external apparent cause.

40. Plants have the power of replacing spongioles by the formation of new ones; so that an individual is not destroyed by their loss.

41. But this power depends upon the co-operation of the atmosphere, and upon the special vital powers of the species.

42. If the atmosphere is so humid as to hinder evaporation spongioles will have time to form anew; but if the atmosphere is dry, the loss by evaporation will be so much greater than can be supplied by the injured root, that the whole system will be emptied of fluid before the new spongioles can form.

43. This is the key to Transplantation. (XV.)

44. As roots are destitute of leaf-buds (IV.), and as leaf-buds are essential to the multiplication of an Individual (108), it should follow that roots can never be employed for the purpose of multiplication.

45. Nevertheless, roots when woody have, occasionally, the power of generating adventitious leaf-buds (IV.); and when this is the case, they may be employed for the purpose of multiplication; as those of Cydonia Japonica, &c.

46. The cause of this power existing in some species, and not in others, is unknown.

47. It is therefore a power that can never be calculated upon; and whose existence is only to be discovered by accident.

48. Although roots are generated under-ground, and sometimes at considerable depths, yet access to a certain quantity of atmospheric air appears indispensable to the healthy execution of their functions. This is constantly exemplified in plants growing in the earth at the back of an ill-ventilated forcing house, where the roots have no means of finding their way into the earth on the outside of the house.

49. It is supposed by some that the introduction of oxygen into their system is as indispensable to them as to animals.

50. It seems more probable that the oxygen of the atmosphere, seizing upon a certain quantity of carbon, forms carbonic acid, which they absorb, and feed upon.

51. It is at least certain that the exclusion of air from the roots will always induce an unhealthy condition, or even death itself. This may be one of the reasons why stiff tenacious soils are so seldom suited to the purposes of the cultivator, until their adhesiveness has been destroyed by the addition of other matter.

52. Spongioles secrete excrementitious matter, which is unsuitable to the same species afterwards as food; for poisonous substances are as fatal to the species that secrete them as to any other species.

53. But to other species the excrementitious matter is either not unsuitable, or not deleterious.

54. Hence, soil may be rendered impure (or, as we inaccurately say, worn out) for one species, which will not be impure for others.

55. This is the true key of the theory of rotation of crops.

56. This also may serve to explain in part why light soil is indispensable to so many plants, and heavy or tenacious soil suitable to so few: for in the former case the spongioles will meet with little resistance to their elongation, and will consequently be continually quitting the place where their excrementitious matter is deposited; while, in the latter case, the reverse will occur.

III. STEM.

57. The stem is that part of a plant which is developed above ground, and which took an upward direction at the period of germination.

58. It consists of a woody axis, covered by bark having stomata (131.) on its surface, bearing leaves with leaf-buds in their axilla, and producing flowers and fruit.

59. The points where leaves are borne are called *Nodi*; the spaces between the leaves are *Internodia*.

60. The more erect a stem grows, the more vigorous it is; and the more it deviates from this direction to a horizontal or pendulous position, the less is it vigorous.

61. Some stems are developed under ground, such as the Tubers of the Potato and the Cormus of the Crocus, but they are known from roots by the presence of leaves, and regular leaf-buds upon their surface.

62. Stems increase in diameter in two ways.

63. Either by the addition of new matter to the outside of the wood and the inside of the bark; when they are *Exogenous*; ex. Oak.

64. Or by the addition of new matter to their inside; when they are *Endogenous*; ex. Cane.

65. In *Exogenous* stems, the central portion, which is harder and darker than that at the circumference, is called *Heart-wood*; while the exterior, which is softer and lighter, is called *Alternum* or *Sapwood*.

66. The inside of the bark of such stems has also the technical name of *Liber*.

67. The *Heart-wood* was, when young, *Alburnum*, and afterwards changed its nature, by becoming the receptacle of certain secretions peculiar to the species.

68. Hence the greater durability of *Heart-wood* than of *Sapwood*. While the latter is newly formed empty tissue, almost as perishable as bark itself, the former is protected against destruction by the introduction of secretions that become solid matter, which is often insoluble in water, and never permeable to air.

69. The secretions by which *Heart-wood* is solidified are prepared in the leaves, whence they are sent downwards through the bark, and from the bark communicated to the central part of the stem.

70. The channels through which this communication takes place are called *Medullary Rays*, or *Silcer Grain*.

71. Medullary rays are plates of cellular tissue, in a very compressed state, passing from the pith into the bark.

72. The wood itself is composed of tubes consisting of woody fibre and vascular tissue, imbedded longitudinally in cellular substance.

73. This cellular substance only develops horizontally; and it is to it that the peculiar character of different kinds of wood is chiefly due.

74. For this reason the wood of the stock of a grafted plant will never become like that of its scion, although, as will be hereafter seen (IV.), the woody matter of the stock must all originate in the scion.

75. The stem of an *Exogenous* plant may therefore be compared to a piece of linen, of which the *Woof* is composed of cellular tissue, and the warp of fibrous and vascular tissue.

76. In the spring and autumn a viscid substance is secreted between the wood and the liber, called the *Cambium*.

77. This *Cambium* appears to be the matter out of which the cellular horizontal substance of the stem is organized.

78. In *Endogenous* stems the portion at the circumference is harder than that in the centre; and there is no separable bark.

79. Their stems consist of bundles of woody matter, imbedded in cellular tissue, and composed of vascular tissue surrounded by woody fibre.

80. The stem is not only the depository of the peculiar secretions of species (67.), but is also the medium through which the sap flows in its passage from the roots into the leaves.

81. In *Exogenous* stems (63.), it certainly rises through the *alburnum*, and descends through the bark.

82. In *Endogenous* stems (64.), it probably rises through the bundles

of wood, and descends through the cellular substance; but this is uncertain.

83. Stems have the power of propagating an individual only by means of their leaf-buds. If destitute of leaf-buds, they have no power of multiplication, except fortuitously.

IV. LEAF-BUDS.

84. Leaf-buds are rudiments of branches, enclosed within scales, which are imperfectly formed leaves.

85. All the leaf-buds upon the same branch are constitutionally and anatomically the same.

86. They are of two kinds; viz. *regular* or *normal*, and *adventitious* or *latent*. (119.)

87. Regular leaf-buds are formed at the axillæ of Leaves.

88. They are organs capable of propagating the individual from which they originate.

89. They are at first nourished by the fluid lying in the pith, but finally established for themselves a communication with the soil by the woody matter which they send downwards.

90. Their force of development will be in proportion to their nourishment; and consequently, when it is wished to procure a young shoot of unusual vigour, all other shoots in the vicinity are prevented growing, so as to accumulate for one shoot only all the food that would otherwise have been consumed by several.

91. Cutting back to a few eyes is an operation in pruning to produce the same effect, by directing the sap, as it ascends, into two or three buds only, instead of allowing it to expand itself upon all the others which are cut away.

92. When leaf-buds grow, they develop in three directions; the one horizontal, the other upward, and the third downward.

93. The horizontal development is confined to the cellular system of the bark, pith, and medullary rays.

94. The upward and downward developments are confined to the woody fibre and vascular tissue.

95. In this respect they resemble seed; from which they differ physiologically in propagating the Individual while seeds can only propagate the species.

96. When they disarticulate from the stem that bears them, they are called *bulbs*.

97. In some plants, a bud, when separated from its stem, will grow and form a new plant, if placed in circumstances favourable to the preservation of its vital powers.

98. But this property seems confined to plants having a firm, woody, perennial stem.

99. Such buds, when detached from their parent stem, send roots downwards and a stem upwards.

100. But if the buds are not separated from the plant to which they belong, the matter they send downwards becomes wood and liber, (66.) and the stems they send upwards become branches. Hence it is said that wood and liber are formed by the roots of leaf-buds.

101. If no leaf-buds are called into action, there will be no addition of wood; and, consequently, the destruction or absence of leaf-buds is accompanied by the absence of wood; as is proved by a shoot, the upper buds of which are destroyed and the lower allowed to develop. The lower part of the shoot will increase in diameter; the upper will remain of its original dimensions.

102. The quantity of wood, therefore, depends upon the quantity of leaf-buds that develop.

103. It is of the greatest importance to bear this in mind in pruning timber trees; for excessive pruning must necessarily be injurious to the quantity of produce.

104. If a cutting with a leaf-bud on it be placed in circumstances fitted to the development of the latter, it will grow and become a new plant.

105. If this happens when the cutting is inserted in the earth, the new plant is said by gardeners to be upon its own bottom.

106. But if it happens when the cutting is applied to the discovered end of another individual, called a *stock*, the roots are insinuated into the tissue of the stock, and a plant is said to be *grafted*; the cutting being called a *scion*.

107. There is, therefore, little difference between cuttings and scions, except that the former root into the earth, the latter into another plant.

108. But if a cutting of the same plant without a leaf-bud upon it be placed in the same circumstances, it will not grow, but will die.

109. Unless its vital powers are sufficient to enable it to develop an adventitious leaf-bud. (119.)

110. A leaf-bud separated from the stem will also become a new individual, if its vital energy is sufficiently powerful.

111. And this, whether it is planted in earth, into which it roots, like a cutting, or in a new individual to which it adheres and grows like a scion. In the former case it is called an *eye*, in the latter a *bud*.

112. Every leaf-bud has, therefore, its own distinct system of life, and of growth.

113. And as all the leaf-buds of an individual are exactly alike, it follows that a plant is a collection of a great number of distinct identical systems of life, and consequently a compound individual.

114. Regular leaf-buds being generated in the axillæ of the leaves, it is there that they are always to be sought.

115. And if they cannot be discovered by ocular inspection, it may nevertheless be always inferred with confidence that they exist in such situations, and may possibly be called from their dormant state into life.

116. Hence, wherever the scar of a leaf, or the remains of a leaf, can be discovered, there it is to be understood that the rudiments exist of a system of life which may be, by favourable circumstances, called into action.

117. Hence, all parts upon which leaves have ever grown may be made use of for purposes of propagation.

118. From these considerations it appears, that the most direct analogy between the Animal and Vegetable Kingdoms is with the Polypes of the former.

119. Adventitious leaf-buds are in all respects like regular leaf buds except that they are not formed at the axillæ of leaves, but develop occasionally from all and any parts of a plant.

120. They are occasionally produced by roots, by solid wood, or even by leaves and flowers.

121. Hence roots, solid wood, or even leaves and flowers may be used as means of propagation.

122. But as the development of adventitious buds is extremely uncertain, such means of propagation can never be calculated on; and form no part of the *science* of cultivation.

123. The cause of the formation of adventitious leaf-buds is unknown.

124. From certain experiments, it appears, that they may be generated by sap in a state of great accumulation and activity.

125. Consequently, whatever tends to the accumulation of sap in an

active state may be expected to be conducive to the formation of adventitious leaf-buds.

V. LEAVES.

126. Leaves are expansions of bark, traversed by veins.

127. The veins consist of spiral vessels enclosed in woody fibre; they originate in the medullary sheath and liber; and they are connected by loose Parenchyma (7.) which is full of cavities containing air.

128. This parenchyma consist of two layers, of which the upper is composed of cellules perpendicular to the cuticle, and the lower of cellules parallel with the cuticle.

129. These cellules are arranged so as to leave numerous open passages among them for the circulation of air in the inside of a leaf. Parenchyma of this nature is called *cavernous*.

130. Cuticle is formed of one or more layers of depressed cellular tissue, which is generally hardened, and always dry and filled with air.

131. Between many of the cells of the cuticle are placed apertures called *stomata*, which have the power of opening and closing as circumstances may require.

132. It is by means of this apparatus that leaves elaborate the sap which they absorb from the albumum, converting it into the secretions peculiar to the species.

133. Their cavernous structure (129) enables them to expose the greatest possible surface of their parenchyma to the action of the atmosphere.

134. Their cuticle is a non-conducting skin, which protects them from great variations in temperature, and through which gaseous matter will pass readily.

135. Their stomata are pores that are chiefly intended to facilitate evaporation; for which they are well adapted by a power they possess of opening or closing as circumstances may require.

136. They are also intended for facilitating the rapid emission of air, when it is necessary that such a function should be performed.

137. The functions of stomata being of such vital importance, it is always advisable to examine them microscopically in cases where doubts are entertained of the state of the atmosphere which a particular species may require.

138. Leaves growing in air are covered with a cuticle.

139. Leaves growing under water have no cuticle.

140. All the secretions of plants being formed in the leaves, or at least the greater part, it follows that secretions cannot take place if leaves are destroyed.

141. And as this secreting property depends upon specific vital powers connected with the decomposition of carbonic acid, and called into action only when the leaves are freely exposed to light and air (279), it also follows that the quantity of secretion will be in direct proportion to the quantity of leaves, and to their free exposure to light and air.

142. The usual position of leaves is spiral, at regularly increasing or diminishing distances; they are then said to be alternate.

143. But if the space, or the axis, that separates two leaves, is reduced to nothing at alternate intervals, they become opposite.

144. And if the spaces that separate several leaves, be reduced to nothing, they become verticillate.

145. Opposite and verticillate leaves, therefore, differ from alternate leaves only in the spaces that separate them being reduced to nothing.

VI. FLOWERS.

146. Flowers consist of two principal parts, viz. *Floral envelopes* (149.) and *Sexes* (VII.)

147. Of these, the former constitute what is popularly considered the flower; although the latter are the only parts that are absolutely essential to it.

148. However different they may be in appearance from leaves, they are all formed of those organs in a more or less modified state, and altered in a greater or less degree by mutual adhesion.

149. The Floral Envelopes consists of two or more whorls of transformed leaves; of which part is calyx, its leaves being called sepals, and part corolla, its leaves being called petals.

150. The Sexes are also transformed leaves, (187.)

151. The calyx is always the outermost, the corolla is always the innermost whorls; and if there is but one floral envelope, that one is calyx.

152. Usually the calyx is green, and the corolla coloured and more highly developed; but the reverse is frequently the case, as in *Fuchsia*, *Ribes sanguineum*, &c.

153. A Flower being, then, an axis surrounded by leaves, it is in reality a stunted branch; that is, one the growth of which is checked, and its power of elongation destroyed.

154. That Flowers are stunted branches is proved, *firstly*, by all their parts, especially the most external, occasionally reverting the state of ordinary leaves; *secondly*, by their parts being often transformed into each other; and *thirdly*, by the whorls of flower-buds being dislocated and actually converted into branches whenever any thing occurs to stimulate them excessively.

155. Their most essential distinctive character consists in the buds at the axillæ of their leaves being usually dormant, while those in the axillæ of ordinary leaves are usually active.

156. For this reason while leaf-buds can be used for the purpose of propagation, flower-buds cannot usually be so employed.

157. Being stunted branches, their position on the stem is the same as that of developed branches.

158. And as there is in all plants a very great difference in the development of leaf-buds, some growing readily into branches, others only unfolding their leaves without elongating, and many remaining altogether dormant, it follows that flower-buds may form upon plants of whatever age and in whatever age and in whatever state.

159. But to produce a general formation of flower-buds it is necessary that there should be some general predisposing constitutional cause independent of accidental circumstances.

160. This predisposing cause is the accumulation of sap and of secreted matter.

161. Therefore whatever tends to retard the free flow of sap, and causes it to accumulate, will cause the production of flower-buds, or fertility.

162. And on the other hand, whatever tends to produce excessive vigour causes the dispersion of sap, or prevents its elaboration and causes sterility.

163. Transplantation with a partial destruction of roots, age, or high temperature accompanied by a dry atmosphere, training obliquely or in an inverted direction, a constant destruction of the extremities of young growing branches, will all cause an accumulation of sap, and secretions; and consequently all such circumstances are favourable to the production of flower-buds.

164. But a richly manured soil, high temperature, with great atmospheric humidity, or an uninterrupted flow of sap, are all causes of excessive vigour, and are consequently unfavourable to the production of flower-buds.

165. There is a tendency in many flowers to enlarge, to alter their colours, or to change their appearance by a transformation and multiplication of their parts, whenever they have been raised from seeds for several generations, or domesticated.

166. The causes of this tendency are probably various, but being entirely unknown, no certain rules for the production of varieties in flowers can be laid down, except by the aid of hybridising. (210.)

167. It often happens that a single branch produces flowers different from those produced on other branches. This is technically called a *sport*.

168. As every bud on that branch has the same specific vital principle (113.) a bud taken from such a branch will produce an individual, the whole of whose branches will retain the character of the sport.

169. Consequently, by buds an accidental variety may be made permanent, if the plant that sports be of a firm woody nature. (98.)

170. As flowers feed upon the prepared sap in their vicinity; the greater the abundance of this prepared food, the more perfect will be their development.

171. Or the fewer the flowers on a given branch the more food they will severally have to nourish them, and the more perfect will they be.

172. The beauty of flowers will therefore be increased either by an abundant supply of food, or by a diminution of their numbers (thinning), or by both. The business of the pruner is to cause these by his operations.

173. The beauty of flowers depends upon their free exposure to light and air, because it consists in the richness of their colours, and their colours are only formed by the action of those two agents. (281.)

174. Hence flowers produced in dark or shady confined situations are either imperfect, or destitute of their habitual size and beauty.

175. Double flowers are those in which the stamens are transformed into petals; or in which the latter, or the sepals, are multiplied. They should not be confounded with *Proliferous* (183.), and *Discoid Compound Flowers*. (184.)

176. Although no certain rules for the production of double Flowers can be laid down, yet it is probable that those flowers have the greatest tendency to become double, in which the sexes are habitually multiplied.

177. In Icosandrous and Polyandrous plants either the stamens or the pistilla are always very numerous when the Flowers are in a natural state; and it is chiefly in such plants that double Flowers occur, when they become transformed.

178. It is therefore in such plants that double Flowers are to be principally expected.

179. In proportion as the sexes of Flowers habitually become few in number, do the instances of double Flowers become rare.

180. Double Flowers are therefore least to be expected in Plants with fewest stamens.

181. Whenever the component parts of a Flower adhere by their edges, as in monophyllous calyxes, monopetalous corollas, and monadelphous, or di-, or poly-adelphous stamens, the tendency to an unnatural multiplication of parts seems checked.

182. Therefore in such cases double Flowers are little to be expected; they are, in fact, very rare.

183. Proliferous Flowers are those in which parts that usually have all their axillary buds dormant, accidentally develop such buds; as in the Hen and Chickens Daisy, in which the bractæ of the involucre form other Daisy heads in their axillæ; or, as in certain Roses, in which the capillary leaves develop leaf-buds in their axillæ, so that the flower becomes a branch, the lower leaves of which are coloured and transformed, and the upper green, and in their ordinary state.

184. Discoid Compound Flowers are those in which the central florets of a flower-head acquire corollas, like those of the circumference, as in the Dahlia; the cultivated varieties of which should be called discoid, and not double.

185. These two last are so essentially different from double Flowers, that whatever laws may be supposed to govern the production or amelioration of double Flowers, can have no relation to proliferous or discoid compound Flowers.

VII. SEEDS.

186. The sexes consist of two or more whorls of transformed leaves, of which the outer are called *Stamens* (188.), and the inner *pistillum*. (191.)

187. They are known to be modifications of leaves, because they very frequently are transformed into petals which are demonstrably such (149); and because they occasionally revert to the state of leaves.

188. The stamens bear at their apex an organ, called the *anther*, which contains a powder called *pollen*.

189. When the anther is full grown it opens and emits the pollen, either dispersing it in the air in consequence of the elasticity with which it opens; or deposit it upon the stigma (191.); or exposing it to the action of wind, or such other disturbing causes as may liberate it from its case.

190. The pollen consists of exceedingly minute hollow balls, or cases, containing myriads of moving particles, which are the fertilizing principle of the stamens.

191. The pistillum has at its base one or more cavities or *cells*, in which bodies called *ovula* are placed; and at its apex one or more secreting surfaces called *stigmata*.

192. The ovula are the rudiments of seeds.

193. If the fertilizing powder of the pollen come in contact with the stigma, the ovula in the cells of the pistillum are vivified, and become seeds.

194. But if this contact does not take place, the ovula cannot possibly be vivified, but shrivel up and perish.

195. The phenomenon of vivification takes place in consequence of the descent of a portion of the moving particles (190.) of the pollen into the ovula, where such particles form the commencement of future plants.

196. In wild plants a stigma is usually acted upon only by the pollen of the stamen, which belong to it.

197. In this case the seeds thus vivified will, when sown, produce new individuals, differing very little from that by which they were themselves produced.

198. And, therefore, wild plants are for the most part multiplied from generation to generation without change.

199. But if it is possible to cause deviations from this law, by artificial means.

200. If the pollen of one species is placed upon the stigma of another species, the ovula will be vivified; and what is called a *hybrid* plant will be produced, by those ovula when they shall have grown to be seeds.

201. Hybrid plants are different from both their parents, and are generally intermediate in character between them.

202. They have little power of perpetuating themselves by seeds; but they may, if woody, be perpetuated by cuttings (312), buds (254), scions (335), &c.

203. Therefore, no hybrids but such as are of a woody perennial character can be perpetuated.

204. It usually happens that the hybrid has the constitution and general aspect of the polliniferous parent; but is influenced in secondary characters by the peculiarity of the female parent.

205. This should always be borne in mind in procuring new hybrid plants.

206. Really hybrid plants must not be confounded with such as are spurious, in consequence of their origin being between two varieties of the same species, and not two species of the same genus.

207. Hybrid plants, although incapable of perpetuation by seed, are often more abundant flowerers than either parent.

208. This is, probably, connected with constitutional debility. (102.)

VIII.

209. Fruit, strictly speaking, is the pistillum arrived at maturity.

210. When the calyx adheres to the pistillum and grows with it to maturity the fruit is called *inferior*; as the Apple.

211. But when the pistillum alone ripens, there being no adhesion to it on the part of the calyx, the fruit is called *superior*; as the Peach.

212. The fruit, is therefore, in common language, the flower or some part of it, arrived at its most complete state of existence; and, consequently is itself a portion of a stunted branch. (153.)

213. The nature of its connection with the stem is therefore the same as that of the branches with each other, or of leaves with their stem.

214. A superior fruit consisting only of one, or of a small number of metamorphosed leaves, it has little or no power of forming a communication with the earth and of feeding itself as real branches have. (89.)

215. It has also very little adhesion to its branch; so that but slight causes are sufficient to detach it from the plants especially at an early age, when all its parts are tender.

216. Hence the difficulty of causing Peaches and the like to *stone* or to pass over that age, in which the vascular bundles that join them to the branch become woody, and secure them to their place.

217. For the same reason they are fed almost entirely by other parts, upon secreted matter which they attract to themselves, elaborate, and store up in the cavities of their tissue.

218. The office of feeding such fruit is performed by young branches, which transmit nutriment to it through the bark. (69.)

219. But as young branches can only transmit nutriment downwards, it follows that unless a fruit is formed on a part of a branch below a leaf-bud, it must perish.

220. Unless there is some active vegetation in the stem above the branch on which it grows; when it may possibly live and feed upon secretions attracted by it from the main stem.

221. But inferior fruit, consisting at least of the calyx in addition to the pistillum, has a much more powerful, communication with the branch; each division of its calyx having at least one bundle of vascular and fibrous tissue, passing from it into the branch, and acting as a stay upon the centre to prevent its breaking off.

222. Such fruit may be supposed much more capable of establishing a

means of attracting secretions from a distance; and, consequently, is less liable to perish from want of a supply of food.

223. It is therefore not so important that an inferior fruit should be furnished with growing branches above it.

224. Fruit is exclusively fed by the secretions prepared for it by other parts; it is therefore affected by nearly the same circumstances as flowers.

225. It will be large in proportion to the quantity of food the stem can supply to it; and small in proportion to the inability of the stem to nourish it.

226. For this season, when trees are weak they should be allowed to bear very little, if any, fruit; because a crop of fruit can only tend to increase their debility.

227. And in all cases each fruit should be so far separated from all others as not to be robbed of its food by those in its vicinity.

228. We find that nature has herself in some measure provided against injury to plants by excessive fecundity, in giving them a power of throwing off flowers, the fruit of which cannot be supported.

229. The flavour of fruit depends upon the existence of certain secretions, especially of acid and sugar; flavour will, consequently, be regulated by the circumstances under which fruit is ripened.

230. The ripening of fruit is the conversion of acid and other substances into sugar.

231. As the latter substance cannot be obtained at all in the dark, is less abundant in fruit ripened in diffused light, and most abundant in fruit exposed to the direct rays of the sun, the conversion of matter into sugar occurs under the same circumstances as the decomposition of carbonic acid. (141. and 279.)

232. Therefore, if fruit be produced in situations much exposed to the sun, its sweetness will be augmented.

233. And in proportion as it is deprived of the sun's direct rays that quality will diminish.

234. So that a fruit which when exposed to the sun is sweet, when grown where no direct light will reach it will be acid; as Pears, Cherries, &c.

235. Hence acidity may be corrected by exposure to light; and excessive sweetness, or insipidity, by removal from light.

236. It is the property of succulent fruits which are acid when wild to acquire sweetness when cultivated, losing a part of their acid.

237. This probably arises from the augmentation of the cellular tissue, which possibly has a greater power than woody or vascular tissue of assisting in the formation of sugar.

238. As a certain quantity of acid is essential to render fruit agreeable to the palate, and as it is the property of cultivated fruits to add to their saccharine matter, but not to form more acid than when wild, it follows that, in selecting wild fruits for domestication, those which are acid should be preferred, and those which are sweet or insipid rejected.

239. Unless recourse is had to hybridism; when a wild insipid fruit may be possibly improved (201), or may be the means of improving something else.

240. It is very much upon such considerations as the foregoing that the rules of training must depend.

IX. SEED.

241. The seed is the ovulum arrived at perfection.

242. It consists of an integument enclosing an *embryo*, which is the rudiment of a future plant.

243. The seed is nourished by the same means as the fruit; and, like it, will be more or less perfectly formed, according to the abundance of its nutriment.

244. The plant developed from the embryo in the seed, will be in all essential particulars like its parent species.

245. Unless its nature has been changed by hybridising. (201)

246. But although it will certainly, under ordinary circumstances, reproduce its species, it will by no means uniformly reproduce the particular variety by which it was borne.

247. So that seeds are not the proper means of propagating varieties.

248. Nevertheless, in annual or biennial plants, no means can be employed for propagating a variety, except the seeds; and yet the variety is preserved.

249. This is accomplished solely by the great care of the cultivator, and happens thus.

250. Although a seed will not absolutely propagate the individual, yet as the seed will partake more of the nature of its actual parent than of any thing else, its progeny may be expected, as really happens, to resemble the variety from which it sprung, more than any other variety of its species.

251. Provided its purity have not been contaminated by the intermixture of other varieties.

252. By a careful eradication of all the varieties from the neighbourhood of that from which seed is to be saved, by taking care that none but the most genuine forms of a variety are preserved, as seed-plants; and by compelling by transplantation a plant to expend all its accumulated sap in the nourishment of its seeds, instead of in the superabundant production of foliage, a crop of seed may be procured, the plants produced by which will, in a great measure, have the peculiar properties of the parent variety.

253. By a series of progressive seed-savings upon the same plan, plants will be at length obtained, in which the habits of the individual have become as it were fixed, and capable of such exact reproduction by seed, as to form an exception to the general rule; as in Turnips, Radishes, &c.

254. But if the least neglect occurs in taking the necessary precautions (252.) to ensure a uniform crop of seed, possessing the new fixed properties, the race becomes deteriorated, in proportion to the want of care that has occurred, and loses its characters of individuality.

255. In all varieties those seeds may be expected to preserve their individual characters most distinctly which have been the best nourished (243.); it is, consequently, those which should be selected in preference for raising new plants, from which seed is to be saved.

256. When seeds are first ripened, their embryo is a mass of cellular substance, containing starch, fixed carbon, or other solid matter in its cavities; and in this state it will remain until fitting circumstances occur to call it into active life.

257. These fitting circumstances are, a temperature above 32° Fahr., a moist medium, darkness, and exposure to air.

258. It then absorbs the moisture of the medium in which it lies, inhales oxygen (278) and undergoes certain chemical changes; its vital powers cause it to ascend by one extremity for the purpose of finding light, and of decomposing its carbonic acid (279.), by parting with its accumulated oxygen, and to descend by the other extremity for the purpose of finding a constant supply of crude nutriment.

259. Unless these conditions are maintained, seeds cannot germinate; and consequently, an exposure to light is fatal to their embryo, because

(278) oxygen will not be absorbed in sufficient quantity to stimulate the vital powers of the embryo into action for the purpose of parting with it again, by the decomposition of the carbonic acid that has been formed during its accumulation.

X. SAP.

260. The fluid matter which is absorbed either from the earth or from the air is called sap.

261. When it first enters a plant it consists of water holding certain principles, especially carbonic acid, in solution.

262. These principles chiefly consist of animal or vegetable matter in a state of decomposition, and are energetic in proportion to their solubility, or tendency to form carbonic acid by combining with the oxygen of the air.

263. Sap soon afterwards acquires the nature of mucilage or sugar, and subsequently becomes still further altered by the admixture of such soluble matter as it receives in passing in its route through the albumen or newly formed woody tissue (65.)

264. When it reaches the vicinity of the leaves it is attracted into them, and there, having been exposed to light and air, is converted into the secretions peculiar to the species.

265. It finally, in its altered state, sinks down the bark, whence it is given off laterally by the medullary rays, and is distributed through the system.

266. No solid matter whatever can be taken up by the roots; for this reason metals, which in the state of oxides are poisonous, are perfectly harmless in their metallic state, as mercury; and this is, no doubt, the cause why liquid manure, which contains all the soluble parts of manure in a fluid state acts with so much more energy than stimulating substances in a solid state.

267. The cause of the motion of the sap is the attraction of the leaf-buds and leaves.

268. The leaf-buds, called into growth by the combined action of the increasing temperature and light of spring, decompose their carbonic acid (279.), and attract fluid from the tissue immediately below them; the space so caused is filled up by fluid again attracted from below, and thus a motion gradually takes place in the sap from one extremity to the other.

269. Consequently the motion of the sap takes place first in the branches and last in the roots.

270. For this reason a branch of a plant subjected to a high temperature in winter will grow while its stem is exposed to a very low temperature.

271. But growth under such circumstances will not be long maintained, unless the roots are secured from the reach of frost: for, if frozen they cannot act, and will, consequently, be unable to replace the sap of which the stem is emptied by the attraction of the buds converted into branches, and by the perspiration of the leaves. (xii.)

272. Whatever tends to inspissate the sap, such as a dry and heated atmosphere, or an interruption of its rapid flow, or a great decomposition of carbonic acid by full exposure to light, has the property of causing excessive vigour to be diminished, and flower buds to be produced.

273. While, on the other hand, whatever tends to dilute the sap, such as a damp atmosphere, a free and uninterrupted circulation, or a great accumulation of oxygen in consequence of the imperfect decomposition of carbonic acid, has the property of causing excessively rapid growth, and an exclusive production of leaf-buds.

274. Inspissated or accumulated sap is, therefore, a great cause of fertility.

275. And thin fluid, not being elaborated, is a great cause of sterility.
276. The conversion of sap into different kinds of secretion is effected by the combined action of *Air* (XI.), *Light* (XI.), and *Temperature*.

XI. AIR AND LIGHT.

277. When an embryo plant (242.) is formed within its integuments, it is usually colourless, or nearly so; but, as soon as it begins to grow, that part which approaches the light (the stem) becomes coloured, while the opposite extremity (the root) remains colourless.

278. The parts exposed to the air absorb oxygen at night, absorb carbonic acid and part with oxygen again in daylight; and thus in the daytime purify the air, and render it fit for the respiration of man.

279. The intensity of this latter phenomenon is in proportion to the intensity of solar light to which leaves are directly exposed.

280. Its cause is the decomposition of carbonic acid, the extrication of oxygen, and the acquisition by the plant of carbon in a solid state; from which, modified by the peculiar vital actions of species, colour and secretions are supposed to result.

281. For it is found that the intensity of colour and the quantity of secretions are in proportion to the exposure to light and air, as is shown by the deeper colour of the upper side of leaves, &c.

282. And by the fact, that if plants be grown in air from which light is excluded, neither colour nor secretions are formed, as is exemplified in blanched vegetables: which if even naturally poisonous, may, from want of exposure to light, become wholesome, as Celery.

283. When any colour appears in parts developed in the dark it is generally caused by the absorption of such colouring matter as pre-existed in the root or other body from which the blanched shoot proceeds, as in some kinds of Rhubarb when forced.

284. Or by the deposition of colouring matter formed by parts developed in light, as in the subterranean roots of Beet, Carrots, &c.

285. What is true of colour is also true of flavour, which equally depends upon light for its existence; because flavour is produced by chemical alterations in the sap caused by exposure to light. (229.)

286. The same thing occurs in regard to nutritive matter, which in like manner is formed by the exposure of leaves to light. Thus the Potato when forced in dark houses contains no more amylaceous matter than previously existed in the original tuber; but acquires it in abundance when placed in the light, and deposits it in proportion as it is influenced by light and air. Thus, also, if Peaches are grown in wooden houses, at a distance from the light, they will form so little nutritive matter as to be unable to support a crop of fruit, the greater part of which will fall off. And for a similar reason it is only the outside shoots of standard fruit trees that bear fruit. Considerations of this kind form in part the basis of pruning and training.

287. Light is the most powerful stimulus that can be employed to excite the vital actions of plants, and its energy is in proportion to its intensity; so that the direct rays of the sun will produce much more powerful effects than the diffused light of day.

288. Hence, if buds, that are very excitable are placed in diffused light, their excitability will be checked.

289. And if buds that are very torpid are exposed to direct light, they will be stimulated into action.

290. So that what parts of a tree shall first begin to grow in the spring may be determined at the will of the cultivator.

291. This is the key to some important practices in forcing.

292. This should also cause attention to be paid to shading buds from

the direct rays of the sun in particular cases: as in that of cuttings, whose buds, if too rapidly excited, might exhaust their only reservoir of sap, the stem, before new roots were formed to repair such loss.

293. As plants derive an essential part of their food from the air (280.) by the action of light, it follows that in glass houses those which admit the greatest portion of light are the best adapted for purposes of cultivation.

294. The proportion of opaque matter in the roof of a glass-house constructed of wood varies from 1-3d to 1-7th,—that of an iron-house does not exceed 1-23d.

295. Therefore iron-roofed houses are in this respect better suited for cultivation than wooden-roofed houses.

296. And as it has been found by experiment, that light passes more freely through a curvilinear than through a plain roof and through glass forming an acute angle with the horizon than through perpendicular glass, it follows that a curvilinear roof is best, and a plain roof with glass perpendicular sides the worst adapted to the purpose of the cultivator.

297. For the same reason common green glass is less fitted for glazing forcing-houses than white crown glass.

298. Poisonous gases in very minute quantities act upon vegetation with great energy. A ten-thousand part of sulphurous acid gas is quickly fatal to the life of plants; and hence the danger of flues heated by coal fires, and the impossibility of making many species grow in the vicinity of houses heated by coal fires, or in large towns.

XII. PERSPIRATION.

299. It is not, however, exclusively by the action of light and air that the nature of sap is altered. Evaporation is constantly going on during the growth of a plant, and sometimes is so copious, that an individual will perspire its own weight of water in the course of 24 hours.

300. The loss thus occasioned by the leaves is supplied by crude fluid, absorbed by the roots, and conveyed up the stem with great rapidity.

301. The consequence of such copious perspiration is the separation and solidification of the carbonized matter that is produced for the peculiar secretions of a species.

302. For the maintenance of a plant in health, it is indispensable that the supply of fluid, by the roots should be continual and uninterrupted.

303. If any thing causes perspiration to take place faster than it can be counteracted by the absorption of fluid from the earth, plants will be dried up and perish.

304. Such causes are, destruction of spongioles, and insufficient quantity of fluid in the soil, an exposure of the spongioles to occasional dryness, and a dry atmosphere.

305. The most ready means of counteracting the evil consequences of an imperfect action of the roots is by preventing or diminishing evaporation.

306. This is to be effected by rendering the atmosphere extremely humid.

307. Thus, in curvilinear iron hot-houses, in which the atmosphere becomes so dry in consequence of the heat that plants perish, it is necessary that the air should be rendered extremely humid, by throwing water upon pavement, or by introducing steam.

308. And in transplantation in dry weather, evergreens, or plants, in leaf, often die, because the spongioles are destroyed, or so far injured in the operation as to be unable to act, while the leaves never cease to perspire.

309. The greater certainty of transplanting plants that have been growing in pots is from this latter circumstance intelligible.

310. While the utility of putting cuttings or newly transplanted seedlings into a shady damp atmosphere, is explained by the necessity of hindering evaporation.

XIII. CUTTINGS.

311. When a separate portion of a plant is caused to produce new roots and branches, and to increasing an individual, it is a cutting.

312. Cuttings are of two sorts,—cuttings properly so called, and *eyes* (319.)

313. A cutting consists of an internodium, or a part of one, with its nodus (39.) and leaf-bud.

314. When the internodium is plunged in the earth it attracts fluid from the soil, and nourishes the bud until it can feed itself.

315. The bud, feeding at first upon the matter in the internodium, gradually elongates upwards into a branch, and sends organized matter downwards, which becomes roots.

316. As soon as it has established a communication with the soil, it becomes a new individual, exactly like that from which it was taken.

317. As it is the action of the leaf-buds that causes growth in a cutting, it follows that no cutting without a leaf-bud will grow.

318. Unless the cutting has great vitality and power of forming adventitious leaf-buds (119), which sometimes happens.

319. An eye is a leaf bud without an internodium.

320. It only differs from a cutting in having no reservoir of food on which to exist, and in emitting its roots immediately from the base of the leaf-bud into the soil.

321. As cuttings will very often, if not always, develop leaves before any powerful connection is formed between them and the soil, they are peculiarly liable to suffer from perspiration.

322. Hence the importance of maintaining their atmosphere in an uniform state of humidity, as is effected by putting bell or other glasses over them.

323. In this case, however, it is necessary that if air-tight covers are employed, such as bell-glasses, they should be from time to time removed and replaced, for the sake of getting rid of excessive humidity.

324. Layers differ from cuttings in nothing except that they strike root into the soil, while yet adhering to the parent plant.

325. Whatever is true of cuttings is true of layers, except that the latter are not liable to suffer by evaporation, because of their communication with the present plant.

326. As cuttings strike roots into the earth by the action of leaves or leaf-buds, it might be supposed that they will strike most readily when the leaves or leaf-buds are in their greatest vigour.

327. Nevertheless, this power is controlled so much by the peculiar vital powers of different species, and by secondary considerations, that it is impossible to say that this is an absolute rule.

328. Thus Dahlias and other herbaceous plants will strike root freely when cuttings are very young; and Heaths, Azaleas, and other hard wood-d plants, only when the wood has just begun to harden.

329. The former is, probably, owing to some specific vital excitability, the force of which we cannot appreciate; the latter either to a kind of torpor, which seems to seize such plants when their tissue is once emptied of fluid, or to a natural slowness to send downwards woody matter, whether for wood or not, which is the real cause of their wood being harder.

330. If ripened cuttings are upon the whole the most fitted for multiplication, it is because their tissue is less absorbent than when younger, and that they are less likely to suffer from either repletion or evaporation.

331. For to gorge tissue with food, before leaves are in action to decompose and assimilate it, is as prejudicial as to empty tissue by the action of leaves, before spongioles are prepared to replenish it.

332. For this reason pure silex, in which no stimulating substances are contained (silver sand,) is the best adapted for promoting the rooting of cuttings that strike with difficulty.

333. And for the same reason cuttings with what gardeners call a *heel* to them, or a piece of the older wood, strike root more readily than such as are not so protected. The greater age of the tissue of the heel renders it less absorbent than tissue that is altogether newly formed.

334. It is to avoid the bad effect of evaporation that leaves are usually for the most part removed from a cutting, when it is first prepared.

XIV. SCIONS.

335. A scion is a cutting (311.) which is caused to grow upon another plant, and not in earth.

336. Scions are of two sorts, scions properly so called, and *buds*. (351.)

337. Whatever is true of cuttings is true also of scions, all circumstances being equal.

338. When a scion is adapted to another plant, it attracts fluid from it for the nourishment of its leaf-buds until they can feed themselves.

339. Its buds thus fed gradually grow upwards into branches, and send woody matter downwards, which is analogous to roots.

340. At the same time the cellular substance of the scion and its *stock* adheres (19.) so as to form a complete organic union.

341. The woody matter descending from the buds passes through the cellular substance into the stock, where it occupies the same situation as would have been occupied by woody matter supplied by buds belonging to the stock itself.

342. Once united, the scion covers the wood of the stock with new wood, and causes the production of new roots.

343. But the character of the woody matter sent down by the scion over the wood of the stock being determined by the cellular substance, which has exclusively a horizontal development (73), it follows that the wood of the stock will always remain apparently the same, although it is furnished by the scion.

344. Some scions will grow upon a stock without being able to transmit any woody matter into it; as some Cacti.

345. When this happens, the adhesion of the two takes place by the cellular substance only, and the union is so imperfect that a slight degree of violence suffices to dis sever them.

346. And in such cases the buds are fed by their woody matter, which absorbs the ascending sap from the stock at the point where the adhesion has occurred; and the latter, never augmenting in diameter, is finally overgrown by the scion.

347. When, in such instances, the communication between the stock and the scion is so much interrupted that the sap can no longer ascend with sufficient rapidity into the branches, the latter die; as in many Peaches.

348. This incomplete union between the scion and its stock is owing to some constitutional or organic difference in the two.

349. Therefore care should be taken that when plants are grafted on one another their constitution should be as nearly as possible identical.

350. As adhesion of only an imperfect nature takes place when the scion and stock are, to a certain degree, dissimilar in constitution, so will no adhesion whatever occur when their constitutional differences are very decided.

351. Hence it is only species very nearly allied in nature that can be grafted on each other.

352. As only similar tissues will unite (19.), it is necessary in applying a scion to the stock that similar parts should be carefully adapted to each other; as bark to bark, cambium to cambium, and alburnum to alburnum.

353. The second is more especially requisite, because it is through the cambium that the woody matter sent downwards by the buds must pass: and also because cambium itself, being organizing matter in an incipient state, will more readily form an adhesion than any other part.

354. The same principles apply to buds, which are to scions precisely what eyes (319) are to cuttings.

355. In arching is the same with reference to grafting that layering (321.) is with reference to striking by cuttings.

356. It serves to maintain the vitality of a scion until it can form an adhesion with its stock; and must be considered the most certain mode of grafting.

357. It is probable that every species of flowering plant, without exception, may be multiplied by grafting.

358. Nevertheless, there are many species and even tribes that never have been grafted.

359. It has been found that in the Vine and the Walnut this difficulty can be overcome by attention to their peculiar constitution; and it is probable that the same attention will remove supposed difficulties in the case of other species.

XV. TRANSPLANTATION.

360. Transplantation consists in removing a plant from the soil in which it is growing to some other soil.

361. If in the operation the plant is torpid, and its spongioles uninjured, the removal will not be productive of any interruption to the previous rate of growth.

362. And if it is growing, or evergreen, and the spongioles are uninjured, the removal will produce no further injury than may arise from the temporary suspension of the action of the spongioles, and the non-cessation of perspiration during the operation.

363. So that transplantation may take place at all seasons of the year, and under all circumstances, provided the spongioles are uninjured.

364. This applies to the largest trees as well as to the smallest herbs.

365. But as it is impossible to take plants out of the earth without destroying or injuring the spongioles, the evil consequences of such accidents must be remedied by the hindrance of evaporation.

366. Transplantation should therefore take place only when plants are torpid, and when their respiratory organs (leaves) are absent; or, if they never lose those organs, as evergreens, only at seasons when the atmosphere is periodically charged with humidity for some considerable time.

367. Old trees in which the roots are much injured form new ones so slowly, that they are very liable to be exhausted of sap by the absorption of their very numerous young buds before new spongioles can be formed.

368. The amputation of all their upper extremities is the most probable prevention of death; but in most cases injury of their roots is without a remedy.

369. Plants in pots being so circumstanced that the spongioles are protected from injury, can, however, be transplanted at all seasons, without any dangerous consequences.

JULY.

The heat and drought of the preceding two months have so hardened, parched, and heated the ground that it becomes almost impermeable to the showers which, in the course of this as well as the preceding month from time to time cool and refresh the air, but exert little influence on the soil, owing to the rapid evaporation which, under the circumstances stated, immediately succeeds, hence the benefit that might be derived from them is lost to the Horticulturist, unless he adopts the precaution of previously breaking up the ground he intends for early crops. This operation by freely exposing it to the action of the air and sun, not only renders it rapidly absorbent of moisture and less retentive of the heat it had previously absorbed, but greatly improves its fertility. When so prepared the first considerable fall of rain cools and pulverizes it sufficiently to suit it for the reception of seed. Generally speaking however, this month is too early to begin gardening to any considerable extent, so that with the exception of a few seeds sown for early crops, in well protected beds, full sowing should not commence until the hot land-winds are well over.

The beds first sown require to be protected from both the hot winds and intense heat of the mid-day sun. In England, dwarf peas are sown in frames in January, to protect them from the cold; perhaps, with precautions similar in kind, but for a diametrically opposite purpose we might equally enjoy the luxury of early peas. The method we would recommend to obtain this desideratum, is to sow in ground well sheltered from the wind and shaded from the sun, between rows of plantain trees, for example, previously prepared are by repeated digging and liberal watering, to cool the soil as much as possible and provide abundance of moisture to supply the excessive transpiration which takes place from the leaves of such tender plants at a season when the air is so exceedingly dry. With these precautions, we might, we think, have peas early in September, if not even in August, and salads all the year round. We shall here observe; a rule, which by the way, cannot be too strongly insisted upon; that the principles of forcing, both here and in Europe, are the same, namely, the artificial production of circumstances suited to the support of vegetable life, while the natural condition of the soil and climate are adverse; the processes however by which this is to be accomplished are directly the reverse in the two countries. There bottom heat and protection from frost, and cold bleak winds, are required; here the abstraction of the already excessive bottom heat, and protection from the too intense rays of the sun, and shelter from the hot, dry, parching, land-winds, are demanded. Here, to obtain our ends, trenching, very liberal watering, and shading from the intense heat of the sun, to allow the soil to cool, must in the first instance be resorted to; then enclosing the plots of ground under cultivation with close fences, to exclude the wind, and lastly, shading them for some hours daily from the too powerful rays of the sun. Screens of palmyrah or plaited cocoanut leaves, might suffice to shelter them from the wind, while an awning that would interrupt the direct rays of the sun without too much excluding the light, would supply the protection required from above after transplanting from the seed-bed.

For forcing, it is the practice in England, where no expense is spared towards insuring early returns from the garden, to sow the seeds in glazed frames or green houses, and to keep the young plants there until they have attained sufficient size and strength to admit of their being planted out in warm sheltered borders, with the advancing mild season. Paradoxical as it may appear, we have no hesitation in affirming, that horticulture can never be materially advanced, and really early crops procured until we adopt a similar method (by glazed frames) of protecting our seedlings,

only they must be used differently. In England, their object is to obtain an equal temperature higher than that of the open air, ours to maintain one, if possible lower, but not exceeding that standard, combined with a humid atmosphere in immediate contact with the plants, to prevent their being scorched and dried up by over perspiration. Glazed frames will accomplish these desiderata if we keep the soil within, moderately moist, and the glasses close and shaded during the day. These frames might be made up at very small cost, four planks of the cheapest kind of wood about 18 inches broad joined together and covered, after the manner of melon frames, with glazed sashes like windows, would form very adequate forcing frames. They may be made of any size, but several small ones might answer better. The ground being prepared by repeated digging, liberal watering and shading for some days from the sun, to allow it to cool thoroughly, might then be covered by the frame and the seed sown. The frame should at first be shaded all day from the sun, afterwards only during the heat of the day. In this way a humid atmosphere will be procured for the young plants until, by the extension of their roots, they are able to absorb sufficient humidity to counteract the excessive perspiration caused by the heat of the climate. As this impediment to success, a dry and hot climate, will continue long after the plants are fit for transplanting, the beds into which the young plants are to be transferred require to be prepared with the same care as that for the seed, and protected from the drying winds by enclosing them with well made hurdles and covering them with a thick shade until the plants have taken firm hold of the soil, as it is quite impossible, that tender plants can absorb moisture enough to enable them to support the copious transpiration which would take place from their leaves at such a season, if not prevented by being surrounded by a perfectly still and humid atmosphere. For further information on this subject we beg to refer to the principles.

With the precautions above stated, all the smaller kitchen vegetables that bear transplanting may be sown in the course of this month, and many even earlier, such as Celery, Beet, Knol-kole, Cabbage, Cauliflower, Brocoli, Asparagus, Endive, Lettuce, Carrots and Turnips, and, advantage should be taken of every shower to dig and prepare portions of ground for future operations. The more lumpy it turns up the better, as it is so much the more freely exposed to the action of the air, which tends greatly to augment its fertility.

If it prove difficult or inconvenient to get the frames we have in preference recommended, the seeds may be sown either in well covered beds or in boxes.

Cabbage, Knol-kole, Brocoli, and Cauliflower require to be transplanted at least twice—The first time into smaller shaded beds and then into those in which they are to remain. It is recommended to transplant the two last a third or even a fourth time. Both require a very rich soil and moderate supplies of water.

Lettuce and Endive succeed best in a light well manured soil and are improved by being twice transplanted, first into small shaded beds and then into the garden. At this early season advantage might be taken of trees, under the shade of which we have observed it much finer than in the open ground exposed to the sun—Carrots and Turnips do not thrive well at this season, the weather is still too warm.

With such precautions, improved upon by practice and experience, forcing might, we are well assured, be as methodically pursued in this country as it is in England, protection from the scorching winds of India more

than from mere heat, being like protection from the cold winds of the European winter, of much greater importance than from mere cold the air being otherwise perfectly still and humid.

We have been induced to dilate on this portion of our work, from a conviction that practice without principles makes but slow progress towards the attainment of perfection, while on the other hand sound principles once established, practical applications of these follow in rapid course.

It is a general, and probably well founded belief, among natives, that stable manure, unless thoroughly rotted, contains the germs of a large white grub, which is very injurious to all manner of cabbage plants, by eating into their stems, and causing, unless early detected and removed, their certain destruction: where, for want of better, such manure must be used, it is probable if spread on the ground for some days before being dug in, the heat and exposure to the sun, might destroy the eggs, whence these destructive larvae are hatched. They may also be got rid of, in some degree, by mixing it with quick lime (fresh burned chunam,) which at the same time tends to improve the quality of the manure. These recommendations are partly the result of experience, but to too limited an extent to admit of our doing more than throwing them out as hints for the consideration of those who, like ourselves, have been sufferers from the attacks of these vermin.*

AUGUST.

As it frequently happens that the westerly winds prevail throughout the greater part of this month, we must so long as they continue persevere in our precautions to protect our early crops against injury from exposure, either to them, or to the too intense rays of the sun. In sowing and transplanting, the same preparation for cooling and moistening the ground must be adopted as directed for July. We are the more particular in insisting on this preliminary, from having sustained much loss in these operations at this season, which we attribute to the dry and heated soil, absorbing the moisture of the plants in place of affording them the supplies which the heat and dryness of the weather, and consequent, rapid transpiration from their surfaces demand. Seeds for successive crops of most vegetables may now be safely sown, and if not done before, cabbages, knolkoles, &c. of the preceding season should be transplanted into very richly manured soil, to stand for seeds: (turnips and carrots intended for seed should be equally transplanted into very rich soil, otherwise the seed will be poor and bad) deep planting and earthing up the stem to the leaves is necessary for the attainment of this object, by encouraging a large production of roots, and the greatest possible vigour on the part of the plants under treatment. Having once attained success, by the production of really good seeds, we may almost consider these plants naturalized among us, but should we be disappointed in our hopes of complete naturalization; still, even partially acclimated seeds are found by far the most suitable for early crops.

Artichoke seed should be sown this month in beds, two or three inches between the seeds, to admit of their after removal without injury to the roots. They are fit for transplanting towards the end of October or early in November and require to be repeatedly transplanted to induce them to head. For propagation by suckers, this and the succeeding month is the time to

* These grubs are we believe the caterpillar state of the various beetles, so commonly observed about dunghills.

take off the suckers. Prick them out six inches apart and when they become well rooted transplant into deep rich soil; if large, two feet apart, at once where they are intended to remain. To prevent them running too much to leaf and producing small heads, cut them down, when about 15 inches high, close to the ground and cover them with light old manure: when they have advanced a few inches repeat the operation. If the young shoots are tied up for a few days and blanched before cutting they may be eaten as Salad.

Asparagus. Towards the end of the month the asparagus sown last month will be fit for transplanting. The ground intended for it should be previously trenched to the depth of six or eight inches, the trenches half or two-thirds filled with well rotted dung and carefully dug into the soil, well watered and then planted, allowing nine or ten inches between the plants: in eight or nine weeks they begin to flower, and in five or six weeks more the berries are ripe. In about another fortnight, the plants are cut down to the roots, the beds again manured and the soil loosened. After a few days shoots will again appear, some of which might be cut for the table. From this time with proper attention to watering, loosening, and manuring the soil, they will supply a constant succession of shoots fit for the table, by allowing them to ripen a second crop of seed, which however requires several months, finer asparagus would be furnished, hence it might be advisable to lay down two beds, at the same time, one to be so treated, while the other is in use.

Celery being a plant of slow growth, will not be ready for transplanting this month, but as it might be unsafe to trust entirely to an early crop more seed should be sown towards the end of this, or, perhaps better, towards the latter end of next month. In the management of celery in this country, it is not a good plan to plant it in deep trenches. The better method is to trench and thoroughly manure the ground, re-fill the trenches nearly to the surface, and afterwards earth up the plants from between the rows, by which the risk of rotting the plants by stagnation of water about the underground part of the stem is prevented: for the same reason, they are best watered by conveying a stream of water along the furrow between the rows, thus watering the roots only, and not the stem and leaves, which do not require it so long as the ground is kept loose and moist. The trenches require to be 3 or 4 feet apart. By pursuing this plan, we shall not only have sound and healthy plants for use, but uninjured ones with abundance of roots for transplanting to stand for seed.

Cucumbers and *Melons* may still be successfully sown, though this is about the limit of the season for them, since the heavy rains of October generally destroy these plants, which only bring their fruit to perfection during the dry season.

Carrots and *Turnips* may be sown this month, with a better prospect of success than if sown earlier. We believe, they will generally be found to succeed better, when sown in rows on ridges, and watered at first by the hand and afterwards by a stream of water conveyed along the furrows between them, than when sown broad cast in sunk beds, according to the usual Native practice, and watered all over. We have even known the thinnings from these beds, when transplanted into ridges afford better produce than those left undisturbed. A principal objection to the Native practice is its tendency to cause a great production of roots over the whole tuber, and force the plant to run rapidly to seed, and at the same time render the tuber hard and stringy, an effect which we should by all means try to prevent, as the seeds so produced are seldom

good, while the turnip itself is spoiled. To procure good seed transplanting into fresh and highly manured soil is necessary. By the method of culture we propose nourishment is supplied through the long slender roots only, that shoot deep into the soil, to be conveyed to the tuber, where it is stored as in a reservoir for the nourishment of the plant during the period of fructification, which is delayed by limiting the supply of nourishment from without. Our own experience does not yet admit of our advising the whole of the cabbage family to be so treated, but from some trials we have made, we think they will be found to succeed better under ridge cultivation than as now usually planted in furrows and, almost daily, deluged with a copious stream of water.

SEPTEMBER.

Having in the preceding pages endeavoured, we hope successfully, to establish general principles, we must in what remains be more concise, as we have no doubt those who practice, and take an interest in horticulture, will easily be able, at whatever season, to apply the simple rules we have submitted for their consideration to the improvement of the productions of their gardens. In the course of this month the same things may be repeated, or the seeds already mentioned might be sown for the first time, with probably a better chance of success, than if sown sooner. It is however desirable that sowings should not be much longer delayed, as the heavy rains of October and November are apt to injure the young plants, unless they have attained considerable strength and size, and it is desirable to have those requiring transplanting sufficiently advanced to admit of advantage being taken of the intervals of fair weather between the falls of rain, as the ground is then in the best state to ensure success.

Beans and Peas. Beans of all kinds may be sown, as the tendency of their roots to penetrate deeply into the earth render them less liable to injury from drought, should the rains be long of setting in, while they stand coarse weather much better than peas. Peas sown at this season, if a full monsoon is experienced, are apt to suffer, or be altogether destroyed, but those sown in October, in ground sufficiently elevated to prevent flooding and stagnation of water, are not exposed to the same risk, as they are not so far advanced as to be destroyed by rough weather, usually experienced in early part of November.

Strawberries. We have as yet had but little experience in the management of Strawberries at Madras, but we believe about the end of this and beginning of next month is the most appropriate season for transferring them from the nursery to the forcing beds.

OCTOBER.

This month in the Indian Horticultural Calendar in many respects resembles April and May in Europe. Here October usually commences with two or three rainy days, then becomes clear and warm till between the 15th and 25th, when North easterly winds and rain commence, in like manner, April is usually a coarse stormy month in Europe, while May has mild warm days, but often cold frosty nights; with us the nights are agreeably cool, though the days are often excessively hot, but upon the whole there is an evident diminution of temperature, towards the end of the month the rainy season commences, and continues with occasional intervals until towards the end of November.

Now is the time to sow the main crops of most of our esculents and transplant the earlier sown ones: Carrots, Turnips, Cauliflowers, Broccoli, Cabbages, Kholcole, Peas, Beans, Onions, Artichokes and in a word, seeds of all kinds.

Cauliflower, Cabbage, &c. In the management of Cauliflower but little progress has as yet been made on the plains of India, apparently, owing to the heat of the climate. We would suggest as the most probable means of attaining greater success to sow early, transplant now into rich well manured soil, and again early in December into similar soil; but as deep as the length of the stalk would conveniently allow, so as to afford a constant cool and moist soil without much watering, loosening and banking up the soil according to circumstances. The watering ought to be performed by the hand and watering pot, rather to refresh the plants than affect the roots. This we would recommend on the principle, that an exuberant vegetation caused by much watering, invariably tends to prevent flowering, while, a rich but comparatively dry soil, would supply nourishment without causing a too great formation of leaf. The same method would, we imagine, succeed equally well with Cabbage, which rarely heart well in the Carnatic, though upon the whole more manageable than Cauliflower, and Broccoli. The system of flooding so constantly pursued has besides a tendency to draw (if I may so say) the roots towards the surface, where they are scorched by the sun during the day and proportionably chilled during the night; vicissitudes alike injurious to both plants and animals. Were our gardens formed in tops of tall coconut trees, supposing such a situation otherwise suitable, they, by affording moderate shade during the day, and by in some degree preventing radiation of heat during the night would, by moderating the cold thence originating, greatly diminish the range of temperature, and render such precautions less necessary; but, so long as they are freely exposed to such vicissitudes, it is incumbent on us to endeavour to counteract their injurious operation, by protecting well the organs of nutrition on which the health of the plants so materially depend, either, by placing them as far below the surface as the nature of the plants will permit, or by adopting the more ungainly substitute of covering the ground with litter or, any other more appropriate expedient our ingenuity may enable us to invent.

Artichokes. The end of this month or the beginning of the next is the season for the first transplanting from the seed bed. They have not been much cultivated about Madras, but one gentleman has succeeded to admiration in their culture—The method he pursued is to transplant three or four times, before putting the plant in the spot where it is finally to remain; there, it requires to be planted deep, in a well manured soil, the stem to be well earthed up, so as to form a mound and small ditch round the base, and freely watered by daily filling the ditch with water.

NOVEMBER.

If the directions recommended for last month have been followed out, little remains to be done this one, sowing for succession crops; hoeing and keeping the garden clear of weeds, removing grubs and snails, sticking peas and beans, transplanting such things as are ready, layering, cutting, slipping, and gootteeing such trees and shrubs as we may wish to propagate.

Propagation by Goottees, consists in removing a ring of bark, from a branch immediately under a leaf and, applying a quantity of well mixed earth, sand and cowdung, tied in gunny or mat over the place, and keeping the whole constantly moist until a crop of young roots is perceived shooting through the gunny, the branch is then fit to be removed and

planted out. This is a not less certain than expeditious method of multiplying fine varieties of fruit or other kind of trees of which we wish to increase our stock. All operations of this kind which are assisted by a cool and humid atmosphere, are best performed during this and the succeeding two months.

Towards the end of this but more properly we believe towards the latter end of next month, after the heavy rains have subsided, is considered the proper time for opening the roots and pruning vines; but to us it appears, that when there are many trees, it would be judicious to attempt to have a succession of crops by pruning so many now for the March and April crop; and the remainder in December or January for a June crop, after the rains of petty monsoon have ceased. Indeed it seems not improbable, in a country like this where vegetation is so active and can at all times be kept moving, that we might, by judicious management of standard vines, have grapes from February until October. We know indeed from having tried the experiment, that flowering creepers can be kept in flower all the hot weather as standards, by merely cropping their very vigorous shoots as they become firm and woody enough to admit of their lower buds, throwing out fresh ones. Vine bushes similarly treated, might be kept constantly throwing out new, fruit-bearing, shoots, provided the roots were protected from the intense heat of the sun by a covering of litter and deep planting, aided by copious manuring, liberal supplies of water and frequent hoeing and loosening of the soil over them.

DECEMBER.

The operation of sowing and transplanting for successional crops must still be continued vigorously, as owing to the rapidly advancing hot and dry season they can scarcely be undertaken to any extent at a more advanced period. Salads of all kinds as well as Celery, Cabbage, Cauliflower, &c. for late crops, or to be used as Brussels Sprouts may still be sown. It is remarked of Peas, that either sown after the last week of November or first of December, they rarely come to perfection. This rule is not without exceptions as they are occasionally to be had in the Madras market as late as the middle of May; hence we are disposed to infer that, the more general failure is attributable rather to injudicious culture, than to the unsuitableness of the climate.

With a view to keeping the lower portions of the stems dry and free from blight and mould, induced by remaining long wet, and which causes premature decay, Peas should at all season be sown in rows sufficiently apart to admit of free circulation of air between them and running from east to west to allow the sun's rays to act on every portion of the plants from sun-rise to sun-set. When running in the opposite direction one row shades another during several hours each day, while the confined and warm humid atmosphere by which the stems are surrounded gives rise to the formation of the blight and mould mentioned as so prejudicial to the health of the plants. Transplanting of such plants as are ready for that operation must be continued throughout the whole of this month, and weeding and hoeing diligently pursued; but watering sparingly even while the weather is dry, the soil being already sufficiently moist. Towards the end of the month we may begin sowing Cucumbers. These require a rich moist soil and succeed best when stuck like Peas or trained over Pandals.

JANUARY.

This is the coldest month of the year, and next to February, that in which European vegetables are generally in greatest perfection and abundance. In the course of this month the garden operations are nearly the same as the last, weeding, hoeing, earthing up the crops in progress, and transplanting for late crops. A few Peas, &c. may still be sown for late crops, but these will require shelter from the scutherly winds which usually begin to prevail in March and become strong in April.

Turnips and Carrots may still be sown and old ones should now be transplanted to stand for seed, also sow Cabbages, to be used young like Brussels Sprouts and Spinage. It is recommended at the time of transplanting to divide the roots of carrots and turnips intended for seed by two deep cross cuts before planting, by which a much greater number of fibrous roots are produced, and greater vigour conferred on the plants, enabling them to produce seed of the best quality, the soil in which they are transplanted ought to be exceedingly rich and kept but moderately moist—which will tend to augment the quantity of flower by diminishing the luxuriance of the leaves. From the time they have fairly taken root they should not be watered more than once a week, beyond occasionally refreshing the plant with a gentle sprinkling of water all over from the watering pot. The training of the vines should now be carefully attended to, the long branches stopped, and where the plants are young, and promised too great a show of fruit, some of the clusters might be removed so soon as they are sufficiently advanced to admit of the best being selected for preservation. Towards the end of the month we may commence sowing melons. These may usually be sown in any unoccupied spot of the garden as the quality of the soil is of little importance; indeed they are generally most successfully cultivated in the sandy beds of dry rivers. The ground is prepared by digging holes 6 or 8 feet apart, filling these with highly manured soil, and sowing three or four seeds on each. If the seeds are new they require to be exposed to the sun for a day or two before sowing, which will have the same effect in maturing them that long keeping as in Europe. Succession crops of Lettuce, Endive, &c. should be sown as usual. Transplant Artichokes for the last time. When they have furnished their crop the roots should be carefully sheltered during the succeeding hot season, for propagation by suckers the next season, as practiced in Europe; there the roots are protected from the frost by a covering of litter, and in the spring, the offsets separated from the main root and planted out for summer crops. By observing a similar course we might have a succession of them from January to June; those for the latter months being derived from some seeds.

FEBRUARY.

In the course of this month we are usually in the fullest enjoyment of the fruits of our past labours, and every care should be taken to keep the plants in the most healthy condition by frequent weeding and loosening of the soil, clearing the plants from Caterpillars, earthing up celery, turnips, &c. Water is now more wanted and must be more liberally supplied than formerly, but rather so as to keep the ground moist about the plants than directly to the roots, as the former method favours a more copious formation, and wider spread of the absorbing fibres, and renders very copious and frequent supplies less necessary than when confined to a more limited range. As it is an object of paramount importance to procure native

seed, it might be well to commence transplanting such Cauliflower, Broccoli, and Cabbage plants as shew a tendency to run to stalk in place of heading; planting them as deep in rich highly manured soil, and giving very little water from the time they show evident signs of having taken root. The object of this mode of treatment has been already explained. Turnips and Knolkoles might be similarly treated. The latter has always shown a remarkable aversion to produce seed in this country; even in Bangalore they have not succeeded in making it flower, though much pains has been bestowed towards the attainment of this object. We would therefore advise a few of the largest to be transplanted into a well manured very light sandy soil, or into pretty large holes filled with soil consisting of a large proportion of sand and some well rotted manure, as deeply as the nature of the plant will allow, having previously made several deep cuts into the tuber and allowing some a very full, others a very spare supply of water. It is not improbable that in spite of these precautions a fresh tuber will form over the old one and disappoint our expectations; but further trials, based on the principle that excessive luxuriance of vegetation tends to prevent flowering may ultimately teach a method by which to ensure almost certain success, and thus put us in possession of the greatest desideratum of Indian Horticulture, a regular supply of native seed. These trials should neither be confined to one season, nor to the sowing of any particular month; but should be tried on plants raised from seed sown both during the hot and cold seasons, and the transplanting should take place alike in both, until success or irremediable failure is the final result—Much attention must be given to the vinery this month.

MARCH.

Little can now be done beyond keeping up our supply of salads: with this view Lettuce, Endive, Onions, (to be used young) may still be sown; also French or other quick flowering Beans, and even some of the early sorts of Peas may yet be tried, but we can have little hope of their coming to maturity, unless aided by careful protection from the drying winds and hot sun which we now begin to experience. Perhaps sowing in trenches, to be afterwards partially filled with dry leaves or litter, would afford the best protection. The table, however, with careful management still continues well supplied from the proceeds of past labours, nor ought we even at this advanced season altogether relax from our Horticultural operations, though, we are unable to specify any course that ought in preference to be pursued towards supplying ourselves with fresh vegetables through the months of July and August, the scorching winds of May and June having previously arrested vegetation in nearly all herbaceous plants. Towards the end of this month and the greater part of the next, Grapes and Pineapples are in season. The latter, we know, may be had nearly the whole year, where there is a large plantation, by opening the roots and manuring successive portions so as to bring them successfully into bearing. These plants require to bring their fruit to perfection, on a rich soil highly manured with decayed vegetable matter, and during the bearing season liberal supplies of water. We have already expressed our belief that the former (Grapes) with proper management might equally be produced through several months perhaps the greater part of the year. Fresh crops of Cucumbers and Melons should be sown.

APRIL.

In the course of this month we believe nothing new can be undertaken in the garden, but those portions which are exhausted or otherwise vacant

should be turned roughly up from time to time to give the soil the advantage of free exposure to the air, as well as to prepare it, by a following process, for the next season, as to destroy seeds and roots of weeds, which it may contain, by exposure to the sun. The earlier sown melons should now be arriving at maturity and should be kept up by successive sowings.

MAY.

The same as last: our supplies of vegetables diminishing both in quantity and quality. Mangoes now begin, and Pineapples continue in season. Grapes begin to diminish in quantity or altogether disappear after the heavy rains which usually occur about the beginning of this month, previous to the commencement of the westerly winds, but which, by successional pruning, might be rendered available for procuring of fresh crops of this delightful fruit.

JUNE.

Generally but little can be done in the garden this month; but with the aid of careful protection from the hot land winds and sun we might commence sowing for early crops especially Salads, some Cabbages, Turnips, &c. for transplanting with the precautions mentioned under July.

We here bring these hasty memoranda to a close; not we confess without regret for their numerous and manifest imperfections; but at the same time, not without strong, and we trust well founded hopes, that they may form the basis of a greatly improved calendar at no very remote period. Should any of our readers complain of the numerous omissions in our practical details, we beg to remind them that our professed object at the outset was rather to endeavour to suggest principles than dilate on practice, for which, want of opportunity to carry our ideas into execution, had in a great measure disqualified us. To show however that we have not exaggerated the difficulties attendant on the completion of such a work as the one we have here attempted to sketch, we may state, that nearly two years have elapsed since the "Agricultural and Horticultural Society of India" printed and distributed to every part of India, a circular soliciting the information required to enable them to prepare a work, embodying a brief summary of the principles of Gardening, and a Gardener's Calendar, but which, for want of materials, they were constrained, at least for the time being, to abandon. As that Circular presents a brief but comprehensive summary of what ought to be the character and objects of such a work, as well as of the kind of information required for its completion, we republish it for the benefit of those of our readers who might not previously have had an opportunity of seeing the original; but who might be able to contribute a mite towards supplying this great desideratum to Indian Horticulture, and in the hope, that some at least of the admirers of a flourishing garden, may be induced to commit to paper and publish the results of their experience for the benefit of their less fortunate, though perhaps, not less diligent, fellow-labourers who may have been long striving in vain to attain equal perfection. Papers detailing successful methods of cultivating any of our European or other exotic vegetables which it is desirable to introduce being communicated to the Horticultural Society of Madras, will always be thankfully received, from whatever quarter they may come, and meet with immediate publicity.

TREATISE ON THE CULTURE OF SEVERAL PLANTS.

(By W. Ingledew, Esq., with notes by R. Wight, Esq. M. D., F. L. S.)

THE RED ROSE.

Rose trees are propagated either by layers or by cuttings, and they should be so transplanted, at the distance of nine feet from each other in rows, that the bushes in every alternate row shall be opposite each other.

The lower buds upon branches one year old, swell and throw out fresh shoots, which as soon as they acquire their length for the season, generally about a foot, yield roses. These shoots immediately after bearing their crop of flowers, throw out other shoots from their upper extremities. The branches now consisting of wood of different ages, gradually increase in length, in strength, and in size, until the following year, when the former, or that part of the branch which has already borne roses, being the only wood allowed to remain after pruning, yields bearing shoots for the current year, and so on in regular succession. The new wood, when nearly two months old produces secondary shoots, which immediately throw out flower buds.

In pruning therefore, the year old wood must be preserved, and the four last joints of each branch will be sufficient to furnish the young shoots, for the ensuing crop of flowers.

The new wood of the rose tree is thrown out either from the branches, or in straight shoots, which rise directly from the root, and do not ramify; the former is to be pruned as above, but the latter should be cut down to a foot or a foot and a half from the ground, as the buds upon them may appear full and fresh, or small and nearly obliterated: for, it is the swelling buds only that yield blossoming branches, and a few of these must always remain. These shoots are often so much debilitated by their rapid and luxuriant growth as to be incapable of bearing roses after the first pruning, but they yield branches, which will blossom in the following year.

The roots of rose trees should be opened in the beginning of January (the branches being previously pruned) and exposed to the sun, the large and old plants, for ten days or more, in order that they may be well dried, but those that are young and tender, will only require three or four days of exposure, and it will be injurious, if their roots be as much uncovered as those of the former, by having as much of the earth removed from them.

When the roots have been sufficiently exposed, two wheel-barrows-full of a composition, prepared by mixing equal parts of red earth, sheep's dung, and common manure* well together is to be put to each large tree, and to smaller ones in proportion. The roots are then to be covered in by returning the earth and must be liberally watered.

They will require their second and third watering on each alternate day afterwards, to check the excessive heat that would otherwise arise from the mixture, and prove injurious to the trees. A supply of water every six or seven days will then be sufficient until the crop is finished, after which until the following season they will require very little artificial

* By common manure I mean the interior parts of a dunghill, consisting of horse litter, the litter of cattle, garden weedings and refuse, street sweepings, &c. heaped together and constantly accumulated for the use of the garden.

+ When foreign roses in England it is recommended to water all over the leaves every second or third day till the flower buds are nearly ready to burst, a judicious practice, which might be advantageously adopted in this country, not for roses only but for fruit of all kinds.—R. W.

watering if the monsoon furnish the usual quantity of rain. When not in bearing, they should have barely sufficient water to keep them alive, they will then have a stunted appearance, and little, but well ripened, wood, which is exceedingly favourable for producing an abundant crop of flowers. By receiving much moisture the rose tree grows rapidly and to a great size, while the branches from their abundance and great luxuriance do not ripen, and fail to bear.

Before pruning, the wetness of the ground occasioned by the N.E. monsoon rains, must be suffered to subside to below the level to which the roots penetrate.

As the fragrance of roses is considerably improved by the dew of the mornings (which is deserving of attention in their culture) the season when the dew falls should be selected for pruning when other circumstances permit.

The first rose buds will make their appearance about 30 days after having been pruned, and the crop may be expected to last six weeks.

Wood older than one year never furnishes bearing shoots: when rose bushes therefore, either wholly or in part become too high, which will often occur if the soil is naturally moist, or when they receive a superabundance of water, &c. they should be cut down nearly to the ground, they will then produce new wood. This will not bear roses that year, but will furnish flowering shoots for the year following, and thus one crop only will be lost from such old branches, and they will afterwards yield much more abundantly than if the old wood had been suffered to remain.

Any quantity of old wood may be removed in this manner, and the younger branches will not be affected by it.

It is usual with native gardeners when pruning rose trees, to cut all their branches of an equal length, without regarding the age or the quality of the wood, by which many flowers will necessarily be lost.

The dung of fowls and of hogs being hotter than any other manure, of which the composition for rose trees is usually prepared, but particularly the latter, is very useful in the culture of roses, and may be added to the mixture in any quantity, not exceeding one-third of the whole, reducing the sheep's dung in the same proportion that either of these may be added.

The most favourable soil for the culture of this rose, is red earth, containing a large proportion of small gravel, or of white sandstone that easily pulverizes, and is readily penetrated with the spade. This ground is naturally dry, and free from moisture, except what it receives from the surface.

* The red rose in India parts with its fragrance much more speedily than in a colder climate, it is advisable therefore, to have these flowers closely covered with plantain or fig leaves, or any others that are moist and free from smell, from the time they are plucked until presented at table.*

THE STRAWBERRY.

A portion of ground sufficient to contain as many strawberry plants as may be wanted every year, to be allotted as a nursery, where they should

* The rose being so general a favourite it seems desirable to augment our stock by the introduction of new sorts from England. This I think might be easily accomplished by bringing out a number of the finer varieties in glazed cases, as now practised, and grafting them on China rose stocks. This I am informed was the method pursued to supply our gardens with the very free flowering kind now in cultivation. Some 10 or 15 years ago a fine full blown rose was a rarity even in our best gardens,—now they are every where abundant, a convincing proof of the advantage of this mode of treatment. The sweet scented rose has been long common in our gardens, but never flowers:—might it not in this way be made to blossom? It well merits the trial, and Bangalore seems a favourable climate for making the experiment. The Neigherry rose is also deserving the attention of horticulturists, being in itself a beautiful object, and likely to afford good stocks for grafting as well as crosses with other roses.—R. W.

be preserved until the time for transplanting for the crop shall arrive, when they will be found to be strong, healthy, and vigorous.

Where there is a great variety and choice of soil, a light reddish earth containing a small portion of clay should be chosen, but they will thrive very well in any light ground, provided they be watered according to its natural dryness or moisture. Soil that has a trifling quantity of clay combined with it, as it retains moisture for a longer time, will necessarily be more cool than other grounds in which it is wanting, and on this account preferable for strawberry plants.

The ground for strawberry bed should be well dug knee deep, the stones and weeds carefully taken out: it should then be turned back again, and well pulverized, and divided into beds which must be manured for the reception of the young plants.

These plants ought all to be transplanted previously to the 1st of September, and the fruit may be expected to be in perfection in the following January. The crop will continue until April, when the severe showers which precede the south-west monsoon generally put an end to it, but if the rains are moderate, it may continue a month longer.

Instead of the nursery plants, young ones from the beds that have ceased bearing may be taken up and transplanted, but I prefer those from the nursery.

There is no necessity to sprinkle manure over the whole of the ground previously to dividing it into beds, as it will occasion grass to grow upon the banks in greater abundance than would otherwise occur, and which will be troublesome to remove.

Each bed should be made sufficiently large to contain four rows of plants. When made of this size the ground is laid out to the greatest advantage, and the gardeners can easily weed them from the banks. To prepare the ground for their reception there should be added to each bed three ordinary wheel-barrows-full of common manure that has been riddled through an open bamboo sieve placed upon a sloping frame. If the manure be not prepared in this manner, it is apt to contain small pieces of grass or straw, which attract white ants, that will destroy the young and tender roots of the plants, and occasion great injury in the plantation.

The roots of strawberry plants should always be kept somewhat moist, and they will require watering, more or less frequently, according to the nature of the soil in which they are growing.

Plants that may be placed in ground such as has been recommended, require to be watered every other day, for a time, after transplanting, but when they have acquired size and strength, once in four or five days will be sufficient in our hottest weather, if under a proper shade, for an over quantity of water is apt to injure the flavour of the fruit, and to lessen its sweetness and richness of taste.

The plants should be supplied with water either early in the morning, or which is preferable, in the evening, for if watered when the sun is powerful, it adds to the heat of the ground and is injurious to them.

Until strawberry plants have attained their full size and vigour, and begin to bear good fruit, common manure is the best they can have, but during the time they are bearing fruit, sheep's dung is preferable, and enriches the fruit considerably. The latter kind of manure possesses a hotter quality than the former, which might be destructive to tender plants, and as the small fibres of grass and straw cannot easily be separated, the beds would shortly be filled with white ants, which however do little or no harm to the plants in their mature growth.

Strawberry plants should be kept separate from each other, and carefully weeded. They require to have the creepers constantly removed, as they impede the growth and luxuriance of the plant, and prevent the

fruit attaining a good size. The weeds are best taken out by the hand-hoe, as it loosens the earth about the roots which is of some benefit.

Once in two months, or as the strawberries may degenerate and become small, the earth should be loosened in every part of the beds, and a fresh supply of manure added, part of which should be scattered all around and close to the roots. They should be watered immediately afterwards, to secure them against the increased heat, which this will occasion. On the third day they require a second watering, after which this additional heat may be expected to be destroyed, and the plants may be watered as before.

Some plants yield a few strawberries much earlier than the time I have mentioned, but they are small. When they approach the fruit bearing period, the absence or presence of rain will facilitate or impede their progress, and one heavy fall of rain, will at this time have a considerable effect in diminishing the crop, even when the plants are at their strongest, and the fruit in its greatest perfection.

Strawberries require more sun than might at first be expected, and exposed to it for three hours every day in Mysore, will greatly add to their flavour: the plants must however be reared in a shady situation, and a plantation of plantains is the most desirable for that purpose, as these trees can easily be placed and preserved at equal distances from each other, by which the shade and exposure can be more easily regulated. The distance I prefer, is five yards between each other.

I believe that the strawberry plants will thrive perfectly well under a moderate shade of almost any kind of tree. I have grown them under the mango, the betelnut, the cocoanut, the tamarind, the guava, the jack, the jambo malac, the orange, and the silk cotton trees, without any apparent obstruction, except from the imperfect shade.

They do not thrive under a grape pandal, nor will they in any soil however congenial, that is constantly shaded and excluded from the sun.

If planted in a sandy or gravelly soil, strawberry plants require at first to be watered daily, and afterwards once in two days, and they will not thrive well with a smaller quantity. In old fortresses where the soil is apt to be combined with saltpetre and old chunam, they will bear fruit, but as such ground is hot, and not congenial to them, they must be watered every day.

The large white grub is particularly destructive to these plants, and will destroy a great many of them if not carefully attended to. The plants should be regularly examined, and such as are observed to wither, immediately taken up, and the grub taken out. If the roots have not been much injured, the plants may be returned to their places, and will often survive.

The ground is liable to be much infested by these grubs from the month of June until October, when the first heavy rains of the N. E. monsoon nearly rid the garden of them: some however always remain.

A small yellowish, or drab coloured rat, destroys large quantities of strawberries by eating the seeds only, which are situated upon the surface of the fruit. The toddy cat is likewise particularly partial to this fruit. The common stone trap, employed by the natives for catching rats, should therefore be set in different parts, all over the strawberry plantation, during the bearing season, by which many will be destroyed and much of the fruit preserved.

An experiment was tried, to ascertain whether the old strawberry plants of the preceding year which had borne a crop of fruit, or the young plants which they had produced after the conclusion of the crop in April, or plants from the nursery which had remained untouched nearly one year, would yield the best fruit. A few beds were filled with young plants from

the fruit plantation in August 1813, which as the parent plants ceased bearing only in the preceding April, could be little more than three months old, and the same number of beds, containing plants which had already yielded one crop of fruit, were suffered to remain. These were dressed and treated exactly in the same manner as the remainder of the plantation, which had been filled with nursery plants. The old plants never attained any size and had a stunted and delicate appearance. The leaves were small and the fruit very trifling in quantity, and bad. The young plants which had lately sprung from these and had been transplanted were more luxuriant, and some few equally so with any in the plantation, but they were generally much inferior in size and strength to those from the nursery. They did not bear fruit so early as the latter, nor was it till sometime later equal in quality and quantity.

From this experiment, I am induced to prefer nursery plants for fruit, and would therefore recommend the old plants to be rooted up and thrown away.

When the plantation has been completed with plants from the nursery, the latter should be dug knee deep, and manured, and planted afresh, with the same plants placed at a foot distance from each other, to furnish a succession of plants in the following year, and a few should be preserved to renew such as may die in the plantation.

The plants in the nursery should be weeded and manured occasionally, and well watered, but require no further assistance as the creepers they throw out are suffered to remain: these likewise require a shady situation.*

THE BRAZIL GOOSEBERRY.

Let the seed be sown in a seed bed, in the usual manner, and give a little water every day. When the plants shall have attained the height of five or six inches they must be transplanted and placed in rows, so that they shall be at the distance of nine feet (?) from each other. This ground must be previously dug all over to the depth of ten inches, and properly worked and levelled, and the holes well manured for their reception.

The plants should be watered every two days when young, and afterwards, once every 4, 5, or 6 days according to the dryness or moisture of the soil. Blossoms soon appear, and they will produce the first crop of ripe fruit, somewhat more than four months after having been transplanted.

The plants of Brazil gooseberry grow into large and luxuriant spreading bushes, the branches of which are often eight (feet?) long. They require to be pruned, to have the roots opened, and to be well manured every six months, as they bear twice in a year in a congenial soil and favourable climate, and will yield good fruit for three successive years. After that time it becomes small and bad, and not worth the trouble of cultivation.

* In addition to the above very judicious directions for the cultivation of strawberries, I would call the attention of horticulturists to the method of propagating them from seed, as in this way we might expect not only new and perhaps improved varieties, but plants so much more thoroughly acclimated; that there would be less difficulty and uncertainty attending their cultivation than now exists,—a point meriting every attention, where an abundant supply of a most delicious fruit is the object to be attained. I would further suggest that the Neigherry species be propagated in the same manner on the plains, and occasionally planted with the other in small beds for the purpose of procuring crosses, which, judging from analogy, we may expect to produce finer fruit, and prove hardier plants and more copious bearers, than either parent. The hill strawberry brought down and treated as the alpine and wood strawberries are in England, may in itself, under cultivation, improve as much as they do, and prove a very valuable acquisition to our catalogue of dessert fruit.—R. W.

The branches of these bushes are annual. Shortly after they have attained a years growth they die, and their places are supplied by a constant succession of young shoots, that bear the largest and finest fruit. These branches when six months old throw out new shoots either at their extremities, (which become elongated) or by lateral branches, both of which immediately blossom and bear fruit. The blossoms appear at each joint in rapid and regular succession, and 6 or 8 fruit will be seen upon a single shoot, at the same time, in different stages of growth.

The art of pruning therefore consists in procuring an abundance of young and strong shoots. All the young ones rising immediately from the roots, and which have not borne fruit should remain untouched, while the strong succulent exterior branches, that are six months old, should be removed, leaving five or six of the inferior joints, from which new shoots will speedily grow. All the dead, withered, and dying parts, should be cut out entirely. Any strong upright central branches that are under the height of four feet, having yielded only one crop of fruit, may be left untouched, as their extremities will lengthen, and these shoots will also give fruit; but all that exceed that length, must be cut down nearly to the ground like the others.

At the time of pruning, it will often happen that some of the branches will either be in blossom or bearing; should they be fresh and good, and worth preserving, they may be allowed to remain, and the old wood from the other parts removed.

When they have been pruned and well manured, the earth should be heaped up round their trunks to strengthen and support them. At this time they require to be watered every three days, until they have had three waterings, to prevent the roots being injured by the heat of the manure, after which the usual supplies will be sufficient.

When performing the operation of pruning, gardeners are apt, by suddenly drawing the knife, to lacerate the joints of the wood that is to remain: this ought to be avoided, as the supply of new shoots will be lessened by the injury which the old wood sustains.

To have the fruit large and rich in flavour, it is requisite that at least one half the wood should be removed every six months. Each crop of fruit will continue five or six weeks.

After crop, the plants require to be left to themselves for one month or longer, if there be a probability of much rain, when they should be pruned and treated as before.

The Brazil gooseberry thrives best in a black or red soil that contains a proportion of clay. During the monsoon rains they will sometimes be seized by sickness, and slowly wither and die.

In the Mysore country the fruit of the Brazil gooseberry may be procured at any time of the year when there is not much rain, but it is sweeter and better in hot and dry weather than at any other season.

The first fruit, from the young pale green shoots which rise direct from the roots, is the largest and best, that from the shoots of the pruned branches the next, and that of the shoots from the extremities of the old elongated branches which have not been cut is inferior both in richness and in size.

Each plant should be surrounded by a small square pandal to prevent them falling on the ground, which injures the fruit, and rats, and blood-suckers* that are exceedingly destructive to the Brazil gooseberry will do

* There must surely be some mistake or oversight in attributing to bloodsuckers (lancets) such propensities, being wholly at variance with the insectivorous habits and economy of these animals. That rats should relish so delicious a fruit is not much to be wondered at, the more so, as the procumbent disposition of the plant affords them such

less mischief than if the branches were not thus supported: these animals eat the young fruit, leaving the husks entire which wither and shortly afterwards fall, and are seen in large quantities under every plant.†

THE PEACH.

Peach trees may be cultivated in the Mysore country either from seed, by grafting, by enosculating, by layers, or by slips, but I prefer the first of these methods for reasons which will be stated hereafter.

The peach stones should be preserved entire until the beginning of June, when the kernels should be carefully taken out, and exposed to the air for a few days to render them dry and hard; they should then be planted in common seed beds, at a foot distance from each other, and furnished with water sufficient to preserve the ground constantly moist.

I have several times known, between a third and half the number of kernels that were planted germinate. When ten or twelve inches high, they should be transplanted in rows, so that the trees shall be at the distance of five yards from each other.

Young peach trees often grow rapidly, and even when in the seed bed, are inclined to run into very irregular shape, they are then apt to be overloaded with leaves from top to bottom, and sometimes these form themselves into a ball on the top, checking the growth of the plants. The leaves near the ground in the former instances, must be carefully and gradually removed with a knife, and in the latter, the ball at the extremity must always be cut away. The tree will then throw out a new branch which must be made the stem.

Both in the seed bed and afterwards, the leaves and the branches near the ground should always be gradually taken away, which will add considerably to the quickness of the growth of the tree, but it must never be cut severely at once, or its growth will be much impeded, and there must always be an interval of some days between each operation.

excellent cover under which to carry on their depredations; but that bloodsuckers should join them is quite incredible. These lizards not only prey entirely upon insects, but unless the insect, the instant before being taken, shows signs of life it will not be touched. So far therefore from treating them as enemies, we ought to hail their visits, as those of our best friends, since their whole lives, however unconsciously to themselves, are devoted to our service in the persevering destruction, the most numerous and subtle, of the host of enemies the horticulturist has to encounter. The facts here stated show in a striking point of view the advantages to be derived from the study of natural history, as well as the serious injury an ignorant and unobservant cultivator may inflict on himself by mistaking, among the lower grades of animals, friends for foes. But they show still more strikingly, with what providential care an all-wise and beneficent Creator has provided for our wants by the establishment of a system of checks, of the most simple but effective kind, against the undue increase and consequent supremacy of any tribe of the myriads of created beings, with which he has stored the earth, the most minute and, individually, insignificant of which, from their numbers and rapid propagation, become, when opposed to man, his most unconquerable enemies and the most appalling destroyers of those hopes which, but a few hours before their attack, gladdened his heart and enlivened his future prospects. Well indeed may such atomic beings be called the "armies of the Lord" for surely if any thing will, the irresistible power of these almost invisible creatures ought to impress us with a due sense of our own insignificance in the sight of the Almighty Architect of the universe.—R. W.

† Since I first met with full grown and well matured specimens of this fruit, which was not until I had been several years in India, it has always been a source of surprise to find it treated with so general and such unmerited neglect, for whether used as a pleasant tasted dessert fruit, or baked in tarts, it is equally deserving of favour, especially in a country where so few tolerable fruits of the latter description are produced. It is besides easily cultivated, and grows rapidly, and if trained on low trellises in place of on pandals might be usefully and tastefully used as a shelter, to protect more tender plants and flower borders from the strong winds which prevail during the dry season, and prove so injurious to these ornaments of the garden.—R. W.

Young peach trees should be trained to a single stem, to the height of three feet from the ground, and then left to themselves. They require no other pruning than the older trees do at the proper season of the year.

It is of advantage to have the stem of peach trees three feet high, as the branches are by that means well raised from the ground, and the fruit rendered less accessible to the numerous animals and insects that are partial to it.

Grass roots will do great injury to young plants by entangling their roots and even strangling them. When therefore the rains have ceased, and the grass roots acquired their utmost strength and force, it is advisable to remove them by taking out a portion of the earth. The month of January is perhaps the best season for this, after the fruit bearing trees shall have received their annual dressing. The addition of a little manure will then give the trees strength and vigour: this will only be necessary in the first year, as they afterwards require to be treated like the old trees.

These trees will bear fruit within the second year: I planted a good many peach kernels at Mysore on the 9th July 1812. Of those that germinated the first appeared above ground on the 23d of the same month: they were transplanted on the 17th September following, and the first ripe fruit was plucked from them February 24th, 1814.

Peach trees usually receive their annual supply of wood in the months of March, April, and May, and remain in that state until September and October, when the leaves fall and blossoms make their appearance. Whilst the fruit is setting, and for some time afterwards, the wood buds throw out short shoots, well covered with leaves, which defend the fruit against the climate. When these branches have extended a few inches they remain stationary until the crop is about over, they then lengthen, and others appear all over the trees.

The former of these shoots make their appearance in the latter end of the year, or when the fruit is forming, and the latter some time after the months above mentioned, and all will bear fruit in the ensuing season. Such trees as fail to give out new wood cannot yield fruit, for the same branches do not bear a second time.

As it is the new wood only which bears fruit, the chief management of the peach tree consists in preserving such a supply of it as may be expected to yield peaches in proportion to their strength, and no more; for whenever these trees contain a superabundance of wood, the fruit will always be small, generally bitter, and without flavour. I prefer this mode of management to thinning the peaches when too numerous, as the excess of wood is sufficient in itself to weaken the trees, and speedily brings on every appearance of old age, whilst the removal of it, invigorates them and prolongs their lives.

Peach trees will thrive well in any good and light soil, but they are partial to a moist situation.

The proper time for pruning peach trees is after the sap has descended when they are quiescent, as they then bleed less and support the operation better than at any other time. When trees have been well attended to from the first, much pruning can never at any one time be required, and so far from receiving any check or derangement from it, they will be improved by the operation: whereas when much wood is removed at one time, they are apt to be checked in their growth and to become stunted, and often will not recover from the injury in a shorter time than two or three years.

Trees therefore that have been much neglected should not receive all the pruning they may require the first year: the worst and the oldest branches may be removed, but a proportion of the superfluous wood should in all cases be left until the succeeding year.

For the above reasons I prefer pruning trees in the middle of July. The old speckled and hard wood should then be removed by cutting such branches out entirely: the slender and delicate branches should likewise be taken away, and such as are allowed to remain should not be crowded but preserved at proper distance. The centre of the trees should be well cleared, and should there be abundance of rough and far projecting spurs, some of them may also be removed, leaving the remainder at proper distances, as they will often, notwithstanding they appear hard and old, throw out strong shoots which will bear good fruit.

As it is of great consequence to have peach trees of a large size, it is far more important to attend to this, than to their shape; all large and exuberant branches, particularly such as proceed direct from the trunks, should be left to furnish fruit bearing wood; the branches should never be shortened by lopping off their extremities, but those that are intended to be pruned, whether principal or lateral branches, or the side shoots from these, ought always to be completely removed, this fourth order of branches being at a great distance from any nourishment will in general be slender, delicate, and not worth preserving.

Such branches as remain, being all bearing wood, and strong, and perfectly capable of nourishing the fruit they bear, will produce better fruit, and no part of the nourishment of the tree will be thrown away in the support of useless ramification.

Subsequent to this operation, peach trees require no other management than their ordinary waterings, until the following October, or when the blossoms begin to appear, and then the roots must be opened.

As peach trees sustain little or no injury from having their roots opened when in blossom, provided they be covered up again immediately, I prefer the latter end of October for that process, notwithstanding many of the trees in the garden may be in blossom, as it will always happen when the peach orchard is extensive, that the trees do not blossom at the same time, and it is better to wait, than to manure and dress such trees as have not dropped nearly the whole of their leaves.

These trees blossom at different periods throughout the whole of the months of September, October, and November, and I consider this the natural season. In the Mysore climate however some trees, particularly such as are getting old, or may be crowded with wood, will blossom irregularly throughout six or seven months of the year, but their fruit will come to nothing.

By opening the roots, and adding manure to such trees as still retain many of their leaves with a firm and strong hold, and by supplying such trees with additional quantity of water that this dressing renders requisite, the wood buds are forced to the injury of the flower buds, and leaves and branches, not blossoms, appear over every part of the trees. To have a successful crop of fruit, the blossoms must always make their appearance before the leaves.

Old leaves that are withered and easily detached may be removed without any detriment to the trees, and the roots may in such instances be opened.

Whenever it may be thought advisable to open the roots, it should be performed by taking out the earth to a considerable distance all round each tree, and nearly as low as the surface of the roots. The earth in contact with and amongst the latter should be gradually loosened by the hand, to facilitate the entire removal of the grass roots, which ought all to be taken away from the earth within this space. Three wheel-barrow's full of a composition, prepared by mixing equal parts of red earth, sheep's dung, and common manure, well together, should then be added to every old or full grown tree, and in the same proportion to others that are young-

er, after which the earth may be returned, and the trees should be watered immediately.

The roots of old and strong peach trees should be exposed to the sun for four, five, or six days; but those of the young ones being more tender, ought to be closed up again as speedily as may be convenient.

After peach trees have been dressed as above, they should be watered every other day, until they have received three waterings, to counteract the heat of the adventitious mixture, and prevent its injuring them; but from that time, until the conclusion of the fruit season, once every three days will be perfectly sufficient, and afterwards, until the season for dressing returns, they will only require a supply of water every five or six days, according to the nature and quality of the soil in which they may be planted.

As peaches require nearly four months to ripen, if the trees be dressed in October, the first ripe fruit may be expected in the following February. Their growth and enlargement will thus have taken place during the coolest and most favourable time of the year. They begin to ripen at the commencement of the hot season, when the heat will enrich and sweeten the fruit, and as the season continues generally about two months, it will be completed before the violent storms set in, in April.

When the trees blossom late, and the fruit does not acquire its complete growth before the hot weather is well advanced, the excessive heat of the sun shrivels the peaches, their skins burst, a quantity of gum exudes from the fissures, the fruit ripens before it reaches its full size, and is never obtained in perfection.

During the fruit bearing season, the grass should be occasionally removed from the surface of the earth immediately surrounding the stems of the trees, to prevent the small ants from ascending to the peaches, which, when nearly ripe, are often injured by these insects, and frequently spoiled by them.

The fox bat is particularly destructive to peaches from the time they are half grown, and during a few moonlight nights, these animals will nearly destroy the crop if not closely watched. A net if not exceedingly strong is no defence against their rapacity. The best protection for this fruit which I have found, against all species of depredators, is small wicker baskets.

Peach trees will bear a liberal pruning in the month of July, shortly after they have received their annual supply of new wood, and whilst at rest; but if this operation be deferred until the fall of the leaves, when the flower buds are enlarging and forming into blossoms, they must be pruned with great moderation, for if much would be then taken away, the trees being disturbed, and too much forced, will let fall their blossoms, and remain in a puny weakly condition for a time, during which many of the branches will probably die, or even some of the trees themselves, which I have known to happen.

The same shoots bear fruit only once: these will lengthen and furnish buds for fruit in the subsequent year, or else lateral ramifications will be thrown out, either from them, or from old wood, which never yields fruit a second time.

When peach trees attain their sixth or seventh year, they are apt to cease furnishing new wood annually, and consequently when that failure takes place they cannot yield fruit in the following year. Such trees will decline more rapidly every year afterwards as they advance in age, each interval of failure to furnish new wood, being longer than the preceding one, until they cease to bear fruit altogether.

The first sign of advanced age in peach trees, is the late appearance of the new wood of the season, and the branches are crowded together, and do not attain the size of the younger trees.

Having had but little experience in the grafting, and the inoculating of peach trees, I am unable to speak with precision respecting the utility or otherwise of either of these operations. But from the appearance of the grafted and inoculated trees which are now in the garden at Mysore, I am not inclined to entertain a very favourable opinion of either of these processes. The trees became stunted, and had every appearance of old age earlier than the seedling ones, and with the exception of about three years, their supplies of wood were not so liberal as those of the latter, and they failed earlier in bearing. I conceive however that I require further experience on this subject to entitle my opinion to any consideration.

Inoculated peach trees, or such trees as may be grafted upon stocks of the same fruit, likewise layers or slips, particularly the two latter, never grow to the size of seedling trees, which is a material objection to any of the former modes of propagation; and by preserving a small nursery of young trees, such as are either old, or yield bad fruit, can be replaced by them, by which the peach orchard may always be kept well stocked with young and good trees.

Peach trees when not too old, may be assisted, when they either fail in yielding new wood, or in dropping their leaves at the proper time of the year.

The annual supply of wood ought to be completed by the latter end of the month of May, otherwise the fall of the leaves, and consequently the appearance of the blossoms, will be backward. To preserve the proper fruit season by forcing the attainment of these objects, such trees as are likely to be dilatory should be stripped of all their old leaves, and well nourished by liberal supplies of water, which will invigorate them, and cause the wood buds to swell and project into branches. These will bear fruit at the usual season of the year or not much later. This forcing process ought not to be undertaken after the middle or latter end of April, as it will probably fail and tend still further to weaken the tree.

They require no other treatment at this period, and as soon as they obtain a sufficiency of new branches, their supplies of water should be diminished until the time for pruning them arrives.

By a method nearly opposite to the above, the flower buds of young peach trees may be made to enlarge and open, for by depriving them of part of their nourishment, and thus diminishing their strength and vigour, they will yield blossoms and fruit instead of leaves, and thus be brought into a fruit-bearing condition, earlier than they would be, if left to themselves.

I believe it to be a fact, that trees of great strength and vigour are unfavourable to the production of fruit, and in that condition they will yield wood only, and increase in bulk: and that, on the contrary, when the constitution of these trees is somewhat impaired, and has been reduced to a degree of laxity and debility inadequate to their enlargement, they acquire a disposition for bearing fruit.

It often happens that peach trees are late in dropping their leaves, and that from this circumstance they do not bear fruit until the season has considerably advanced, when much of it is lost by the excessive heat of the sun, and the violence of our storms of rain and hail. The leaves however ought never to be removed when they adhere firmly, for wood and not blossoms will be the consequence of such treatment. In order to prevent an occurrence of this nature, it is perhaps advisable to give them merely sufficient water to preserve their lives, either from the period of their having obtained their wood for the year, or as soon as they commence to show any signs of dilatoriness in parting with their leaves: their

vigour will be thus reduced, and the flower bearing wood ripened, when blossoms will make their appearance, and be succeeded by the usual crop of fruit.*

* Having no practical experience, I hesitate offering any opinion on the above practical rules, but I cannot help thinking, that in adopting them we shall by over forcing greatly shorten the existence of our trees, and I think it probable, we shall have inferior fruit, by bringing them into bearing long before they have attained such a degree of maturity, as to enable them to produce it of the best quality.

The following short extracts from Loudon's Encyclopædia of gardening will explain the principles pursued in the culture of the peach in Europe, which may perhaps with a little modification be rendered applicable to this country.

Soil.—A good soil for peach trees is composed of three parts mellow unexhausted loam, and one part drift sand, moderately enriched with vegetable mould, or the cooler dungs. * A light mellow loam is the best. * A loamy soil, somewhat adhesive, is preferred by most of the experienced gardeners of the present day. * Many gardeners do not manure their peach borders for some years after they have been made, in order to prevent the trees from running too much to wood.

Mode of bearing.—All the varieties of the peach and nectarine bear the fruit on the young wood of a year old; the blossom buds rising immediately from the eyes of the shoots. The same shoot seldom bears after the first year, except on some casual small spurs on the two years wood, which is not to be counted upon. Hence the trees are to be pruned as bearing entirely on the shoots of the preceding year; and a full supply of every years shoots must be trained in for successional bearers the following season. * It is remarked by Mr. Thompson, that the peach tribe in the climate of Britain, in order to exist in vigour for any length of time in the open ground, must have their shoots shortened every winter. * This by increasing the power of the roots relatively to the branches, occasions vigorous shoots the following season, and thus the tree is kept in an active state; whereas if it were allowed to expend all the power of its accumulated sap every year, it would soon exhaust itself, and die of old age, as the standard peach trees do in a few years in the unpruned American orchards, and also in the orchards of Italy.

Summer pruning. In May and June, and occasionally in the succeeding months, is to regulate the shoots of the same year, and to prevent improper growths by disbudbing. Pinch off fore-right buds or shoots; and pinch off or cut out ill-placed, very weakly, spongy, and deformed shoots, and very strong luxuriant growths; retaining a plentiful supply of good lateral shoots in all parts of the tree; and leaving a leader to each branch. Let them mostly be trained in full length all summer, about three inches asunder, for next years bearers; and divest them of any lateral twigs, to prevent a thick like intricacy, and to promote a healthy fruitful growth in the shoots themselves. In the course of the summer regulation, if any partial vacancy occurs, or should a young tree under training want an additional supply of wood, shorten some convenient placed strong shoot in June to a few eyes, to furnish a supply of the laterals the same season.

Winter pruning may be performed at the fall of the leaf, and thence, according to some professional writers, at any time in mild weather until spring. It should be completed in February, or early in March, before the blossom-buds are considerably advanced, which are distinguishable by being round, plump, and prominent, while the leaf and shoot buds are oblong and narrow. There is some advantage in pruning when the blossom buds can be certainly known. Retain, in all parts of the tree, a competent supply of such regular grown shoots of last year as are apparently fruitful in blossom buds. Most part of these should be shortened, not indiscriminately, but according to their strength and situation; the very strong shoots should be left longest, being topped about one-fourth, or one-third; shoots of middling vigour reduce one-third or one-half; and prune the very weak to two or three buds. Always cut at a shoot-bud, to advance for a leader. Sometimes a shoot bud lies between a twin blossom bud; cut a quarter of an inch above the bud. A very good rule which the French observe, says Mr. Thompson, is to commence as low as the point of the bud on the opposite side to it, and slope through to about a quarter of an inch above it. As many new shoots as will lie from three to six inches asunder may be deemed a competent supply for next year's bearers. Cut out quite close the redundant, irregular, and other improper shoots; remove or reduce some part of the former bearers of the two preceding years, cutting the most naked quite away, and others down to the most eligible younger branch or well-placed shoot. Also take out all diseased and dead wood, retaining young, where necessary, to fill a vacancy.

Summary of culture.—Use a strong loam for the border; never crop it; add no manure; keep the trees thin of wood by disbudbing and the early removal of useless wood; shorten each shoot according to its strength at the spring pruning; elevate the ends of the leading branches so that they may all form the same curvilinear inclination with the horizon; and, what is of the utmost importance in the culture of the peach, at all times keep the trees in a clean and healthy state.

In attempting to adapt these rules to this country, we might begin by training our peach trees as espaliers, which in my opinion would be a great improvement, for by fully exposing them to observation they could be much more correctly pruned, and would withal look better, and occupy less room. In the next place we must bear in mind that our November and December pruning is equivalent to the European summer pruning, that namely, when the young crop is on the trees, and that our May and June pruning, corresponds to the winter pruning of Europe, after the crop has been gathered and re-

The seedling mango tree will bear fruit in the fourth year of its age, and it afterwards usually yields one crop annually.

The produce of the seedling mango is very uncertain, and less to be depended on, than that of most other seedlings in the quality, as it is probable that not one in several thousand trees will bear good fruit in ordinary situations.

The only certain mode of obtaining good mangoes is by means, either of grafts from known and superior trees, or else by the removal of branches from such trees, by backing, and the subsequent application of earth, which operation requires only three or four months. The former method should always be chosen, as the grafted tree will require a good size, whereas, the branch that has been taken away by the latter process, will always remain small, and be liable to be deficient in its supplies of new fruit bearing shoots.

The method of grafting in this part of India, followed by the native gardeners, is that of approach, and it will always succeed very well. I have heard that mango grafts have been successfully separated three weeks after their application, when the stock and branch were both fresh and succulent; but I prefer allowing them to remain three months before the branch is entirely divided from the parent tree, as its future success is much more certain than if removed earlier.

Mango stones for stocks should be put into the ground fresh, for if kept longer than twenty-five or thirty days they will not germinate. They thrive best in a light and moist soil, and the young trees will be fit to be employed as stocks frequently as early as eleven months after having appeared above ground. They ought to be grown as rapidly as possible, to preserve the wood very porous and strong, by liberal supplies of water, keeping the earth loose about their roots, and by removing the lateral branches.

Mango trees should be grown in plantations, the situation of which ought to be sheltered from high winds, which in Mysore are very destructive to the fruit. The trees should be planted seven yards from each other, that when full grown the branches may not cross. They are partial to a light and moist soil, and whilst young should be kept in an upright position, and the top fixed by bamboos, to avert their being shaken by the wind, which might injure the united portions. The props ought to be inserted in the ground at some distance from the root to prevent the white ants from attacking it.

The grafted plants may safely be deprived of their original and unnecessary wood with the exception of one branch, which ought to be retained to form the top of the tree, as soon as they shall have obtained new and strong shoots after being planted out, but this must be accomplished by slow degrees, and by taking away one or two branches only every fortnight.* They should afterwards be examined every year until they bear

getation is at rest. Keeping these differences in view, and bearing in mind that it is essential to success to allow the trees an interval to rest, by abstaining from watering them for some weeks after the crop is gathered, thereby allowing time for the new wood to ripen thoroughly before the return of the bearing season, it appears to me that we might succeed, even in the Carnatic, in supplying ourselves with this delicious fruit. I however consider it indispensable to success, to allow the trees to attain the age of three or four years before taking a crop off them, otherwise their strength is exhausted before they have arrived at maturity; and they can neither be expected to last so long, nor to give so good fruit, as we might otherwise expect.—R. W.

* The meaning of this rather obscure passage seems to be, that supposing the scion a considerable branch, with several secondary branches, the secondaries are to be gradually removed after the graft has made some new and strong shoots, subsequent to being planted out.—R. W.

fruit, and all superfluous shoots removed, which will increase their growth. They ought to be carefully preserved to one stem, which must be free of branches to the height of four feet from the ground.

Mango grafts may be applied at any time of the year in the Mysore country, provided the earth above the roots of the stocks, be kept constantly moist by the daily application of water. When the union of the stock and the graft is complete, the latter may be separated by degrees, at two or three separate cuttings. The graft ought afterwards to be preserved under the shed of a neighbouring tree, for a fortnight or three weeks, that the united part may acquire firmness and strength.

I have repeatedly separated the graft with success after it has been only two months attached, but I prefer allowing it to remain undisturbed another month for the reason above stated.

The roots of mango trees penetrate to a great depth, and it is consequently difficult and very unsafe to transplant them after they have acquired considerable size.

The graft will frequently bear one or two mangoes very soon, or perhaps immediately after being separated from the parent tree, and then cease to yield fruit for several years: a few blossoms will probably appear in the second year, and during the third, about one tree in fifty will yield fruit, but the graft does not generally bear until the fourth year after its separation, and frequently not so early. When it has once acquired the habit of furnishing fruit, its supplies are afterwards regular.

The grafted tree will never attain the size of a seedling, but as has been already stated, it grows considerably larger than the branch removed by backing: this however is the only advantage, for the latter is equally certain of producing good fruit.

In the Mysore country six different superior varieties of the mango have been introduced, viz. raspberry, the Alfonso, the red or Calicut mango, the Goa common, or, as it is called at Madras, the Saint Thomé mango, the Mazagon and the Hoolyardroog mangoes. I have placed their names in this list according to their estimated qualities at Mysore; the raspberry being unequivocally the finest and superior to all the others.

The list contains the names of all the esteemed mangoes which have come to my knowledge, with exception of the Fernandean, which is, I believe, peculiar to Goa, and is by no means common even at that place. I have been informed by an Officer long resident at Goa, and who was acquainted with the Portuguese there, that the Alfonso mango has long been considered by the inhabitants of that settlement, the first in quality of the different sorts which that place affords.

It is probable, that the finest mangoes which have been produced in the Deccan, are indigenous to Goa, where they have been reared from seed. The raspberry, the Alfonso, the Fernandean, the red or Calicut mango, and the Goa common or St. Thomé mango, were certainly originally furnished from that establishment, where I have several times been informed, the seedling mango attains a greater perfection than in any other situation in the Peninsula of India, and I understand, that all the superior kinds of mangoes at Bombay, with the exception of the Mazagon, were introduced from Goa by the late Mr. D'Suza. All the trees of the kind here called the red mango, from its high external and internal colour, have been obtained from a solitary tree at Calicut, which goes by the name of the Goa tree, and is said to have been imported from that place.

The Mazagon mango is probably indigenous to Bombay, where a single seedling, now a very old tree, at Mazagon, upon that island, has been well known for many years, and from which all our trees of that name have been taken.

The only knowledge we have of the Hoolyardroog mango has been derived from a seedling tree at Hoolyardroog in Mysore, but how it originated, or whence it came, no person of the present day is acquainted.

The Goa common mango of this list is, as has been already stated, the St. Thomé mango of Madras, as it has been known at that presidency only of late years, and as the inhabitants of Goa have been acquainted with it from time immemorial, I conceive it to have been imported there from the latter place. I have not been able to ascertain the Portuguese or proper name of this mango.

In the soil and climate of Mysore, the Mazagon and the Hoolyardroog mangoes are so greatly inferior to the other kinds above mentioned, as to be almost unworthy of cultivation. The former has here a disagreeable woody taste, and the latter is too acid to be pleasant, when placed in competition with any of the other kinds. At Bombay, I know that the Mazagon mango is generally preferred to any other, and this great difference in quality, is probably more to be imputed to the nature of the climate, than to that of the soil in the two places.

There can be no doubt that the different mangoes above enumerated, vary materially in quality, according to the soil and climate. The St. Thomé mango is little esteemed at Goa, and still less at Bombay, whereas, both at Madras and at Mysore, it is considered a very superior fruit compared with some of the other kinds. At Goa they prefer the Alôonso, and at Bombay, the Mazagon is generally held in the highest estimation.

The Alôonso mango is said to have obtained its name from the great Albuquerque, the second viceroy of Goa, upwards of three hundred years ago: he was named Alphonsode, and died in the year 1515.

I have frequently endeavoured to inoculate the mango upon another tree of the same fruit, but hitherto without success. Could this operation be performed successfully it would be of great advantage to the horticulturist.

The mango tree always bears fruit upon the extremities of the branches, and on grafted trees very frequently yields two crops annually, one in the middle, and the other in the latter end of the year: the former is however the principal, and is far more abundant than the latter.

The December and January crop is not desirable, as it is apt to weaken the trees, and to diminish the crop in the middle of the year, whenever it may be at all considerable.

It is usual for the same branch to bear once and then to enlarge, but it will throw out four or five branches all round, and close to its extremity. I have known two of these shoots to blossom, and bear fruit, one in the beginning, and the other in the middle of the same year.

Whilst the fruit is setting, the mango tree is every where giving out new shoots, either by the elder branches becoming lengthened, or else the ends of these become surrounded by circles of new buds, which in their turn, enlarge, in a similar manner.

The Goa common, or St. Thomé mango, is more prolific in fruit throughout the year than any of the other superior sorts. Its shoots are slender and much less vigorous than those of the latter, and are on that account more speedily reduced to that condition which enables them to blossom; whereas the new shoots of the other trees are thicker and stronger and require a longer time to give out their blossoms.

The branches of these trees are capable of bearing blossoms from the time they have obtained the age of a few days to that of one year, but wood that is upwards of twelve months old will not I believe yield fruit, and must supply fresh shoots for that purpose. The blossoms of the very young branches drop off, those that are six months or upwards, appear to be the most certain bearers.

The mango tree if very vigorous will for some time persevere in giving out repeated and constant successions of new shoots from very young branches, which lengthen and give out others in their turn. Whilst their wood is very immature; trees in such condition* can never yield fruit, as the interval, or state of quiet which the tree possesses between the cessation of the exertion of furnishing one set of branches and the commencement of another, is insufficient in point of time to admit of their blossoming.

This fruit never acquires perfection at Mysore without frequent showers of rain: hence a singular benefit appears to be derived from the application of moisture to the surface of the fruit itself, and not by wetting the ground merely, for an abundant supply of water to the roots by artificial means, has not the effect of perfecting the quality of the fruit.

This peculiarity was very striking in the year 1814, when the southwest monsoon was much later than usual in its arrival. The Alôonso, and the Goa common mangoes, remained imperfectly ripened, and some for a long time after they had attained their full growth. An obvious and speedy improvement was very observable in the quality of the fruit after the rains commenced: the colour of the skin altered, and instead of remaining hard and dry, and of a dull colour, it became thin and soft from being filled with juice, and of a bright and rich colour; the interior pulp of both kinds, but particularly the latter, was of a higher and deeper colour, and exquisitely rich in flavour; the Alôonso mango was sound and firm throughout, and almost entirely lost that decay near the seed which had been common to the earlier fruits.

In this year the north-east rains continued at intervals throughout the months of November and December, and we had several showers in the beginning of January 1815. We had a few ripe mangoes in the middle of December, and for some time afterwards, that were very well flowered, and superior to any that I remember to have seen at the same season when we were without rain.

I am informed that at Bombay and Goa the rain injures the flavour considerably, and that the fruit is never so good as during the hot and dry weather. I have also been told by a gentleman who had long resided at Bombay, and who was partial and attentive to the culture of this tree, that whenever the monsoon was late in making its appearance, it yielded the finest fruit. This apparent irregularity may perhaps be accounted for on the supposition that the heavy dews at that season of the Malabar Coast are equivalent to the showers of Mysore.

Should our future experience assure us that moisture to the surface of the mango is requisite, as it is approaching to maturity, and that it is incapable of arriving to its utmost perfection without, it might perhaps be improved by frequently watering its surface artificially.†

The mango, like most other fruit with which I am acquainted, is better for having the tree pruned. All weak and crowded shoots should be removed; branches should never be permitted to hang upon the ground; and the interior of the tree should be prevented from becoming crowded with wood, as the shoots are incapable of furnishing fruit, if in close contact with one another. Whenever the interior of the tree may contain

* As this exuberance of vegetation must necessarily originate, either in the soil being too rich or too moist, causing a disproportionate supply of nourishment to the tree, it may I presume be corrected in the former case, by reducing it to a medium state of fertility through the addition of sand or other inferior soil, or by exposing and cutting away part of the roots so as to check vegetation; and in the latter by draining.—R. W.

† Recent experiments have proved that artificially watering the tree all over by means of forcing in pump greatly improves the quality of the fruit, and, in dry seasons, goes far towards compensating for the want of rain.—R. W.

superfluous branches, or where there is not room sufficient for the extension of the young and fruit-bearing shoots, an open and a clear space ought to be provided for them by the removal of all the old and unsuitable wood. It is the omission of this practice, which occasions mango trees to bear on their exterior branches only, and in smaller quantities than they are capable of, if properly managed. No diseased wood ought to remain, and the branches should be preserved separate and distinct throughout every part of the tree.

At the conclusion of the crop, the trees have acquired their supply of shoots for that season, and they continue at rest during the ensuing five or six weeks, sometimes longer, and during this interval the operation of pruning ought to be performed. The latter half of July is generally the most eligible period for this purpose, and as these trees bear irregularly, and some of them will be much earlier in ripening their fruit than others, they should be first pruned, that any interference with the approaching production of blossoms, which may possibly otherwise occur, may be avoided.

The quality of the mango may be improved, and the growth of the tree facilitated, by digging the ground once every year to a considerable distance all round its roots, also by removing the grass roots from amongst them, and by the addition of a suitable supply of manure, according to the size of the tree. The most favourable period for this process, is in the latter end of November, or early in December, a short while previous to the appearance of the large crop of blossoms.

Foggy and cloudy weather is injurious to the blossoms of most fruit trees, but it is particularly destructive to those of the mango. A dry atmosphere, with a powerful sun, has an opposite effect, and conduces particularly to the health and success of all fruit blossoms: the former conveys nourishment to trees, the latter deprives them of part of their nutrition, showing that the processes of blossoming, and the formation of new wood, are produced by two opposite causes. A strong and vigorous shoot will be much longer than a small and delicate one, before it comes into blossom, but the blossom of the former will be more certain of furnishing fruit than that of the latter, and its fruit will be of larger size and superior quality. It ought therefore to be a particular object of the horticulturist, to remove all delicate branches, and preserve such only as are strong and vigorous upon this and all fruit-bearing trees.

I was lately furnished with the following list of all the good sorts of mangoes cultivated at Goa by a Portuguese gentleman, who had long resided in that settlement; but with the exception of the two first, their names are unknown to me, nor do I know whether the several kinds we cultivate in Mysore be included in this list. Their names are as follows, and they are inserted in succession according to their qualities at Goa. 1st Alfonsos.—2d Fernandezan.—3d Callaca.—4th Barretas.—5th Salgarons.—6th Massarelas.—7th Bispo.—8th Caniras.—9th Themotas. Some future opportunity may perhaps offer of applying some of these names, besides the first and second which are already familiar here to our different varieties of the mango trees.*

* Though the mango is acknowledged by almost every European who has ever tasted a really good one, to be entitled to occupy a conspicuous station in the first rank of our long catalogue of cultivated fruits, yet I cannot discover that much pains is taken either to preserve our finer varieties now in cultivation, or to improve the inferior sorts by horticultural processes. On the contrary, judging from Mr. Ingledew's account, it appears we are more indebted to nature, aided by the accidental combination of a congenial soil and climate, than to art for our finer sorts of mangoes, as they seem nearly all to be derived from Goa on the Malabar Coast, where comparatively little care seems to be required in their preservation and propagation, and if they are at all indebted to art they must have received it from the early Portuguese colonists. The subject seems worthy the best attention of the Horticultural Society. With that view I would suggest their

The grape vine is propagated either from seed, by layers, or by backing the branches. The wood being soft and juicy, enables the bark to throw out roots very speedily and the branch to be removed, may be separated from the present vine, sometimes in six weeks, but it will seldom require more than two months.

These branches, if planted in a favourable situation, will bear fruit within the second year, but the seedling vine will require a much longer time.

The different kinds of grape that appear to me to be most worthy the attention of the gardener in the Deccan, are, 1st, the long purple, and the white Aurungabad grapes: these have very thin skins and are highly flavoured. The former has the skin and flesh adhering closely, together, is of slow growth, requires great heat, and long continued dry weather to bring it to maturity and perfection, and when the hot season is of short duration is apt to be destroyed by early storms.

1st. The vines of the purple kind are in general bad bearers compared with those that are usually cultivated in this part of India, but the fruit they yield possesses so great a superiority over all others, with which I am acquainted, that the cultivator is amply compensated with but a moderate crop. The purple Aurungabad, or as it is also called the Daulatabad grape, for I believe them to be the same, is particularly distinguished by its great length, cylindrical shape, and by its extremities being obtuse and round. By the same marks the green grape is distinguished from others of that colour.

planting considerable quantities of seed of all the best sorts that can be procured, branches of which when pretty well grown might be grafted on bearing trees, which will bring them into fruit at two or three years old. Those which produce really good fruit might then be planted out and preserved, while rejected ones might be used as stocks on which to graft others. Another very decided improvement it appears to me would be effected by the more general adoption of the plan of backing or goolies, and for the very reason which Mr. Ingledew assigns for their rejection, that namely, of dwarfing the trees. The fruit, it is acknowledged, is equally good, and with our associations, a gentleman's orchard would look much more neat tastefully laid out, with his mango trees resembling the handsome round headed apple and pear trees of the English gardens, than those of large timber trees bearing fruit. I have always thought that if the mango trees were dwarfed, either by means of backing or transplanting, so as to bring them more within the reach of art, and the care of the cultivator, that they would receive more of his attention, and have more pains bestowed on their culture and general management than they now receive, greatly to the advantage of the produce. It seems the more desirable indeed to introduce this method, were it merely for the facility of watering, during very dry seasons, the whole tree, in place of the roots only, which is I suspect of questionable utility, since by causing excessive activity of vegetation, there is more new wood produced than is necessary for the succeeding crop, which is thereby impoverished and the strength of the tree exhausted, while the new wood itself is inadequately ripened in the interval between the two crops, a certain source as appears from Mr. Ingledew's experience, of defective crops and inferior fruit. The system of annually opening and largely manuring the ground, as recommended in the text, appears of doubtful propriety so long as the tree continues vigorous and healthy, indicating a congenial soil, as the natural tendency of such excessive nourishment is to cause early exhaustion of the energies of the tree, and bring on premature decay and old age. Should the tree at any time show signs of want of vigour by the defective supply of new wood, or the stem becoming early covered with moss or canker, it will then be necessary to renew and manure the soil, but not otherwise. At least this much I can state from my own observation, that comparatively neglected trees often bear much better than those treated with the greatest care and attention, and as it appeared to me, on the simple principle of their not being forced beyond their strength, and always ripening well the wood of the one year, that is to produce the fruit-bearing shoots of the next.

These hints are of course thrown out as mere suggestions for the consideration of those members of the Society who have opportunities of subjecting them to the only test which can decide their merits, that of actual experiment; but before quitting the subject, I would call attention to the circumstance, that it is to ourselves alone we must look for improvements in the culture of this fruit, second to none either in the delicacy of its pulp, or in the richness of its flavour, when procurable of a really good kind. In Europe it is almost unknown: hence we cannot draw upon the rich stores of European horticultural records for assistance to guide us in its culture,—all they can supply is general principles, and these, however imperfectly, I have attempted briefly to explain.—R. W.

2d. The grape next to these in point of quality, and which is probably equal in flavour to the green Aurungabad species, is a long slender conical thin skinned fruit, which, instead of growing in a single cluster, round and closely adhering to a single central stalk, as is usual, the central stalk ramifies, and gives out numerous lateral ones, which are long and pendulous, and these, as well as the principal, are surrounded and crowded with fruit: hence every cluster is composed of numerous small bunches upon the various lengthy ramifications of the original stalk. This is a highly valuable grape, and hot weather is generally sufficiently long to admit of its acquiring perfection.

3d. The grape next in succession in regard to quality is a very large oval fruit. Though inferior to the preceding it is still of a fine quality,—it is called the Ahly grape by the Mahomedans, who are particularly partial to its cultivation. This grows in one long tapering cluster, sometimes one and a half foot in length, and proportionally large in its circumference; the fruit is attached to one central stalk, and very short lateral ones which issue from it. Both the bunch and the fruit are the largest that I have seen.

The other grapes are, a middle sized round green, a small oval black, and a small round black grape. The first grows upon a compact conical bunch, having large green and yellowish thin skinned fruit of unequal sizes when ripe. The second is of a dark blue or purple colour, of an oval shape, considerably smaller than the Aurungabad grape, is less fleshy, and somewhat acid, and is borne upon a moderate sized conical bunch. The third is a small round purple grape, which grows upon a bunch nearly of the same diameter throughout: the meat is acid, and separates easily from the thin skin.

A dry and hot season admits of these three kinds being plucked previously to the rains, when they do not commence unusually early.

A round yellow grape of a moderate size, called the amber grape, is much cultivated in the native gardens. Its growth is rapid, on which account it is particularly favourable for our uncertain climate; but it is very inferior in quality.

In the selection of a situation for a grape pandal much nicety is requisite, as there is perhaps no fruit bearing tree or shrub, so liable to be affected by the nature of the soil, as these vines. They cannot thrive in clayey tenacious ground, or in a low damp situation. Such situations ought therefore to be carefully avoided, if they cannot be drained to a distance below the roots, which never penetrate to any depth. They are particularly partial to a loose and dry soil, consisting either of black earth or of red earth and sand, or very small gravel, or the white sandstone, which is easily penetrated by the manity.

The grape pandal should be in a situation where it will be fully exposed to the sun's rays for the greater part of the day. A low spot, well sheltered on all sides, so as to be nearly inaccessible to the winds, is preferable, as the winds sometimes prevent the tendrils embracing the pandal, and thus impede the growth of the vines by disturbing and keeping them in constant motion; but the soil of the plantation ought never to be susceptible of receiving moisture, except from the surface, which can readily be regulated according to the constitution of the plants.

I am not aware that full exposure to the atmosphere in any open or elevated spot can be otherwise detrimental, than from preventing the tendrils fixing the branches. Cold is as objectionable, as heat is desirable, to the grapes themselves, but this will apply to the fruit-bearing season only, and not to the equally important enlargement of the vines previously to the pruning season.

Grape vines should be planted at the distance of four yards from each other,

in rows, and should be reduced to one, or at the most two, stems to each. The pandal ought to be four and half, or five, feet high. As it is desirable that the soil of the vineyard should be preserved as loose and as light as possible, to give facility to the enlargement and extension of the roots, it should be well dug all over, and to a distance below the level occupied by the roots once every year. The most eligible time for this, is immediately after the conclusion of the spring crop, in March or April, or as shortly afterwards as may be practicable, when the vines have obtained their supply of new shoots.

Grape vine should be pruned, have their roots well opened and exposed for several days to the sun, receive their intended dressing, and have their roots closed up again, previously to the setting in of the N.E. rains. A fortnight before that period is preferable to a shorter interval, as the dressing will in that time have exerted its first influence upon the plants.

The roots may be opened and the operation of pruning performed at the same time.

In pruning vines, attention should be paid to the fall of the leaf, as that is the proper criterion to judge with precision of the approaching enlargement of the wood buds; and the operation should always be performed, if the season and weather will permit, before there is any appearance of young leaves and shoots. After this period, it will seldom be eligible, for the vines receive a check from the interruption which has been offered to the process by which the new wood was forming, and the formation of a second set of new branches requires an additional and a disorderly exertion, which is apt to fatigue the plants. The young shoots are consequently less healthy than they otherwise would be, which cannot fail of being detrimental to the ensuing crop of fruit.

The method of pruning is by leaving three of the lowermost joints, or those nearest the wood which has already borne fruit, which will then be nine or ten months old, and of a proper age for yielding fruit bearing shoots: this wood is always of a brown colour, and sometimes one, two, three or more joints, will have that appearance, whilst the superior parts of the same branch, which has been recently thrown out, is of a full green colour. This green looking wood and all the dried tendrils ought always to be removed: and any old branches that may either from neglect or, inadvertence, have grown to an inordinate length will require to be shortened.

Vines should never be permitted to extend to any great length without containing lateral shoots; and very thin and tender branches should always be cut short, as they are perfectly incapable of nourishing their fruit, or of giving out strong and desirable shoots for that purpose.

When vines are properly pruned there is not a leaf to be seen upon the pandal.

The roots should be completely bared all round to some distance from their junction with the stem, and should be left attached to the ground by means of their extremities only. The small fibrous roots, and those of larger size, both from the trunk of the vine, and from all the large roots, to the distance of from one to two feet from the stem, are to be removed: to this extent, one half of the whole roots should be cut out entirely, leaving only ten or twelve of the largest. The extremities beyond these limits neither need be bared, nor have any attention whatever paid to them.

The upper and the lower extremities being completed, the latter having had sufficient exposure, and being bled properly from oozing of their sap, may be expected to acquire new life on being supplied with fresh nourishment. Three wheel-barrow loads of a mixture, prepared with red earth and common manure, of each two parts, and of sheep's dung one part, well pulverized and combined together, should then be thrown on the

roots of such as are half or full grown, and the hole filled by returning the earth that had been taken out.

Three complete days having elapsed, the vines require their first watering, and must subsequently have a supply every three days in the absence of rain, to propel the wood buds and to produce numerous and strong branches; but as soon as blossoms appear, which is a sign that the vines have obtained all the intended supply of wood, give them water once every four or five days, and when the grapes are nearly full grown, every six days will be enough.

The N. E. monsoon is not sufficiently regular in its appearance in the Mysore country to fix the time for pruning. From the beginning to the middle of October may be said to be the most suitable for that purpose. Whenever the seasons are regular, early in October is the most desirable time; but when the south-west rains continue later than usual, the commencement of the N. E. monsoon may be expected to be late, and then it is desirable to defer the pruning until the middle of October, or even somewhat later. Attention should always be paid to the times of the new and full moon, as the N. E. rain may be expected to set in at one or other of these periods. A heavy fall of rain, while the roots are open, will greatly injure the plants, by again causing a new and immediate action which they are at that time but ill qualified to sustain.

Grape vines should if possible be entirely deprived of moisture for at least a month previously to their being pruned, to give some rest, and to dry the roots by slow degrees. This will enable them to support better the severe and debilitating process which they require to undergo to bring them into a bearing condition. The growth of good bearing shoots is always slow, whereas if they are of great size and grow very rapidly they will usually fail to furnish blossoms.

During the exposure of the roots they should be preserved as dry as possible, and a hot sun is particularly advantageous at this time.

Rain, if not in excess, after the roots are closed, and previously to the appearance of blossoms, does little or no mischief, but during the continuance of the latter, and at any subsequent period until the crop is finished, is highly deleterious: hence, on account of the uncertainty of the seasons in Mysore, the successful management of the grape is dubious, as both the blossoms and the fruit are liable to be destroyed by wet weather.

Along with the usual dressing the following massal may be added to the roots of vines. It is said to have the effect of enriching the fruit considerably, and is a favourite application with most native gardeners. Having employed it once only, I am unable to decide upon its merits.

Take toddy 51 pukka seers, or somewhat more than 55 quarts; tyre 25 seers, refuse of the seed of ramtil, after the oil has been expressed, 6 seers; dencomally one cuttah seer; assafetida half a seer, and fish nine pukka seers,—to be weighed when quite fresh. Mix all these substances together in a large vessel, which must remain covered for a month, if convenient. The composition will then be properly fermented and well combined into liquid, and should be added in proper proportion to the roots, immediately after throwing upon them the mixture of manure and earth. The above quantity is sufficient for a dozen of full grown vines.

The vessel in which this mixture is prepared ought to be narrow at top, or else well covered up, that but little may be lost by evaporation during the process of fermentation.

If new shoots be thrown out immediately after the dressing has been concluded, they may be expected to blossom in little more than a month, and from the latter period until the first ripe fruit be plucked, will be between three and four months.

The vines will have acquired a large supply of wood before the con-

clusion of the crop, and it is desirable that it should be as strong and well ripened as possible. Soon after the fruit is gathered, the leaves begin to wither and fall, and the plants remain for a time at rest. They acquire another supply of new shoots from the rains of the S. W. monsoon in July and August, by the branches which had appeared if the plants were pruned, either becoming lengthened at their extremities, or else giving out lateral shoots.

These latter branches being fresh, filled with sap, and very imperfectly formed, are incapable on the return of the pruning season of yielding fruit bearing shoots, and must consequently always be removed.

Where the soil is very favourable, two crops may be obtained within the years by subjecting the vine to the same treatment previous to the setting in of the S. W. monsoon, that has been here recommended in the latter end of the year, but as this crop is only trifling, and very uncertain on account of the dubious state of the weather in the months of August and September, when we are liable to experience heavy falls of rain in this climate, which destroys the fruit, and as this crop diminishes the principal one in the hot weather, it is perhaps not advisable to cultivate it. A long continued, and regular supply of grapes, seldom occurs at this season of the year, and one or two falls of rain will destroy an entire crop by thickening and bursting the skin before the fruit is fully grown.

In the year 1814, we had several falls of rain in the beginning of December, which destroyed many blossoms, and likewise some of the young bunches that were then forming. There was another fall of rain between Christmas and New year's day, which did a greater and more extensive injury: many bunches of grapes were then destroyed by it, and others so much injured as never to recover its hurtful effects. The grapes this year when fully ripe, were altogether of an inferior quality, and the skin crowded with dark coloured hard spots occasioned by the bruises of the drops of rain, rendered it insensible in those places and prevented its equable dilatation with the other parts, whilst the fruit was enlarging.

When the bunches of grapes have formed, care should be taken that they do not rest upon the bamboos of the pandal, as the fruit will be injured by the pressure of its own weight, and they must be covered, to protect them from birds, animals and insects, which are their enemies, but the coverings ought to be removed in the morning, that the fruit may have the benefit of the sun during the day, and be again applied in the evening.

Half of the roots of the vine being fully adequate to enable the plant to furnish a sufficient supply of bearing shoots, the remainder are superfluous, and if not removed, will be hurtful to the ensuing crops of grapes, by occasioning the new shoots to be too luxuriant, of an inordinate length, and of too rapid growth to yield blossoms.

The grape vine is the only fruit bearing plant with which I am acquainted, that requires such a violent check to enable it to yield fruit.

Grape vines will bear good fruit for six years, after which the bunches become of a smaller size, and the grapes upon the same bunch, are alternately large and small. The plants should then be cut down nearly to the ground, when new shoots will be given out, one or two of which must be trained upon the pandal as at first. These will yield good fruit for three years longer.

After bending down the vine, the new shoots will not bear fruit until the following year: it is advisable therefore, so to treat the old plants in regular succession by subjecting a proportion of them, according to the extent of the vineyard, to this operation.

Grape vines from the age of eight or nine months, to that of two years, or branches of a similar age belonging to older vines, are liable to be injured and sometimes entirely destroyed by one of the beetle species that

is exceedingly partial to the sap of the young wood, and consumes it with great avidity by first peeling off the bark entirely round the stem or branch, in the form of a ring about $\frac{1}{2}$ an inch in breadth, and afterwards penetrating the wood in a similar manner until it is completely divided. It will probably return to the same incision as long as any moisture can be procured from it, and if the wood be not then destroyed, it will desert that part and commence in another near to it. In this manner I have known the stem of a young vine to be severely wounded in three places within the space of two days: it was nearly two years old and measured three inches in circumference, and had every appearance of being destroyed; had the beetle not been killed.*

* Much has been said and written on the culture of the grape vine, a circumstance not to be wondered at when we consider the almost universal estimation in which its fruit is held by mankind, whether for the richness and delicacy of flavour of the finer eating sorts, or the potent juice of the wine oors. It does not however appear to me that the method of culture has until recently been so clearly explained as I think it susceptible of, owing to the authors not having set out from well defined principles, reasoning from which, a person however ignorant of the art of pruning might with a moderate degree of observation and attention soon acquire proficiency in the practice. The principle alluded to is, that the fruit of the grape vine is invariably produced on the young shoots of its own season, and that to ensure a crop, it is indispensably necessary to have a good supply of vigorous young shoots against the return of the flowering season.

The whole art therefore of the horticulturist must be directed to that one point,—the annually securing a liberal supply of young shoots, and at such a period of the year as to admit of the grapes being ripened at the season most favourable to their attaining the highest state of perfection. The means employed to procure the necessary supply of new wood is to prune or shorten, to about three or four buds, or eyes, as they are called, the shoots, which have already borne fruit, and entirely to remove all these unreasonable and immature ones, technically laterals, which have sprung forth during the ripening of the crop, and which have not at the time of pruning, acquired the firmness and maturity necessary to enable them to throw shoots strong enough to bear good fruit. Supposing then we are pruning a vine tree, say in July or August (whichever may be ascertained by experiment to be the best) we shorten every year-old branch which has already produced fruit to two buds, and entirely remove all younger shoots. If the previous season has been favourable, and the wood been well ripened, each bud will produce a vigorous shoot and bear one or more bunches of grapes; should the tree be a young one, two is perhaps as much as it will be able to bring to perfect maturity without injury to itself.

Having premised these remarks on the principles of pruning, I shall, in the hope of rendering this much neglected branch of horticulture more popular among us, conclude this short treatise with a condensed view of the culture of the grape vine as practised at the present day in Europe, and suggest such modifications of the plan as may seem necessary to adapt it to this climate, commencing with the methods of

Propagation.—The vine may be propagated by seed, layers, cutting, grafting, and inoculation. By the first of these we procure new varieties: by the other methods known and approved varieties are speedily propagated.

Seed.—The propagation by seed I would particularly recommend to the attention of cultivators in the Carnatic, first with the view of improving and multiplying our stock of varieties, but still more in the hope of introducing kinds, thoroughly acclimated, and better suited to our hot climate than those brought from cooler and more favourably situated countries. The seed should be taken from the largest and finest berries, of the largest and best bunches. Out of a number of kinds some will be found to take more kindly to our soil and climate than others, and I bear superior fruit: in this case the one might with almost certain success be grafted on the other. They should be sown in pots filled with fresh mould, kept moderately moist, and sunk in the earth to preserve an equal temperature, by preventing them being over heated during the day through exposure to the direct rays of the sun. In from four to six weeks they will come up. When the plants are about six inches high they should be transplanted singly into pots, and watered gently, according to circumstances, but the pots should still be protected from the direct rays of the sun, otherwise the young plants should have abundance of light and air. Baskets will perhaps be found more suitable than pots, by allowing a freer exit to superfluous water, with which it is probable they may be inconsiderately supplied by native gardeners. Baskets bound round with straw ropes will therefore, I imagine, prove much better than our large heavy pots, until the young plants are fit for transplanting into their proper places in the garden. Cut down the plant every season to two buds, and suffer only one of these to extend itself, till they have produced fruit, which takes place in the third or fourth year, when the approved sorts are preserved and the rest destroyed, or used as stocks for grafting.

In this way we might in a few years stock our gardens with many of the finest European sorts, by sowing the seed in boxes covered with glazed cases, and in that state, put on board ship. By the time they reached this country, they would probably be ready to transplant, and in case they threaten to prove delicate, or our soils ill suited, we might have acclimated stocks ready, on which to graft them. In such attempts it appears to me, we ought to graft a few of different kinds, on some of our indigenous, wild species of vitis, which may be expected to thrive better in their native soil and climate, than those of exotic origin.

Layers.—The principal advantage of layers is that of procuring large plants that come immediately into bearing. In layering the branch must either be pretty deeply cut into close below a bud, or receive a twist by grasping it firmly between both hands and turning it half round, so as to split it at the bend, by which the supply of sap from the parent is cut off and stronger and larger roots obtained. Some gardeners recommend the layer to be simply well watered, which they say is sufficient to draw the roots. The layered branch is headed down to two buds, and no shoots allowed between the stool and the layer.

Cuttings.—The advantages of this mode of propagation are, economy of time and labour, and of the wood or shoots to be propagated from. There are three kinds of cuttings in use, viz. long—short—and cuttings of one eye. Long cuttings are from 12 to 18 inches long, and consist of young wood with a joint or two of that of the preceding year. They are inserted so as to leave only two eyes above the ground, and the earth firmly pressed round the lower part to which the old wood is attached. "We have seen cuttings of this sort in some French nurseries producing luxuriant shoots and ripening bunches of grapes the first year." Short cuttings have only one eye, on young or one year old wood, and a few inches of that of the preceding year attached. "Each cutting should have two inches of old wood with one eye of new." Single eye consist of a single bud separated from the parent plant and planted out as above. I can see no advantage which this method enjoys over the others, and having less wood from which to make roots, seems more likely to fail.

"Whatever kind of cuttings are employed either in the case of the vine, or in the winter wood of any deciduous plant, the success will materially depend on exciting that part of the cutting which is under ground before the part which is exposed to the air. The object is to get fibrous roots, no matter how short, before the buds break. Hence the advantage of putting cuttings in the open air in autumn, and hence also the advantage of giving bottom heat to cuttings of vines, provided the temperature of the air or frame, be kept lower than that of the tan, dung, or other medium communicating the heat." To accomplish this object in this country we must reverse the process,—that is, keep the earth cool and moist, while the cutting is exposed to too hot an atmosphere for ready vegetation.

Grafting.—The advantages of this mode are many and important. Should we have pandals of bad grapes, they may thus be speedily replaced by good ones, to almost any extent. Every branch of an old vine stock may be made to produce a different variety, and those kinds which we find most suitable for our climate and soil, though in themselves very inferior, may be rendered most useful, by being employed as stocks for finer but less congenial varieties. As vine grafts do not take so readily as those of other fruits, the most eligible mode is by approach, either the stock or scion must be growing in a pot. Mr. Knight found grafting most successful when the lower half of the scion was two years old wood: one year old wood may however be grafted with ease. When so young as that, the graft and stock require to be closely united by a tight bandage, to prevent the oozing of the sap of the stock, which is apt to sadden and injure the scion. Budding may be performed either on wood of the current or past year: its uses are the same as grafting.

Soils.—The vine will thrive in any soil that has a dry bottom: "if rich and deep they grow more luxuriantly, and the fruit is larger and more abundant, but not so high flavoured as on shallow, dry, chalky or gravelly soil." Retentive clays are the worst soils for the vine. Speechly remarks that "the soil in which he found it thrive in the most superlative degree, without artificial aid, was a kind of rich sandy loam intermixed with beds of materials like jointed slate or stone, so very soft as almost to be crumbled between the fingers."

Manures.—Speechly observes that dung ought not to be permitted to approach the roots of the vine till it be perfectly reduced to a black mould. Cow dung is generally preferred for the vine in France, but every sort of manure is taken,—the more careful form composts of earth, leaves, weeds, cleanings of ditches, rivers, ponds, which they turn over a year before using. In some places littery dung is buried in trenches between the rows, but in general, dung, of whatever kind, is spread on the surface and dug in: in some places green crops are sown and dug in. How different the plan here recommended from that advised in the treatise, which clearly sets at defiance every principle of vegetable physiology, and attempts to preserve the health and vigour of the plant by, in the first place copiously bleeding it and depriving it of half its means of procuring nourishment, and then causing immoderate repletion by pouring on its remaining roots a mass of rich manure;—as if the way to strengthen an animal was first to bleed him to fainting, then starve him for a number of days, and lastly pour into his stomach a load of stimulating food. That this is no visionary hypothesis of mine is proved by the fact, that the grape vine is an exceedingly long lived tree, and properly treated has been known to live half as many centuries as Mr. Ingledew's live years: in Europe a vineyard is reckoned young at 100 years old. What kind of treatment then can that be, which destroys them in from 6 to 10 years.

Training of Vines.—Various methods of training are adopted in different countries:—"they do well on walls six feet high, and it has been found that they grow stronger and afford larger grapes when they do not exceed 4 or 5 feet in height." Sometimes they have been trained along the ground like melons and cucumbers, and with good success; also as espaliers, a method much more suited to this country than to Europe: they are then treated in all respects as for open walls. Sometimes they are grown as standards, either in borders of gardens, or in extensive plantations as vineyards, and may be trained either as red currants, or raspberries. For the former, about a foot from the ground, three or more branches eighteen inches long diverge from the stem, and supply annually young wood for bearing. The summer pruning consists in removing branches that have no fruit, or are not wanted for the succeeding season, in stopping fruit-bearing shoots, and also those for succeeding years that are inconveniently long and straggling. As by this mode the shoots destined to bear are all cut to three or four eyes at the winter season, no inconvenience arises from their throwing out laterals

near the extremities, which stopping will generally cause them to do. This mode is adapted to vines on a dry rocky situation, where they do not run much to wood. For the latter, (raspberry training) the stem at bottom is not allowed to exceed six or eight inches, and from this two or three shoots are trained to a single stake, three or four feet in length. These branches bear each two or three bunches within a foot or 18 inches from the ground, and they are annually succeeded by others, which spring up from their base, that is from the crown or top of the dwarf main stem. This plan is much practised in the south of France and Italy, and might, I think, be very successfully adopted in this country, where it could not fail to be much admired, not less on account of its novelty, than for its neatness and economy of space in the garden. I should imagine it admirably adapted for coconut tops, where the tall trees would afford sufficient shade, without depriving the bushes of the requisite quantity of light.

On the shores of the Red Sea and Persian Gulf, I am informed by Colonel Monteith, a peculiar method of cultivating the vine prevails. Large wells 16 or 18 feet in diameter are dug nearly down to the water, and faced within with masonry. Within these the vines are planted, and trained round the sides; the proper well of much narrower dimensions is then sunk to the necessary depth. In this way their roots are kept constantly cool and moist, while the upper parts of the tree are sheltered from the dry scorching hot winds that prevail during a great part of the year. In this manner the Colonel states that, in a country hotter and much more unfavorable to vegetation than Madras, the inhabitants are enabled to provide themselves with liberal supplies of excellent grapes. In some parts of France (Tromery on the Seine) a mode of training is pursued which appears to me, for reasons to be stated, admirably adapted to this country. It consists in planting the vines to be trained at the distance of several feet from the wall or trellis, carrying them along under ground to it, and then training and pruning. In this way, 5 or 6 feet of stem is converted into root, affording a large surface to act upon, either for supplying nourishment while bearing or for checking vegetation, and allowing the wood to ripen previous to pruning, by exposing it to the heat and drought of the hot season till the period for forcing returns. Thus we can by sinking the root stem in a furrow 15 or 18 inches deep, keep it always cool and moist during the bearing season, and induce that of rest by withholding the usual supplies of water, until it become so perfectly dry and parched, as thoroughly to stop vegetation.

Much diversity of opinion exists among practical gardeners as to the form the trees should be made to assume in wall or espalier training; some preferring the fan shape, and others the laying in the principal branches horizontally, and the bearing shoots perpendicularly. This last is the Tromery method. Others, again, on the ground that the vine having a tendency to produce its most vigorous shoots at the extremities of the branches, recommend them to be trained horizontally to a great length, by doubling back on themselves, when the allotted space has been filled: in this way a branch of 50 feet has been packed into a hot house 25 feet long. Another method is to train them straight, allowing only two branches to each, one of which is left longer than the other to bear fruit, while the other is cut short to prepare wood for the following season. For example,—the young vine is shortened to two buds, both push. One of these branches is shortened to only two eyes, the other to 8 or 10, each of which will give a fruit-bearing branch, and produce one or two bunches of grapes. The other gives two branches which are prevented bearing by the removal of the tendrils. These, next season, are cut of unequal lengths as the previous ones had been, while the one that has borne fruit is cut completely out; and so on from year to year. After the fruit is set, the branch is shortened down to two buds beyond the bunch, one only being usually allowed to each branch, with a view to improve the quality of the fruit. In this way we can have a great variety in small space. The Tromery method, which is remarkable for its neatness and adaptation to espalier training, is, however, the one which I think I should myself prefer in forming a vineyard; I shall therefore conclude this part of my subject with an account of it. The trellage is formed of upright rails 15 or 20 inches apart, with horizontal rods nine or ten inches apart. The peculiarity of the system consists in allowing only two branches to proceed from each vine; and planting the vine several feet from the wall or trellis, the main branches of which, when it reaches the trellis, are trained to the right and left in the form of the letter Y, each arm being four feet long, and the spurs for the production of the perpendicular bearing shoots six inches apart. These (bearing branches) are shortened to 18 inches. A second and third series, but from different roots, the main stems only being prolonged, can in a similar manner be laid in above. By adopting this method, we might have our garden walks every where bordered with low grape trellises, not less ornamental than useful, since they are not required to exceed for a single series, or two feet in height, that is six inches from the ground to the branch, and 15 for the length of the bearing shoots; but as it might be desirable to make them afford shelter to the intermediate grounds, and flower borders in front, from the hot land winds, they might be raised to three feet—say then, 8 inches between the ground and horizontal branch, and 23 inches for the perpendicular ones. In planting them for this kind of training, pits not less than two feet deep, to be partly filled with rich mould would be required in the first instance, about six feet within the espalier, on which they are to be trained, and a furrow 15 inches deep, continued from the pit to the foot of the rail where the stem is to emerge from the earth, in which to bury it at sufficient depth to keep it out of harms way when digging and cropping the ground above. This last procedure, however objectionable it may at first sight appear, I consider essential to the success of the plan; for the regular digging, manuring and watering these borders would thus receive, would ensure attention to the vines without any extra trouble, and without in the least depriving them of the proper supply of nourishment, by exhausting the powers of the soil, the very different characters of the two sorts of plants, enabling them to live in good fellowship, and it is hoped, do each other good. To ensure a regular succession of upright or bearing branches of course the alternate or long and short system, should have the preference.

(From the Proceedings of the Royal Asiatic Society.)

Bourbon Cotton demands, in India, a mode of treatment similar to that of America. The following observations on its culture, are arranged under the heads of soil, climate, culture, pruning, and cleaning, attention to all of which is essential for attaining success.

1. With regard to soil, the red and brown loams, or indeed any siliceous or calcareous soil, fertile in a moderate degree, is the most suitable and fruitful. No very rich, heavy, retentive, stiff soil, should ever be selected, for though the plants are luxuriant, yet they have much more tendency to produce redundancy of wood and leaf than of fruit-buds, besides harbouring insects. What is commonly known in many parts of India, under the denomination of black cotton soil, is to be entirely avoided.

2. With regard to climate, the vicinity of the sea, or a situation to which the influence of the sea air extends, is on every account to be preferred. A dry soil and a dry atmosphere, from March to May, and from July to September, seem almost essential to the good quality of the wool, as well as to the productiveness of the plant. The free admission of sun, the freest circulation of air, and of light winds, are of the greatest benefit to a perfect culture.

3. The plant will last a great number of years, and does not fall off, if well and properly managed. The seeds should be sown, or the young plants be set, in straight rows, eight feet apart; the rows, also, should be regularly eight feet asunder. The facility for ploughing and hoeing is so great, besides the great advantage of a free circulation of air, that this method should be invariably adopted, especially as too close planting is a common mistake. If the seed can be got in the ground in September, the young plant may be able to resist the continued wet of a heavy monsoon; but little is gained by sowing in October, November, and December,

I now come to the last subject of which I have to treat the application of European systems to India.

Throughout the works from which I have abridged these directions for the culture of the vine, the various operations are timed by the changes of seasons. These terms I have rarely repeated, as having a tendency to mislead in this country. Here we must consider the very hot months, from the middle of April to the middle of June, or until the setting in of the petty monsoon, and the change of climate from intense heat and drought, to comparative coolness and humidity of atmosphere, which accompanies it, as equivalent to the winter season, when it is necessary to check vegetation to the utmost, to allow the wood formed during the previous bearing season to ripen and cast its leaves. From July to October, will thus be the season, with us, equivalent to spring; from October till January, to summer; and thence until the crop is gathered to autumn.

Adopting this division it follows that nothing should be done during the hot months, unless perhaps loosening the earth over the roots, or indeed partly opening them to ensure a more complete check to vegetation, by allowing freer evaporation, and consequent removal of moisture from the roots. Still further to aid in arresting vegetation, the leaves might be gradually picked off, if they do not themselves separate freely. Attention however to shortening the fruit-bearing branches down to one or two eyes beyond the bunches, and the laterals as they become inconveniently long, will, by the repeated checks thus given to excessive activity, go far without additional care to ensure the required separation, which is the only sure criterion of our having well ripened wood. About the setting in of the monsoon, every branch which has produced fruit is shortened to two or three eyes, each of which will give a bearing shoot for the present year. All imperfectly ripened laterals, are either to be removed with their primaries, or if it is the intention to prolong, the primary branch must be cut clean out, as they cannot be depended on to bear fruit. If the long or alternate method is preferred, it is accomplished by allowing only two shoots to spring from each spur, like the arms of the letter Y, one of which when pruning is left three or four times longer than the other, that is, one is shortened to 2, the other to 8 or 10 eyes. All the shoots from the long limb are trained for bearing, while the two from the short are stopped when 4 or 5 feet long and prevented doing so by the constant removal of the tendrils, and allowed to strengthen to furnish the next season's bearers, while the branch that has already borne fruit is cut clean out. The summer pruning, or that after the fruit is set, consists in shortening the bearing branches to two eyes beyond the bunch, stopping laterals as may be necessary, and picking out with sharp pointed scissors the small grapes. In autumn (i. e. from January until April) the crop advances to maturity and is gathered, when the same series of operations is to be gone over again.—R. W.

unless the land is very high, dry, and free from weeds. The clear intervals of these months, especially early in October, answer well for transplanting, the first week of January very well, in general, both for sowing and transplanting.

4. Pruning should be practised twice in the year: the first and principal, as soon as the heavy rains have passed away, that is, from the 15th to the 31st December, when the shrub is cut down, generally to two feet high and two feet wide, only the firm wood being left with the strong white and brown bark. In the fine days of January, the plantation is ploughed thoroughly three or four times. In less than two months the whole is again in the finest foliage and full blossom, and continues in full bearing all the months of March, April and May. A good many pods still remain in June, early in which month, a second pruning is practised of the long, straggling, twisted, soft shoots, with diminutive pods. Good produce is yielded from July to September, unless the plants receive damage in these months from rain.

5. Great importance is attached to the process of cleaning. The cotton should never be picked, but when in a mature state, and even then it requires to be thoroughly dried, and carefully preserved from dirt or sand getting into the wool. Before being sent to the mill, all the decayed, damaged, and immature parts of the pods are first separated, when about a tenth of the whole is rejected. After being a little exposed to the sun, the wool is separated in the usual way, but women are always present to clean it by hand as soon as it comes from the mill,—that is they search rather than pull the wool, and about 5 per cent. is rejected during this process.

With regard to the extent of produce, fifty pound of cotton only from the acre have been produced in some instances; in others one hundred pounds per acre, of fine clean cotton have been obtained. Mr. Heath, an extensive cultivator of the plant, states that he found the cotton came to perfection at a distance one hundred and fifty miles from the sea, and that he could produce it at a cheaper rate than it is usually grown at, by availing himself extensively of the services of the natives, whom he found most trustworthy, and fully to be relied on. He made an abridgment of the foregoing instructions, which he had translated into Tamil, and given to every farmer, who agreed to make a trial of the new seed. He moreover employed a person to go round, inspect, and report on the progress of the cultivation. At the proper seasons for pruning, Mr. Heath himself went round, and showed how the operation should be performed.

In the Madras territories two species or varieties of cotton plant are cultivated, and these require very different soils, one is annual (*copum punthe*) and the other perennial (*madam punthe*). The first succeeds only in the "black cotton soil" formed apparently from the decomposition of trap rocks; but the second only in a very light soil, formed from the disintegration of granite rocks, especially when mixed with kunkar, or calcareous tufa. Mr. Heath made his experiment on the Bourbon cotton in the latter kind of soil, which is more abundant than any other in the district on the Coromandel coast, south of Madras, and he entertains no doubt that the Bourbon cotton plant might be successfully cultivated wherever this kind of soil occurs. In introducing this cultivation, he had to encounter the usual difficulties consequent on the introduction of any novelty in agriculture; but these gave way to perseverance. At the end of four years, Mr. H. had the satisfaction of seeing the experiment completely successful, as in the season 1823-4, he procured from the district of Coimbatore, five hundred bales of clean Bourbon cotton, of three hundred pounds each; and the natives were at that time, well satisfied that the cultivation of this was more profitable to them than that of the common cotton of the country.

PART II.

Astronomy.

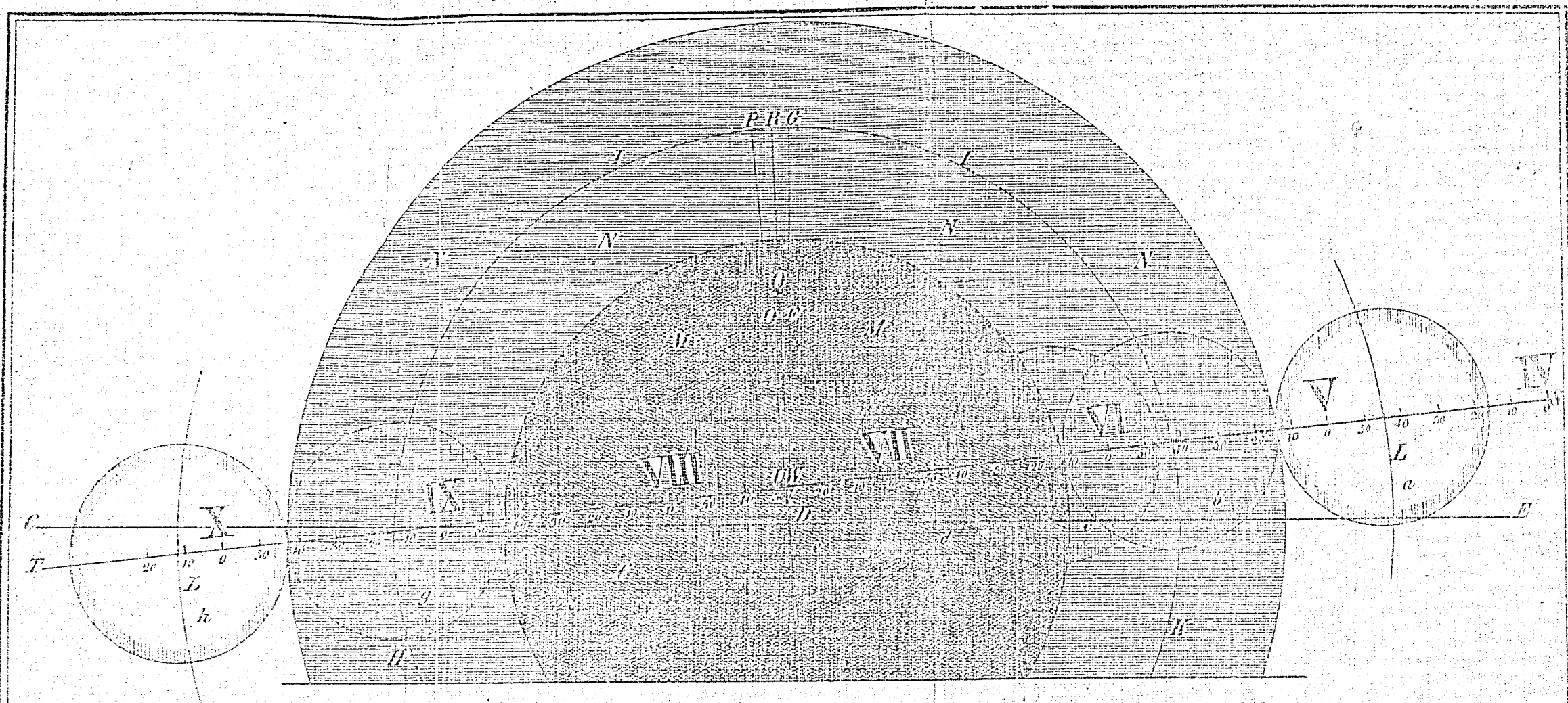
Eclipses and Calendar for 1841; Mahomedan and Hindoo Festivals; Table of the duration of Moonlight after Sun set and before Sun rise; Eclipses from 1841 to 1900; English, Mahomedan, Tamil, and Hindoo Years; Table of Dominical Letters; Secular Diary of the nineteenth Century; Time Tables, Nos. 1 and 2.

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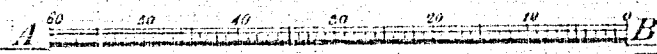
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*Geometrical Projection of a Total Eclipse of the Moon,
visible at Madras on the 6th of February
1841.*



Drawn by G. Spence

for J. B. Phillips

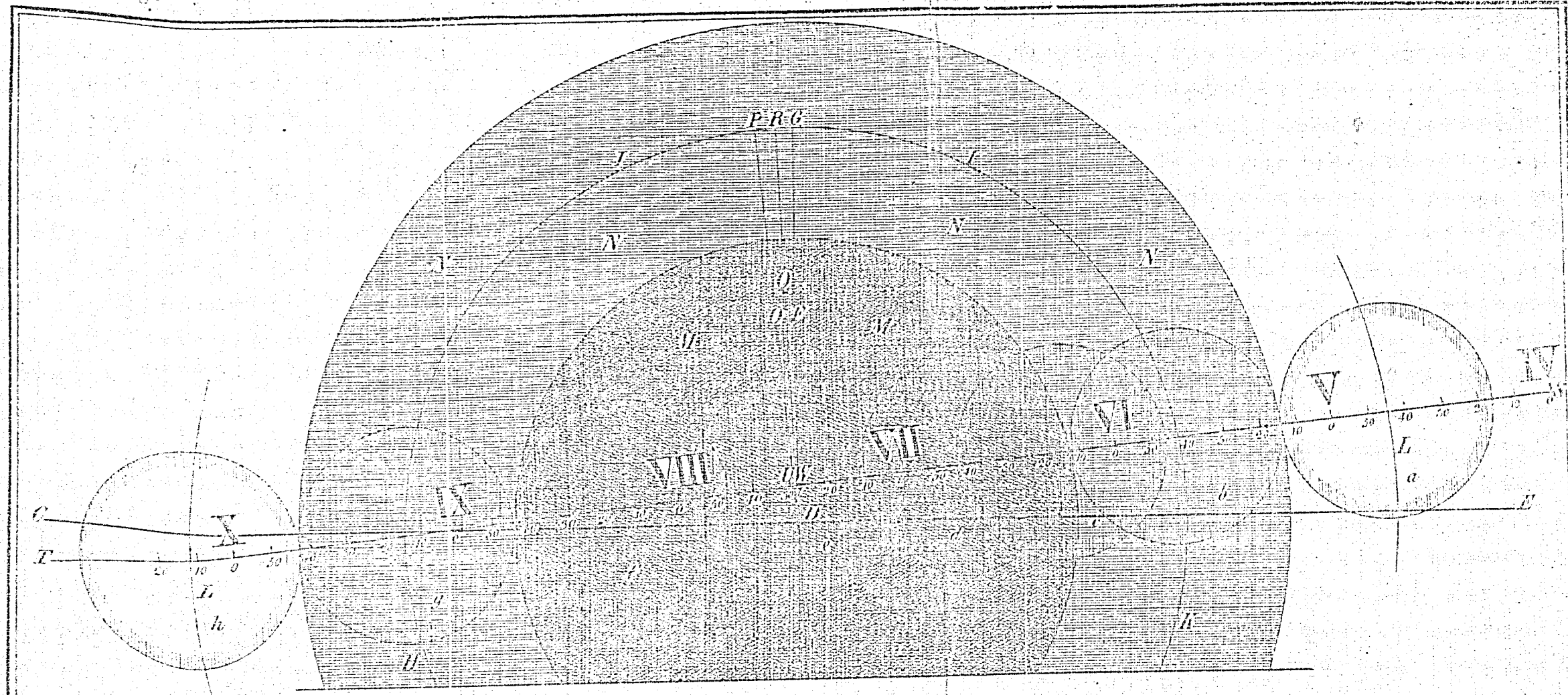
J. B. Phillips & Co. Ltd., Madras Dec. 1841.

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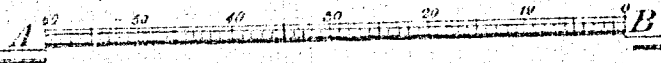
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Geometrical Projection of a Total Eclipse of the Moon.
visible at Madras on the 6th of February
1841.



for J. B. Pharoah.

Printed by J. B. Pharoah.

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ECLIPSES OF THE SUN AND MOON.

In the year 1841, there will be four ECLIPSES of the Sun, and two of the Moon.

A partial ECLIPSE of the Sun, January 22, 1841, invisible at Madras.

A total ECLIPSE of the Moon, February 6, 1841, visible at Madras.

	H.	M.	S.	
First contact with Penumbra.....	4	45	4	Mean time at Madras, morning
First contact with dark shadow.....	5	41	22	
First total immersion in dark shadow.....	6	38	46	
Middle Eclipse.....	7	27	34	
Last total immersion in dark shadow.....	8	16	22	
Last contact with dark shadow.....	9	13	16	
Last contact with Penumbra.....	10	10	4	

Magnitude of Eclipse (Moon's diameter=1) 1.719, on the southern limb.

A partial ECLIPSE of the Sun, February 21, 1841, invisible at Madras.

A partial ECLIPSE of the Sun, July 18, 1841, invisible at Madras.

A total ECLIPSE of the Moon, August 2, 1841, invisible at Madras.

A partial ECLIPSE of the Sun, August 16, 1841, invisible at Madras.

ELEMENTS OF THE ECLIPSE OF THE MOON, 6TH FEBRUARY, 1841.

		H. M. S.
☉'s Right Ascension.....	.....	9 18 27.05
☾'s Right Ascension.....	.....	9 18 33.38
		° ' "
☉'s Declination.....	N. 15 47 55.1	
☾'s Declination.....	S. 15 41 57.0	
☉'s Horary Motion in R. A. ....	.....	35 37.8
☾'s Horary Motion in R. A. ....	.....	2 30.3
☉'s Horary Motion in Declination.....	S. 14 30.9	
☾'s Horary Motion in Declination.....	N. 0 46.1	
☉'s Equatorial Horizontal Parallax.....	.....	1 0 35.2
☾'s Equatorial Horizontal Parallax.....	.....	8.7
☉'s True Semidiameter.....	.....	16 30.6
☾'s True Semidiameter.....	.....	16 14.1

89 45

PRINCIPAL ARTICLES OF THE ALMANAC FOR THE YEAR 1841.

CHRONOLOGICAL CYCLES.

GOLDEN NUMBER.....	18	DOMINICAL LETTER.....	C
EPOCH.....	7	ROMAN INDICATION.....	14
SOLAR CYCLE.....	2	JULIAN PERIOD.....	6554

FIXED AND MOVEABLE FESTIVALS, ANNIVERSARIES, &c. &c. &c.

Epiphany.....	Jan. 6	Birth of Queen Victoria.....	May 24
Martyrdom of King Charles I.....	30	Restoration of King Charles II.....	29
Septuagesima Sunday.....	Feb. 7	Pentecost—Whit Sunday.....	30
Quinquagesima—or Shrove Sunday.....	21	Trinity Sunday.....	June 9
Ash Wednesday.....	24	Corpus Christi.....	10
Quadragesima—1st Sunday in Lent.....	23	Accession of Queen Victoria.....	20
St. David.....	Mar. 1	Proclamation.....	21
St. Patrick.....	17	St. John Baptist—Mid-summer day.....	24
Annunciation—Lady Day.....	25	Birth of Dowager Queen Adelaide.....	Aug. 13
Palm-Sunday.....	Apr. 4	St. Michael—Michaelmas Day.....	Sept. 29
Good Friday.....	9	Gun Powder Plot.....	Nov. 5
Easter Day.....	11	First Sunday in Advent.....	23
Low Sunday.....	18	St. Andrew.....	30
St. George.....	23	St. Thomas.....	Dec. 21
Rogation Sunday.....	May 16	Christmas Day.....	25
Ascension Day—Holy Thursday.....	20		

NATIVE FESTIVALS.

Pungal Feast.....	Jan. 12	Vinayaka Chaturthy.....	Aug. 20
Tye Aumavasia.....	22	Mahalia Aumavasia.....	Sept. 14
Maha Sivaratri.....	Feb. 19	Maharnavame Sarswatee Pooja.....	Oct. 23
Radhotsavam at Trivatoor.....	Mar. 4	Vijahya Desami.....	24
Holy Feast.....	7	Deepavaly Feast.....	Nov. 12
Chandrasumvatsarady Yoogadee Feast.....	24	Vikoontayakadasee.....	Dec. 24
Shirana Navami.....	31		
Hindoo New Year.....	Apr. 11	Madras Latitude x 13° 4' 9" 2'	
Stree Permatoor Chattoomory.....	26	Longitude — 54. 21m. 3s. 77"	
Radhotsavam at Triplicane.....	May 3	Mean Obliquity Jan. 1, 1841.	23° 27' 36" 05"
Radhotsavam at Conjeveram.....	June 7	Apparent	23 27 42 13
Audy Pundaly.....	Aug. 14		

HOLIDAYS OBSERVED AT THE GOVERNMENT BANK AND GENERAL TREASURY.

New Year's Day.	Ascension Day.	Poollyar Chouthee.
Christmas Day.	Pungal Feast.	Auyoolha Poojay.
Ash Wednesday.	Auvaneyavuttum.	Muocooty Yacaudasee.
Good Friday.		

TERM DAYS.

First Term Commences.....	Feb. 1	First Term Concludes.....	Feb. 22
Second do. do.	Mar. 21	Second do. do.	Apr. 9
Third do. do.	July 18	Third do. do.	Aug. 7
Fourth do. do.	Sept. 12	Fourth do. do.	Oct. 2

THE PLANETS AND ASTRONOMICAL SYMBOLS AND ABBREVIATIONS.

☉ The Sun.	♄ Conjunction.	♊ Arics.	0
☾ The Moon.	☐ Quadrature.	♈ Taurus.	30
☿ Mercury.	♌ Opposition.	♊ Gemini.	60
♀ Venus.	♍ Ascending Node.	♋ Cancer.	90
♂ or ☿ The Earth.	♎ Descending Node.	♌ Leo.	120
♁ Mars.	N. North. S. South.	♍ Virgo.	150
♂ Vesta.	E. East. W. West.	♎ Libra.	180
♂ Juno.	° Degrees.	♏ Scorpio.	210
♁ Pallas.	' Minutes of Arc.	♐ Sagittarius	240
♁ Ceres.	" Seconds of Arc.	♑ Capricornus	270
♃ Jupiter.	h. Hours.	♒ Aquarius.	300
♄ Saturn.	m. Minutes of time.	♓ Pisces.	330
♄ The Georgian.	s. Seconds of time.		

The year 5602 of the Jewish Era commences on September 16, 1841—The year 1257 of the Mahomedan Era commences on February 23, 1841—Ramadan (month of Abstinence observed By the Turks) commences on October 17, 1841.

JANUARY.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

PROPER LESSONS, EVENING.

January 3	Isaiah	41..Matthew	3	Isaiah 43.....	Romans	2
" 10	1st Sun. after Epip.	44.. "	8	" 46.....	"	8
" 17	2d "	51.. "	15	" 53.....	"	15
" 24	3d "	55.. "	22	" 56.....	1st Corinth.	6
" 31	4th "	57.. "	28	" 58.....	"	12

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Fri. 1	Circumcision—Union of Ireland with Great Britain 1801.	D. H. M.
Sat. 2	Calcutta retaken from Suraja Doreal 1757.	1 13 12 ☉ in perigee. 0 56 S.
Sun. 3		4 17 14 ☽ with ♃ 0 56 S.
Mon. 4		5 13 49 ☽ in ♋
Tues. 5		9 21 10 ☽ with ☉
Wed. 6	Epiphany—Pondicherry taken 1761.	14 5 21 ☽ in Aphelion.
Thur. 7		14 6 21 ☽ with ☿ 7 27 N.
Fri. 8		15 17 17 ☽ in Aphelion.
Sat. 9		18 4 53 ♃ with ☿ 5 30 N.
Sun. 10	First Sunday after Epiphany—Cape of Good Hope captured 1806.	19 12 50 ♃ with ☿ 5 4 N.
Mon. 11	British entered the Kandian Country [1815].	21 12 50 ☽ with ☿ 0 43 N.
Tues. 12		22 0 0 ☉ eclipsed, invis. at Madras
Wed. 13		24 18 46 ♀ with ♃ 0 4 S.
Thur. 14		26 6 43 ♀ with ☿ 3 49 S.
Fri. 15		26 10 19 ♀ with ☿ 3 56 S.
Sat. 16		29 5 21 ♀ juno stationary.
Sun. 17	Second Sunday after Epiphany.	31 8 43 ♀ with ♃ 20 51 S.
Mon. 18	Bharatpur taken 1825.	
Tues. 19		
Wed. 20		
Thur. 21		
Fri. 22	St. Vincent.	
Sat. 23		
Sun. 24	Third Sunday after Epiphany.	
Mon. 25	Conversion of St. Paul.	
Tues. 26		
Wed. 27	Duke of Sussex born 1773.	
Thur. 28		
Fri. 29		
Sat. 30	King Charles I. Martyrdom.	
Sun. 31	Fourth Sunday after Epiphany.	

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	☿	♀	♂	♂	♂	♂
1	22.42	2.48	18.16	21.40	22.56	4.29
6	22.46	2.52	18.5	21.25	22.3	4.10
11	23.6	2.55	17.54	21.9	22.21	3.51
16	23.20	2.57	17.42	20.54	22.4	3.32
21	23.34	2.59	17.30	20.38	21.47	3.13
26	23.49	3.0	17.17	20.22	21.29	2.54

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites. Mean Time.

I.	D.	H.	M.
8	16	32	Im.
24	14	47	Im.
31	16	40	Im.
5	15	1	Im.
15	14	52	Em.
22	16	34	Im.

JANUARY XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31	
Barom.—In.	30.115	30.110	30.099	
Thermometer	75.3	75.5	75.9	
Maximum.	85.0			
Minimum.	65.0			
Rain—Inches.	0.55	0.23	0.11	

During this month the wind blows uniformly and steadily from the N. E. with occasionally an inclination towards the East about the middle of the day in the shape of sea breeze. In the mornings for the most part heavy dew is deposited and occasionally fog, which reaches only to two or three feet above the surface of the ground; the weather is mostly very serene; presenting about twenty days of uninterrupted clearness and five of haze or mist, the remaining days being clouded, with perhaps a single shower of rain; lightning is almost unknown in this month.

The hottest time of the day is at 4h. 0m. p. m.; the coldest at 4h. 20m. a. m.

PHASES OF THE MOON.

	D.	H.	M.
☾ First Quarter.....	1	4	11 A. M.
☾ Full Moon.....	7	8	19 P. M.
☾ Last Quarter.....	14	5	52 P. M.
☾ New Moon.....	22	10	27 P. M.
☾ First Quarter.....	30	4	21 P. M.
☾ Perigee.....	7	10	0 A. M.
☾ Apogee.....	20	9	0 A. M.

Days.	SUN'S						MOON'S					
	Right Ascension.	Declination.	Equa- tion.	Rises.	Meridi- an.	Sets.	Semi- diameter.	Age	Rises.	Meridi- an.	Sets.	Semi- diameter.
	<i>h. m. s.</i>	<i>° ' "</i>	<i>m. s.</i>	<i>h. m.</i>	<i>h. m. s.</i>	<i>h. m.</i>	<i>' "</i>	<i>d</i>	Morn. Even.	Even. Morn.	Morn. Even.	<i>' "</i>
1	18 46 31.35	8 23 1 25.43	3 52 25	6 27 12	3 52 5 41	15 17	8 6		11 55	6 16 6	.....	15 42
2	18 51 16.21	22 50 14.9	4 20 49	6 27 12	4 20 5 41	16 17	9 6		0 38	7 5 8	0 40	15 57
3	18 55 40.71	22 50 38.9	4 48 36	6 28 12	4 48 5 42	16 17	10 6		1 25	8 0 2	1 36	16 12
4	19 0 4.80	22 54 31.8	5 15 8	6 28 12	5 16 5 43	16 17	11 6		2 21	9 0 0	2 38	16 25
5	19 4 28.47	22 57 59.7	5 42 80	6 28 12	5 43 5 43	16 17	12 6		3 22	10 5 4	3 42	16 36
6	19 8 51.68	22 31 0.7	6 9 41	6 28 12	6 9 5 44	16 17	13 6		4 23	11 12 6	4 48	16 42
7	19 13 14.49	22 23 35.1	6 35 51	6 28 12	6 36 5 44	16 17	14 6		5 37	Morn.	5 57	16 43
8	19 17 35.63	22 15 43.2	7 1 10	6 29 12	7 1 15 45	16 17	15 6		6 45	0 18 3	6 56	16 39
9	19 21 53.33	22 7 25.1	7 46 29	6 29 12	7 26 5 45	16 17	16 6		7 59	1 19 5	7 50	16 30
10	19 26 12.43	21 58 0.9	7 50 82	6 29 12	7 51 5 46	16 17	17 6		8 47	2 15 8	8 40	16 17
11	19 30 40.7	21 49 31.2	8 14 78	6 30 12	8 15 5 46	16 17	18 6		9 42	3 7 1	9 35	16 1
12	19 35 0.8	21 39 55.7	8 38 19	6 30 12	8 38 5 47	16 17	19 6		10 33	3 54 9	10 5	15 45
13	19 39 19.27	21 29 55.1	9 0 94	6 30 12	9 1 5 47	16 17	20 6		11 24	4 40 3	10 45	15 30
14	19 43 38.25	21 19 29.6	9 23 9	6 31 12	9 23 5 48	16 16	21 6	Morn.	5 24 9		11 23	15 16
15	19 47 55.38	21 8 39.4	9 41 61	6 31 12	9 43 5 48	16 16	22 6	0 14	6 10 0	E. 0 3	15 4	
16	19 52 13.85	20 57 24.9	10 5 49	6 31 12	10 5 5 49	16 16	23 6	1 5	6 56 2		0 51	14 55
17	19 56 30.65	20 45 46.3	10 25 61	6 31 12	10 26 5 49	16 16	24 6		1 56	7 44 0	1 32	14 48
18	20 0 46.74	20 33 44.0	10 45 12	6 32 12	10 45 5 49	16 16	25 6		2 47	8 33 4	2 18	14 41
19	20 5 2.11	20 21 18.3	11 3 47	6 32 12	11 3 5 50	16 16	26 6		3 40	9 24 3	3 6	14 32
20	20 9 16.76	20 8 29.6	11 21 93	6 32 12	11 21 5 50	16 16	27 6		4 30	10 15 1	4 0	11 42
21	20 13 39.65	19 55 18.1	11 29 29	6 32 12	11 29 5 50	16 16	28 6		5 18	11 4 9	4 53	14 33
22	20 17 43.77	19 41 44.3	11 55 65	6 33 12	11 56 5 51	16 16	29 6		6 2	11 53 4	5 45	14 46
23	20 21 56.12	19 27 48.7	12 11 39	6 33 12	12 11 5 51	16 16	30 6		6 45	E. 0 39 5	6 36	14 50
24	20 26 7.39	19 13 31.4	12 25 35	6 33 12	12 25 5 52	16 16	31 6	1 8	7 25	1 23 5	7 24	14 55
25	20 30 18.42	18 58 53.0	12 40 50	6 33 12	12 40 5 52	16 16	32 6	2 8	8 2	2 6 1	8 11	15 2
26	20 34 28.24	18 43 53.9	12 53 82	6 33 12	12 53 5 53	16 16	33 6	3 8	9 41	2 47 8	8 58	15 9
27	20 38 37.44	18 28 31.5	13 6 22	6 33 12	13 6 5 53	16 16	34 6	4 8	10 33	3 50 1	9 46	15 18
28	20 42 45.71	18 12 55.0	13 18 16	6 32 12	13 18 5 54	16 15	35 6	5 8	9 55	4 13 8	10 36	15 28
29	20 46 53.15	17 56 56.1	13 28 86	6 32 12	13 29 5 54	16 15	36 6	6 8	10 35	5 0 2	11 28	15 39
30	20 50 59.73	17 40 39.0	13 38 85	6 32 12	13 39 5 55	16 15	37 6		11 19	5 51 0	Morn.	15 51
31	20 55 5.47	17 24 1.2	13 48 16	6 32 12	13 48 5 55	16 15	38 6	E. 0 18	6 46 4	0 25	16 4	

FEBRUARY.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

Feb. 7 Septuagesima....Gen. 1.....Mark 7
 .. 14 Sexagesima..... 3..... 14
 .. 21 Quinquagesima..... 9 to v. 20 Luke 4
 .. 28 1st Sun. in lent. .. 19 to v. 30 .. 11

PROPER LESSONS, EVENING.

Gen. 2.....2d Corinth. 3
 .. 6..... 10
 .. 13.....Galatians 4
 .. 23.....Ephesians 5

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Mon. 1	Supreme Court 1st Term Commences	D. H. M. 3 12 33 1 8 with ☉
Tues. 2	PURIFICATION of the B. V. MARY.	5 4 3 8 greatest hel. lat. at S.
Wed. 3		5 0 0 8 eclipsed vis. at Madras.
Thur. 4		5 4 56 8 in sup. ☉
Fri. 5	Tippoo defeated by Lord Cornwallis, 1792	7 12 13 8 1 with ☉ 1 6 N.
Sat. 6		10 6 54 8 1 with ☉ 7 57 N.
SUN. 7	SEPTUAGESIMA Sunday.	11 9 43 8 1 with ☉ 5 21 N.
Mon. 8	Warren Hastings resigns, 1786.	14 20 31 8 1 with ☉ 6 42 N.
Tues. 9		15 6 15 8 1 with ☉ 4 57 N.
Wed. 10		21 0 0 8 eclipsed invis. at Madras
Thur. 11		22 12 30 8 1 with ☉ 3 20 S.
Fri. 12		22 15 31 8 1 with ☉ 3 55 S.
Sat. 13		23 11 42 8 1 with ☉ 0 39 N.
SUN. 14	SEXAGESIMA Sunday.—ST. VALENTINE.	24 3 29 8 1 in ☉
Mon. 15		24 10 0 8 1 with ☉ 3 22 S.
Tues. 16		25 4 45 8 1 with ☉ 3 22 S.
Wed. 17		28 16 55 8 1 in perihelion
Thur. 18	Martin Luther died 1546.	
Fri. 19	Peace with the Birman Empire, 1825	
Sat. 20		
SUN. 21	QUINQUAGESIMA Sunday.	
Mon. 22	SUPREME COURT, 1st term concludes	
Tues. 23		
Wed. 24	ASH-WEDNESDAY.—ST. MATTHIAS, Duke of Cambridge born 1774.	
Thur. 25		
Fri. 26	Bonaparte escaped from Elba, 1815.	
Sat. 27	Victory of the Duke of Wellington over Marshal Soult, 1811.	
SUN. 28	FIRST Sunday in Lent.	

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	☿	♂	♂	♂	♂	♂
1	0.5	3.2	17.2	20.3	21.8	2.32
6	0.20	3.2	16.48	19.46	20.51	2.13
11	0.35	3.2	16.34	19.30	20.33	1.54
16	0.50	3.2	16.20	19.13	20.15	1.35
21	1.4	3.2	16.4	18.56	19.57	1.17
26	1.13	3.1	15.47	18.39	19.39	0.58

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
I.	D. H. M. 16 14 55 Im.
II.	23 16 49 Im.
III.	6 14 34 Im.
	13 17 8 Im.
	27 12 21 Im.
	27 14 41 Em.

FEBRUARY XXVIII DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 28
Barom.—In.	30.085	30.084	30.070
Thermometer.	76.8	77.8	78.5
Maximum.	87.6		
Minimum.	65.0		
Rain—Inches.	0.03	0.00	0.01

The N. E. monsoon continues with occasional exceptions till the middle of the month, after which calms and S. E. winds as frequently prevail; in the early part of the forenoon it is usually calm until 11 a. m. when the sea breeze sets in, and blows till 10 or 12 p. m. During the whole of this month the weather is without exception, always beautifully clear and placid, and is generally considered to be the most healthy period of the year; there are no more than one day of haze, and one of clouds. Rain or lightning does not occur once in seven years. The hottest time of the day is at 4h. 40m. P. M.; the coldest at 5h. 0m. A. M.

PHASES OF THE MOON.

D. H. M.

☉ FULL MOON.....	6	7	27	A. M.
☾ LAST QUARTER.....	13	11	59	A. M.
☾ NEW MOON.....	21	4	42	P. M.
☾ FIRST QUARTER.....	28	13	24	P. M.
☾ PERIGEE.....	4	7	0	P. M.
☾ APOGEE.....	16	8	0	P. M.

Days.	SUN'S										MOON'S																						
	Right Ascension.			Declination.			Equation.		Rises.	Meridian.	Sets.	Semi-diameter.	Age	Rises.	Meridian.	Sets.	Semi-diameter.																
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>S.</i>	<i>°</i>	<i>'</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	Even.	Even.	Morn.																
1	20	59	10.37		17	7	6.2	13	56	33	6	32	12	13	56	5	56	16	15	9	8	1	6	7	46	9	1	20	16	16			
2	21	3	14.42		16	49	53.2	14	3	80	6	32	12	14	4	5	56	16	15	10	8	2	7	8	51	0	2	28	16	26			
3	21	7	17.63		16	32	22.7	14	10	43	6	31	12	14	10	5	57	16	14	11	8	3	14	9	55	9	3	34	16	33			
4	21	11	20.0		16	14	35.0	14	16	24	6	31	12	14	16	5	57	16	14	12	8	4	29	10	58	7	4	37	16	35			
5	21	15	21.53		15	56	30.7	14	21	22	6	31	12	14	21	5	57	16	14	13	8	5	25	11	57	4	5	34	16	31			
6	21	19	22.29		15	33	10.0	14	25	33	6	31	12	14	25	5	57	16	14	14	8		6	28	Morn.		6	26	16	27			
7	21	23	22.21		15	19	33.5	14	28	73	6	30	12	14	28	5	58	16	14	15	8	7	25	0	51	8	7	12	16	17			
8	21	27	21.33		15	0	41.3	14	31	79	6	30	12	14	32	5	58	16	14	16	8	8	29	1	42	0	7	55	16	3			
9	21	31	19.63		14	41	34.0	14	33	6	30	12	14	33	5	59	16	13	17	8	9	12	2	30	1	8	37	15	48				
10	21	35	17.20		14	22	11.8	14	34	1	6	30	12	14	34	5	59	16	13	18	8	10	5	3	16	5	9	18	15	33			
11	21	39	13.99		14	2	35.3	14	34	29	6	30	12	14	34	6	0	16	13	19	8	10	56	4	2	7	9	58	15	19			
12	21	43	10.1		13	42	41.8	14	33	74	6	29	12	14	34	6	0	16	13	20	8	11	48	4	40	6	10	42	15	7			
13	21	47	5.28		13	22	40.8	14	32	47	6	29	12	14	29	6	0	16	13	21	8	Morn.		5	37	8	11	26	14	57			
14	21	50	59.82		13	2	23.6	14	30	46	6	29	12	14	30	5	0	16	12	22	8	0	41	6	27	4	E.	0	12	14	50		
15	21	54	53.61		12	41	53.6	14	27	73	6	29	12	14	28	5	0	16	12	23	8	1	32	7	18	2	1	4	44	45			
16	21	58	46.74		12	21	11.3	14	24	28	6	28	12	14	24	6	0	16	12	24	8	2	23	8	9	3	1	55	14	41			
17	22	2	29.14		12	0	17.1	14	20	14	6	28	12	14	20	6	1	16	12	25	8	3	14	8	59	5	2	47	14	44			
18	22	6	20.84		11	29	11.4	14	15	30	6	28	12	14	15	6	1	16	12	26	8	4	1	9	48	7	3	40	14	47			
19	22	10	21.48		11	17	54.7	14	9	78	6	27	12	14	10	6	1	16	11	27	8	4	43	10	35	6	4	31	14	51			
20	22	14	12.21		10	55	27.4	14	3	59	6	27	12	14	4	6	1	16	11	28	8	5	25	11	20	7	5	19	14	57			
21	22	18	1.89		10	34	49.9	13	55	74	6	26	12	13	57	6	2	16	11	0	0	6	2	6	2	E.	0	4	0	6	7	15	4
22	22	21	50.60		10	13	2.6	13	49	24	6	26	12	13	49	6	2	16	11	1	0	7	6	40	0	46	6	6	55	15	11		
23	22	25	20.32		9	51	6.1	13	41	11	6	25	12	13	41	6	2	16	10	2	0	7	17	1	29	0	7	44	15	19			
24	22	29	27.9		9	23	0.8	13	32	34	6	25	12	13	32	6	2	16	10	3	0	7	56	2	12	8	8	33	15	27			
25	22	33	14.25		9	6	45.9	13	22	57	6	24	12	13	23	6	3	16	10	4	0	8	25	2	58	6	9	24	15	35			
26	22	37	0.81		8	44	24.4	13	13	1	6	24	12	13	13	6	3	16	10	5	0	9	18	3	47	6	10	20	15	41			
27	22	40	46.79		8	24	55.0	13	2	47	6	23	12	13	2	6	3	16	10	6	0	10	7	4	41	1	11	18	15	52			
28	22	44	32.21		7	59	18.6	12	51	35	6	23	12	12	51	6	4	16	9	7	0	10	59	5	38	8	Morn.	16	0				

MARCH.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

PROPER LESSONS, EVENING.

March 7	2d Sun. in Lent.....	Genesis 27.....	Luke 13	Genesis 31....	Colossians 2
" 14	3d " " " " " " " "	" 32.....	John 1	" 42....	1st Thessa. 5
" 21	4th " " " " " " " "	" 43.....	" 6	" 45....	1st Timothy 5
" 28	5th " " " " " " " "	Exodus 3.....	" 15	Exodus 5....	Titus 2 and 3

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Mon. 1	St. DAVID, Tutelar Saint of Wales.	3 22 31 ☿ greatest elong 18 8 E.
Tues. 2	Rev. JOHN WESLEY died 1791.	1 2 57 ☿ greatest elong 46 19 E.
Wed. 3		7 5 21 ☿ in Aphelion.
Thur. 4		9 3 8 ☿ ☐ with ☉
Fri. 5		10 14 57 ☿ stationary.
Sat. 6	Peace of Seringapatam 1792.	10 18 50 ☿ ☐ with ☉
Sun. 7	Second Sunday in Lent,—Scotland (united to England 1707).	10 21 21 ☿ in perihelion.
Mon. 8		11 0 59 ☿ greatest heliat. N.
Tues. 9		11 2 40 ☿ ☐ with ☉ 7 59 N.
Wed. 10		11 10 21 ☿ stationary.
Thur. 11		14 9 55 ☿ ☐ with ☉ 5 7 N.
Fri. 12	End of Nepal War 1816.	15 11 54 ☿ ☐ with ☉ 4 45 N.
Sat. 13		20 11 49 ☿ ent. ☉ spring commences
Sun. 14	Third Sunday in Lent, Admiral Byng (shot 1757).	20 14 4 ☿ in sup. ☐ ☉
Mon. 15	JULIUS CÆSAR, B. C. 44 Assassination.	22 2 1 ☿ ☐ with ☉ 4 3 S.
Tues. 16		22 13 3 ☿ ☐ with ☉ 0 29 S.
Wed. 17	St. PATRICK, Tutelar Saint of Ireland.	23 6 50 ☿ ☐ with ☉
Thur. 18		26 8 28 ☿ ☐ with ☉ 0 42 S.
Fri. 19		27 14 36 ☿ ☐ with ☉ 7 55 S.
Sat. 20	SUPREME COURT, 2d term commences.	30 8 37 ☿ ☐ with ☉ 9 55 N.
Sun. 21	Fourth Sunday in Lent.	
Mon. 22		
Tues. 23		
Wed. 24		
Thur. 25	ANNUNCIATION of the B. V. MARY—(Lady Day).	
Fri. 26		
Sat. 27	Defeat of Tipoo by Genl. Hannatt 1792	
Sun. 28	Fifth Sunday in Lent.	
Mon. 29	Capitulation of Paris 1814.	
Tues. 30		
Wed. 31		

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	☿	♀	♂	♂	♂	♂
1	1.16	3.0	15.37	18.29	19.28	0.47
6	1.13	3.0	15.19	18.11	19.9	0.28
11	0.58	2.58	15.0	17.53	18.51	0.10
16	0.32	2.56	14.39	17.35	18.32	23.47
21	23.51	2.53	14.18	17.16	18.13	23.29
26	23.18	2.49	13.55	16.58	17.54	23.10

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
	D. H. M.
I.	4 13 11 Im.
	11 15 4 Im.
	18 16 58 Im.
	20 11 26 Im.
	27 13 19 Im.
II.	10 14 4 Im.
	10 16 30 Em.
	17 16 37 Im.
III.	6 16 20 Im.

MARCH XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31
Barom.—In.	29.242	30.016	29.991
Thermometer.	76.8	80.7	81.8
Maximum.	90.3		
Minimum.	69.6		
Rain—Inches.	0.02	0.11	0.58

Throughout this month the South or a long shore wind with very unequal force prevails; it is accompanied with a profuse dampness and sultriness, which renders its effects highly prejudicial to health and comfort; on this account the sea breeze which sets in at noon and blows till 10 p. m. is less courted than at other seasons; the sky is however beautifully clear for about twenty-seven days, the remaining four being cloudy; dew less frequently occurs, and is less in quantity than last month; rain and lightning are little known.
The hottest time of the day is at 6h. 20m. p. m.; the coldest at 5h. 0m. a. m.

PHASES OF THE MOON.

	D. H. M.
☉ FULL MOON.....	7 6 58 P. M.
☾ LAST QUARTER.....	15 7 40 A. M.
☾ NEW MOON.....	23 7 57 A. M.
☾ FIRST QUARTER.....	30 8 19 A. M.
☾ PERIGEE.....	4 9 0 P. M.
☾ APOGEE.....	16 4 0 P. M.
☾ PERIGEE.....	31 4 0 P. M.

Days.	SUN'S						MOON'S					
	Right Ascension.	Declination.	Equation.	Rises.	Meridian.	Sets.	Semidiameter.	Age	Rises.	Meridian.	Sets.	Semidiameter.
	h. m. s.	° ' "	m. s.	h. m. s.	h. m. s.	h. m. s.		Morn.	Evening.	Morn.	Evening.	Semidiameter.
1	22 48 17.8	7 35 34.8	12 39 70.6	6 22 12	12 13 40	4 16 9 8 0	4 26 9	8 0	11 59	6 39 6	0 20	16 8
2	22 52 1.41	7 13 45.0	12 37 51.6	6 22 12	13 28 6	4 16 9 9 0	4 16 9	9 0	E. 1 0	7 42 2	1 22	16 15
3	22 55 45.23	6 50 49.1	12 14 82.6	6 20 12	13 15 6	4 16 9 10 0	4 16 9	10 0	2 4	8 43 8	2 23	16 23
4	22 59 28.57	6 27 47.7	12 11 64.6	6 20 12	12 2 6	4 16 8 11 0	4 15 8	11 0	3 8	9 42 5	3 20	16 29
5	23 3 11.41	6 4 41.1	11 45 0.6	6 19 12	11 48 6	4 16 8 12 0	4 16 8	12 0	4 9	10 37 4	4 14	16 37
6	23 6 53.85	5 41 29.6	11 33 50.6	6 19 12	11 34 6	4 16 8 13 0	4 16 8	13 0	5 10	11 28 7	5 1	16 46
7	23 10 35.65	5 18 13.6	11 19 57.6	6 18 12	11 19 6	4 16 8 14 0	4 16 8	14 0	6 4	Morn.	5 45	16 58
8	23 14 17.44	4 54 53.4	11 4 45.6	6 18 12	11 5 6	4 16 8 15 0	4 16 8	15 0	6 58	0 17 7	6 28	15 58
9	23 17 58.66	4 31 29.4	10 49 16.6	6 17 12	10 49 6	4 16 8 16 0	4 16 8	16 0	7 50	1 5 2	7 10	15 45
10	23 21 39.52	4 8 1.8	10 33 50.6	6 16 12	10 33 6	4 16 8 17 0	4 16 8	17 0	8 43	1 52 0	7 52	15 33
11	23 25 20.5	3 44 31.2	10 17 53.6	6 15 12	10 18 6	4 16 8 18 0	4 16 8	18 0	9 36	2 22 5	8 31	15 19
12	23 29 0.28	3 20 57.7	10 1 21.6	6 15 12	10 1 6	4 16 8 19 0	4 16 8	19 0	10 31	3 28 4	9 17	15 8
13	23 32 40.22	2 57 21.8	9 44 68.6	6 14 12	9 45 6	4 16 8 20 0	4 16 8	20 0	11 23	4 18 4	10 4	14 58
14	23 36 19.89	2 33 41.0	9 27 85.6	6 13 12	9 28 6	4 16 8 21 0	4 16 8	21 0	Morn.	5 9 5	10 55	14 51
15	23 39 59.33	2 10 4.1	9 10 77.6	6 12 12	9 11 6	4 16 8 22 0	4 16 8	22 0	0 15	6 1 1	11 47	14 47
16	23 43 38.55	1 46 23.4	8 53 48.6	6 11 12	8 53 6	4 16 8 23 0	4 16 8	23 0	1 6	6 52 1	E. 0 28	14 46
17	23 47 17.66	1 22 41.6	8 35 59.6	6 11 12	8 36 6	4 16 8 24 0	4 16 8	24 0	1 55	7 41 8	1 55	14 47
18	23 50 56.39	0 58 59.1	8 18 32.6	6 10 12	8 18 6	4 16 8 25 0	4 16 8	25 0	2 38	8 29 3	2 22	14 51
19	23 54 35.5	0 35 15.0	8 0 48.6	6 9 12	8 0 6	4 16 8 26 0	4 16 8	26 0	3 21	9 14 5	3 12	14 57
20	23 58 13.59	0 11 32.5	7 42 5.6	6 9 12	7 42 6	4 16 8 27 0	4 16 8	27 0	4 0	9 58 9	4 1	15 4
21	0 1 51.99	0 12 9.5	7 24 40.6	6 8 12	7 24 6	4 16 8 28 0	4 16 8	28 0	4 38	10 41 9	4 49	15 13
22	0 5 30.28	0 55 50.4	7 6 19.6	6 7 12	7 6 6	4 16 8 29 0	4 16 8	29 0	5 15	11 24 9	5 38	15 22
23	0 9 8.47	0 39 20.0	6 47 88.6	6 6 12	6 48 6	4 16 8 30 0	4 16 8	30 0	5 51	E. 0 8 9	6 27	15 32
24	0 13 46.59	1 23 7.8	6 29 50.6	6 5 12	6 29 6	4 16 8 31 0	4 16 8	31 0	6 34	0 54 6	7 18	15 40
25	0 16 24.66	1 43 43.6	6 11 6.6	5 52 12	6 11 6	4 16 8 32 0	4 16 8	32 0	7 16	1 43 6	8 13	15 48
26	0 20 2.68	2 19 16.7	5 52 58.6	5 41 12	5 53 6	4 16 8 33 0	4 16 8	33 0	8 3	2 36 6	9 12	15 54
27	0 23 40.48	2 33 46.9	5 34 7.6	5 41 12	5 34 6	4 16 8 34 0	4 16 8	34 0	8 55	3 33 6	10 14	16 0
28	0 27 18.66	2 57 13.9	5 15 56.6	5 32 12	5 16 6	4 16 8 35 0	4 16 8	35 0	9 52	4 33 9	11 16	16 4
29	0 30 56.67	3 20 37.4	4 57 6.6	5 22 12	4 57 6	4 16 8 36 0	4 16 8	36 0	10 54	5 35 7	Morn.	16 7
30	0 34 34.70	3 43 56.9	4 38 59.6	5 12 12	4 39 6	4 16 8 37 0	4 16 8	37 0	11 55	6 36 5	0 17	16 9
31	0 38 12.73	4 7 12.0	4 20 18.6	5 0 12	4 20 6	4 16 8 38 0	4 16 8	38 0	12 4	E. 0 59 7	1 15	16 9

A P R I L.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

April 4	Sun. next before Easter....	Exd. 9....	Matth. 26
" 11	Easter Sunday.....	13....	Romans 6
" 18	First Sunday after Easter..	Num. 16....	Acts 15
" 25	Second " " " " " " " "	23 & 24 " "	22

PROPER LESSONS, EVENING.

Exodus 10....	Heb. 5 to v. 11
" 11....	Acts 2 to v. 22
Num. 22....	1st Peter 2
" 25....	1st John 1

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.						
		D. H. M.						
Thur. 1	Danish Fleet, defeated off Copenhagen (1801).	2 0 54	♂	stationary.				
Fri. 2		2 1 12	♂	greatest hellat	N.			
Sat. 3	Death of Shakespeare, 1616.	3 13 3	♂	in 3				
SUN. 4	The SUNDAY next before EASTER, or the [SIXTH SUNDAY in Lent, PALM-SUNDAY]	5 17 57	♂	stationary				
Mon. 5		7 3 38	♂	♂ with ☾	7 29 N.			
Tues. 6		9 4 26	♂	at greatest brilliancy.				
Wed. 7		9 14 21	♂	♂ with ☽	3 54 S.			
Thur. 8		10 19 38	♂	♂ with ☾	4 53 N.			
Fri. 9	GOOD FRIDAY.	11 17 59	♂	stationary.				
Sat. 10	Abdication of Napoleon 1814.	11 21 14	♂	♂ with ☾	4 31 N.			
SUN. 11	EASTER DAY—Warren Hastings im- [preached 1785]	13 16 33	♂	in aphelion.				
Mon. 12		14 17 59	♂	♂ with ☾	6 45 N.			
Tues. 13	Roman Catholic Bill signed 1829.	17 8 40	♂	greatest elong 27 21 W.				
Wed. 14		17 19 17	♂	♂ with ☽				
Thur. 15		18 13 43	♂	♂ with ☾	4 45 S.			
Fri. 16		19 9 29	♂	♂ with ☾	6 59 S.			
Sat. 17		23 11 52	♂	♂ with ☾	0 59 N.			
SUN. 18		23 13 46	♂	stationary.				
Mon. 19		MERIDIAN PASSAGE AT MADRAS MEAN TIME.						
Tues. 20		Days	♂	♀	♂	♂	♂	♂
Wed. 21		1 2.49	2.43	13.26	16.35	17.31	22.48	
Thur. 22		6 2.34	2.35	13.1	16.15	17.42	22.29	
Fri. 23		11 2.25	2.26	12.4	15.55	16.52	22.11	
Sat. 24		16 2.22	2.18	12.8	15.35	16.33	22.52	
SUN. 25	First Sunday after EASTER—Low [SUNDAY]	21 2.22	1.57	11.41	15.14	16.13	21.33	
Mon. 26		26 2.26	1.37	11.14	14.53	15.53	21.14	
Tues. 27	Spanish Fleet destroyed by BLAKE 1637.	ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.						
Wed. 28		Satellites. Mean Time.						
Thur. 29		D. H. M.						
Fri. 30	St. GEORGE—Tutelar Saint of England.	I. 3 15 13	Im.					
Sat. 31	Sr. MARK—Duchess of Gloucester born [1776]	10 17 7	Im.					
SUN. 32	SECOND Sunday after EASTER.	12 11 35	Im.					
Mon. 33		19 13 29	Im.					
Tues. 34		26 15 23	Im.					
Wed. 35		28 9 51	Im.					
Thur. 36		4 10 59	Im.					
Fri. 37		11 13 32	Im.					
Sat. 38		18 16 5	Im.					
SUN. 39		4 10 32	Em.					
Mon. 40		11 12 7	Im.					
Tues. 41		11 14 32	Em.					
Wed. 42		18 16 5	Im.					

A P R I L XXX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 30	The remarks of last month relative to the wind are equally applicable to this; the S. wind varying from S. E. to S. W. still continues, at times blowing very fresh, but occasionally calm, which are exceedingly oppressive. The weather is clear for about twenty-four days, with four days of flying clouds or haze, and two of clouds, on one of which rain falls; lightning occurs for two days. Dew is very little in quantity and of unfrequent occurrence. The hottest time of the day is about noon; the coldest at 4h. 50m. A. M.
Barom.—In.	29.974	29.960	29.939	
Thermometer.	82.7	83.7	84.7	
Maximum.	91.7			
Minimum.	75.4			
Rain—Inches.	0.05	0.03	0.26	

PHASES OF THE MOON.

	D. H. M.	
☉ FULL MOON.....	6 6 53	A. M.
☾ LAST QUARTER.....	14 3 26	A. M.
☾ NEW MOON.....	21 7 53	P. M.
☽ FIRST QUARTER.....	28 2 18	P. M.
☽ APOGEE.....	13 1 0	P. M.
☽ PERIGEE.....	25 3 0	P. M.

Days.	SUN'S						MOON'S					
	Right Ascension.	Declination.	Equation.	Rises.	Meridi-an.	Sets.	Age.	Rises.	Meridi-an.	Sets.	Semidia-meter.	
1	h. m. s.	° ' "	m. s.	h. m. s.	h. m. s.	h. m. s.		Evening.	Even.	Morn.		
2	0 41 50.91	N 4 30 22.6	4 1 82.6	0 12 4 26 8	16.1	9 4	2 9	8 29 4	2 8 16 9			
3	0 45 29.18	4 53 25.2	3 43 56.5	59 12 3 44 6	9 16 0	10 4	2 58	9 20 5	2 56 16 6			
4	0 49 7.53	5 16 23.3	3 25 40.5	59 12 3 25 6	9 16 0	11 4	3 53	10 8 9	3 32 16 1			
5	0 52 46.1	5 39 23.0	3 7 38.5	53 12 3 7 6	9 16 0	12 4	4 46	10 55 7	4 22 15 54			
6	0 56 21.65	6 2 11.7	2 49 52.5	53 12 2 50 6	9 16 0	13 4	5 38	11 42 4	5 3 15 46			
7	1 0 3.45	6 24 54.2	2 31 82.5	57 12 2 32 6	9 15 59	14 4	6 30	Morn.	5 43 15 36			
8	1 3 42.48	6 47 30.1	2 14 31.5	56 12 2 14 6	9 15 59	15 4	7 23	0 29 4	6 25 15 25			
9	1 7 21.71	7 9 59.0	1 57 45 55 12	1 57 6	9 15 59	16 4	8 18	1 18 0	7 10 15 15			
10	1 11 1.19	7 32 20.8	1 40 35 55 12	1 40 6	9 15 59	17 4	9 12	2 8 1	7 55 15 5			
11	1 14 40.93	7 54 35.1	1 23 26 5 54 12	1 23 6	9 15 58	18 4	10 6	2 59 4	8 43 14 57			
12	1 18 20.95	8 16 41.6	1 6 78 5 53 12	1 7 6	9 15 58	19 4	10 57	3 41 6	9 35 14 51			
13	1 22 1.23	8 38 40.0	0 50 60 5 53 12	0 51 6	9 15 58	20 4	11 45	4 23 4	10 29 14 47			
14	1 25 41.92	9 0 29.8	0 34 72 5 52 12	0 35 6	10 15 57	21 4	Morn.	5 33 6	11 21 14 46			
15	1 29 22.90	9 22 10.7	0 19 20 5 51 12	0 19 6	10 15 57	22 4	0 31	6 21 9	E 0 13 14 45			
16	1 33 4.30	9 43 42.6	0 4 25 50 12	0 4 6	10 15 57	23 4	1 13	7 7 9	1 31 14 53			
17	1 36 46.0	10 5 4.9	0 10 79 5 50 11	59 49 6	10 15 57	24 4	1 52	7 52 2	1 52 15 0			
18	1 40 28.10	10 26 17.4	0 25 22 5 49 11	59 35 6	10 15 56	25 4	2 31	8 35 0	2 39 15 9			
19	1 44 10.57	10 47 19.6	0 39 25 5 49 11	59 21 6	10 15 56	26 4	3 9	9 17 8	3 27 15 20			
20	1 47 53.46	11 8 11.0	0 52 87 5 48 11	59 7 6	11 15 55	27 4	3 48	10 1 2	4 16 15 32			
21	1 51 36.77	11 29 51.8	1 6 85 5 45 11	58 54 6	11 15 55	28 4	4 26	10 46 5	5 6 15 44			
22	1 55 20.51	11 49 21.1	1 18 87 5 47 11	58 41 6	11 15 55	29 4	5 9	11 35 0	6 1 15 54			
23	1 59 4.63	12 9 38.9	1 31 22 5 47 11	58 28 6	11 15 55	30 4	5 51	E 0 27 4	7 0 16 3			
24	2 2 49.31	12 29 44.7	1 43 12 5 40 11	58 17 6	11 15 55	31 4	6 45	1 24 5	8 3 16 9			
25	2 6 31.59	12 49 37.5	1 54 57 5 45 11	58 5 6	11 15 55	32 4	7 43	2 51 3	9 7 16 13			
26	2 10 19.91	13 9 18.2	2 5 56 5 44 11	57 54 6	11 15 54	33 4	8 45	3 28 4	10 11 16 14			
27	2 14 5.22	13 28 45.9	2 16 85 5 44 11	57 44 6	11 15 54	34 4	9 51	4 30 8	11 11 16 13			
28	2 17 52.40	13 48 0.2	2 26 12 5 43 11	57 31 6	12 15 54	35 4	10 54	5 30 2	Morn. 16 10			
29	2 21 39.37	14 7 0.7	2 35 68 5 43 11	57 24 6	12 15 54	36 4	11 56	6 25 9	0 6 16 5			
30	2 25 26.84	14 25 47.4	2 44 74 5 43 11	57 15 6	12 15 53	37 4	E. 0 54	7 17 1	0 56 16 0			
31	2 29 14.81	14 44 19.7	2 53 20 5 42 11	57 7 6	12 15 53	38 4	1 49	8 5 4	1 40 15 54			

M A Y.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

PROPER LESSONS, EVENING.

May 2	third Sunday after Easter.....	Deut. 4.....	Acts 28	Deut. 5.....	Romans 1
" 3	fourth ".....	" 6.....	Mat. 7	" 7.....	" 8
" 16	Rogation Sunday.....	" 8.....	" 14	" 9.....	" 15
" 23	Sunday after Ascension day.....	" 12.....	" 21	" 13.....	1st Cor. 6
" 30	Whit-Sunday.....	" 16 to v. 18	Acts 10 to v. 34	Isa. 11.....	Acts 19 to v. 21

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Sat. 1	Abolition of Slave Trade, 1807—St. Philip and St. James.	3 17 38 δ with ϵ 6 16 N. greatest hel. lat. S.
Sun. 2	Third Sunday after Easter.—Invention, finding of the Cross.	4 3 17 δ with ϵ 4 47 N. δ with ϵ 4 21 N. stationary.
Mon. 3		9 5 21 δ with ϵ 4 21 N. stationary.
Tues. 4	Seringapatam taken, and Tippoo killed, 1799.	13 5 21 δ with ϵ 4 21 N. stationary.
Wed. 5	Buonaparte died at St. Helena, 1821.	14 18 33 δ with ϵ 4 34 S. δ with ϵ 2 47 S. δ with ϵ 3 14 S. δ with ϵ 5 37 S.
Thur. 6	St. John.	16 1 14 δ with ϵ 4 34 S. δ with ϵ 2 47 S. δ with ϵ 3 14 S. δ with ϵ 5 37 S.
Fri. 7		20 3 42 δ with ϵ 3 14 S. δ with ϵ 5 37 S.
Sat. 8		20 7 16 δ with ϵ 5 37 S.
Sun. 9	Fourth Sunday after Easter.	23 2 43 δ with ϵ 5 37 S.
Mon. 10		26 2 27 δ with ϵ 5 37 S.
Tues. 11		26 11 21 δ with ϵ 3 57 N. in perihelion.
Wed. 12		27 16 13 δ with ϵ 3 57 N. in perihelion.
Thur. 13		28 2 44 δ with ϵ 3 57 N. in perihelion.
Fri. 14		29 12 14 δ with ϵ 3 57 N. in perihelion.
Sat. 15	First battle of Seringapatam 1791.	29 11 19 δ with ϵ 3 57 N. in perihelion.
Sun. 16	Fifth Sunday after Easter or Rogation Sunday.	30 15 30 δ with ϵ 5 5 S.
Mon. 17		
Tues. 18	Buonaparte declared Emperor of the French, 1804.	
Wed. 19		
Thur. 20	Ascension Day.	
Fri. 21		
Sat. 22		
Sun. 23	Sunday after Ascension day.	
Mon. 24	Birth of Queen Victoria.	
Tues. 25		
Wed. 26		
Thur. 27	Habeas Corpus Act passed 1769.	
Fri. 28		
Sat. 29	Restoration of King Charles II.	
Sun. 30	Whit-Sunday.	
Mon. 31		

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	α	δ	ϵ	ζ	η	θ
1	22.34	1.13	10.47	14.32	15.32	20.55
6	22.14	0.46	10.22	14.11	15.12	20.36
11	22.57	0.15	9.57	13.49	14.51	20.17
16	23.15	23.37	9.33	13.27	14.31	19.18
21	23.37	23.7	9.11	13.5	14.10	19.39
26	24.0	22.40	8.50	12.43	13.49	19.20

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
I.	D. H. M.
	3 17 17 Im.
	5 11 45 Im.
	12 13 39 Im.
	14 8 8 Im.
	19 15 33 Im.
	21 10 2 Im.
	26 17 27 Im.
	28 11 56 Im.
II.	6 10 3 Im.
	13 13 2 Im.
	20 15 35 Im.
	31 7 26 Im.
III.	17 7 57 Im.
	24 11 35 Im.
	31 15 51 Im.

M A Y XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31
Barom.—In.	29.966	28.867	29.543
Thermometer.	85.9	86.8	87.2
Maximum.	99.2		
Minimum.	78.7		
Rain—Inches.	0.02	0.11	0.65

The South wind which is mentioned as peculiar to the two last months, continues till the middle of this month, relieved sometimes by a land wind from the W. or S. W.; in this interval gales of wind of extreme violence have occasionally been experienced, commencing their career generally at the N. W. and carrying to every point of the compass; about the 10th, the regular land or hot winds set in, which are moderated in their effect towards the end of the month by occasional showers. The sea breeze sets in about noon and blows till 9 or 10 p.m. There are about nineteen days of clear weather, eight of drying clouds and haze, and four cloudy days, on two or three of which there is rain; the dew is almost imperceptible, and lightning with thunder occur about four times. The hottest time of the day is at 11h. 29m. A.M.; the coldest at 4h. 20m. A.M.

PHASES OF THE MOON.

PHASES OF THE MOON.

D. H. M.	D. H. M.
○ FULL MOON..... 5 7 27 P. M.	☾ FIRST QUARTER 27 8 31 P. M.
☾ LAST QUARTER... 13 9 42 P. M.	☾ APOGEE..... 11 8 0 A. M.
○ NEW MOON..... 21 5 5 A. M.	☾ PERIGEE..... 23 5 0 A. M.

Days.	SUN'S										MOON'S																										
	Right Ascension.			Declination.			Equation.		Rises.		Meridian.		Sets.		Semidiameter.			Age.			Rises.		Meridian.		Sets.		Semidiameter.										
	h.	m.	s.	°	'	"	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.		
1	2	33	3.21	N15	2	37.9	3	1	35	5	42	11	56	59	6	12	15	53	9	9	E	2	3	8	51	7	2	22	15	47	3	2	15	49			
2	2	36	52.39	15	20	40.7	3	8	83.5	42	11	56	51	6	12	15	53	7	0	9	3	32	9	57	3	3	2	15	49	3	3	2	15	49			
3	2	40	41.85	15	24	28.3	3	16	18.5	41	11	56	44	6	12	15	53	11	9	4	42	10	23	3	3	3	2	15	48	3	3	2	15	48			
4	2	44	31.92	15	56	0.5	3	22	24.5	41	11	56	38	6	12	15	53	12	9	5	5	15	11	10	5	4	22	15	47	3	3	2	15	47			
5	2	48	22.55	16	13	17.1	3	28	25.5	41	11	56	32	6	12	15	53	13	6	6	10	11	59	7	5	6	15	15	46	3	3	2	15	46			
6	2	52	13.74	16	30	17.6	3	33	62.5	40	11	56	26	6	12	15	53	14	9	7	2	Morn.	5	5	59	15	7	5	59	15	7	5	59	15	7		
7	2	56	5.50	16	47	1.7	3	38	42.5	40	11	56	22	6	12	15	53	15	9	7	56	0	50	5	6	38	14	59	5	6	38	14	59	5	6	38	
8	2	59	57.83	17	3	29.2	3	42	61.5	39	11	56	18	6	12	15	53	16	9	8	49	1	42	4	7	28	14	53	7	28	14	53	7	28	14	53	
9	3	3	50.75	17	19	39.8	3	46	23.5	39	11	56	14	6	12	15	53	17	9	9	39	2	34	7	8	21	14	48	8	21	14	48	8	21	14	48	
10	3	7	41.25	17	35	33.2	3	49	28.5	38	11	56	10	6	12	15	53	18	9	10	24	3	35	7	9	13	14	46	9	13	14	46	9	13	14	46	
11	3	11	38.31	17	51	9.1	3	51	73.5	38	11	56	8	6	14	15	51	19	9	11	9	4	15	1	10	6	13	46	10	6	13	46	10	6	13	46	
12	3	15	33.4	18	6	27.2	3	53	58.5	38	11	56	6	6	14	15	50	20	9	11	49	5	1	7	10	55	13	48	11	55	13	48	11	55	13	48	
13	3	19	28.33	18	21	27.1	3	54	55.5	37	11	56	5	6	14	15	50	21	9	Morn.	5	46	2	11	43	14	53	12	43	14	53	12	43	14	53		
14	3	23	24.22	18	36	8.7	3	55	52.5	37	11	56	4	6	14	15	50	22	9	0	28	6	23	8	10	30	15	1	30	15	1	30	15	1	30	15	1
15	3	27	20.69	18	50	31.5	3	56	38.5	37	11	56	4	6	13	15	50	23	9	0	28	6	23	8	10	30	15	1	30	15	1	30	15	1	30	15	1
16	3	31	17.77	19	4	33.0	3	55	6.5	37	11	56	5	6	13	15	50	24	9	1	41	7	53	2	2	5	15	21	2	5	15	21	2	5	15	21	
17	3	35	15.43	19	18	17.4	3	53	96.5	36	11	56	5	6	15	15	49	25	9	2	20	8	36	3	2	54	15	37	2	54	15	37	2	54	15	37	
18	3	39	13.65	19	31	42.2	3	52	29.5	36	11	56	8	6	16	15	49	26	9	2	59	9	33	3	3	47	15	51	3	47	15	51	3	47	15	51	
19	3	43	12.17	19	44	46.9	3	50	5.5	36	11	56	10	6	16	15	49	27	9	3	45	10	13	7	4	43	16	5	4	43	16	5	4	43	16	5	
20	3	47	11.51	19	57	32.0	3	47	23.5	35	11	56	13	6	16	15	49	28	9	4	33	11	9	3	5	45	16	16	5	45	16	16	5	45	16	16	
21	3	51	11.72	20	9	56.2	3	43	88.5	35	11	56	16	6	17	15	49	29	9	5	22	12	0	7	6	51	16	23	6	51	16	23	6	51	16	23	
22	3	55	12.18	20	22	0.3	3	39	99.5	35	11	56	20	6	17	15	49	30	9	6	31	1	13	9	7	57	16	27	7	57	16	27	7	57	16	27	
23	3	59	13.16	20	33	13.1	3	35	57.5	35	11	56	24	6	17	15	48	31	9	7	37	2	18	9	9	1	16	27	8	1	16	27	8	1	16	27	
24	4	3	14.67	20	45	4.4	3	30	64.5	35	11	56	29	6	18	15	48	32	9	8	41	3	21	6	10	6	16	24	9	6	16	24	9	6	16	24	
25	4	7	16.68	20	56	5.1	3	25	20.5	35	11	56	35	6	18	15	48	33	9	9	48	4	20	1	10	52	16	17	10	52	16	17	10	52	16	17	
26	4	11	19.17	21	6	43.9	3	19	29.5	35	11	56	41	6	18	15	48	34	9	10	49	5	13	7	11	33	16	8	11	33	16	8	11	33	16	8	
27	4	15	22.13	21	17	0.7	3	12	91.5	35	11	56	47	6	18	15	48	35	9	11	41	6	3	4	10	15	59	9	15	59	9	15	59	9	15	59	
28	4	19	25.51	21	26	55.5	3	6	75.5	35	11	56	54	6	18	15	48	36	9	12	24	6	50	3	0	22	15	48	0	22	15	48	0	22	15	48	
29	4	23	29.11	21	36	28.0	2	58	79.5	35	11	57	1	16	19	15	48	37	9	1	20	7	53	7	1	2	15	39	1	2	15	39	1	2	15	39	
30	4	27	33.70	21	45	33.1	2	51	6.5	35	11	57	9	6	19	15	47	38	9	2	30	8	29	9	1	22	15	29	2	22	15	29	2	22	15	29	
31	4	31	38.42	21	54	25.5	2	42	92.5	35	11	57	17	6	19	15	47	39	9	3	11	9	7	1	2	22	15	29	3	22	15	29	3	22	15	29	

JUNE.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

June 6 Trinity Sunday..Genesis 1 Matthew 3
 .. 13 1st sun. after tri..Joshua 10 Mark... 13
 .. 20 2d Judges 4 Luke ... 4
 .. 27 3d 1st Sam. 2 Luke ... 10

PROPER LESSONS, EVENING.

Genesis... 18 1st John..... 5
 Joshua... 23 2d Corinthians..... 10
 Judges... 5 Galatians..... 4
 1st Samuel 3 Ephesians..... 4

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Tues. 1		D. H. M. 3 22 17 ♀ stationary. 4 1 51.24 ♂ with ☾ 4 50 N. 5 8 3 1/2 ♂ with ☾ 4 19 N. 5 15 37 2/3 ♀ with ☉ 7 0 14 1/2 greatest hel. lat. N. 10 5 50 1 ☐ with ☉ 12 11 5 H ♂ with ☾ 4 53 S. 15 9 5 H ☐ with ☉ 15 13 11 1/2 ☐ with ☉ 16 11 50 ♀ ♂ with ☾ 8 23 S. 20 9 36 ♀ at greatest brilliancy. 20 16 52 ♂ ♂ with ☾ 0 3 S. 21 3 28 1/2 ♀ with ☉ 21 8 55 ☉ enters ♄ sum. com. S. 27 6 0 ♂ ♂ with ☾ 4 31 N. 29 9 21 H stationary. 29 22 2 ♂ great. elong. 25 49 E. 30 12 19 ♂ in ☿
Wed. 2	£ 10,000 voted to Dr. JENNER, for his discovery of Vaccination, 1802.	
Thur. 3	Leopold elected King of Belgium, 1831.	
Fri. 4		
Sat. 5		
SUN. 6	TRINITY SUNDAY.	
Mon. 7	Reform Bill signed, 1831.	
Tues. 8		
Wed. 9		
Thur. 10		
Fri. 11	St. BARNABAS.	
Sat. 12		
SUN. 13	First Sunday after Trinity.	
Mon. 14		
Tues. 15		
Wed. 16		
Thur. 17		
Fri. 18	CORPUS CHRISTI, Battle of Waterloo (1815).	
Sat. 19		
SUN. 20	Second Sunday after Trinity. Accession of Queen Victoria.	
Mon. 21	Princess Victoria proclaimed Queen, 1837.	
Tues. 22		
Wed. 23		
Thur. 24	Midsummer-day, St. JOHN the BAPTIST.	
Fri. 25		
Sat. 26		
SUN. 27	THIRD Sunday after Trinity.	
Mon. 28	Queen Victoria crowned, 1829.	
Tues. 29	St. PETER.	
Wed. 30		

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	♈	♉	♊	♋	♌	♍
1	0.29	22.12	8.27	12.16	13.24	18.57
6	0.55	21.53	8.8	11.54	13.3	18.38
11	1.17	21.37	7.51	11.31	12.41	18.18
16	1.34	21.25	7.35	11.9	12.20	17.59
21	1.46	21.15	7.19	10.47	11.59	17.39
26	1.52	21.7	7.5	10.25	11.38	17.20

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites Mean Time.	D.	H.	M.
I.	13	12	23 Em.
	15	6	52 Em.
	20	14	18 Em.
	22	8	47 Em.
	27	16	13 Em.
	29	10	41 Em.
II.	7	12	31 Em.
	14	15	5 Em.
	21	17	40 Em.
	25	6	58 Em.
III.	22	6	23 Em.
	29	10	21 Em.

JUNE XXX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 30
Barom.—In.	92.844	29.860	29.570
Thermometer.	18.5	88.4	87.3
Maximum.	93.2		
Minimum.	79.4		
Rain—Inches.	0.24	0.49	0.63

The land wind has arrived at its maximum of effect about the beginning of this month, being afterwards much moderated by clouds and rain. The sea breeze which is extremely uncertain, sets in about 1 p. m. and blows till about 9 or 10 p. m. but sometimes altogether fails; the weather is clear for about eight days, there being eleven days of flying clouds and haze, and the same number of cloudy days; of these there are six days in which rain occurs, and three or four of lightning and thunder. Dew is almost imperceptible. The hottest time of the day is at 2 p. m.; the coldest at 4h. 20m. A. M.

PHASES OF THE MOON.

	D.	H.	M.
○ FULL MOON.....	4	9	3 A. M.
☾ LAST QUARTER.....	12	1	19 P. M.
○ NEW MOON.....	19	0	36 P. M.
☾ FIRST QUARTER.....	26	3	57 A. M.
☾ APOGEE.....	7	9	0 P. M.
☾ PERIGEE.....	20	10	0 A. M.

Days.	SUN'S						Semi-diameter.	MOON'S			
	Right Ascension.	Declination.	Equation.	Rises.	Meridi-an.	Sets.		Age.	Rises.	Meridi-an.	Sets.
1	4 35 43.55	N 22 2 50.1	2 34 39.5	3 35 11 57 28 6 10 15 47 11 5	4 35 43.55	15 47 11 5	Eveng.	4 2	9 54 9	Morn.	3 15 12
2	4 39 49.6	22 10 51.8	2 35 45.5	3 35 11 57 34 6 19 15 47 12 5	4 39 49.6	15 47 12 5	4 56	10 44 5	3 47 15 4		
3	4 43 51.06	22 18 29.3	2 36 14.5	3 35 11 57 45 6 19 15 47 13 5	4 43 51.06	15 47 13 5	5 49	11 35 8	4 32 14 58		
4	4 48 1.22	22 25 45.5	2 36 46.3	3 35 11 57 54 6 10 15 47 14 5	4 48 1.22	15 47 14 5	6 42	Morn.	5 33 14 52		
5	4 52 7.81	22 32 37.3	2 37 15.5	3 35 11 58 4 6 20 15 47 15 5	4 52 7.81	15 47 15 5	7 32	0 28 0	5 33 14 43		
6	4 56 14.0	22 39 5.5	2 37 46.3	3 35 11 58 14 6 20 15 46 16 5	4 56 14.0	15 46 16 5	8 21	1 19 5	7 6 14 45		
7	5 0 22.10	22 45 10.0	2 38 15.5	3 35 11 58 25 6 21 15 46 17 5	5 0 22.10	15 46 17 5	9 5	2 9 1	7 57 14 43		
8	5 4 29.70	22 50 50.5	2 38 35.5	3 35 11 58 36 6 21 15 46 18 5	5 4 29.70	15 46 18 5	9 46	2 56 9	8 49 14 44		
9	5 8 37.00	22 56 7.1	2 38 55.5	3 35 11 58 47 6 21 15 46 19 5	5 8 37.00	15 46 19 5	10 21	3 42 1	9 35 14 47		
10	5 12 45.77	23 0 59.6	2 39 15.5	3 35 11 58 58 6 22 15 46 20 5	5 12 45.77	15 46 20 5	11 0	4 24 8	10 26 14 52		
11	5 16 54.30	23 5 27.8	2 39 35.5	3 35 11 59 10 6 22 15 46 21 5	5 16 54.30	15 46 21 5	11 33	5 6 5	11 12 15 0		
12	5 21 2.57	23 9 31.6	2 39 55.5	3 35 11 59 22 6 23 15 46 22 5	5 21 2.57	15 46 22 5	Morn.	5 47 6	11 57 15 10		
13	5 25 11.75	23 13 11.0	2 40 15.5	3 35 11 59 35 6 23 15 46 23 5	5 25 11.75	15 46 23 5	0 14	6 29 5	E 0 44 15 23		
14	5 29 20.82	23 16 25.8	2 40 35.5	3 35 11 59 47 6 23 15 46 24 5	5 29 20.82	15 46 24 5	0 52	7 13 3	1 34 15 37		
15	5 33 30.6	23 19 16.2	2 40 55.5	3 35 11 59 58 6 24 15 46 25 5	5 33 30.6	15 46 25 5	1 33	8 1 0	2 29 15 53		
16	5 37 39.41	23 21 42.7	2 41 15.5	3 35 11 59 69 6 24 15 46 26 5	5 37 39.41	15 46 26 5	2 20	8 53 1	3 26 16 8		
17	5 41 48.93	23 23 43.5	2 41 35.5	3 35 11 59 80 6 24 15 46 27 5	5 41 48.93	15 46 27 5	3 12	9 50 5	4 28 16 21		
18	5 45 58.52	23 25 19.5	2 41 55.5	3 35 11 59 91 6 24 15 46 28 5	5 45 58.52	15 46 28 5	4 11	10 53 7	5 37 16 32		
19	5 50 8.16	23 26 23.7	2 42 15.5	3 35 11 59 102 6 24 15 46 29 5	5 50 8.16	15 46 29 5	5 16	11 59 0	6 42 16 33		
20	5 54 17.83	23 27 17.0	2 42 35.5	3 35 11 59 113 6 24 15 46 30 5	5 54 17.83	15 46 30 5	6 24	E 1 4 6	7 46 16 33		
21	5 58 27.50	23 27 57.5	2 42 55.5	3 35 11 59 124 6 24 15 46 31 5	5 58 27.50	15 46 31 5	7 31	2 7 10	8 43 16 35		
22	6 2 37.15	23 27 31.1	2 43 15.5	3 35 11 59 135 6 24 15 46 32 5	6 2 37.15	15 46 32 5	8 24	3 4 6	9 34 16 37		
23	6 6 46.75	23 27 5.9	2 43 35.5	3 35 11 59 146 6 24 15 46 33 5	6 6 46.75	15 46 33 5	9 35	3 57 5	10 19 16 15		
24	6 10 56.26	23 26 12.9	2 43 55.5	3 35 11 59 157 6 24 15 46 34 5	6 10 56.26	15 46 34 5	10 32	4 46 7	11 1 16 3		
25	6 15 5.67	23 24 55.3	2 44 15.5	3 35 11 59 168 6 24 15 46 35 5	6 15 5.67	15 46 35 5	11 25	5 33 5	11 41 15 43		
26	6 19 14.95	23 23 12.9	2 44 35.5	3 35 11 59 179 6 24 15 46 36 5	6 19 14.95	15 46 36 5	0 16	6 19 1	Morn. 15 36		
27	6 23 24.7	23 21 5.7	2 44 55.5	3 35 11 59 190 6 24 15 46 37 5	6 23 24.7	15 46 37 5	1 7	7 5 3	0 22 15 24		
28	6 27 33.1	23 18 34.1	2 45 15.5	3 35 11 59 201 6 24 15 46 38 5	6 27 33.1	15 46 38 5	1 59	7 52 5	1 0 15 14		
29	6 31 41.75	23 15 38.0	2 45 35.5	3 35 11 59 212 6 24 15 46 39 5	6 31 41.75	15 46 39 5	2 53	8 41 0	1 45 15 4		
30	6 35 50.37	23 12 17.5	2 45 55.5	3 35 11 59 223 6 24 15 46 40 5	6 35 50.37	15 46 40 5	3 45	9 31 7	2 22 14 57		

JULY.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

July 4	4th Sun. after Trin.	1st Samuel. 12 Luke. 16	1st Samuel 13....Philippians 3
" 11	5th "	" 1st 15 " 23	1st " 16....1st Thessalonians 3
" 18	6th "	" 2d Samuel. 12 John. 6	2d Samuel 19....1st Timothy 2 and 3
" 25	7th "	" 2d " 21 John. 13	2d " 24....2d Timothy. 4

PROPER LESSONS, EVENING.

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.								
Thur. 1		D.	H.	M.						
Fri. 2	Visitation of B. V. Mary.	1	1	49	♂	with ☾	4 59	N.		
Sat. 3		1	6	8	☉	in apogee.				
Sun. 4	FOURTH Sunday after Trinity, United States declaration of Independence, 1776.	1	7	58	♀	in aphelion.				
Mon. 5		2	10	30	♂	with ☾	4 25	N.		
Tues. 6		9	5	21	☿	stationary.				
Wed. 7		9	18	18	☿	☾ ☾	5 4	S.		
Thur. 8		10	15	51	♂	in aphelion.				
Fri. 9		13	1	47	☿	stationary.				
Sat. 10		15	4	20	♀	☾ with ☾	8 27	S.		
Sun. 11	FIFTH Sunday after Trinity.	15	14	44	☉	☐ with ☉				
Mon. 12		18	0	0	☉	eclip. invis. at Madras				
Tues. 13		19	4	22	☿	☾ with ☾	4 22	S.		
Wed. 14		23	22	29	☿	☐ with ☉				
Thur. 15		23	23	49	☿	☐ greatest hel. lat.		S.		
Fri. 16		24	8	43	☿	great. elong.	45 38	W		
Sat. 17		25	9	37	☿	☾ with ☾	4 11	N.		
Sun. 18	SIXTH Sunday after Trinity.	27	15	59	♂	in inf. ☉				
Mon. 19		28	4	11	♂	☾ with ☾	5 3	N.		
Tues. 20		29	13	11	♂	☾ with ☾	4 30			
Wed. 21		31	1	47	☐	with ☉				
Thur. 22		31	2	31	☿	greatest hel. lat.		S.		
MERIDIAN PASSAGE AT MADRAS MEAN TIME.										
	Days	☿	♀	♂	♂	♂	♂	♂		
	1	1.52	21.1	6.52	10.3	11.16	17.20			
	6	1.46	20.56	6.39	9.41	10.55	16.41			
	11	1.33	20.54	6.27	9.20	10.34	16.21			
	16	1.12	20.52	6.15	8.59	10.13	16.1			
	21	0.44	20.51	6.4	8.38	9.52	15.45			
	26	0.11	20.52	5.54	8.17	9.31	15.21			
ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.										
Satellites Mean Time. Satellites Mean Time.										
		D.	H.	M.		D.	H.	M.		
	I.	6	12	35	Em.	II.	2	9	53	Em.
		8	7	5	Em.		9	12	9	Em.
		13	14	31	Em.		16	14	45	Em.
		15	9	0	Em.		27	6	39	Em.
		22	10	55	Em.	III.	6	11	48	Im.
		29	12	50	Em.		6	14	22	Em.
		31	7	18	Em.		13	15	47	Im.
Thur. 23	Union of Ireland and Scotland—MAGDALENE.									
Fri. 23										
Sat. 24										
Sun. 25	SEVENTH Sun. after Trinity, Natives of India first sat on the Petit Jury, 1928.									
Mon. 26	St. JAMES.									
Tues. 27										
Wed. 28										
Thur. 29	French Revolution, 1830.									
Fri. 29										
Sat. 31										

JULY XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31	
Barom.—In.	29.853	29.853	29.853	With this month the rains of the S. W. Monsoon begin, generally in heavy but partial showers; the weather may be reckoned among the most cloudy of the year, there being only six clear days—the remaining days consist of thirteen cloudy, and twelve of dying clouds and haze; of these there are eight days on which rain falls, and about three of thunder and lightning. The sea breeze is very uncertain as to the time it commences or ceases, and not unfrequently fails for several days together.
Thermometer.	26.2	81.1	83.8	The hottest time of the day is at 2A. 20m. P. M.; the coldest at 4A. 0m. A. M.
Maximum.	95.2			
Minimum.	73.5			
Rain—Inches.	0.00	1.21	1.52	

PHASES OF THE MOON.

D. H. M.

○ FULL MOON.....	3 11 49	P. M.
☾ LAST QUARTER	12 1 51	A. M.
☾ NEW MOON	18 7 31	P. M.
☾ FIRST QUARTER.....	25 1 42	P. M.
☾ APOGEE.....	5 5 0	A. M.
☾ PERIGEE.....	18 8 0	P. M.

Days.	SUN'S						MOON'S					
	Right Ascension.	Declination.	Equation.	Rises.	Meridian.	Sets.	Semis. diameter.	Age.	Rises.	Meridian.	Sets.	Semis. meter.
	<i>h. m. s.</i>		<i>m. s.</i>	<i>h. m. s.</i>	<i>h. m. s.</i>	<i>h. m. s.</i>			<i>Eveng.</i>	<i>Morn.</i>		
1	6 33 58.56	N 23 8 32.7	3 22 50.5	5 30 12	3 23 6 25 15 45	12	12	1 37	10 23	3	3	16 14 51
2	6 44 6.61	23 4 23.5	3 31 34.5	5 30 12	3 31 6 25 15 45	13	13	5 23	11 14	7	4	9 14 47
3	6 48 14.36	22 59 50.2	3 45 51.5	5 40 12	3 45 6 27 15 45	14	14	6 16	Morn.	5	1	14 43
4	6 52 21.81	22 54 53.0	3 56 37.5	5 40 12	3 56 6 27 15 45	15	15	7 1	0 5	1	5	54 14 42
5	6 56 28.55	23 49 31.8	4 6 93.5	5 40 12	4 7 6 27 15 45	16	16	7 44	0 53	5	6	45 14 43
6	7 0 35.78	23 43 46.8	4 17 17.5	5 40 12	4 17 6 28 15 45	17	17	8 25	1 39	4	7	34 14 43
7	7 4 42.37	23 37 38.2	4 27 8.5	5 41 12	4 27 6 28 15 45	18	18	9 1	2 22	9	8	21 14 47
8	7 8 48.41	23 31 5.9	4 36 63.5	5 41 12	4 37 6 28 15 45	19	19	9 38	3 4	7	9	9 14 52
9	7 12 54.17	22 24 10.3	4 45 87.5	5 42 12	4 46 6 28 15 45	20	20	10 13	3 45	3	9	52 15 0
10	7 16 59.55	22 16 51.4	4 54 59.5	5 42 12	4 55 6 27 15 45	21	21	10 50	4 25	2	10	39 15 4
11	7 21 4.33	22 9 9.5	5 2 98.5	5 43 12	5 3 6 27 15 45	22	22	11 30	5 8	4	11	26 15 21
12	7 25 9.8	22 1 4.6	5 10 96.5	5 43 12	5 11 6 27 15 45	23	23	Morn.	5 53	0	E. 0	16 15 35
13	7 29 13.30	21 52 6.9	5 18 51.5	5 44 12	5 19 6 27 15 45	24	24	0 11	6 41	5	1	11 15 50
14	7 33 16.83	21 43 46.7	5 25 61.5	5 44 12	5 26 6 27 15 45	25	25	1 0	7 34	7	2	10 16 5
15	7 37 20.9	21 34 34.0	5 32 25.5	5 45 12	5 33 6 27 15 45	26	26	1 52	8 33	5	3	14 16 19
16	7 41 22.82	21 21 50.3	5 38 39.5	5 45 12	5 38 6 27 15 45	27	27	2 54	9 37	4	4	29 16 32
17	7 45 25.3	21 15 2.6	5 44 45.5	5 45 12	5 41 6 27 15 45	28	28	4 1	10 42	6	5	25 16 49
18	7 49 26.74	21 4 44.3	5 49 18.5	5 45 12	5 49 6 27 15 46	29	29	5 10	11 47	2	6	24 16 43
19	7 53 27.92	20 54 4.5	5 53 79.5	5 45 12	5 54 6 27 15 46	30	30	6 16	0 48	1	7	10 18 41
20	7 57 28.51	20 43 3.7	5 57 83.5	5 45 12	5 58 6 27 15 46	31	31	7 21	1 44	7	8	9 16 24
21	8 1 29.60	20 31 41.8	6 1 33.5	5 45 12	6 1 6 27 15 46	32	32	8 20	2 37	3	8	54 16 23
22	8 5 38.11	20 19 59.2	6 4 27.5	5 46 12	6 4 6 27 15 46	33	33	9 16	3 26	5	9	36 16 9
23	8 9 37.2	20 7 56.2	6 6 62.5	5 46 12	6 7 6 26 15 46	34	34	10 10	4 14	2	10	8 15 53
24	8 13 25.35	19 55 33.2	6 8 39.5	5 46 12	6 8 6 26 15 46	35	35	11 2	5 1	3	11	0 15 38
25	8 17 23.8	19 42 50.2	6 9 55.5	5 46 12	6 10 6 26 15 46	36	36	11 55	5 48	9	11	43 15 21
26	8 21 20.29	19 29 47.7	6 10 10.5	5 46 12	6 10 6 26 15 46	37	37	E. 0 48	6 37	9	Morn.	15 12
27	8 25 16.68	19 16 25.7	6 10 4.5	5 47 12	6 10 6 26 15 46	38	38	1 40	7 23	0	0	28 15 2
28	8 29 12.66	19 2 44.8	6 9 37.5	5 47 12	6 9 6 25 15 47	39	39	2 33	8 19	5	1	16 14 54
29	8 33 7.82	18 49 45.1	6 8 8.5	5 47 12	6 8 6 25 15 47	40	40	3 25	9 10	9	2	5 14 48
30	8 37 2.47	18 34 25.9	6 6 16.5	5 47 12	6 6 6 25 15 47	41	41	4 14	10 1	6	2	57 14 44
31	8 40 56.50	18 19 50.5	6 3 25.5	5 47 12	6 5 6 25 15 47	42	42	5 0	10 50	5	3	48 14 42

AUGUST.

PROPER LESSONS, MORNING.

Aug. 1	8th Sun. after Trinity..	1st Kings 13	John 20
" 8	9th "	1st " 13	Acts 6
" 15	10th "	1st " 21	" 13
" 22	11th "	2d Kings 5	" 20
" 29	12th "	2d " 10	" 27

PROPER LESSONS, EVENING.

1st Kings 17	.....	Hebrews 4
1st " 19	.....	" 11
1st " 22	.....	James 5
2d " 9	.....	2d Peter 2
2d " 18	.....	2d & 3d Epis. [Iles St. John.]

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
SUN. 1	EIGHTH Sunday after Trinity.	2 0 0 ☾ eclipsed invis. at [Madras.
Mon. 2		5 23 11 H ☽ ☾ 5 5 S.
Tues. 3		6 13 34 ☽ stationary.
Wed. 4		6 19 47 ☽ stationary.
Thur. 5		9 5 21 ☽ in aphelion.
Fri. 6	TRANSFIGURATION OF OUR LORD.	13 11 20 ☽ with ☾ 5 17 S.
Sat. 7		15 6 37 ☽ with ☾ 1 31 S.
SUN. 8	NINTH Sunday after Trinity.	15 8 15 ☽ great. along 1837 W.
Mon. 9		16 0 0 ☽ eclipse invis. at Madras
Tues. 10	St. LAWRENCE.	19 1 59 ☽ in ☽
Wed. 11		21 5 21 ☽ greatest hel. lat. S.
Thur. 12		22 22 0 ☽ with ☾ 3 39 N.
Fri. 13	Birth of Dowager Queen Adelaide.	23 15 28 ☽ in perihelion.
Sat. 14		24 11 23 ☽ with ☾ 4 55 N.
SUN. 15	TENTH Sunday after Trinity.	25 18 1 ☽ with ☾ 4 28 N.
Mon. 16		26 5 21 ☽ stationary.
Tues. 17		31 3 38 ☽ stationary.
Wed. 18		
Thur. 19	Trial of Queen Caroline commenced [1820.]	
Fri. 20		
Sat. 21		
SUN. 22	ELEVENTH Sunday after Trinity	
Mon. 23		
Tues. 24		
Wed. 25		
Thur. 26		
Fri. 27		
Sat. 28	St. JOHN: the Baptist beheaded.	
SUN. 29	TWELFTH Sunday after Trinity.	
Mon. 30		
Tues. 31	Trincomalee taken by the French fleet [1782.]	

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	☿	♀	♂	♂	♂	♂
1	23.26	20.52	5.42	7.53	9.6	14.57
2	23.2	20.55	5.33	7.33	8.46	14.37
3	22.50	20.58	5.25	7.14	8.25	14.16
4	22.50	21.1	5.16	6.54	8.5	13.56
5	22.59	21.5	5.9	6.36	7.45	13.36
6	23.15	21.9	5.1	6.17	7.25	13.16

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
I.	7 9 14 Em.
	14 11 9 Em.
	23 7 32 Em.
	30 9 28 Em.
II.	3 9 15 Em.
	10 11 52 Em.
	28 6 24 Em.
III.	4 6 23 Em.
	11 7 45 Im.
	11 10 23 Em.
	18 11 44 Im.

105

53

AUGUST XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31
Barom.—In.	29.578	29.576	29.597
Thermometer.	81.6	81.	81.6
Maximum.	93.4		
Minimum.	72.9		
Rain.—Inches.	1.77	1.51	1.45

The regular westerly winds which terminate about the middle of this month are succeeded by winds of a light and variable nature, mostly from the West and South; calms, haze, and rain occur in about the same proportions as last month, leaving about eight days of clear weather; lightning unattended by thunder is very frequent, but thus accompanied, it occurs only once or twice. The sea breeze assumes much the same character as that experienced last month, commencing at 3 or 3 p. m. and continuing till 8 or 10 p. m. Dew is sometimes discovered but more frequently fails.

The hottest time of the day is at 2.0 m. p. m.; the coldest at 3.5 m. a. m.

PHASES OF THE MOON.

	D.	H.	M.
☉ FULL MOON.....	2	3	23 P. M.
☾ LAST QUARTER.....	10	11	40 A. M.
☽ NEW MOON.....	17	2	54 A. M.
☽ FIRST QUARTER.....	24	2	31 A. M.
☽ APOGEE.....	1	11	0 A. M.
☽ PERIGEE.....	16	6	0 A. M.
☽ APOGEE.....	28	6	0 P. M.

Days.	SUN'S						MOON'S					
	Right Ascension.	Declination.	Equa- tion.	Rises.	Meridi- an.	Sets.	Semi- diameter.	Age.	Rises.	Meridi- an.	Sets.	Semi- diameter.
1	h. m. s.		m. s.	h. m. s.	h. m. s.	h. m. s.	"		Even.		Morn.	"
1	8 44 42.91	N 18 4 55.1	6 0 53.3	43 48 12	6 16 21	15 47 13	9	13 9	5 40	11 37 3	4 40	14 42
2	6 48 42.71	17 12 43.9	5 56 79.5	43 12	5 57 5 21	15 47 14	9	12 9	6 25	Morn.	5 31	14 43
3	8 52 21.91	17 34 14.3	5 52 44.5	43 12	5 52 5 21	15 47 15	9	11 9	7 2	0 21 6	6 19	14 46
4	8 56 23.51	17 18 27.7	5 47 50.5	43 12	5 47 5 21	15 47 16	9	10 9	7 39	1 4 0	7 6	14 46
5	9 0 17.52	17 2 24.1	5 41 59.5	43 12	5 42 5 21	15 47 17	9	9 9	8 15	1 45 0	7 51	14 55
6	9 4 2.95	16 46 3.9	5 35 85.5	43 12	5 36 5 21	15 47 18	9	8 9	8 51	2 25 9	8 37	15 1
7	9 7 57.58	16 29 27.2	5 29 16.5	43 12	5 29 5 21	15 47 19	9	7 9	9 25	3 7 0	8 37	15 2
8	9 11 45.6	15 12 31.5	5 21 90.5	43 12	5 22 5 21	15 47 20	9	6 9	10 53	3 50 3	9 23	15 11
9	9 15 33.77	13 55 45.2	5 11 6.5	43 12	5 11 6 21	15 47 21	9	5 9	10 53	4 36 2	10 13	15 21
10	9 19 23.91	15 23 2.2	5 5 58.5	43 12	5 6 6 21	15 47 22	9	4 9	11 42	5 26 3	11 50	15 46
11	9 23 11.49	15 23 23.1	4 55 72.5	43 12	4 57 6 21	15 47 23	9	3 9	Morn.	6 21 4	E. 1 0	16 0
12	9 26 54.53	15 2 29.2	4 47 23.5	43 12	4 47 6 21	15 47 24	9	2 9	0 38	7 29 4	2 2	16 12
13	9 30 45.2	14 44 20.7	4 37 20.5	43 12	4 37 6 21	15 47 25	9	1 9	1 40	8 23 4	3 6	16 24
14	9 34 39.93	14 25 37.6	4 26 62.5	43 12	4 27 6 21	15 47 26	9	0 9	2 36	9 26 9	4 6	16 33
15	9 38 16.40	14 7 21.2	4 15 52.5	43 12	4 16 6 21	15 47 27	9	0 9	3 54	10 28 9	5 4	16 38
16	9 42 1.31	13 48 31.1	4 4 39.5	43 12	4 4 6 21	15 47 28	9	0 9	4 58	11 27 5	5 56	16 38
17	9 45 45.69	13 29 27.6	3 51 76.5	43 12	3 51 6 21	15 47 29	9	0 9	E. 0 23 4		6 41	16 34
18	9 49 23.56	13 10 11.4	3 39 13.5	43 12	3 39 6 21	15 47 30	9	0 9	6 53	1 14 1	7 29	16 24
19	9 53 12.94	12 50 42.6	3 25 96.5	43 12	3 25 6 21	15 47 31	9	0 9	7 37	2 3 8	8 11	16 11
20	9 56 55.61	12 31 1.7	3 12 32.5	43 12	3 12 6 21	15 47 32	9	0 9	8 33	2 53 4	8 54	15 56
21	10 0 38.19	12 11 8.8	2 58 19.5	43 12	2 58 6 21	15 47 33	9	0 9	9 43	3 41 4	9 37	15 41
22	10 4 20.9	11 51 4.6	2 43 57.5	43 12	2 44 6 21	15 47 34	9	0 9	10 39	4 31 0	10 23	15 26
23	10 8 1.52	11 30 49.1	2 28 49.5	43 12	2 29 6 21	15 47 35	9	0 9	11 34	5 23 0	11 10	15 13
24	10 11 42.50	11 10 22.8	2 12 96.5	43 12	2 12 6 21	15 47 36	9	0 9	E. 0 23			
25	10 15 23.4	10 49 43.0	1 56 99.5	43 12	1 57 6 21	15 47 37	9	0 9	E. 0 23	6 13 8	12 0	15 2
26	10 19 3.15	10 28 59.9	1 40 59.5	43 12	1 41 6 21	15 47 38	9	0 9	1 29	7 5 8	Morn.	14 51
27	10 22 42.63	10 8 1.9	1 23 78.5	43 12	1 23 6 21	15 47 39	9	0 9	2 10	7 57 5	0 52	14 43
28	10 26 25.15	9 48 23.4	1 5 56.5	43 12	1 5 6 21	15 47 40	9	0 9	2 55	8 46 7	1 41	14 41
29	10 30 1.9	9 28 30.7	0 49 56.5	43 12	0 49 6 21	15 47 41	9	0 9	3 43	9 24 1	2 35	14 41
30	10 33 39.65	9 8 17.9	0 31 31.5	43 12	0 31 6 21	15 47 42	9	0 9	4 24	10 13 1	3 26	14 45
31	10 37 17.97	8 42 41.6	0 12 75.5	43 12	0 12 6 21	15 47 43	9	0 9	5 2	11 2 0	4 14	14 40
									5 40	11 45 0	5 2	14 54

SEPTEMBER.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

PROPER LESSONS, EVENING.

Sept. 5	13th Sun. after Trinity.	2d Kings	19..Matth.	6	2d Kings	23.....Romans	6
" 12	14th " " "	"	Jeremiah	5..	Jeremiah	23.....	13
" 19	15th " " "	"	"	33..	"	35.....1st Corin.	4
" 26	16th " " "	"	Ezekiel	2..	Ezekiel	13.....	11

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Wed. 1	GILTS.	D. H. M. 2 3 7 H δ with ϵ 4 58 S.
Thur. 2		2 23 31 δ greatest hel. lat. N.
Fri. 3		3 16 17 ϵ to $\odot$
Sat. 4		5 5 21 $\odot$ stationary.
Sun. 5	THIRTEENTH Sunday after Trinity.	9 6 1 δ in sup. $\odot$
Mon. 6		12 1 11 δ with ϵ 0 21 S.
Tues. 7	Warsaw Captured by the Russians, 1831.	15 3 38 H δ with $\odot$
Wed. 8	Nativity of B. V. Mary.	15 12 53 δ with ϵ 5 43 N.
Thur. 9		18 6 9 δ in δ
Fri. 10		19 16 11 δ with $\odot$
Sat. 11		20 16 40 δ with ϵ 2 40 N.
Sun. 12	FOURTEENTH Sunday after Trinity.	20 23 51 ϵ with ϵ 4 33 N.
Mon. 13	Supreme Court, 4th Term Commences.	22 2 9 δ with ϵ 4 12 N.
Tues. 14	HOLY CROSS.	22 22 55 $\odot$ enters Δ autumn comes.
Wed. 15	The Indian Press freed, 1835.	26 11 34 δ in δ
Thur. 16		27 11 20 δ with ϵ 2 4 S.
Fri. 17	LAMBERT.	29 7 52 H δ with ϵ 4 53 S.
Sat. 18		
Sun. 19	FIFTEENTH Sunday after Trinity—St. [MATTHEW.	
Mon. 20		
Tues. 21		
Wed. 22		
Thur. 23		
Fri. 24		
Sat. 25		
Sun. 26	SIXTEENTH Sunday after Trinity—St. [CYPRIAN.	
Mon. 27		
Tues. 28	Russia declared War against Turkey, 1828.	
Wed. 29	St. MICHAEL—MICHAELMAS-DAY.	
Thur. 30	St. JEROME.	

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	δ	ϕ	δ	ϵ	δ	H
1	23.37	21.13	4.53	5.55	7.2	12.51
6	23.51	21.18	4.47	5.37	6.42	12.31
11	0.5	21.22	4.41	5.20	6.23	12.10
16	0.18	21.26	4.36	5.2	6.4	11.50
21	0.29	21.29	4.31	4.45	5.45	11.30
26	0.39	21.33	4.26	4.28	5.26	11.9

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
	D. H. M.
I.	6 11 23 Em.
	15 7 47 Em.
	22 9 43 Em.
II.	4 6 25 Im.
	4 9 1 Em.
III.	16 6 24 Em.
	23 7 42 Im.
	23 10 25 Em.

SEPTEMBER XXX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 30
Barom.—In.	29.857	29.903	29.126
Thermometer.	84.5	83.4	83.2
Maximum.	92.9		
Minimum.	72.3		
Rain—Inches.	1.40	2.25	1.65

Throughout the month light and variable winds with occasional calms continue, and with the exception that the weather is not quite so much clouded, the remarks of last month apply with equal propriety to this. Lightning occurs almost every evening, but is accompanied with thunder three times only. The sea breeze sets in about 2 or 3 p. m. and blows till 8 or 10 A. M., but occasionally fails for two or three days together; dew is common but small in quantity. The hottest time of the day is at 2 $\frac{1}{2}$ P. M.; the coldest at 4 $\frac{1}{2}$ A. M.

PHASES OF THE MOON.

	D. H. M.
$\odot$ FULL MOON.....	1 6 55 A. M.
$\odot$ LAST QUARTER.....	8 7 34 P. M.
$\odot$ NEW MOON.....	15 11 23 A. M.
$\odot$ FIRST QUARTER.....	22 6 53 P. M.
$\odot$ FULL MOON.....	30 9 40 P. M.
$\odot$ PERIGEE.....	13 12 0 A. M.
$\odot$ APOGEE.....	25 8 0 A. M.

Days.	SUN'S										MOON'S									
	Right Ascension.			Declination.	Equation.	Rises.	Meridi-an.	Sets.	Semidi-amer.	Age.	Rises.	Meridi-an.	Sets.	Semidi-amer.						
1	h. m. s.	N	° ' "	m. s.	h. m. s.	h. m.	h. m. s.	h. m.	° ' "		h. m.	Morn- g.	Morn- g.	° ' "						
1	10 40 55.77	8 21 1.5	0 5 82	5 51	11 59 54.6	9 15 53 15 6	E. 6 13	0 25 2	5 48 14	56										
2	10 44 33.23	7 59 11.6	0 21 70	5 51	11 59 33.6	9 15 53 16 6	6 51	1 6 4	6 34 15	3										
3	10 48 10.73	7 37 14.0	0 43 67	5 51	11 59 16.6	9 15 53 17 6	7 28	1 49 5	7 21 15	19										
4	10 51 47.79	7 15 9.0	1 3 31	5 51	11 58 57.6	9 15 53 18 6	8 9	2 34 6	8 10 15	18										
5	10 55 24.62	6 52 56.7	1 22 97	5 51	11 58 37.6	9 15 54 19 6	8 52	3 22 9	9 1 15	27										
6	10 59 1.24	6 30 37.5	1 42 85	5 51	11 58 17.6	9 15 54 20 6	9 39	4 15 7	9 54 15	35										
7	11 2 37.67	6 8 11.7	2 2 22	5 51	11 57 57.6	9 15 54 21 6	10 22	5 12 2	10 53 15	46										
8	11 6 13.93	5 45 39.7	2 23 16	5 51	11 57 37.6	9 15 54 22 6	11 30	6 12 12	11 52 15	56										
9	11 9 50.21	5 23 1.8	2 43 56	5 51	11 57 16.6	9 15 54 23 6	Morn- g.	7 13 13	0 54 16	6										
10	11 13 25.93	5 0 18.2	3 4 11	5 51	11 56 56.6	9 15 54 24 6	0 53	8 14 1	1 53 15	15										
11	11 17 1.82	4 37 29.5	3 21 82	5 51	11 56 35.6	9 15 54 25 6	1 28	9 12 4	2 50 16	22										
12	11 20 37.55	4 14 35.8	3 45 58	5 51	11 56 14.6	9 15 54 26 6	2 40	10 7 8	3 44 16	26										
13	11 24 13.19	3 51 37.5	4 6 44	5 51	11 55 54.6	9 15 54 27 6	3 43	11 0 0	4 33 16	28										
14	11 27 48.77	3 28 35.1	4 27 36	5 51	11 55 33.6	9 15 54 28 6	4 42	11 50 1	5 18 16	25										
15	11 31 24.30	3 5 28.8	4 48 23	5 51	11 55 13.6	9 15 54 29 6	5 40	Eveng.	6 0 16	18										
16	11 34 59.79	2 42 19.1	5 9 33	5 51	11 54 51.5	9 15 54 30 6	6 35	0 23 9	6 45 16	7										
17	11 38 35.25	2 19 6.2	5 30 35	5 51	11 54 30.5	9 15 54 31 6	7 31	1 29 7	7 29 15	55										
18	11 42 10.72	1 55 50.6	5 51 39	5 51	11 54 9.5	9 15 54 32 6	8 25	2 20 1	8 15 15	40										
19	11 45 46.20	1 32 32.5	6 12 35	5 51	11 53 48.5	9 15 54 33 6	9 21	3 11 9	9 3 15	27										
20	11 49 21.71	1 9 12.4	6 33 31	5 51	11 53 27.5	9 15 54 34 6	10 18	4 4 6	9 52 15	14										
21	11 52 57.27	0 45 50.7	6 54 27	5 51	11 53 6.5	9 15 54 35 6	11 12	4 57 6	10 49 15	3										
22	11 56 32.88	0 22 27.6	7 15 15	5 51	11 52 45.5	9 15 54 36 6	0 3	5 49 3	11 37 14	54										
23	12 0 8.92	0 0 55.4	7 35 94	5 51	11 52 24.5	9 15 54 37 6	0 53	6 49 6	Morn- g.	14 49										
24	12 3 44.40	0 24 21.2	7 56 62	5 51	11 52 3.5	9 15 54 38 6	1 39	7 28 9	0 29 14	43										
25	12 7 29.35	0 47 46.2	8 17 18	5 51	11 51 43.5	9 15 54 39 6	2 20	8 14 9	1 19 14	46										
26	12 10 56.43	1 11 11.3	8 37 62	5 51	11 51 22.5	9 15 54 40 6	3 1	8 58 8	2 10 14	48										
27	12 14 32.70	1 31 35.0	8 57 83	5 51	11 51 1.5	9 15 54 41 6	3 37	9 4 9	2 57 11	52										
28	12 18 9.15	1 58 0.1	9 17 87	5 51	11 50 42.5	9 15 54 42 6	4 14	10 22 5	3 45 14	58										
29	12 21 45.83	2 21 23.1	9 37 69	5 51	11 50 23.5	9 15 54 43 6	4 50	11 4 0	4 39 15	5										
30	12 25 22.75	2 44 41.9	9 57 75	5 51	11 50 3.5	9 15 54 44 6	5 29	11 46 9	5 18 15	13										

OCTOBER.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

October 3	17th Sunday after Trinity.	Ezekiel 14....	Mark 6
" 10	18th "	" 20....	Luke 13
" 17	19th "	Daniel 3....	Luke 13
" 24	20th "	Joel 2....	" 10
" 31	21st "	Hab. 2....	" 17

PROPER LESSONS, EVENING.

Ezekiel 18....	2d Cor. 2
" 24....	" 8
Daniel 6....	Galatians 3
Micah 6....	Ephesians 4
Proverbs 1....	Collos. 1

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Fri. 1	Burmese defeated near Promé, 1825.	D. H. M.
Sat. 2		6 15 58 in aphelion.
Sun. 3	SEVENTEENTH Sunday after Trinity.	11 23 8 Q with C 4 49 N.
Mon. 4	Lally takes Arcot, 1758.	16 5 32 Q with C 2 50 N.
Tues. 5	Lord Cornwallis died, 1805.	17 7 40 Q with C 2 28 S.
Wed. 6	Peace with America proclaimed, 1783.	18 16 28 Q with C 4 0 N.
Thur. 7		19 13 25 Q with C 3 48 N.
Fri. 8		19 16 28 Q with C 1 13 N.
Sat. 9		21 15 21 Q in perihelion.
Sun. 10	EIGHTEENTH Sunday after Trinity.	25 14 22 S greatest elong. 23 50 E.
Mon. 11	America discovered, 1492.	26 14 26 H with C 4 56 S.
Tues. 12		27 1 47 S greatest hel. lat. S.
Wed. 13	Translation of King Edward the Con.	
Thur. 14		
Fri. 15		
Sat. 16		
Sun. 17	NINETEENTH Sunday after Trinity.	
Mon. 18	St. LUKE.	
Tues. 19	Agra taken, 1553.	
Wed. 20		
Thur. 21	Victory and death of Lord Nelson at Trafalgar, 1805.	
Fri. 22		
Sat. 23		
Sun. 24	TWENTIETH Sunday after Trinity.	
Mon. 25	St. CRISPIN.	
Tues. 26		
Wed. 27		
Thur. 28	St. SIMON and St. JUDE.	
Fri. 29		
Sat. 30		
Sun. 31	TWENTY-FIRST Sunday after Trinity.	

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	☿	♀	♂	♂	♂	♂
1	0.47	21.36	4.22	4.12	5.7	10.49
6	0.55	21.40	4.17	3.55	4.49	10.29
11	1.2	21.43	4.13	3.39	4.30	10.8
16	1.9	21.46	4.9	3.23	4.12	9.48
21	1.14	21.49	4.6	3.7	3.54	9.28
26	1.16	21.52	4.2	2.52	3.36	9.7

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites. Mean Time.

D. H. M.

I. 8 8 0 Em.

24 6 18 Em.

31 8 13 Em.

II. 6 8 51 Em.

III. 29 6 26 Em.

OCTOBER XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31	The clouds now begin to assume a more dense appearance than heretofore, calms, lightning and rain are very frequent till the 9th, when the N. E. monsoon or rainy season sets in; this time till the end of the month, the atmosphere, from assumes a very disturbed appearance; extremely heavy rain with storms of wind, thunder and lightning invariably occur, and gales of wind of a similar nature to those which occur in the earlier part of the year are sometimes experienced; on these occasions a depression of the Barometer of 4 or 5-tenths of an inch is observed. The sea breeze or rather a slight modification of the N. E. wind is perceived towards the mid of the day. The hottest time of the day is at 1 P. M.; the coldest at 4h. 50m. A. M.
Barom.—In.	29.915	29.972	29.981	
Thermometer.	82.1	82.0	81.1	
Maximum.	91.5			
Minimum.	79.6			
Rain—Inches.	2.55	2.43	6.04	

PHASES OF THE MOON

D. H. M.

☾ LAST QUARTER.....	8 2 32	A. M.
☾ NEW MOON.....	14 9 48	P. M.
☾ FIRST QUARTER.....	22 2 23	P. M.
☾ FULL MOON.....	30 11 18	A. M.
☾ PERIGEE.....	10 12 0	P. M.
☾ APOGEE.....	23 2 0	A. M.

Days.	SUN'S						MOON'S					
	Right Ascension.	Declination.	Equa- tion.	Rises.	Meridi- an.	Sets.	Semi- diameter.	Age.	Rises.	Meridi- an.	Sets.	Semidi- ameter.
	<i>A. M. S.</i>		<i>M. S.</i>	<i>A. M. S.</i>	<i>A. M. S.</i>	<i>A. M.</i>			<i>Evening.</i>	<i>Morning.</i>	<i>Morn.</i>	
1	12 28 52.92	S 3 8 4.5	10 15 59.5	52 11 49	43 5 48	16 1	16 2	6 10	6 10	6 5 15 21		
2	12 28 37.49	3 31 23.3	10 35 53.5	52 11 49	24 5 47	16 1	17 2	6 52	6 31 8	6 56 15 30		
3	12 28 15.27	3 54 39.2	10 51 35.5	52 11 49	6 5 46	15 1	18 2	7 37	1 20 0	7 45 15 38		
4	12 29 53.39	4 17 52.5	11 12 73.5	52 11 48	47 5 45	16 1	19 2	8 28	2 11 0	8 47 15 46		
5	12 30 31.88	4 41 2.8	11 30 75.5	52 11 48	29 5 44	16 2	20 2	9 25	3 7 6	9 48 15 52		
6	12 31 10.74	5 4 9.7	11 43 29.5	52 11 48	13 5 43	16 2	21 2	10 26	4 6 6	10 49 15 58		
7	12 30 59.91	5 27 13.1	12 5 53.5	52 11 47	54 5 44	16 2	22 2	11 39	5 6 7	11 45 16 4		
8	12 31 29.72	5 59 12.3	12 22 45.5	53 11 47	37 5 43	16 3	23 2	12 39	6 6 6	12 44 16 5		
9	12 30 9.80	6 13 7.2	12 38 81.5	53 11 47	21 5 42	16 3	24 2	0 31	7 3 9	1 37 16 12		
10	13 1 50.46	6 35 57.3	12 54 71.5	53 11 47	5 5 42	16 3	25 2	1 31	7 58 4	2 25 16 13		
11	13 5 31.55	6 58 41.7	13 10 13.5	53 11 46	50 5 41	16 3	26 2	2 39	8 50 1	3 10 16 12		
12	13 9 13.14	7 21 21.4	13 25 55.5	53 11 46	35 5 41	16 4	27 2	3 27	9 43 0	3 53 16 10		
13	13 12 55.25	7 43 54.7	13 39 46.5	53 11 46	21 5 40	16 4	28 2	4 21	10 23 7	4 35 16 5		
14	13 16 37.59	8 6 21.6	13 53 34.5	54 11 46	7 5 40	16 4	29 2	5 16	11 17 8	5 20 15 56		
15	13 20 21.9	8 28 41.8	14 6 55.5	54 11 45	53 5 39	16 4	30 2	6 2	12 0 7.8	6 4 15 46		
16	13 24 4.84	8 50 54.7	14 19 44.5	54 11 45	41 5 38	16 5	31 2	7 7	0 59 4	6 51 15 23		
17	13 27 49.15	9 13 0.0	14 31 32.5	54 11 45	28 5 38	16 5	32 2	8 6	1 52 6	7 4 15 23		
18	13 31 34.7	9 34 57.2	14 43 24.5	55 11 45	17 5 37	16 5	33 2	8 58	2 46 4	8 24 15 12		
19	13 35 19.58	9 56 46.1	14 54 55.5	55 11 45	6 5 36	16 6	34 2	9 54	3 40 0	9 25 15 2		
20	13 39 5.71	10 18 26.1	15 4 55.5	55 11 44	55 5 35	16 6	35 2	10 44	4 31 8	10 20 14 54		
21	13 42 52.47	10 39 56.9	15 14 42.5	55 11 44	46 5 34	16 6	36 2	11 32	5 21 7	11 12 14 49		
22	13 46 39.67	11 1 18.1	15 23 54.5	55 11 44	36 5 31	16 6	37 2	12 15	6 8 7	12 4 14 46		
23	13 50 27.93	11 22 29.3	15 32 32.5	56 11 44	25 5 30	16 7	38 2	0 56	6 53 1	0 3 14 47		
24	13 54 16.66	11 43 39.1	15 39 82.5	56 11 44	20 5 29	16 7	39 2	1 34	7 25 5	6 50 14 50		
25	13 58 6.8	12 4 29.0	15 46 94.5	56 11 44	13 5 28	16 7	40 2	2 12	8 17 2	1 35 14 55		
26	14 1 55.20	12 21 53.8	15 53 35.5	56 11 44	7 5 27	16 7	41 2	2 42	8 58 6	2 22 15 3		
27	14 5 47.5	12 45 26.1	15 59 45.5	57 11 44	1 5 26	16 8	42 2	3 25	9 40 8	3 9 15 13		
28	14 9 38.62	13 5 11.4	16 5 37.1	57 11 43	56 5 25	16 8	43 2	4 30	10 25 2	3 57 15 23		
29	14 13 30.95	13 25 41.5	16 8 23.5	57 11 43	52 5 24	16 8	44 2	4 45	11 12 9	4 47 15 24		
30	14 17 24.4	13 45 24.8	16 11 68.5	56 11 43	48 5 23	16 8	45 2	5 30	11 59 3	5 41 15 41		
31	14 21 17.93	14 5 12.9	16 14 25.5	55 11 43	45 5 22	16 9	46 2	6 22	0 4 4	6 28 15 53		

NOVEMBER.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

Nov. 7	22d Sunday after Trinity	Prov. 2...	Luke 23	Prov. 3...	1st Thess. 3
.. 14	23d ..	.. 11...	John 6	.. 12...	1st Timo. 2 & 3
.. 21	24th ..	.. 15...	.. 13	.. 16...	2d .. 4
.. 28	Advent Sunday	Isaiah 1...	.. 20	Isaiah 2...	Hebrews 5

PROPER LESSONS, EVENING.

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Mon. 1	ALL SAINTS.	D. H. M. 2 2 21 ☉ greatest hel. lat. S
Tues. 2	ALL SOULS.	5 20 40 ☉ stationary.
Wed. 3	Princess Sophia born, 1777.	10 23 14 ☉ with ☾ 7 11 N.
Thur. 4		12 18 13 ☉ greatest hel. lat. N.
Fri. 5	GUN POWDER PLOT.	13 13 24 ☉ with ☾ 4 7 N.
Sat. 6		15 1 15 ☉ in ☊
Sun. 7	TWENTY-SECOND Sunday after Trinity.	15 11 24 ☉ with ☾ 3 25 N.
Mon. 8	Princess Augusta born, 1768.	16 2 39 ☉ with ☾ 3 21 N.
Tues. 9		16 7 21 ☉ in inf. ☉ ☉
Wed. 10	Luther born, 1483.	17 20 35 ☉ with ☾ 0 39 S.
Thur. 11		19 14 43 ☉ in perihelion.
Fri. 12		22 22 38 ☉ with ☾ 5 8 S.
Sat. 13		24 0 8 ☉ in ☊
Sun. 14	TWENTY-THIRD Sunday after Trinity.	25 11 49 ☉ stationary.
Mon. 15		25 12 39 ☉ in perihelion.
Tues. 16		26 8 26 ☉ with ☉
Wed. 17		29 22 49 ☉ greatest hel. lat. N.
Thur. 18		29 23 40 ☉ stationary.
Fri. 19		
Sat. 20		
Sun. 21	TWENTY-FOURTH Sunday after Trinity.	
Mon. 22	Lord Clive died 1774.	
Tues. 23		
Wed. 24		
Thur. 25		
Fri. 26	British took Nagpore, 1817.	
Sat. 27		
Sun. 28	ADVENT SUNDAY.	
Mon. 29		
Tues. 30	St. Andrew, Tutelar Saint of Scotland.	

MERIDIAN PASSAGE AT MADRAS
MEAN TIME.

Days	☉	☉	☉	☉	☉	☉
1	1.12	21.55	3.58	2.34	3.14	8.43
6	0.58	21.58	3.55	2.18	2.57	8.23
11	0.29	22.2	3.52	2.3	2.39	8.3
16	23.27	22.5	3.48	1.48	2.22	7.44
21	22.8	22.9	3.45	1.33	2.4	7.24
26	22.35	22.14	3.41	1.17	1.47	7.4

ECLIPSES OF JUPITER'S SATELLITES
VISIBLE AT MADRAS.

Satellites. Mean Time.

	D.	H.	M.
I.	16	6	31 Em.
II.	0	0	0
III.	5	07	37 Im.

NOVEMBER XXX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 30
Barom.—In.	29.997	30.026	30.058
Thermometer	73.7	78.8	73.2
Maximum.	57.0		
Minimum.	67.6		
Rain—Inches.	4.49	5.09	4.55

The N. E. monsoon continues with unabated force, and the state of the weather generally is much the same as that experienced towards the end of last month, save that an increased dampness of the air and the less frequent occurrence of lightning render a distinction necessary. The number of clear and cloudy days in this, as well as last month, is liable to great uncertainty. The remarks relative to the sea breeze of last month apply equally to this. The hottest time of the day is at 4 1/2 p.m.; the coldest is at 5 1/2 a.m.

PHASES OF THE MOON.

	D.	H.	M.
☾ LAST QUARTER	6	9	35 A. M.
☾ NEW MOON	13	10	51 A. M.
☾ FIRST QUARTER	21	11	32 A. M.
☾ FULL MOON	28	11	59 P. M.
☾ PERIGEE	4	10	0 P. M.
☾ APOGEE	19	12	0 P. M.

SUN'S						MOON'S					
Days.	Right Ascension.	Declination.	Equation.	Rises.	Meridi-an.	Sets.	Age.	Rises.	Meridi-an.	Sets.	Sc-milla-meter.
1	14 25 12 43	3.14	24 35 1	16 16 23 5 58	11 43 41 5 29	16 9 47 8	7 18	1 0 0	7 23 16	0	0
2	14 29 8 23	14 43 48 0	16 17 31 5 58	11 43 41 5 29	16 9 47 8	7 18	1 0 0	7 23 16	0	0	0
3	14 33 4 26	15 2 41 7 16	17 33 5 59	11 43 41 5 29	16 9 47 8	7 18	1 0 0	7 23 16	0	0	0
4	14 37 1 18	15 21 22 8 16	17 15 59 11	43 43 5 29	16 10 29 3	10 25	4 1 3	10 40 15	9	0	0
5	14 40 59 66	15 30 48 8 16	15 59 11	43 43 5 29	16 10 29 3	10 25	4 1 3	10 40 15	9	0	0
6	14 44 58 48	15 37 59 3 16	13 35 6	0 11 43 47 5 28	16 10 22 8	11 26	4 59 5	11 33 15	9	0	0
7	14 48 53 16	16 15 53 3 16	10 23 6	0 11 43 50 5 28	16 10 23 8	0 24	6 45 9	1 8 16	4	0	0
8	14 52 58 70	16 33 32 1 16	6 25 6	0 11 43 54 5 28	16 11 24 8	1 19	7 35 3	1 51 16	0	0	0
9	14 57 0 10	16 50 59 7 16	1 42 6	0 11 43 59 5 27	16 11 25 8	2 14	8 22 8	2 32 15	55	0	0
10	15 1 2 37	17 7 58 2 15 53 72 6	1 11 41	4 5 27 16 11 26 8	3 6	9 10 4	3 14 15	49	0	0	0
11	15 5 5 51	17 24 43 0 15 49 16 2	1 11 44	11 5 27 16 11 27 8	4 1	9 58 7	3 57 15	42	0	0	0
12	15 9 9 31	17 41 13 8 15 41 74 6	2 11 44	18 5 27 16 11 28 8	4 55	10 48 8	4 43 15	34	0	0	0
13	15 13 14 27	17 57 24 2 15 23 46 6	2 11 41	27 5 27 16 12 0 3	5 51	11 41 1	5 31 15	25	0	0	0
14	15 17 20 9	18 13 15 6 15 21 33 6	3 11 44	36 5 27 16 12 1 3	6 48	E. 0 34 6	6 22 15	15	0	0	0
15	15 21 25 53	18 24 43 1 15 11 33 6	3 11 44	45 5 26 16 12 2 3	7 12	1 28 8	7 16 15	7	0	0	0
16	15 25 34 5	18 41 0 8 15 3 53 6	4 11 41	56 5 25 16 12 3 3	8 35	2 21 9	8 9 14	58	0	0	0
17	15 29 42 30	18 58 53 4 14 51 87 6	4 11 45	6 5 26 16 12 4 3	9 23	3 12 9	9 3 14	52	0	0	0
18	15 33 51 36	19 13 25 7 14 39 38 6	5 11 45	21 5 26 16 13 5 3	10 5	4 1 3	9 53 14	47	0	0	0
19	15 38 1 23	19 27 37 0 11 29 10 6	5 11 45	34 5 26 16 13 6 3	10 51	4 47 1	10 43 14	45	0	0	0
20	15 42 11 91	19 41 27 0 14 12 1 6	6 11 45	48 5 25 16 13 7 3	11 30	5 20 0	11 20 14	46	0	0	0
21	15 46 23 29	19 54 55 0 13 57 13 5	6 11 46	3 5 26 16 13 8 3	12 0 7	6 11 1	11 50	50	0	0	0
22	15 50 35 46	20 8 2 7 13 41 47 5	6 11 46	19 5 26 16 13 9 3	0 41	6 51 8	0 15 14	55	0	0	0
23	15 54 48 70	20 20 47 5 13 25 3 6	7 11 46	25 5 26 16 14 10 3	1 19	7 33 3	1 0 15	5	0	0	0
24	15 59 2 50	20 33 9 3 13 7 83 6	7 11 46	52 5 26 16 14 11 3	1 57	8 16 2	1 47 15	16	0	0	0
25	16 3 17 6	20 45 8 3 12 49 89 5	8 11 47	10 5 26 16 14 12 3	2 37	9 1 6	2 35 15	29	0	0	0
26	16 7 32 35	20 56 44 1 12 31 19 6	8 11 47	29 5 26 16 14 13 3	3 21	9 51 4	3 27 15	42	0	0	0
27	16 11 48 37	21 7 55 1 12 11 77 6	9 11 47	48 5 27 16 14 14 3	4 11	10 45 8	4 22 15	55	0	0	0
28	16 16 5 12	21 18 44 7 11 51 61 5 10	11 48	6 5 27 16 15 15 3	5 5	11 44 9	5 21 16	6	0	0	0
29	16 20 22 58	21 29 8 8 11 30 61 6 10	11 48	29 5 27 16 15 16 3	6 5	12 33 3	6 25 15	15	0	0	0
30	16 24 40 71	21 39 8 2 11 9 29 6 11	11 48	51 5 27 16 15 17 3	7 9	0 47 3	7 29 15	29	0	0	0

DECEMBER.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

PROPER LESSONS, EVENING.

December 5 2d Sun. in Advent	Isaiah 5.....Acts 6	Isaiah 24.....Hebrews 11
" 12 3d "	" 23....." 12	" 26.....James. 5
" 19 4th "	" 20....." 19	" 33.....2d Peter 2
" 26	Lessons appointed for St. Stephens Day.	

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Wed. 1		
Thur. 2	Mauritius surrendered in 1510.	D. H. M.
Fri. 3	Abolition of the Satee, 1829.	2 2 46 ☉ δ with ♀ 6 37 S.
Sat. 4		3 19 32 ☿ greatest elong. 20 30 W.
SUN. 5	Second Sunday in Advent.	8 5 21 ☾ stationary
Mon. 6	NICHOLAS.	10 23 38 ☿ δ with ☾ 5 43 N.
Tues. 7		11 1 56 ☿ δ with ☾ 6 8 N.
Wed. 8	Conception of the B. V. MARY—Battle of Rangoon 1821.	11 6 57 ☿ stationary.
Thur. 9	MILTON born 1608.	13 6 56 ♀ δ with ☾ 2 51 N.
Fri. 10		13 16 19 ♀ δ with ☾ 2 59 N.
Sat. 11		17 3 30 ☿ δ with ☾ 2 43 S.
SUN. 12	THIRD Sunday in Advent—Lally commences the siege of Madras 1759.	20 7 29 ☿ δ with ☾ 5 21 S.
Mon. 13		21 16 17 ☉ enters ♊ winter comms.
Tues. 14		22 20 11 ♀ δ with ☉
Wed. 15		23 10 51 ♀ in ☿
Thur. 16		27 0 49 ♀ δ with ☉
Fri. 17		30 20 47 ☉ in perigee
Sat. 18		
SUN. 19	FOURTH Sunday in Advent.	
Mon. 20		
Tues. 21	St. THOMAS.	
Wed. 22		
Thur. 23		
Fri. 24	Peace between England and the U. S. [1814.	
Sat. 25	CHRISTMAS-DAY.	
SUN. 26	FIRST Sunday after CHRISTMAS-DAY—(St. STEPHEN.	
Mon. 27	St. JOHN.	
Tues. 28	INNOCENTS-DAY.	
Wed. 29		
Thur. 30		
Fri. 31	St. SILVESTER.	

MERIDIAN PASSAGE AT MADRAS
MEAN TIME.

Days	☿	♂	♂	♂	♂	♂
1	22.27	22.19	3.33	1.3	1.30	6.44
6	22.29	22.24	3.31	0.18	1.12	6.25
11	22.35	22.30	3.30	0.33	0.55	6.5
16	22.45	22.36	3.26	0.19	0.38	5.46
21	22.56	22.43	3.22	0.4	0.21	5.26
26	23.9	22.50	3.17	23.46	0.4	5.7

ECLIPSES OF JUPITER'S SATELLITES
VISIBLE AT MADRAS.

Satellites. Mean Time.

D. H. M. S.

The Satellites of Jupiter are not visible this month—Jupiter being too near to the sun.

DECEMBER XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31
Barom.—In.	30.051	30.086	30.107
Thermometer	77.3	78.1	75.7
Maximum.	84.0		
Minimum.	63.8		
Rain—Inches.	2.33	1.89	0.53

The heavy rains and violent gusts of wind are much moderated at the beginning of the month, and arrive at their close about the 15th; from this time the sky assumes an appearance of tranquillity and clearness which forms a strong contrast with the disturbed state of the preceding month; the N. E. wind however continues throughout the month without interruption; there are about thirteen clear days, eleven cloudy, and seven days of flying clouds and haze; of these there are six days on which rain falls. The mornings exhibit a copious deposition of dew and sometimes a ground fog which does not reach more than two or three feet above the surface. The sea breeze sets in at 10 A. M. and blows till 4 P. M.
The hottest time of the day is at 04. 50m. P. M.; the coldest at 24. 50m. A. M.

PHASES OF THE MOON.

PHASES OF THE MOON.

	D. H. M.		D. H. M.
☾ LAST QUARTER...	5 5 37 P. M.	☾ PERIGEE.....	1 6 0 P. M.
☾ NEW MOON.....	13 2 56 A. M.	☾ APOGEE.....	17 7 0 P. M.
☾ FIRST QUARTER...	21 8 10 A. M.	☾ PERIGEE.....	29 8 0 P. M.
☾ FULL MOON.....	28 11 56 A. M.		

Days.	SUN'S						Semi-diameter.	MOON'S					
	Right	Declination.	Equa-	Rises.	Meridian.	Sets.		Age	Rises.	Meridian.	Sets.	Semi-diameter.	
	Ascension.		tion.										
	<i>h. m. s.</i>	<i>° ' "</i>	<i>m. s.</i>	<i>h. m. s.</i>	<i>h. m. s.</i>	<i>h. m. s.</i>		<i>Days.</i>	<i>h. m. s.</i>	<i>° ' "</i>	<i>h. m. s.</i>	<i>° ' "</i>	
1	16 28 50.22	8 21 48.43	7 10 47 10 6 11	11 43 13	5 27	16 15 18 5		Evening.	8 14	1 50 2	8 32 16 22		
2	16 33 18.69	21 57 53.2	10 24 24 6 13	11 40 35	5 27	16 13 19 3		Morning.	9 13	1 51 5	8 26 16 21		
3	16 37 38.80	22 6 37.1	10 0 76 8 12 11	49 59	5 28	16 13 20 3			10 20	3 49 2	10 26 16 16		
4	16 41 59.55	22 14 57.2	9 26 61 6 13	11 50 23	5 28	16 13 21 3			11 15	4 42 7	11 6 16 10		
5	16 46 20.87	22 22 59.3	9 11 94 6 13	11 50 45	5 28	16 16 22 3							
6	16 50 42.70	22 30 17.3	8 46 43 6 14	11 51 13	5 28	16 16 23 3		Morn.	5 33	0	11 51 16 2		
7	16 55 5.20	22 37 17.8	8 20 86 6 14	11 51 39	5 28	16 16 24 3		- 0.10	6 20	2	11 51 15 54		
8	16 59 23.16	22 43 51.7	7 54 52 6 15	11 52 5	5 29	16 16 25 3		1 2	7 7	7	12 14 15 5		
9	17 3 51.63	22 49 58.6	7 27 70 6 15	11 52 32	5 29	16 16 26 3		1 53	7 55	1	11 43 15		
10	17 8 15.54	22 55 38.8	7 0 43 6 16	11 53 0	5 29	16 16 27 3		2 49	8 43	6	1 53 13 37		
11	17 12 39.58	23 0 51.6	6 32 71 6 16	11 53 23	5 29	16 16 28 3		3 41	9 33	5	2 33 15 29		
12	17 17 4.69	23 5 37.0	6 4 61 6 17	11 53 56	5 31	16 16 29 3		4 38	10 26	2	3 13 21		
13	17 21 29.70	23 9 54.8	5 26 16 6 17	11 54 24	5 31	16 16 30 3		5 33	11 19	6	4 14 15 3		
14	17 25 55.11	23 13 41.9	5 7 39 6 18	11 54 53	5 32	16 16 31 3		6 26	E 0.13	2	5 1 59		
15	17 30 20.89	23 17 7.1	4 38 31 6 18	11 55 22	5 32	16 16 32 3		7 17	1 5	0	6 0 14 59		
16	17 34 46.74	23 20 1.3	4 9 46 19 11	55 51	5 33	16 16 33 3		8 3	1 54	7	6 53 14 59		
17	17 39 12.80	23 22 25.5	3 39 53 6 19	11 56 20	5 33	16 16 34 3		8 47	2 41	3	7 47 14 18		
18	17 43 39.22	23 24 25.5	3 9 84 6 20	11 56 51	5 34	16 16 35 3		9 28	3 25	3	8 35 14 45		
19	17 48 5.67	23 25 55.4	2 40 3 6 21	11 57 20	5 34	16 16 36 3		10 7	4 7	0	9 22 14 35		
20	17 52 32.23	23 26 57.0	2 10 11 6 22	11 57 50	5 35	16 16 37 3		10 42	4 47	4	10 52 14 48		
21	17 56 58.55	23 27 39.2	1 49 14 6 23	11 58 20	5 35	16 16 38 3		11 18	5 27	6	11 52 11 51		
22	18 1 25.49	23 27 35.5	1 10 12 6 23	11 58 50	5 35	16 16 39 3		11 54	6 8	7	Morning 15 4		
23	18 5 52.10	23 27 12.0	0 40 12 6 23	11 59 20	5 36	16 16 40 3		E. 0.39	6 51	8	0 21 15 15		
24	18 10 18.75	23 26 29.5	0 19 15 6 24	11 59 50	5 36	16 16 41 3		1 12	7 33	4	1 13 15 29		
25	18 14 45.25	23 25 0.6	0 19 75 6 24	12 0 20	5 36	16 16 42 3		2 0	8 29	4	2 4 15 41		
26	18 19 11.73	23 23 12.6	0 49 53 6 24	12 0 50	5 36	16 16 43 3		2 45	9 25	5	3 2 16 0		
27	18 23 38.5	23 20 55.4	1 19 23 6 25	12 1 19	5 37	16 16 44 3		3 45	10 25	5	4 2 16 11		
28	18 28 4.21	23 18 12.0	1 48 75 6 25	12 1 49	5 37	16 16 45 3		4 43	11 20	5	5 7 16 25		
29	18 32 30.13	23 14 59.6	2 18 8 6 25	12 2 18	5 38	16 16 46 3		5 35	Morning		6 12 16 30		
30	18 36 55.93	23 11 19.2	2 47 19 6 26	12 2 47	5 38	16 16 47 3		7 1	0 34	3	7 13 16 31		
31	18 41 21.44	23 7 11.1	3 16 6 6 26	12 3 16	5 39	16 16 48 3		8 5	1 35	6	8 11 16 34		
1	18 45 46.67	23 2 53.1	3 44 66 6 26	12 3 45	5 40	16 16 49 3		9 4	2 33	2	9 1 16 28		
2	18 50 12.34	23 0 51.6	3 16 6 6 26	12 3 45	5 40	16 16 49 3		10 1	3 35	1	9 45 16 19		

TABLE SHOWING THE CORRESPONDENT MONTH AND DAYS OF THE ENGLISH, MAHOMEDAN AND
HINDOO CALENDARS IN THE YEAR 1841.

Jan. 1st.	Feb. 1st.	Mar. 1st.	Apr. 1st.	May 1st.	June 1st.	July 1st.	Aug. 1st.	Sept. 1st.	Oct. 1st.	Nov. 1st.	Dec. 1st.	Shival.	Chaitra or Vishakha.
7	20	31	10	19	28	37	46	55	64	73	82	91	100
8	21	32	11	20	29	38	47	56	65	74	83	92	101
9	22	33	12	21	30	39	48	57	66	75	84	93	102
10	23	34	13	22	31	40	49	58	67	76	85	94	103
11	24	35	14	23	32	41	50	59	68	77	86	95	104
12	25	36	15	24	33	42	51	60	69	78	87	96	105
13	26	37	16	25	34	43	52	61	70	79	88	97	106
14	27	38	17	26	35	44	53	62	71	80	89	98	107
15	28	39	18	27	36	45	54	63	72	81	90	99	108
16	29	40	19	28	37	46	55	64	73	82	91	100	109
17	30	41	20	29	38	47	56	65	74	83	92	101	110
18	31	42	21	30	39	48	57	66	75	84	93	102	111
19	1	43	22	31	40	49	58	67	76	85	94	103	112
20	2	44	23	1	41	50	59	68	77	86	95	104	113
21	3	45	24	2	42	51	60	69	78	87	96	105	114
22	4	46	25	3	43	52	61	70	79	88	97	106	115
23	5	47	26	4	44	53	62	71	80	89	98	107	116
24	6	48	27	5	45	54	63	72	81	90	99	108	117
25	7	49	28	6	46	55	64	73	82	91	100	109	118
26	8	50	29	7	47	56	65	74	83	92	101	110	119
27	9	51	30	8	48	57	66	75	84	93	102	111	120
28	10	52	31	9	49	58	67	76	85	94	103	112	121
29	11	53	1	10	50	59	68	77	86	95	104	113	122
30	12	54	2	11	51	60	69	78	87	96	105	114	123
31	13	55	3	12	52	61	70	79	88	97	106	115	124

APPARENT TIME OF THE RISING AND SETTING OF THE SUN BETWEEN THE LATITUDES OF 8 AND 38 DEGREES NORTH.

LATITUDE N.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	LATITUDE N.
Sun rising.	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	Sun setting.
January	6 11 16	6 16 17	6 21 18	6 26 19	6 31 20	6 36 21	6 41 22	6 46 23	6 51 24	6 56 25	7 01 26	7 06 27	7 11 28	7 16 29	7 21 30	7 26 31	7 31 32	7 36 33	7 41 34	7 46 35	7 51 36	7 56 37
February	6 13 16	6 18 17	6 23 18	6 28 19	6 33 20	6 38 21	6 43 22	6 48 23	6 53 24	6 58 25	7 03 26	7 08 27	7 13 28	7 18 29	7 23 30	7 28 31	7 33 32	7 38 33	7 43 34	7 48 35	7 53 36	7 58 37
March	6 15 16	6 20 17	6 25 18	6 30 19	6 35 20	6 40 21	6 45 22	6 50 23	6 55 24	7 00 25	7 05 26	7 10 27	7 15 28	7 20 29	7 25 30	7 30 31	7 35 32	7 40 33	7 45 34	7 50 35	7 55 36	8 00 37
April	6 17 16	6 22 17	6 27 18	6 32 19	6 37 20	6 42 21	6 47 22	6 52 23	6 57 24	7 02 25	7 07 26	7 12 27	7 17 28	7 22 29	7 27 30	7 32 31	7 37 32	7 42 33	7 47 34	7 52 35	7 57 36	8 02 37
May	6 19 16	6 24 17	6 29 18	6 34 19	6 39 20	6 44 21	6 49 22	6 54 23	6 59 24	7 04 25	7 09 26	7 14 27	7 19 28	7 24 29	7 29 30	7 34 31	7 39 32	7 44 33	7 49 34	7 54 35	7 59 36	8 04 37
June	6 21 16	6 26 17	6 31 18	6 36 19	6 41 20	6 46 21	6 51 22	6 56 23	7 01 24	7 06 25	7 11 26	7 16 27	7 21 28	7 26 29	7 31 30	7 36 31	7 41 32	7 46 33	7 51 34	7 56 35	8 01 36	8 06 37
July	6 23 16	6 28 17	6 33 18	6 38 19	6 43 20	6 48 21	6 53 22	6 58 23	7 03 24	7 08 25	7 13 26	7 18 27	7 23 28	7 28 29	7 33 30	7 38 31	7 43 32	7 48 33	7 53 34	7 58 35	8 03 36	8 08 37
August	6 25 16	6 30 17	6 35 18	6 40 19	6 45 20	6 50 21	6 55 22	7 00 23	7 05 24	7 10 25	7 15 26	7 20 27	7 25 28	7 30 29	7 35 30	7 40 31	7 45 32	7 50 33	7 55 34	8 00 35	8 05 36	8 10 37
September	6 27 16	6 32 17	6 37 18	6 42 19	6 47 20	6 52 21	6 57 22	7 02 23	7 07 24	7 12 25	7 17 26	7 22 27	7 27 28	7 32 29	7 37 30	7 42 31	7 47 32	7 52 33	7 57 34	8 02 35	8 07 36	8 12 37
October	6 29 16	6 34 17	6 39 18	6 44 19	6 49 20	6 54 21	6 59 22	7 04 23	7 09 24	7 14 25	7 19 26	7 24 27	7 29 28	7 34 29	7 39 30	7 44 31	7 49 32	7 54 33	7 59 34	8 04 35	8 09 36	8 14 37
November	6 31 16	6 36 17	6 41 18	6 46 19	6 51 20	6 56 21	7 01 22	7 06 23	7 11 24	7 16 25	7 21 26	7 26 27	7 31 28	7 36 29	7 41 30	7 46 31	7 51 32	7 56 33	8 01 34	8 06 35	8 11 36	8 16 37
December	6 33 16	6 38 17	6 43 18	6 48 19	6 53 20	6 58 21	7 03 22	7 08 23	7 13 24	7 18 25	7 23 26	7 28 27	7 33 28	7 38 29	7 43 30	7 48 31	7 53 32	7 58 33	8 03 34	8 08 35	8 13 36	8 18 37

Under the degree of Latitude of the given place and opposite to the day of the month, on the left hand side will be found the time of the Sun's centre rising and on the right hand side the time of setting. In consequence of Refraction which causes the heavenly bodies when in the horizon to appear elevated about 34 in. above their true place the observed time of the Sun rising will happen about 2 minutes earlier, and the time of setting the same quantity later than that which is here given.

For the duration of Moonlight after Sun set and before Sun rise throughout the Year. See page 31.

MAHOMEDAN AND HINDOO CALENDAR, FOR THE YEAR 1841.

Corresponding with the Hindoo Era of Vikramajit 1895 and 1899, whereof the Maroo 1899th year will commence on the 21th of March, and the Gazeratt Heccan and Concan 1899th year will commence on the 14th November, and Salirakana 1763 and 1764, whereof the 1764th year will commence on the 21th March, and in the Carnatic, Telinga and the Malabar Column year 1016 and 1017, whereof the 1017th year will commence on the 15th September, in the Malabar Coast, with Pursee Era of Yazdezerd 1210 and 1211, whereof the Saharosee 1211th year will commence on the 19th August, and the Churegur, 1211th year will commence on the 20th July, and the Hegiree 1256 and 1257, whereof the 1257th year will commence on the 23d February and with the Fesly year 1250 and 1251, year will commence on the 14th July, and the year 5602 of the Jewish Era will commence on the 17th September, 1841, Ramadan, (month of abstinence observed by the Turks) will commence on the 17th October 1841, and Bengallee Ballasan Era 1247 and 1248, on the 11th April 1248 commencement in the Bengal Provinces.

MAHOMEDAN FESTIVALS.

ENGLISH.	MAHOMEDAN.	HOLYDAYS, FESTIVALS, &c.
1841.		
Feb. 3	Zilhadje 10	Buckreed. This held in commemoration of Abraham offering up the ram, instead of his son Isaac.
" 23	Mohorum 1	Mohorum. This Festival of Hussain and Hassan lasts 10 days. This month is also the commencement of the 1257th year of the Hegira.
March 25	Suffer 1st to 29	Teerah Tareek.
April 21	Safer 23	Ancheery charshumba.
" 23	Rubulaval 1st to 12	Barawafat. The conjectured date of Mahomed's decease.
May 23	Rubbee us saanee 1st to 11	Gariwa.
June 11	Do. 20	Birth day of his Highness the Nabob of the Carnatic.
July 11	Jamanadelarel 21	Birth day of His Highness Prince Azem Jah Bahadour Nalb-i-Mookhtar.
Sept. 14	Rajjul 27	Eed Rajjul.
" 30	Shaban 14	Shub-i-busart.
Oct. 17	Ramzan 1st to 30	The solemn season of Fasting begins.
Nov. 15	Shawal 1	Eed Ramzan. The Mahomedan feast that follows the month's fasting.

ENGLISH, MAHOMEDAN AND HINDOO MONTHS.

ENGLISH.	MAHOMEDAN.	HINDOO.
January.....	Zelader.....	Margali or Dhaneas.
February.....	Zehadje.....	Tye or Makarum.
March.....	Mohorum.....	Mausce or Khambum.
April.....	Safer.....	Pargooni or Mernum.
May.....	Rubulaval.....	Chitteri or Meshum.
June.....	Rubbee us saanee.....	Vyasee or Vrishabham.
July.....	Jamanadelarel.....	Aunee Medhunnun.
August.....	Jamanadelarel.....	Audi or Katakum.
September.....	Rajjul.....	Anvani or Cimbum.
October.....	Shaban.....	Purtasy or Kanis.
November.....	Ramzan.....	Arpisi or Tulani.
December.....	Shawal.....	Kartika or Vrishikum.

HINDOO FESTIVALS.

ENGLISH.	HINDOO.	HOLYDAYS, FESTIVALS, &c.
1841.		
January 1	Margali 20	Dantree Gouri Vratum.
" 3	" 22	Smarth Vikoonta Yakadasee.
" 4	" 23	Vishnava Vikoonta Yakadasi.
" 7	" 26	Atroodraotsivum at Chindumbarum.
" 8	" 27	Gorbharotsee Nevrooty.
" 11	" 30	Bhoghyapundaga.
" 12	Tye 1	Oottarayampeonitakalum Pungle feast.
" 13	" 2	Mat Pungle.
" 14	" 3	Savitree Gouri Virtum.
" 22	" 11	Tye Aumavasi.
" 23	" 12	Radhotsam at Trivalore.
" 24	" 13	Kylasa Gouri Virtum.
" 27	" 16	Vasunta Panchamee.
" 29	" 18	Viroswata Manoovaly, Radhasupatamee.
" 30	" 19	Bheeshma Austume.
February 2	" 22	Bheeshma Yakadasi, Teelapadama Vratum, Skundawami Radhotsam.
" 3	" 23	Moosulman Bukreet Pandaga.
" 5	" 25	Tye Poosum, Tapoli.
" 6	" 26	Chundragranum Grastastum.
" 19	Massi 10	Mahasevratree Vratum.
" 21	" 12	Dwapara Yoogadi.
" 23	" 14	Hizree 1257 Mohorum.
" 25	" 17	Feast begins at Trivalore.
March 4	" 23	Radhotsam at Trivalore.
" 6	" 25	Molagadyasa at Trivalore.
" 7	" 26	Kanadahanum Holy Feast.
" 24	Punguni 13	Yoogady Pundaga, Chandra Suramratsarothy Chitrasootum.
" 25	" 14	Shoubhaga Gouri Vratum, Ootama Manoovaly Saffer 1st.
" 27	" 16	Kulpady, Feast begins at Milapore.
" 29	" 18	Suntana Suptami.
" 31	" 20	Shreerama Naramee.
April 2	" 22	Radhotsam at Milapore.
" 3	" 23	Madana Trayodasi.
" 4	" 24	Punguni Yontaram at Conjeveram.
" 9	" 29	Garoodatravam at Triplicane.
" 11	Chittri 1	Vishoopundicalum, Hindoo New Year's Day Mastaya Jayantee.
" 13	" 3	Radhotsam at Triplicane.
" 15	" 5	Teertavary at Triplicane.
" 19	" 9	Vasaha Jayenty.
" 21	" 11	Chitree Aumavasi.
" 23	" 13	1st Rabhclaval 1257.
" 24	" 14	Atelah Trilla, Bakaramajayantee, Trata Yoogadi.
" 26	" 16	Stree Permatoor Chattoomary.
May 4	" 24	Narasimha Jayantee.
" 5	" 25	Maha Visaky, Chaitradyanum.
" 13	Viassi 7	Dattatraya Jaytee.
" 15	" 9	Visaka Aumavasi.
" 16	" 10	Jasta Sootum.
" 23	" 12	Kadalee Gouri Vratum, 1st Rabbe.
" 26	" 15	Anurata Gouri Vratum.
" 29	" 18	Panpahara Dasami.
June 1	" 21	Feast begins at Conjeveram.
" 3	" 23	Bhouchia Manoovaly, Garoodatsivum at Conjeveram.
" 7	" 27	Radhotsam at Conjeveram.
" 9	" 29	Teertavary at Conjeveram.
" 15	Anni 3	Katekala Yakadasee.
" 16	" 4	Koornajeyantee.
" 18	" 6	Anni Aumavasi.
" 23	" 11	Sancee Gouri Virtum.
" 25	" 13	Aumruta Latehne Vratum.
" 28	" 16	Chashush Monvadi.
" 29	" 17	Shayava Yakadasee.
" 30	" 18	Narasimha Garoodatsivum at Triplicane.
July 1	" 19	Jayapavatee Vratum.
" 3	" 21	Vissa Poornamee.
" 4	" 22	Narasimha Radhotsam at Triplicane.
" 11	" 29	Durma Savurneka Elunvadi.

HINDOO FESTIVALS.

ENGLISH.	HINDOO.	HOLIDAYS, FESTIVALS, &c.
1841		
July 14	Audi	1 Dutchnayana Pooniakalum.
17		4 Bodayana Aumavasi.
18		5 Audy Aumavasi.
22		9 Shootheekoodootia Nacheyar Ebatoomoory.
23		10 Naga Chirttee, Audyponum.
23		10 Gzooda Punchamee, Jaijasta Gouri Vratum.
23		10 Vara Latchemeevratum.
August 2		17 Auswalyana Oopakarua, Yezoor Oopakarua.
3		21 Esteekalum.
9		27 Kistna Audhnee.
14		32 Audy Pundagay.
15	Auvani	2 Aurance Somavara Aumavasi.
18		4 Rujub Chendradrasanam, Kalceke Jayentee.
19		5 Dhemasa Munvady, Hareetala Gouri Vratum.
20		6 Shodara Gouri Vratum.
21		7 Vinayak Chuttocite, Samopakurua.
23		9 Roczhee Punchamee.
24		10 Aumookta Bharana Suptaine.
26		12 Jaista Austamee.
27		13 Aurance Moolum.
29		15 Parivartana Yakadasi.
31		17 Aunanta Vratum.
September 1		17 Oornamahawara Vratum.
6		18 Mahalia Puchum begins.
8		23 Maha Bharain.
9		25 Sooria Savarnneka Munvadi, Madayestami, Shree-jeyanti.
10		26 Auyanavami—Ootata Pundaga.
12		27 Mahaveteepatun.
13		29 Yatee Vishidpetratidhy.
14		30 Kaliyogradi.
16	Pertasi	31 Mahalaya Aumavasi.
17		2 Audhaka Ausweejum.
25		3 Feast begins at Tripatee.
26		11 Gaja Gouri Vratum.
28		12 Teertavary at Tripatee.
October 14		20 Kunnika Aumavasi.
15	Arpise	1 Neejah Ausweeja Soottum, Navaratree or Dos-sara. Feast begins.
16		2 Preetee Dweteeja.
19		5 Laleeta Gouri Vratum.
20		6 Saraswatee Feast begins.
23		9 Swarochesha Munvady, Saraswateepoojah.
24		10 Veja Dasamee.
25		12 Toolasee Vratum.
27		13 Godwadatee.
30		16 Mahapoomama.
November 1		18 Chundrodaya Gouri Vratum.
11		28 Narakachatoordoso, bathing at night.
12		29 Deepavalee Feast, Kadara Vratum.
14	Kartiki	1 Deepavalee Vrasaha Vratum.
16		3 Trilochana Gouri Vratum.
17		4 Nagachaturthe.
19		6 Skunda Shusti, Feast begins at Trinamalay.
20		7 Kulpadee.
21		8 Gosta Austain.
22		9 Krita Ycogatho.
24		11 Oottana Yakadsi.
25		12 Oottana Dwadas Swayamboova Munvadi.
27		14 Auroonchala Deepum.
28		15 Survalaya Deepum, Dutchasavarnika Munvadi.
December 14	Margaly	1 Tintrini Gouri Vratum.
17		4 Varachaturthi.
18		5 Badari Vratum, Feast begins at Chidumbarum.
19		6 Sumpada Susti.
24		11 Vikoonita Yakadassi.
28		15 Auroodra Darasam.
29		16 Paraseorama Jayenti.

A TABLE OF THE DURATION OF MOONLIGHT AFTER SUNSET AND BEFORE SUNRISE, THROUGHOUT THE YEAR.

Days of the Month.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	Days of the Month.
1	h						1
2							2
3							3
4							4
5							5
6							6
7	o	o	o	o			7
8							8
9							9
10							10
11							11
12							12
13							13
14							14
15							15
16							16
17							17
18							18
19							19
20							20
21							21
22							22
23							23
24							24
25							25
26							26
27							27
28							28
29							29
30							30
31							31

A TABLE OF THE DURATION OF MOONLIGHT AFTER SUNSET AND BEFORE SUNRISE, THROUGHOUT THE YEAR.

Days of the Month.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	Days of the Month.
1			○				1
2		○					2
3	○						3
4							4
5							5
6							6
7							7
8							8
9							9
10							10
11							11
12							12
13							13
14							14
15							15
16							16
17							17
18							18
19							19
20							20
21							21
22							22
23							23
24							24
25							25
26							26
27							27
28							28
29							29
30							30
31							31

The figures under the name of each month denote the number of hours nearly between sunset and sunrise. The number of points denote the hours of darkness: and their position.....indicates, the one....before, the other....after midnight.

ECLIPSES FROM 1841 TO 1900.

- 1841—☾ Feb. 6, 2½ h. m., t., 19½ dig., Brazil.
 ☉ „ 21, 11 h. m., v., Greenland, Europe, small at south.
 ☉ July 18, 2 h. a., v., Europe and west of Asia, small at south.
 ☾ Aug. 2, 10 h. m., t., 18 dig., Otaheite.
 1842—☾ Jan 26, 6 h. a., 9 dig., Bengal.
 ☉ July 8, 7 h. m., c., Madeira, Caspian, China.
 ☾ „ 22, 11 h. m., 3 dig., Behring's Straits.
 ☉ Dec. 31, 7½ h. a., c., New Hebrides, South Pacific, South America.
 1843—☉ June 27, 7 h. a., c., Otaheite, Gallipagos, Paraguay.
 ☾ Dec. 6, midnight, 2½ dig., London.
 ☉ „ 21, 5½ h. m., c., Arabia, Malacca, the Ladrões.
 1844—☉ June 14, midnight, v., New Holland, New Zealand.
 ☾ May 31, 11 h. a., t., 15½ dig., Germany.
 ☾ Nov. 24, midnight, t., 18½ dig., London.
 ☉ Dec. 9, 8 h. a., v., North America, small at south.
 1845—☉ May 6, 10½ h. m., v., Canada, all Europe, except S. E.
 ☾ „ 21, 4½ h. a., t., 12½ dig., China.
 ☉ Oct. 30, 10½ h. a., v., New Holland, New Zealand.
 ☾ Nov. 14, 1 h. m., Canaries.
 1846—☉ April 25, 5 h. a., c., the Marquesas, Cuba, Senegal.
 ☉ Oct. 20, 8½ h. m., c., Guinea, Madagascar, Swan River.
 1847—☾ March 31, 9½ h. a., 2½ dig., Russia.
 1847—☉ April 15, 6½ h. m., v., Cape of Good Hope, c. N. of New Holland.
 ☾ Sept. 24, 3 h. a., 4½ dig., Japan.
 ☉ Oct. 9, 9½ h. m., c., Scotland, Persia, Cochin China.
 1848—☉ March 5, 1½ h. a., v., Canada, small.
 ☾ „ 19, 9½ h. a., t., 17 dig., Russia.
 ☾ Sept. 13, 6½ h. m., t., 20 dig., Mexico.
 ☉ „ 27, 10 h. m., v., Russia, Siberia, small.
 1849—☉ Feb. 23, 1½ h. m., c., China, North of Japan, N. W. America.
 ☾ March 9, 1 h. m., 8½ dig., Canaries.
 ☉ Aug. 18, 5½ h. m., c., Mozambique, S. E.
 ☾ Sept. 2, 5½ h. a., 7 dig., Burmese Empire.
 1850—☉ Feb. 12, 6½ h. m., c., Caffraria, Java, Ladrões.
 ☉ Aug. 7, 10 h. a., c., Caroline Islands, Owhyhee, S. E.
 1851—☾ Jan. 17, 5 h. a., 5½ dig., west of China.
 ☉ Feb. 1, 5 h. m., c., Van Dieman's Land, New Zealand.
 ☾ July 13, 7½ h. m., 8½ dig., California.
 ☉ „ 23, 2½ h. a., c., N. W. America, Iceland, Caspian.
 1852—☾ Jan. 7, 6½ h. m., t., 16 dig., Mexico.
 ☾ July 1, 3 h. a., t., 17½ dig., Japan.
 ☉ Dec. 11, 4 h. m., c., Siberia, Japan, Mulgrave Island.
 ☾ „ 26, 1 h. a., 8 dig., New Caledonia.
 1853—☉ June 6, 8 h. a., c., Society Islands, Gallegoes, Peru.

Eclipses, Continued.

- 1853—C June 21, 6 h. m., 2½ dig., Mississippi.
 O Nov. 30, 7½ h. a., c., Sandwich Islands, Peru, Rio Janeiro.
 1854—C May 12, 4 h. a., 2 dig., East of China.
 O May 26, 10 h. a., c., Ladrões, N. W. America, United States.
 C Nov. 4, 9½ h. a., 1 dig., Russia.
 O „ 20, 10½ h. m., c., Paraguay, S. E., v., south of Africa, New Holland.
 1855—C May 2, 4½ h. m., t., 19½ dig., Canada.
 O „ 16, 2½ h. m., v., north of Asia.
 C Oct. 25, 8 h. m., t., 18½ dig., New Albion.
 1856—O April 5, 5 h. m., v., New Holland; c., New Zealand.
 C „ 20, 9½ h. m., Society Islands.
 O Sept. 29, 4 h. m., v., all north of Asia.
 C Oct. 13, 11½ h. a., 11½ dig., France.
 1857—O March 25, 11 h. a., c., New South Wales, Pacific, South California.
 O Sept. 18, 6 h. m., c., Greece, India, New Guinea.
 1858—C Feb. 27, 10 h. a., 4 dig., Poland.
 O March 15, noon, c., Barbadoes, Spain, St. Petersburg.
 C Aug. 24, 2½ h. a., 5½ dig., New Guinea.
 O Sept. 7, 2½ h. a., c., Chili, S. E.; v., South of Africa.
 1859—C Feb. 17, 11 h. m., t., 19½ dig., Behring's Straits.
 O March 4, 10 h. m., v., Greenland.
 O July 29, 9½ h. a., v., north of North America.
 C Aug. 13, 4½ h. a., t., 19 dig., China.
 1860—C Feb. 7, 2½ h. m., 9½ dig., Brazil.
- 1860—O July 18, 2 h. a., c., New Mexico, Newfoundland, Upper Egypt.
 C Aug. 1, 5½ h. a., 4½ dig., Ava.
 1861—O Jan. 11, 3½ h. m., c., Isle of France, New Holland, N. E.
 O July 8, 2 h. m., c., Java, Caroline Islands, Society Islands.
 C Dec. 17, 8½ h. m., 2 dig., Nootka.
 O „ 31, 2½ h. a., c., United States, Cape Verd, Sicily.
 1862—C June 12, 6½ h. m., t., 14½ dig., Mexico.
 O „ 26, 7 h. m., v., Cape of Good Hope, Van Dieman's Land.
 C Dec. 6, 8 h. m., t., 17½ dig., New Albion.
 O „ 21, 5½ h. m., v., all north of Asia.
 1863—O May 17, 5 h. a., v., North America and Europe, small at south.
 C June 1, midnight, t., 14½ dig., London.
 C Nov. 25, 9 h. m., 11 dig., Pitcairn's Island.
 1864—O May 6, 0½ h. m., c., Borneo, Sandwich Islands.
 O Oct. 30, 3½ h. a., c., Galapagos, Rio Janeiro, C. of Good Hope.
 1865—C April 11, 5 h. m., 1½ dig., Jamaica.
 O „ 25, 3 h. a., c., South Pacific, Brazil, Cape of Good Hope.
 C Oct. 4, 11 h. a., 3½ dig., Italy.
 O „ 19, 5 h. a., c., Slave Lake, United States, Cape Verd.
 1866—O March 16, 10 h. a., v., N. E. of Asia, N. W. of America.
 C „ 31, 5 h. m., t., 16 dig., Jamaica.
 C Sept. 24, 2½ h. a., t., 19 dig., Van Dieman's Land.

Eclipses, Continued.

- 1866—O Oct. 8, 5 h. a., v., north of America, N. W. of Europe.
 1867—O March 6, 10 h. m., c., Cape Verd Islands, France, Tobolski.
 C „ 20, 9 h. m., 9½ dig., Pitcairn's Island.
 O Aug. 29, 1 h. a., c., Buenos Ayres, S. E.
 C Sept. 14, 1 h. m., 8 dig., Canaries.
 1868—O Feb. 23, 2½ h. a., c., south Pacific, Guiana, N. E. of Africa.
 O Aug. 18, 5½ h. m., c., Egypt, India, Caroline Isles.
 1869—C Jan. 28, 1½ h. m., 5½ dig., Cape Verd.
 O Feb. 11, noon, v., South Africa, Madagascar.
 C July 23, 2 h. a., 6½ dig., New South Wales.
 O Aug. 7, 10 h. a., c., Manchoo, Tartary, New Albion, Mexico.
 1870—C Jan. 17, 3 h. a., t., 15 dig., Japan.
 C July 12, 11 h. a., t., 19 dig., Italy.
 O Dec. 22, 0½ h. a., c., Mexico, Spain, Black Sea.
 1871—C Jan. 6, 9½ h. a., 8 dig., Russia.
 O June 18, 2½ h. m., c., Java, New Guinea, Friendly Islands.
 C July 2, 1½ h. a., 4 dig., Kamchatka.
 O Dec. 12, 4½ h. m., c., Persian Gulf, north of New Holland, Mulgrave Island.
 1872—C May 22, 11½ h. a., 1½ dig., France.
 O June 6, 3½ h. m., c., Laccadives, Pekin, Sandwich Islands.
 O Nov. 30, 7 h. a., c., Friendly Islands, Cape Horn, S. E.
 1873—C May 12, 11½ h. m., t., 17½ dig., Friendly Islands.
 O May 26, 9½ h. m., v., North Atlantic, north of Europe and Asia.
 C Nov. 4, 4½ h. a., t., 18 dig., China.
 1874—O April 16, 1½ h. a., v., Cape of Good Hope.
 C May 1, 4½ h. a., 9½ dig., China.
 O Oct. 10, 11½ h. m., c., Baslin's Bay, Norway, Tobolski.
 C „ 25, 8 h. m., t., 12 dig., New Albion.
 1875—O April 6, 7 h. m., c., Caffraria, Maldives, Philippines.
 O Sept. 29, 1½ h. a., c., United States, Sierra Leone, Mozambique.
 1876—C March 10, 6½ h. m., 3½ dig., Mexico.
 O „ 25, 8 h. a., c., Mulgrave's Island, Nootka, Greenland.
 C Sept. 3, 9½ h. a., 4 dig., Russia.
 O „ 17, 10 h. a., c., New Guinea, Cape Horn.
 1877—C Feb. 27, 7½ h. a., t., 19½ dig., east of Persia.
 O March 15, 3 h. m., v., north of Asia.
 O Aug. 9, 5 h. m., v., north of Asia and America.
 C „ 23, 11½ h. a., t., central France.
 1878—C Feb. 17, 11 h. m., 9½ dig., Behring's Straits.
 O July 29, 9½ h. a., c., Manchoo Tartary, Behring's Straits, United States.
 C Aug. 12, midnight, 6½ dig., London.
 1879—O Jan. 22, noon, c., Peru, St. Helena, Maldives.
 O July 19, 9 h. m., c., Guinea, Abyssinia, north west of New Holland.
 C Dec. 28, 4½ h. a., 1½ dig., China.
 1880—O Jan. 11, 11 h. a., c., Pel-lew Island, Scarborough's California.
 C June 22, 2 h. a., t., 12½ dig., New South Wales.

Eclipses, Continued.

1880—⊙ July 7, 1 h. a., v., Cape of Good Hope. ⊙ Dec. 16, 4 h. a., t., 16½ dig., east of China. ⊙ „ 31, 2 h. a., v., North America and Europe, small at south.	1887—⊙ Feb. 22, 8 h. a., v., New South Wales, c., South America. ⊙ Aug. 3, 9 h. a., 5 dig., Armenia. ⊙ „ 19, 6 h. m., c., Norway, Lake Baikal, North Pacific.
1881—⊙ May 27, midnight, v., East of Asia, N. W. of America. ⊙ June 12, 7 h. m., t., 15½ dig., New Mexico. ⊙ Dec. 5, 5½ h. a., 11½ dig., Ava.	1888—⊙ Jan. 28, 11½ h. a., t., 14 dig., France. ⊙ July 23, 6 h. m., t., central Mississippi.
1882—⊙ May 17, 8 h. m., c., Guinea, Persia, China. ⊙ Nov. 10, midnight, c., Borneo, Norfolk Island, Easter Island.	1889—⊙ Jan. 1, 9 h. a., c., Behring's Straits, Nootka, Hudson's Bay. ⊙ Jan. 17, 5½ h. m., 8½ dig., United States. ⊙ June 28, 9 h. m., c., south of Africa, Madagascar, S. E.
1883—⊙ May 6, 11½ h. a., c., Philippines, Tonga Island, Pitcairn's Island. ⊙ Oct. 16, 7½ h. m., 3 dig., California. ⊙ „ 30, midnight, c., north of Japan, Owhyhee, S. E.	⊙ July 12, 9 h. a., 5½ dig., Armenia. ⊙ Dec. 22, 1 h. a., c., Carthage, St. Helena, Abyssinia.
1884—⊙ March 27, 6 h. m., v., N. E. of Europe, north of Asia, small at East. ⊙ April 10, noon, t., 15 dig., New Zealand. ⊙ Oct. 4, 10½ h. a., t., 18½ dig., Greece. ⊙ „ 19, 1 h. m., v., east of Asia, North America.	1890—⊙ June 17, 10 h. m., c., Cape Verd Islands, Smyrna, Pegu. ⊙ Dec. 12, 3 h. m., c., Mauritius, New Zealand, Otaheite.
1885—⊙ March 16, 6 h. a., c., North Pacific, Slave Lake, Baffin's Bay. ⊙ „ 30, 5 h. a., 10 dig., west of China. ⊙ Sept. 8, 9 h. a., c., Sidney, New Zealand, S. E. ⊙ „ 24, 8½ h. m., 9 dig., Nootka.	1891—⊙ May 23, 7 h. a., t., 15½ dig., India. ⊙ June 6, 4½ h. a., c., N. West America, North Pole, Russia. ⊙ Nov. 16, 0½ h. m., 17½ dig., Ireland.
1886—⊙ March 5, 10 h. a., c., Torres Straits, Christmas Island, Gulf of Mexico. ⊙ Aug. 29, 1½ h. a., c., Honduras, Ascension, Caffaria.	1892—⊙ April 26, 10 h. a., c., South Pacific. ⊙ May 11, 11½ h. a., 11½ dig., France. ⊙ Oct. 20, 7 h. a., v., North America. ⊙ Nov. 4, 4½ h. a., t., 12½ dig., China.
1887—⊙ Feb. 3, 10½ h. m., 5½ dig., Sandwich Islands.	1893—⊙ April 16, 3 h. a., c., Easter Island, Guiana, N. E. Africa. ⊙ Oct. 9, 9 h. a., c., Sandwich Islands, Peru.
	1894—⊙ March 21, 2½ h. a., 3 dig., New Guinea. ⊙ April 6, 4½ h. m., c., Egypt, China, Pacific.

Eclipses, Continued.

1894—⊙ Sept. 15, 4½ h. m., 2½ dig., Canada. ⊙ „ 29, 5½ h. m., c., Madagascar, New South Wales, New Zealand.	1898—⊙ Jan. 7, midnight, 1½ dig., London. ⊙ „ 22, 8 h. m., c., Fezzan, Socotra, north of China. ⊙ July 3, 9½ h. a., 11 dig., Russia. ⊙ „ 18, 7 h. a., v., South America. ⊙ Dec. 27, midnight, t., 16 dig., London.
1895—⊙ March 11, 4 h. m., t., 18½ dig., Barbadoes. ⊙ „ 26, 10 h. m., v., Atlantic, Europe, north of Asia. ⊙ Aug. 20, 0½ h. a., v., north of Asia.	1899—⊙ Jan. 11, 11 h. a., v., east of Asia, North America. ⊙ June 8, 7 h. m., v., north of Europe and Asia. ⊙ „ 23, 2½ h. a., t., 18 dig., New Guinea. ⊙ Dec. 17, 1½ h. m., 11½ dig., Cape Verd.
1896—⊙ Feb. 28, 8 h. a., 10 dig., East of Persia. ⊙ Aug. 9, 4½ h. m., c., Prussia, E. Siberia, Pacific. ⊙ „ 23, 7 h. m., 8 dig., New Mexico.	1900—⊙ May 28, 3 h. a., c., Mexico, Azores, Egypt. ⊙ Nov. 22, 8 h. m., c., Benin, Madagascar, New South Wales
1897—⊙ Feb. 1, 8 h. a., c., New Caledonia, Easter Island, Guinea. ⊙ July 29, 4 h. a., c., Galapagos, Barbadoes, Guinea.	

ENGLISH, MAHOMEDAN, TAMIL AND HINDOO YEARS.

English.	Fusly.	Aundoo.	Salva- ganah.	Names of the Tamil Years being a Cycle of 60 years.	English.	Fusly.	Aundoo.	Salva- ganah.
1747	1157	923	1669	Prabavah.....	1807	1217	981	1729
1748	1158	924	1670	Vebavah.....	1808	1218	982	1730
1749	1159	925	1671	Sooklah.....	1809	1219	983	1731
1750	1160	926	1672	Premodootah.....	1810	1220	984	1732
1751	1161	927	1673	Prejoputtee.....	1811	1221	985	1733
1752	1162	928	1674	Angeersa.....	1812	1222	986	1734
1753	1163	929	1675	Sreemooka.....	1813	1223	987	1735
1754	1164	930	1676	Bavah.....	1814	1224	988	1736
1755	1165	931	1677	Uvah.....	1815	1225	989	1737
1756	1166	932	1678	Dhantoo.....	1816	1226	990	1738
1757	1167	933	1679	Easwarah.....	1817	1227	991	1739
1758	1168	934	1680	Vegodantah.....	1818	1228	992	1740
1759	1169	935	1681	Premaudhee.....	1819	1229	993	1741
1760	1170	936	1682	Veikramah.....	1820	1230	994	1742
1761	1171	937	1683	Vishoo.....	1821	1231	995	1743
1762	1172	938	1684	Chitrabanoo.....	1822	1232	996	1744
1763	1173	939	1685	Soobanoo.....	1823	1233	997	1745
1764	1174	940	1686	Tarabah.....	1824	1234	998	1746
1765	1175	941	1687	Paurtevah.....	1825	1235	999	1747
1766	1176	942	1688	Vjah.....	1826	1236	1000	1748
1767	1177	943	1689	Larvajetoo.....	1827	1237	1001	1749
1768	1178	944	1690	Survadaree.....	1828	1238	1002	1750
1769	1179	945	1691	Verodhee.....	1829	1239	1003	1751
1770	1180	946	1692	Vickvootee.....	1830	1240	1004	1752
1771	1181	947	1693	Catah.....	1831	1241	1005	1753
1772	1182	948	1694	Nundanah.....	1832	1242	1006	1754
1773	1183	949	1695	Vejia.....	1833	1243	1007	1755
1774	1184	950	1696	Jia.....	1834	1244	1008	1756
1775	1185	951	1697	Munmasa.....	1835	1245	1009	1757
1776	1186	952	1698	Doommookee.....	1836	1246	1010	1758
1777	1187	953	1699	Avelumbee.....	1837	1247	1011	1759
1778	1188	954	1700	Velumbee.....	1838	1248	1012	1760
1779	1189	955	1701	Vekaree.....	1839	1249	1013	1761
1780	1190	956	1702	Sharvaree.....	1840	1250	1014	1762
1781	1191	957	1703	Pelavah.....	1841	1251	1015	1763
1782	1192	958	1704	Soobacrootoo.....	1842	1252	1016	1764
1783	1193	959	1705	Lobacrootoo.....	1843	1253	1017	1765
1784	1194	960	1706	Crodhee.....	1844	1254	1018	1766
1785	1195	961	1707	Visavasoo.....	1845	1255	1019	1767
1786	1196	962	1708	Parabava.....	1846	1256	1020	1768
1787	1197	963	1709	Pelavunga.....	1847	1257	1021	1769
1788	1198	964	1710	Veclakah.....	1848	1258	1022	1770
1789	1199	965	1711	Sparamia.....	1849	1259	1023	1771
1790	1200	966	1712	Landarajah.....	1850	1260	1024	1772
1791	1201	967	1713	Verodookrootoo.....	1851	1261	1025	1773
1792	1202	968	1714	Parcedaapee.....	1852	1262	1026	1774
1793	1203	969	1715	Premadeecha.....	1853	1263	1027	1775
1794	1204	970	1716	Anunda.....	1854	1264	1028	1776
1795	1205	971	1717	Reatetasa.....	1855	1265	1029	1777
1796	1206	972	1718	Nalah.....	1856	1266	1030	1778
1797	1207	973	1719	Pingalah.....	1857	1267	1031	1779
1798	1208	974	1720	Carlayuktee.....	1858	1268	1032	1780
1799	1209	975	1721	Siddartec.....	1859	1269	1033	1781
1800	1210	976	1722	Roudree.....	1860	1270	1034	1782
1801	1211	977	1723	Doommatee.....	1861	1271	1035	1783
1802	1212	978	1724	Doondoohee.....	1862	1272	1036	1784
1803	1213	979	1725	Roudraazaree.....	1863	1273	1037	1785
1804	1214	980	1726	Ructaabee.....	1864	1274	1038	1786
1805	1215	981	1727	Crodahnah.....	1865	1275	1039	1787
1806	1216	982	1728	Utchia.....	1866	1276	1040	1788

A GENERAL TABLE.

SHOWING, by inspection, all the Dominical Letters that have been, since the correction of the Julian Calendar by Pope Gregory XIII, which took place from the ides of October, 1582, or that can occur in any future times.

	A G	CB	ED	GF	BA	DC	FE
	F. E. D. A. G. F. C. B. A. E. D. C. G. F. E. B. A. G. D. C. B.						
1584	83	92	96				
1612	16	20	24	28	32	36	
40	44	48	52	56	60	64	
68	72	76	80	84	88	92	
96							
1708	12	16	20	24	28	32	1704
36	40	44	48	52	56	60	
64	68	72	76	80	84	88	
92	96						
1824	6	12	16	20	24	28	
32	36	40	44	48	52	56	
60	64	68	72	76	80	84	
88	92	96					
1944	8	12	16	20	24	28	
32	36	40	44	48	52	56	
60	64	68	72	76	80	84	
88	92						
2000							

The letters for the first, second, and third years after every bissextile, are the three single letters placed under the double letters, in the same column with the bissextile they immediately follow. For example, as the Dominical Letters for 1600 were A B, so the Dominical Letter for 1601, was C, for 1602, F, and for 1603, E. So for 1700 the Dominical will be C, B; consequently 1701, 1702, and 1703, must have A, G, and F; and the letter for 1800, (which is to be accounted a common year,) will be E; therefore 1801, 1802, and 1803, must have the subsequent letters, D, C, and B; and then 1804, being bissextile will come under the letters A G; and from thence every fourth year will be leap-year.

A PERPETUAL DIARY.

MONTH.	A.	B.	C.	D.	E.	F.	G.
January.....	SUN.	Sat.	Friday.	Thurs.	Wed.	Tues.	Mon.
February.....	Wed.	Tues.	Mon.	Sun.	Sat.	Friday.	Thurs.
March.....	Wed.	Tues.	Mon.	Sun.	Sat.	Friday.	Thurs.
April.....	Sat.	Friday.	Thurs.	Wed.	Tues.	Mon.	Sun.
May.....	Mon.	Sun.	Sat.	Friday.	Thurs.	Wed.	Tues.
June.....	Thurs.	Wed.	Tues.	Mon.	Sun.	Sat.	Friday.
July.....	Sat.	Friday.	Thurs.	Wed.	Tues.	Mon.	Sun.
August.....	Tues.	Mon.	Sun.	Sat.	Friday.	Thurs.	Wed.
September....	Friday.	Thurs.	Wed.	Tues.	Mon.	Sun.	Sat.
October.....	Sun.	Sat.	Friday.	Thurs.	Wed.	Tues.	Mon.
November....	Wed.	Tues.	Mon.	Sun.	Sat.	Friday.	Thurs.
December....	Friday.	Thurs.	Wed.	Tues.	Mon.	Sun.	Sat.

Having the Dominical Letter for the year at the top and the Month in the side column, will give the day of the week that begins the Month.

Thus the Dominical Letter for 1833 is G, opposite January under that column shows the day of the week, viz. Monday. For February, Thursday, and so on.

A SECULAR DIARY OF THE NINETEENTH CENTURY.

YEARS.													YEARS.												
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
31	29	31	30	31	30	31	31	30	31	30	31		31	29	31	30	31	30	31	31	30	31	30	31	
1801	07	18	29	35	46	4	7	3	5	1	3	6	2	1857	63	74	85	91	—						
1802	13	19	30	41	47	5	1	1	4	2	4	7	3	1858	69	75	85	97	—						
1803	14	25	31	42	—	6	2	2	5	6	3	5	1	1859	70	81	87	98	—						
1805	11	22	33	39	—	2	5	5	1	3	6	1	4	1850	61	67	78	89	95						
1806	17	23	34	45	—	3	6	6	2	4	7	2	5	1851	62	74	79	90	—						
1809	15	26	37	43	—	7	3	3	6	1	4	6	2	1854	63	71	82	93	99						
1810	21	27	38	49	—	1	4	4	7	2	5	7	3	1855	66	77	83	91	—						
LEAP YEARS													LEAP YEARS.												
31	29	31	30	31	30	31	31	30	31	31	30	31	31	29	31	30	31	30	31	31	30	31	30	31	
1804	1832	7	3	4	7	2	5	7	3	6	1	4	6	1860	1888										
1803	1833	5	1	2	5	7	3	5	1	4	6	2	4	1861	1892										
1812	1810	3	6	7	3	5	1	3	6	2	4	7	2	1860	1896										
1816	1814	1	4	5	1	3	6	1	4	7	2	5	7	1872	1900										
1820	1818	6	2	3	6	1	4	6	2	5	7	3	5	1876	—										
1824	—	4	7	1	4	6	2	4	7	3	5	1	3	1852	1880										
1828	—	2	5	6	2	4	7	2	5	1	3	6	1	1856	1884										
Date.	1	2	3	4	5	6	7																		
1	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.																		
2	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.																		
3	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.																		
4	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.																		
5	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.																		
6	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.																		
7	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.																		
8	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.																		
9	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.																		
10	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.																		
11	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.																		
12	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.																		
13	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.																		
14	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.																		
15	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.																		
16	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.																		
17	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.																		
18	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.																		
19	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.																		
20	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.																		
21	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.																		
22	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.																		
23	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.																		
24	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.																		
25	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.																		
26	Frid.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.																		
27	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.																		
28	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.																		
29	Mon.	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.																		
30	Tues.	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.																		
31	Wed.	Thur.	Frid.	Sat.	Sun.	Mon.	Tues.																		

EXPLANATION.—To ascertain any Day, in any year of the present Century—first look in the Table of Years, for the Year required, and under the Months are the figures, which refer to the corresponding Figures at the head of the column of Days, for the whole month. For Example:—To know what Day the 16th August will be on in the year 1832. In the Table of "Leap Years" you will find the year 1832, and under August the Figure 3, which directs you to Column 3, in which you will perceive August 16 to be on Thursday.

TIME TABLE NO. I.

1st.—Shews the number of days from any given day in one month to the same day of any other month. It must be observed, that in Leap Year, if the end of the month of February be included in the time, one day must be added. If it be desired to find the number of days from a given day in one month to a different day in another, the difference between the dates must be added to, or subtracted from (as the case may be) the amount. For example:—To find the number of days between the 5th of January and 12th of November:—

From 5th of January to 5th of November.....304 Days.
From 5th to 12th of November..... 7

311
If it be Leap Year, add..... 1

Answer..... 312

2d.—Shews the decimal parts for each and all the days in the twelfth part of a year, consisting of 365 $\frac{1}{4}$ days.

No. 1.												
Number of Days from one month to another.												
Between	January	February	March	April	May	June	July	August	September	October	November	December
January.....	365	334	306	275	245	214	184	153	122	92	61	31
February.....	31	365	337	316	276	245	215	184	153	123	92	62
March.....	59	28	365	334	304	273	243	212	181	151	120	90
April.....	90	59	31	365	335	304	274	243	212	182	151	121
May.....	120	89	61	30	365	334	304	273	242	212	181	151
June.....	151	120	92	61	31	365	335	304	273	243	212	182
July.....	181	150	122	91	61	30	365	334	303	273	212	212
August.....	212	181	153	122	92	61	31	365	334	304	273	243
September.....	243	212	184	153	123	92	62	31	365	335	304	274
October.....	273	242	214	183	153	122	92	61	30	365	334	301
November.....	304	273	245	214	184	153	123	92	61	31	365	335
December.....	334	303	275	244	214	183	153	122	91	61	30	365

No. 2.							
Decimal Parts for Days in the Twelfth Part of a Year.							
Days.	D. P.	Days.	D. P.	Days.	D. P.	Days.	D. P.
1	.033	9	.296	17	.558	25	.821
2	.066	10	.328	18	.591	26	.855
3	.098	11	.361	19	.624	27	.887
4	.131	12	.394	20	.657	28	.92
5	.164	13	.427	21	.69	29	.953
6	.197	14	.46	22	.723	30	.986
7	.23	15	.493	23	.756		
8	.263	16	.525	24	.789		

TABLE No. II.
Number of days from 1st January to the end of the Year.

Days.	January.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.
1	1	32	60	91	121	152	182	213	244	274	305	335
2	2	33	61	92	122	153	183	214	245	275	306	336
3	3	34	62	93	123	154	184	215	246	276	307	337
4	4	35	63	94	124	155	185	216	247	277	308	338
5	5	36	64	95	125	156	186	217	248	278	309	339
6	6	37	65	96	126	157	187	218	249	279	310	340
7	7	38	66	97	127	158	188	219	250	280	311	341
8	8	39	67	98	128	159	189	220	251	281	312	342
9	9	40	68	99	129	160	190	221	252	282	313	343
10	10	41	69	100	130	161	191	222	253	283	314	344
11	11	42	70	101	131	162	192	223	254	284	315	345
12	12	43	71	102	132	163	193	224	255	285	316	346
13	13	44	72	103	133	164	194	225	256	286	317	347
14	14	45	73	104	134	165	195	226	257	287	318	348
15	15	46	74	105	135	166	196	227	258	288	319	349
16	16	47	75	106	136	167	197	228	259	289	320	350
17	17	48	76	107	137	168	198	229	260	290	321	351
18	18	49	77	108	138	169	199	230	261	291	322	352
19	19	50	78	109	139	170	200	231	262	292	323	353
20	20	51	79	110	140	171	201	232	263	293	324	354
21	21	52	80	111	141	172	202	233	264	294	325	355
22	22	53	81	112	142	173	203	234	265	295	326	356
23	23	54	82	113	143	174	204	235	266	296	327	357
24	24	55	83	114	144	175	205	236	267	297	328	358
25	25	56	84	115	145	176	206	237	268	298	329	359
26	26	57	85	116	146	177	207	238	269	299	330	360
27	27	58	86	117	147	178	208	239	270	300	331	361
28	28	59	87	118	148	179	209	240	271	301	332	362
29	29		88	119	149	180	210	241	272	302	333	363
30	30		89	120	150	181	211	242	273	303	334	364
31	31		90		151			243		304		365

In Leap Years one day must be added after the 28th of February.

THE USE OF THE FOREGOING TABLE.

I. To Find the number of days from the end of the year to any day in any month of the year following.—*Rule*: Opposite the given day in the margin look under the given month, which will show the number of days required. Thus, from 31st December till 18th August following are 229 days, and to 20th October 203 days.

II. To find the number of days from any particular day, to the end of the year.—Suppose 27th July. From 265, the days in a year, take the number answering to 27th July, viz. 203.

Remainder 157 days required.

III. To find the number of days from any day in one month to any day in another month.—Suppose from 5th April to 23rd November.—*Rule*: Take the difference between the numbers corresponding to those days.

23rd November 332

5th April 95

Answer.....237

IV. To find the number of days between any day in one year to any day in the year following.—Suppose from 21st August, 1822, to 27th May, 1823.—(See Rules I and 2.) From 265 days in a Year.

Take the number of 21st August, 233

132 days in 1822

Add the number of 27th May 147

Total.....379 days required

PART III.

Companion to the Almanac.

Topographical Account of the Island of Ramisseram, by *J. Kellie, Esq.*
Asst. Surg. Madras Establishment; Memoir of Cochin, by *W. H. Horsley, Esq.* Madras Engineers; Notes on the Neilgherries, by *R. Baillie, Esq.* *M.D. Surg.* Madras Establishment; Southern Mahratta Doab, by *H. P. White, Esq.* *Lieut. 47th Regt. M. N. I.*; China, taken from "Medhurst's China;" A Toxicological Chart, exhibiting at one view, the Symptoms, Treatment, &c. of Mineral and other Poisons; Abstract of Marriage and Registration Act.

Registration of Places of Worship for Solemnization of Marriages.—Episcopal chancels may be licensed according to regulations laid down in the Act. Any place of worship which has been in use as such for at least 7 year may, on the application of a proprietor or trustee to the superintendent registrar (which application must be accompanied with a certificate signed in duplicate by at least twenty householders), be registered for the solemnization of marriages; and, should the congregation remove to another place of worship, the registry may be cancelled and the new building registered. These registries are to be advertised in a local paper, and in the "London Gazette."

REGISTRATION OF MARRIAGES, BIRTHS, AND DEATHS.—The registrar general is to furnish each superintendent registrar, for the use of the registrars, with books and iron boxes to hold them; each box is to have a lock and two keys, one to be kept by the superintendent registrar, the other by the registrar. Ministers of churches and chapels, and officers of Quaker or Jewish congregations, are also to be furnished with marriage registration books. There are other regulations in the Act respecting the expense of furnishing these books, &c. The superintendent registrar is also to have a book for the registering of buildings for solemnizing marriages.

Registration of Marriages.—Notices of marriage, when given to the superintendent registrar in the required manner, are entered by him in the marriage notice book; and, if not forbidden, he issues in due time (in seven or twenty-one days) his license or certificate. The registrar present at marriages solemnized under the Act registers the marriage, which is signed by the officiating minister, the parties married, two witnesses, and the registrar.

Registration of Births.—Every registrar of births and deaths is authorized by the Act to require information from the parties qualified to give it respecting every birth and death which may occur within his district. Any person may give notice of births and deaths to the registrar, but the information which is inserted in the register must be received only from parties declared by the Act to be duly qualified informants. Information may be given of a birth within forty-two days after by the father or mother, or by the occupier of the house in which the child is born, to the registrar, who is to enter it without receiving a fee from the parties. If forty-two days have elapsed, the birth cannot be registered except in the presence of the superintendent registrar, when a fee must be paid to him of 2s. 6d., and 6s. to the registrar; and moreover the child must not be more than six months old. Any name given to a child in baptism, within six months after registration, may be added to the registration, on production of the minister's certificate, and on payment of a fee of 1s., provided that the certificate is delivered to the registrar within seven days next after the performance of the baptism.

Registration of Deaths.—Intimation of a death may be given to the registrar by some person who was present or in attendance during the last illness of the deceased, or by the occupier of the house in which the death occurred, or, in the event of the death of the occupier, by some inmate of the house. On the death being registered, a certificate is to be delivered by the registrar without fee to the undertaker or other person having charge of the funeral. This certificate is to be delivered to the minister or person who performs the funeral service, and who, if no certificate is delivered to him, is to give notice to the registrar of the district in which the death took place, within seven days, under a penalty. Any coroner who has held an inquest over a dead body may order it to be buried before registry of the death on giving a certificate.

"Any person giving information to the registrar of a birth or death must sign his or her name, description and place of abode, in the register."

Captains of British vessels at sea are to note down the particulars required of the birth or death of any of Her Majesty's English subjects which may occur on board, which they are to transmit to the registrar-general, to be entered by him in a "Marine Register book," to be kept in the "General Register Office."

N. B.—The cause of death is one of the particulars required in giving information of a death.

MARRIAGE FEES.—Superintendent Registrar's Fees—	£.	s.	d.
For entering notice of intended marriage.....	0	1	0
For certificate granted at the end of twenty-one days.....	0	1	0
For license (in addition to stamp duties) by which the parties can be married in seven days after notice.....	3	0	0
For every caveat lodged against the grant of a certificate or license.....	0	5	0
For registering a place of worship for solemnizing marriages.....	3	0	0
(The same sum is to be paid for transferring the registry.)			

Registrar's Fees.

For being present at, and registering a marriage by certificate.....	£. s. d.
.....	0 5 0
If by license.....	0 10 0

PENALTIES ANNEXED TO THE MARRIAGE ACT.—For entering a caveat against a marriage on frivolous grounds, a person is liable to costs and damages, to be recovered by special action.

The making of a false declaration, signing a false notice or certificate, or unduly forbidding the issue of the superintendent registrar's certificate on a false representation, is held to be perjury, and punishable as such.

Improperly solemnizing marriages, contrary to the regulations of the Act, is felony.

Illegal marriages, solemnized with the knowledge of both parties that they are illegal, are null and void; and where one person only is guilty of a fraudulent marriage, he or she forfeits all property that may accrue by the marriage.

REGISTRATION FEES.—*Births.*—No fees are paid on the registration of a birth, if within the required time; after forty-two days, 2s. 6d. to superintendent registrar, and 5s. to register.

To minister for certificate of performing baptism, in order that the name of the child may be added to the registration of birth, 1s.; and to superintendent registrar or registrar for entering baptismal name, 1s. [These fees are only to be paid when the name is added at any time within six months after the registration of the birth. The name of the child is to be given in at the time of registering the birth, if it then has a name; in this case no certificate of baptism is required.]

No register of birth is legal if it has been deferred till after six months from the birth, except as regards children born at sea.

Deaths.—No fee is to be paid on giving notice of a death: but intimation of a death should be given as soon after it occurs as possible, as delay in performing the funeral might arise from the want of the registrar's certificate.

The Act does not affect the right of any minister of the established church to receive the fees that have been usually paid for performance of any marriage, baptism, or burial.

Fees for Searching the Registers.—Rectors, vicars, or curates, registrar, registering officer of Quakers, or secretary of Jewish synagogue, having charge of any registrar book, are to allow searches to be made at all reasonable times, on payment of the following fees:—For a search in registrar of not more than one year, 1s.; and for every additional year, 6d.

For certificate of single entry, 2s. 6d.

To superintendent registrar for every general search of indexes, 5s.; and for every particular search, 1s.

For certified copy of entry, 2s. 6d.

To registrar-general, or his officer, for general search of indexes kept in the General Register Office in London, 1l.; and for particular search, 1s. For certified copy of entry, 2s. 6d.

[The two Acts detail particulars respecting the duties of the registrar-general, superintendent registrars, registrars, boards of guardians, &c., for which see the *REGISTRATION MANUAL*, published by C. Knight and Co.]

PART IV.

Directory.

The Royal family of Great Britain; The Queen's Household, Prince Albert's Household, Queen Dowager's Household, Duchess of Kent's Household, Ministry of England, Scotland, and Ireland, Bishops and Deans, Colonial Bishops, according to Seniority; Officers of the House of Peers; Officers of the House of Commons; Courts of Law; Foreign Ministers in England, and Queen's Ministers abroad; Board of Commissioners for the affairs of India; Court of Directors; Home Establishment; East India College; Military Seminary; East India Houses of Agency in London; East India Army Agents; East India Out-fitting Establishments; Bankers in London; Consuls abroad; British Colonies in Europe, America, Africa and Asia. European States and Sovereigns; Great Britain, Empire of Austria, Grand Duchy of Baden, Kingdom of Bavaria, Kingdom of Belgium, Empire of Brazil, Duchy of Brunswick, Kingdom of Denmark, Kingdom of France, Kingdom of Greece, Kingdom of Hanover, Free Hanse-Towns, Electorate of Hesse, Grand Duchy of Hesse-Darmstadt, Grand Duchy of Holstein-Oldenburg, Ionian Republic, Duchy of Lucca, Grand Duchy of Mecklenburg-Schwerin, Grand Duchy of Mecklenburg-Strelitz, Republic of Mexico, Duchy of Modena and Naples, Duchy of Nassau, Duchy of Parma, Kingdom of Portugal, Kingdom of Prussia, Papedom of Rome, Empire of Russia, Kingdom of Sardinia, Grand Duchy of Saxe-Weimar, Duchy of Saxe-Coburg-Gotha, Kingdom of Saxony, Kingdom of the Two Sicilies, Kingdom of Spain, Kingdom of Sweden and Norway, Swiss Confederation, Ottoman Empire, Grand Duchy of Tuscany, Kingdom of Wurtemberg, Kingdom of the Netherlands, French Settlements in India, Portuguese Establishment at Goa, Tables of Weights and Measures at Goa, Ecclesiastical Department, The Islands of Goa, Bardez, and Salsetty; Roman Catholic Priests in Canara; Supreme Government, Residents of Native Courts, Garrison of Fort Saint George and its Dependencies; Officers in Command of Divisions; Military Service Regulations; Queen's Military Fund; Lord Clive's Fund; Tables of Weights and Measures; General Rules of Agency and Commission; Madras Chamber of Commerce; Distribution of the Civil List; List of the Covenanted Civil Servants; Judges of the Provincial Courts of Appeal; Judges of Zillah

Courts; Principal Collectors and Magistrates; Civil Servants without permanent Employ; Civil Servants on Furlough to England; Casualties during the year 1810; Resignation; Civil Servants who have retired on Annuities; Civil Servants entitled to Annuities; &c. &c. Principal Sudder Ameeris; Graduated Scale of Allowances to the principal Native Revenue Servants; Table of Allowances to the principal Native Judicial Servants; Salaries and Allowances of Civil Servants; Statement of Zillah Collections; Civil Service Regulations; Revised Regulations for Native Surveying Establishment; Rules for the College of Fort Saint George; Post Office Regulations; Military Salaries; Military Fund; Medical Fund; Medical Regulations; Medical School; Medical Staff; Medical Establishment; Civil Fund; Her Majesty's Supreme Court of Judicature; General Police Office; Town Police; Madras Police Regulations; Rates of Cart and Conly Hire, and Field Pay; Rate of Hire of Artificers, Coolies, &c.; Marine Police Office; Court of Requests; Table of Fees Established for the Court of Commissioners; Justices in Sessions and their Officers; Assessment Regulations; Marine Board; Master's Attendant's Office at Madras; Master Attendants at Out Ports; Her Majesty's Ships and Vessels in the East Indies; Naval Establishment; Indian Navy; Comparative Rank of Officers in the Army and Navy; Scale of Rank and precedence assigned to Medical Officers; Salutes; Signals for Ships; Light House; Pondicherry Light House; Extracts from Parts II and III of Marryat's Code of Regulations; Madras Port Regulations; Table of Port Charges; Consolidated Port Charges; Export Duty on Cotton Wool; Modification of the Rules of the Port; Schedule of Articles composing a Boat Load; Table of Average Passages between Madras, and other Ports; Government Bank; Government Saving's Bank; Ecclesiastical Establishment; Rules and Regulations for the Ecclesiastical Establishment; Directors of the Civil Fund; Directors of the Medical Fund; Religious Societies; Charitable and other Institutions; Lodges; Merchants and Agents; Madras Trade List; Periodical Publications; Printing Presses; Seminaries; Miscellaneous List; Bridges.

GREAT BRITAIN.

The Royal Family of Great Britain.

THE QUEEN.

VICTORIA, 1.—Queen of the United Kingdom of Great Britain and Ireland, Defender of the Faith, Sovereign of the Orders of the Garter, Thistle, Bath, and St. Patrick—Born May 24, 1819. Succeeded her Uncle William IV. June 20, 1837; married February 10, 1840, her cousin Prince Albert of Saxe-Coburg and Gotha.

The Queen Dowager.

Adelaide Amelia Louisa Teresa Caroline, widow of the late King, sister of the reigning Duke of Saxe-Meiningen, born August 13, 1792.

Royal Princes and Princesses.

Ernest Augustus, (King of Hanover), Duke of Cumberland, born June 5, 1771; married May 29, 1815, to Frederica Carolina Sophia, daughter of the Duke of Mecklenburg Strelitz, and widow of Fred. William, Prince of Solms Braunfels, born March 2, 1778. Issue, George Frederick, born May 27, 1819.

Augustus Frederick, Duke of Sussex, born January 27, 1773.

Adolphus Frederick, Duke of Cambridge, born February 24, 1774; married May 7, 1818, to Augusta Wilhelmina Louisa, niece of the Landgrave of Hesse; born July 25, 1797. Issue, George William, March 26, 1819; Augusta Caroline, July 19, 1822; Mary Adelaide, Nov. 27, 1823.

Mary, Duchess of Gloucester, born April 25, 1776.

Sophia, born November 3, 1777.

Cousin to the Royal Princes and Princesses.

Princess Sophia Matilda, of Gloucester, born May 29, 1773.

Her Majesty's Mother.

Victoria Maria Louisa (Princess Dowager of Leiningen) Duchess of Kent, widow of Edward, Duke of Kent, sister of the King of the Belgians, born August 17, 1783.

Present order of succession to the Crown. Ernest Augustus (King of Hanover) Duke of Cumberland.

THE QUEEN'S HOUSEHOLD, &c.

Hered. Joint Great Chamberlain of England, Lord Willoughby D'Eresby—Sec. Rob. Burrell, esq.
Hered. Earl Marshal, Duke of Norfolk.
Lord Steward, Earl of Erroll—Treasurer, Earl of Surrey—Comp. Rt. Hon. G. E. Byng—Master of Household, Hon. Chas. Augustus Murray—Sec. to Board of Green Cloth, Sir Thos. Marable.
Lord Chamberlain, Earl of Uxbridge.
Vice-Chamberlain, Earl of Belfast.
Mistress of the Robes, Duchess of Sutherland—Ladies of the Bedchamber, Duchess of Bedford, Marchioness of Normandy, Countess of Charlemont, Countess of Burlington, Countess of Sandwich, Lady Lytton, Lady Barham, Lady Portman—Maids of Honour, Hon. Harriet Pitt, Hon. Caroline Cocks, Hon. Sarah Mary

Cavendish, Hon. Matilda Paget, Hon. Amelia Murray, Hon. Harriet Lister, Hon. Mary Spring Rice, Hon. Henrietta Anson—Bedchamber Women, Lady Caroline Barrington, Lady Harriet Clive, Lady Charlotte Copley, Lady Theresa Digby, Viscountess Forbes, Hon. Mrs. G. Campbell, Mrs. Brand, Lady Gardner—Extra Bedchamber Women, Miss Davys.

Lords in Waiting, Marquis of Headford, Viscount Falkland, Viscount Torrington, Lord Byron, Lord Gardner, Lord Lilford, Earl of Fingall, Earl of Listowel—Grooms in Waiting, Hon. Sir W. Lumley, Sir R. Otway, Colonel T. Armstrong, Hon. W. Cowper, Sir H. Seton, Sir F. Stovin, H. Rich, esq. Hon. George Keppel—Extra Groom in Waiting, General Sir F. A. Wetherall—Pages of Honour, Hon. A. W. Chichester, James C. M. Cowell, esq. Charles T. Wemyss, esq. Henry W. J. Dyng, esq.—Comptroller of Accounts, Sir W. Martin—Keeper of Privy Purse, Sir Henry Wheatley—Master of Ceremonies, Sir Robert Chester—Assistant and Marshal, T. S. Hyde, esq.—Poet Laureat, Robert Southey, esq.—n. c. l.—Exam. of Plays, John Mitchell Kemble, esq.—Principal Portrait Painter, Sir David Wilkie.

Master of the Horse, Earl of Albemarle—Chief Equerry and Clerk Marshal, Hon. H. F. C. Cavendish—Equeries in Ordinary, Lieut. Col. Hon. C. Grey, Lieut. Col. E. Buckley, Hon. Lord Alfred Paget, Col. W. Wemyss.

Master of the Stag Hounds, Lord Kinnaird.

Hereditary Grand Falconer, Duke of St. Alban's.

Lord High Almoner, Archbishop of York—Sec. Jos. Hanby, esq.

Hereditary Grand Almoner, Marquis of Exeter.

Sub Almoner, Dean of Carlisle.

Clerk of the Closet, Bishop of Norwich—Deputy Clerks of the Closet, The Dean of Hereford, the Rev. T. V. Short, and the Rev. John Vane, &c.

Dean of the Chapel, Bishop of London.

Physicians, Sir Henry Hallford, Bt. M. D., Sir James Clarke, Bt. M. D., W. F. Chambers, M. D.

Serjeant Surgeons, Sir Astley P. Cooper, Bt., Sir B. C. Brodie, Bt., Robert Keate, esq.

Aurist, W. Maule, esq.

Captain of Hon. Corps of Gentlemen at Arms, Lord Foley.

Captain of Yeomen of Queen's Guard, Earl of Chester.

PRINCE ALBERT'S HOUSEHOLD.

Groom of the Stole, Lord Rob. Grosvenor. Treasurer, Geo. Edw. Anson, esq. Gentlemen of the Bedchamber, Earl of Morley, Lord George Lennox—Equeries, Lieut. Col. Bouverie, Lieut. Col. Wyld—Grooms of the Bedchamber, Gen. Sir Geo. Anson, Lieut. F. Seymour.

THE QUEEN DOWAGER'S HOUSEHOLD.

Lord Chamberlain, Earl Howe. Master of the Horse, Earl of Denbigh.

Vice Chamberlain and Treasurer, Hon. W. Ashley.
Physicians, W. F. Chambers, M. D., Sir David Davies, M.D., Henry Southey, M.D., Thomas Turner, M.D., Chas. Locock, M.D., Apothecary, E. D. Moore, esq.

DUCHESS OF KENT'S HOUSEHOLD.
Esquiers, General Sir George Anson.
Admiral Sir J. Rowley, Bt. Lieut. Genl. Hon. A. Upton, Major General Hill, Hon. Captain Spencer.

MINISTRY OF ENGLAND.

THE CABINET.

Lord President of the Council, Marquis of Lansdowne
Lord High Chancellor, Lord Cottonham
First Lord of the Treasury (Prime Minister), Viscount Melbourne
Chief Commissioner of Woods and Forests, Viscount Duncannon
Chancellor of the Exchequer, Right Hon. Fras. Thornhill Baring.

Secretaries of State
Home Affairs, Marq. of Normanby
Foreign Affairs, Viscount Palmerston
Colonial Affairs, Lord John Russell
President of the Board of Control, Right Hon. Sir J. C. Hobhouse
First Lord of the Admiralty, Earl of Minto
Chancellor of the Duchy of Lancaster, Lord Holland
President of the Board of Trade, Right Hon. Henry Labouchere
Secretary-at-War, Right Hon. Thomas B. Macaulay
Chief Secretary for Ireland, Lord Morpeth

THE PRIVY COUNCIL.

President, Marquis of Lansdowne
Clerks in Ordinary, C. C. F. Greville, esq., and Hon. W. L. Bathurst
Chief Clerk, J. B. Lennard, esq.

THE PRIVY SEAL.

Lord Privy Seal, Earl of Clarendon
Chief Clerks appointed by Patent, J. G. Donne, esq., Ralph Eden, esq.
Keeper of the Records, Ralph Eden, esq.
Junior Clerk, Mr. Goodwin
Private Secretary to the Lord Privy Seal,

THE TREASURY.

Lords Commissioners, Viscount Melbourne, Rt. Hon. Fras. Thornhill Baring, J. Parker, esq., Robert Stewart, esq., Thomas Wyse, esq., Henry Tuffnell, esq.
Joint Secretaries, Robert Gordon, esq., Hon. E. J. Stanley
Assistant Secretary, Charles D. Trevelyan, esq.
Solicitor, G. Maule, esq.
Assistant, Charles Bouchier, esq.
Paymaster of Civil Services, W. Sargent, esq.
Chief Clerk, S. Beltz, esq.
Cashiers, W. Halden, H. Perkins, esqrs.
Accountant, James Müller, esq.

THE EXCHEQUER.

Chancellor, Right Hon. Fras. Thornhill Baring

Comptroller, Rt. Hon. Lord Montagu
Assistant ditto, Arthur Eden, esq.
Chief Clerk, Ashburnham Bailey, esq.
Accountant, Francis F. Otley, esq.
First Clerk, George Frederick, esq.

EXCHEQUER BILL PAY-OFFICE.

Paymasters, Edward H. Nevins, and H. Latham, esqrs.
Accountant, Sam. J. Wood, esq.

SECRETARIES OF STATE'S OFFICES.

Home Affairs—Principal Secretary, Marquis of Normanby—Under Secs. Hon. Fox Maule, S. M. Phillips, esq.
Foreign Affairs—Principal Secretary, Viscount Palmerston—Under Secs. John Backhouse, esq., Lord Leveson
Colonial Affairs—Principal Secretary, Rt. Hon. Lord John Russell—Under Secs. Robert Vernon Smith, esq., Jas. Stephen, esq.

BOARD OF CONTROL.

President, Rt. Hon. Sir J. C. Hobhouse.
Bt.—Secretaries, Lord Seymour, William Clay, esq.

THE NAVY.

Admiralty—Lords Commissioners, Earl of Minto, Vice-Admiral Sir C. Adam, Rear-Admiral Sir W. Parker, Captain Sir E. T. Troubridge, Captain Sir Sam. J. B. Pecheil, Bt. Lord Dalmeny—Secretaries, R. Moore O'Ferrall, esq., Sir John Barrow, Bart.—Hydrographer, Captain F. Beaufort—Astron. Royal, Prof. Airy.
The duties of the Navy Pay-Office are transferred to the Pay-Master General's Office, Whitehall.
Civil Departments—Accountant General J. T. Briggs, esq.—Surveyor, Captain Sir Wm. Symonds—Storekeeper-Gen., Hon. R. Dundas—Comptroller of Victualling, James Meek, esq.—Physician-Gen. Sir William Burnett, M.D.

THE ARMY.

War Office—Secretary at War, Right Hon. Thomas B. Macaulay—Deputy, L. Sullivan, esq.—Paymaster-General, Right Honorable Sir H. Parnell—Medical Director-Gen. Sir James McGrigor, Bt. M.D.—Chief Examiner of Army Accounts, E. Marshall, esq.
Horse Guards—Commander of the Forces, General Lord Hill—Military Secretary, Lieut.-General Lord Fitzroy Somerset—Adjutant General, Lieut.-General Sir John Macdonald—Quartermaster-General, Lieut.-General Sir J. Willoughby Gordon—Judge Advocate Gen., Right Hon. Sir Geo. Grey, Bt.—Chaplain-Gen. Rev. Dr. W. Dakins.
Ordnance—Master-Gen., Lt.-Gen. Sir R. H. Vivian—Surveyor-Gen., Sir Rufane Donkin—Clerk of Ordnance, Captain W. J. Deans Dundas—Sec. to Board, R. Byham, esq.

BOARD OF TRADE.

President, Right Hon. Henry Labouchere.
Deputy, Right Hon. Rich. L. Sheil.
Secretaries, C. C. F. Greville, esq., Hon. W. Bathurst.
Joint-Assistant Secretaries, Denis Le Marchant, John MacGregor, esqrs.

OFFICE OF WOODS, FORESTS, &c.
Commissioners, Viscount Duncannon, A. Milne, esq., Hon. Charles A. Gore.

THE MINT.

Master, Right Hon. Henry Labouchere.
Deputy, James W. Morrison, esq.
Comptroller, John Tekell, esq.

IRISH OFFICE.

Chief Sec., Lord Morpeth.

REVENUE BOARDS.

Customs—Chairman R. B. Dean, esq.—Deputy,

ty, Hon. E. B. Stewart—Sec. C. A. Scott, esq.
Excise—Chairman, John Wood, esq.—Deputy, Hart Davis, esq.—Sec. John C. Freeling, esq.
Stamps and Taxes—Chairman, H. L. Wickham, esq.—Dep. John Thornton, esq.—Sec. C. Pressley, esq.
Post Office—Postmaster-Gen. Earl of Lichfield—Sec. W. L. Maule, esq.—Sec. in Edinburgh, Sir E. Lees, Bart.—Sec. in Dublin, A. Godby, esq.
Board of Audit—Chairman, Fras. S. Larpent, esq.—Sec. John L. Mallet, esq.

Scotland.

THE MINISTRY.

Lord Advocate, Right Honorable Andrew Rutherford.
Solicitor General, G. Cunningham, esq.

Ireland.

THE MINISTRY.

Lord Lieutenant, Viscount Ebrington
Lord High Chancellor, Lord Plunket
Chief Secretary and Keeper of Privy Seal, Right Hon. Viscount Morpeth
Under Secretary, Private Secretary, Norman MacDonald, esq.
OFFICERS OF STATE AND HOUSEHOLD.
Lord Almoner, Archbishop of Armagh
State Steward, Hugh Fortescue, esq.
Comptroller, John M. Pooley, esq.
Chamberlain, Sir W. E. Loeson
Gentleman Usher, Capt. Fred. Willis
Keeper of Records and Ulster King at Arms, Sir W. Betham
Dean of the Chapel, Rev. C. Vignoles, D.D.
Master of the Horse, Hon. G. Vaughan
Commander of the Forces, Lt.-Gen. Right Hon. Sir Edward Blakeney, K. C. B.
Military Secretary, Rich. Greaves, esq.
Commander of the Artillery, Col. Webber Smith, C.B.
Commander of the Engineers, Lieut. Col. W. Holloway.

English Bishops, and Deans of Cathedral Churches.

Consec.	BISHOPS.	SEES.	AN.	IN ROOM OF.	DEANS.
1813	Wm. Howley, D. D. Pri- mate of all England.	Canterbury.	1828	Sutton, dec.....	Bp. of Oxford.
1791	E. Harecourt, D. C. L. Primate of England.	York.....	1807	Markham, dec.....	W. Cockburn, D.D.
1824	C. J. Blomfield, D. D.	London.....	1828	Howley, tr.....	Bp. of Llandaff.
1831	Edward Maltby, D. D.	Durham.....	1836	Van Mildert, d....	Bp. of St. David's.
1826	C. R. Sumner, D. D.	Winchester.	1837	Tomline, dec.....	
1812	G. Henry Law, D. D.	Bath & Wells	1854	Beadon, dec.....	E. Goodenough, D.D.
1813	George Murray, D. D.	Rockester...	1857	Percy, tr.....	R. Stevens, D. D.
1830	John Kaye, D. D.	Lincoln.....	1827	Pelham, dec.....	G. Gordon, D. D.
1820	William Carey, D. D.	St. Asaph...	1830	Luxmoore, d....	C. S. Luxmoore, M.A.
1824	Robert James Carr, D. D.	Worcester...	1831	Cornwall, dec....	Bp. of Rochester.
1824	Christopher Bethell, D. D.	Bangor.....	1830	Majendie, dec....	J. H. Cotton, S. C. L.
1810	C. Thirlwall, D. D.	St. David's...	1827	Goodenough, d....	R. Hodgson, D. D.
1827	Hon. Hugh Percy, D. D.	Carlisle...	1827	Sumner, tr.....	
1828	Edward Copleston, D. D.	Llandaff....	1828	Blomfield, tr.....	F. Anson, M. A.
1828	John Bird Sumner, D. D.	Chester.....	1829	Lloyd, dec.....	T. Gaisford, D. D.
1829	Hon. Richard Bagot, D. D.	Oxford.....	1830	Bethell, tr.....	Gl. E. Rice, D. D.
1839	Jas. Henry Monk, D. D.	Glouc. & Brist.	1830	Carey, tr.....	T. H. Lowe, M. A.
1830	Henry Phillpotts, D. D.	Exeter.....	1835	Sparkes, dec.....	G. Peacock, D. D.
1834	Joseph Allen, D. D.	Ely.....	1836	Maltby, tr.....	G. Chandler, D.D.
1836	C. T. Longley, D. D.	Chichester...	See created in 1836.		Jas. Webber, D. D.
1837	Edward Denison, D. D.	Bishop....	1837	Burgess, dec....	H. N. Pearson, D. D.
1837	Edward Stanley, D. D.	Salisbury...	1837	Bathurst, d....	G. Pellew, D. D.
1837	Thomas Musgrave, D. D.	Norwich....	1837	Grey, dec.....	J. Merewether, D.D.
1839	Geo. Davys, D. D.	Peterborough	1840	Bowstead, trs...	
1839	Jas. Bowstead, D. D.	Lichfield...	1839	Marsh, dec....	
			1839	Butler, dec....	

The Bishops of London, Durham, and Winchester, rank next to the Archbishops; the rest according to Priority of Consecration. An Order in Council appeared in the *Lancet* Gazette in October, 1833, declaring that the Sees of St. Asaph and Bangor shall be united on the next vacancy in either; and that on that event occurring, the Bishopric and that the county of Lancaster shall form the see of the new Bishop, being for that purpose detached from the diocese of Chester.

Colonial Bishops, according to Seniority.

Bishops.		Secs.	In.	In room of
C. Lippincumb, D. D.	Jamaica, Sc.	1824	See then created.	
W. H. Coleridge, D. D.	Burhaldoes and Leeward Isles	1824	Do.	
John Inglis, D. D.	Nova Scotia.	1825	Stanser, res.	
(Vacant.)	Quebec	1837	Stewart, dec.	
D. Wilson, D. D.	Calcutta	1832	Turner, dec.	
G. T. Spencer, D. D.	Madras.	1837	Corrie, dec.	
Thomas Carr, D. D.	Bombay	1836	See created.	
G. J. Mountain, D. D.	Montreal	1836	Do.	
W. B. Broughton, D. D.	Australia.	1835	Do.	
John Strachan, D. D.	Toronto	1833	Do.	
A. G. Spencer, D. D.	Newfoundland	1839	Do.	

Officers of the House of Peers.

Chairman of Committees, Earl of Shaftesbury.	Clerk of Enrollments, Henry Stone Smith- esq.
Clerk of the Parliaments, Right Hon. Sir G. H. Rose	Clerk of the Engrossments, W. E. Walmis- ley, esq.
Clerk Assistant, John William Birch, esq.	Librarian, John Frederick Leary, esq.
Additional Clerk Assistant, Benj. Currey, esq.	Short-hand-writer, W. B. Gurney, esq.
Reading Clerk, and Clerk of Private Com- mittees, W. Rose, esq.	Gentleman Usher of the Black Rod, Sir Augustus Clifford, bart.
Council to the Chairman of Committees, Robert Palk, esq.	Yeoman Usher, James Fulman, esq.
Clerk of the Journals, Edward Parratt, esq.	Sergeant-at-Arms, Sir Geo. F. Seymour- Deputy, Mr. W. Butt
Chief Clerk, Robert Walmisley, esq.	Receiver of Fees, Mr. Sheils.

Officers of the House of Commons.

Chief Clerk, John Henry Ley, esq.	Librarian, T. Vardon, esq.
Clerk Assistant, John Rickman, esq.	Short-hand-writer, Wm. B. Gurney, esq.
Second Clerk Assistant, William Ley, esq.	Sergeant-at-Arms, Col. Sir W. Gosset, & Co. H.
Clerk of Asses, J. E. Dorrington, esq.	Deputy Sergeant, J. Clementson, esq.
Clerk of Election Recognizances, W. G. Hulse, esq.	Assistant, R. A. Gosset, esq.
Clerk of the Journals and Papers, James Gudge, esq.	Deputy Housekeeper, Mr. J. Bellamy
First Clerk of Engrossing Office, W. S. Gunnell, esq.	Chaplain to the House of Commons, Rev. G. Tr Andrews.
First Clerk in Private Bill Office; E. Johnson, esq.	Secretary to the Speaker, C. Romilly, esq.
	Printer of Journals, &c. Messrs. Hansard.
	Printer of the Votes, Messrs. J. B. Nichols and Son.

Courts of Law.

COURT OF CHANCERY.

Lord High Chancellor—Lord Cottenham.
 Chief Sec.—(vacant).
 Master of the Rolls, Lord Langdale—Chief
 Sec.—G. W. Sanders, Esq. Under Sec.
 J. A. Murray, Esq.
 Vice Chancellor, Rt. Hon. Sir L. Shadwell,
 Sec. Charles Shadwell, Esq.
 Accountant-General, W. G. Adams, Esq.
 Masters in Chancery, J. E. Dowdeswell,
 Esq. W. Wigglesell, Esq. J. W. Farrer,
 Esq., Sir Griffin Wilson, Lord Henley,
 Wm. Brougham, Esq., N. W. Senior,
 Esq., A. H. Lynch, Esq., Sam. Duck-
 worth, Esq., Sir Wm. Horne, Knt.

COURTS OF LAW

Queen's Bench—Lord Chief Justice, Lord
Denman—Judges, Sir Jos. Littledale,
Sir J. Patteson, Sir J. Williams, and Sir
J. T. Coleridge.
Common Pleas—Lord Chief Justice, Right
Hon. Sir N. C. Tindal—Judges, Sir John
B. Bosquet, Sir Thos. Coltman, Rt.
Hon. Thos. Erskine, Sir R. M. Rolfe.
Exchequer—Lord Chief Baron, Lord Abinger—Barons, Sir James Parke, Sir T. H.
Alderson, Sir John Gurney, Sir Wm. H.
Maule—Cursitor Baron, G. Banks, Esq.
Queen's Remembrancer, H. W. Vincent,
Esq. Accountant-General, R. Richards,
Esq.

LAW OFFICERS.

Attorney-General, Sir John Campbell.
Solicitor-General, Sir Thos. Wilde.

ECLESIASTICAL COURTS.

Vicar General's Office.—Vicar General, J. Nicholl, D. C. L.—Dean of Peculiars, Rt.

Hon. Sir H. Jenner—Registrar, J. Moore, Esq.
Court of Arches.—Official Principal, Right Hon. Sir H. Jenner.—Registrar, Wm. Townsend, Esq.
Prerogative Court.—Master, Right Hon. Sir H. Jenner—Registrars, Revd. G. Moore, Rev. R. Moore—Deputy Registrars, Chas. Dyneley, John Egglinden and W. P. Gestling, Esqs.
Faculty Office.—Master, J. Nicholl, LL. D.—Registrar, Hon. J. H. T. Manners Sutton.—Deputies, Philip Charles Moore, Joseph Sharpe, Esqs.
Consistory Court.—Judge, Right Hon. Dr. S. Lushington—Registrar, Rev. Richard Watson, M. A.—Dep. Registrar, John Shephard, Esq.

ADMIRALTY COURT.

Judge of the Admiralty.—**Right Hon. Dr. S. Lushington**—**Queen's Adv. General, Sir John Dodson**—**Admiralty Advocate, Dr. Phillimore**—**Counsel to Admiralty and Navy and Judge Advocate of Fleet, H. J. Shepherd, Esq.**—**Register, Lord Arden**—**Deputy Registrars, H. B. Swaby, Esq. J. B. Morgan, Esq.**—**Marshal, Hugh Lindsay, Esq.**—**Deputy Marshal, John Deacon, Esq.**

COURT OF BANKRUPTCY.

Judges.--Sir J. Cross, Sir G. Rose--Accountant General, Basil Montague, Esq.---Chief Registrars, Mr. Serg. Edward Lawes, W. Barber, Esq.---Commissioners, Sir C. F. Williams, J. H. Merivale, J. Evans, J. S. M. Fonblanque, R. G. C. Fane, and E. Holrood, Esqrs.

Foreign Ministers in England, and Queen's
Ministers Abroad.

Countries sending or receiving Ministers.	Ministers from, at London.	British Ministers at
America, United States of	A. Stephenson, Esq. Envoy Ext. and Min. Plen. Benj. Rush, Esq. Sec. of Leg. Prince Esterhazy, Amb. M. Hammelauer, Sec. of Embassy.	Henry S. Fox, Esq. Env. Ext. Jas. Hudson, Esq. Secretary of Legation. Right Hon. Lord Beauvale, Ambassador Extra. and Min. J. R. Milbank, Esq. Sec. of Emb. Lord Erskine, Env. Ext. Stephen H. Sullivan, Esq. Sec. of Leg.
Austria.	Baron de Cetto, Env. Ext. and Min. Plen.	Sir G. Hamilton Seymour, Amb. T. W. Walter, Esq. Sec. of Leg.
Bararia.	M. Van de Weyer, Env. Extr. and Min. Plen. M. C. Drouet, First Sec. of Leg.	H. C. J. Hamilton, Esq. Env. Ext. W. G. Ouseley, Esq. Sec. Leg. Wm. Turner, Esq. Env. Extr.
Brazil.	Marquis de Lisboa, Envoy Ext. and Min. Plen.	W. P. Adams, Esq. Sec. of Leg. Rt. Hon. H. W. Wynn, Env. Ext. Peter Browne, Esq. Sec. of Leg.
Colombia.	Baron de Blome, Envoy Ext. Baron de Bouchet, Sec. of Leg.	Earl Granville, Ambassador Extraordinary.
Denmark.	Mons. Guizot, Amb. Ext. and Min.	Henry L. Bulwer, Esq. Sec. of Emb.
France.	Baron de Bourqueney, Sec. of Leg.	Hon. W. T. H. Fox-Strangways, Min. Plen. Hon. F. G. Malmieux, Sec. of Leg.
Germanic Confederation.	J. G. Behtends, Consul.	Capt. Sir E. Lyons, Min. Plen. P. Griffith, Esq. Sec. of Leg.
Greece.	Prince A. Mavrocordato.	Henry Canning, Esq. Con. Gen.
Hanseatic Towns, Lubeck, Bremen, and Hamburgh.	James Colquhoun, Chargé d'Affaires and Consul Gen.	Hon. J. D. Bligh, Env. Extr. and Min. Plen. Hon. G. Edgcumbe, Sec. of Leg.
Hanover.	M. B. G. Munchausen. Charles Klugehama, Sec.	Rich. Pakenham, Esq. Min. Plen.
Mexico.	Thomas Murphy, Chargé d'Affaires.	Sir Edw. Cromwell Dismore, Env. Ext. and Min. Plen.
Netherlands.	M. Dedel, Amb. Ext. and Min. Baron A. de Bentinck, Sec. of Leg.	Sir Alex. Malet, Bt. Sec. of Leg.
Persia.	J. W. May, Cons. Gen. (none sent by this Power)	Lord Howard D. Walden, Env. Extr. and Min. Plen. Henry Southern, Esq. Sec. Leg.
Portugal.	Baron da Torre de Moncorvo, Amb. Extr. and Min. Plen. Chev. de Noronha, Sec. of Leg.	Lord G. W. Russell, Env. Extr. and Min. Plen.
Prussia.	Baron de Bulow, Env. Extr. and Min. Plen. Baron Charles de Werthier, Sec. of Leg.	Sir G. B. Hamilton, Sec. of Leg. J. H. Mandeville, Esq. Min. Plen.
Rio de la Plata.	Baron de Brunow, Amb. Extr. and Min. Plen. M. de Berg, Sec. of Emb.	Frs. L. Bull, Esq. Sec. of Leg. Marquis of Clarinade, Amb. Extraordinary.
Russia.	Count Nomis de Pollon, Env. Extr. and Min. Plen. Count Revel, Sec. of Leg.	Hon. J. A. D. Bloomfield, Sec. Hon. Ralph Abercromby, Env. Extr. and Min. Plen.
Sardinia.	Count Revel, Sec. of Leg.	Hon. Rich. Bingham, Sec. of Leg.
Saxony.	Baron de Gerssdorf, Res. Min.	Hon. E. R. Forbes, Min. Plen.
Sicilies (Two).	Env. Extr. and Min. Plen. G. Capese Galeosa dei Duchi di Regina Chargé d'Affaires.	C. T. Barnard, Esq. Sec. of Leg. Hon. W. Temple, Env. Extr. and Min. Plen.
Spain.	General Alava, Env. Extr. and Min. Plen.	John Kennedy, Esq. Sec. of Leg. Arthur Asson, Esq. Env. Extr. and Min. Plen.
Sweden.	Count de Bernstorf, Amb. Extr. and Min. Plen. Baron de Rehausen, Sec. of Leg.	Hon. Geo. S. S. Jerzingham, Sec. of Leg. Sir Thomas Cartwright, Env. Extr. and Min. Plen.
Switzerland.	M. Perrot, Ag. and Cons. Gen.	Lord Harry Vane, Sec. Leg.
Turkey.	M. Agob, Chargé d'Affaires.	D. R. Morier, Esq. Min. Plen.
Tuscany.	James C. C. Bell, Con. Gen.	Arthur Magenis, Esq. Sec. of Leg. Viscount Ponsonby, Amb. Ext. and Min. Plen.
Wirttemberg.	Count de Mandelsloh, Env. Extr. and Min. Plen.	Chas. Hanke, Esq. Sec. of Emb. Hon. H. F. Fox, Min. Res. Hon. Spencer Cowley, Sec. of Leg. Sir George Shee, Min. Plen. Hon. H. H. A. Wellesley, Sec. of Leg.

The Right Honorable the Board of Commissioners for the Affairs of India.

The Right Hon. Sir John Cam Hobhouse, Bart. President.
 The Lord President of the Council.
 The Lord Privy Seal.
 The First Lord of the Treasury.
 The Principal Secretaries of State.
 The Chancellor of the Exchequer.
 Secretaries. { Lord Sermour.
 { William Clay, Esq.
 Assistant Secretary and Senior Clerk in the Secret and Political Department.—Wm. Cabell, Esq.
 Revenue Department.—Hugh Stark, Esq.
 Financial Department.—Wm. Leach, Esq.
 Military Department.—Arthur Easton, Esq.
 Judicial Department.—T. N. Waterfield, Esq.
 Public Department.—Charles Hood Chicheley Plowden, Esq.
 Assistant Clerks.—John Alfred Trimmer, Charles Wm. Fletcher, William Henry Deedes, Chas. Richards, Robert Corbett, and Henry L. Hunter, Esqrs.

Junior Clerks.—Price B. Williams, Henry K. Jones, Thos. B. Lennon, Henry W. Beauchlerk, Cecil E. G. Lukin, Charles Unwin, C. Bagot Phillimore, Esqrs. Hon. Henry R. Graves, Thos. W. Leach, Esq. Hon. Arthur G. Ponsonby, F. Leigh, E. G. Moore, Esqrs. and Hon. Geo. P. St. John Methuen.
 Solicitor.—Richard Groom, Esq.
 Private Secretary to the President.—Edw. Hobhouse, Esq.
 Register and Keeper of the Papers.—John Moore, Esq.
 Assistant.—Mr. Thomas Sharp.
 House-Keeper.—Mrs. Silversides.
 Office-Keeper.—T. Scarsman.
 Messengers.—George Perrot, J. T. Ludlam, Porter.

Committees.				The Honorable the Court of Directors	
				OF THE	
				EAST INDIA COMPANY.	
				1811.	
Years to serve.	Finance and Home.	Political and Military.	Revenue, Judicial, and Legislative.		
1	CHAIRMAN.			W. B. Bayley, Esq. 23, Albemarle Street.	
4	DEPUTY CHAIRMAN.			George Lyall, Esq.	
2	FH			William Astell, Esq. Everton.	
2	FM				
3	FM			William Stanley Clarke, Esq. Elm Bank, Leatherhead.	
3	FM			John Thorburn, Esq. Blackheath.	
1	FM				
2	FM			John Masterman, Esq. Nicholas Lane, Lombard Street.	
1	FM				
3	FM			Henry Alexander, Esq. 4, Clarendon Place, Hyde Park.	
3	FM			Sir William Young, Bart. 22, Upper Wimpole Street.	
1	FM				
1	FM				
2	FM			Russell Ellice, Esq. 5, Portman Square.	
1	FM				
3	FM			John Shepherd, Esq. Holly Grove.	
3	FM			Francis Warden, Esq. 23, Bryanstone Square.	
4	FM			Hon. Hugh Lindsay, 22, Berkley Square.	
4	FM			Sir Robert Campbell, Bart. 5, Argyle Place, Argyle Street.	
4	FM				
4	FM			Neil Ben Edmonstone, Esq. 49, Portland Place.	
2	FM			Sir Henry Willock, Little Camden House, Kensington.	
4	FM			James Weir Hogg, 49, Upper Grosvenor Street.	

The following Gentlemen went out by Rotation in April, 1840.

John Loch, Esq. 18, Upper Bedford Place.
 Chas. Mills, Esq. Camelford House, Oxford Street.
 H. St. George Tucker, Esq. 3, Upper Portland Place.

John Forbes, Esq. 15, Harley Street.
 Henry Shank, Esq. 62, Gloucester Place.
 John Cotton, Esq. 39, Upper Harley Street.

Committee of By-Laws, chosen the 20th June, 1839.

Richard Twining, Esq. Strand.
 Robert Williams, Esq. Birch Lane.
 Benjamin Barnard, Esq. Cornhill.
 Sir James Shaw, Bart. America Square.
 Wm. Burnie, Esq. 124, Bishopsgate Street within.
 John Holroyd, Esq. 15, Queen Anne Street, Cavendish Square.
 Abraham W. Roberts, Esq. Lombard Street.
 Wm. Gill Paxton, Esq. Buckingham Street, Strand.

E. Goldsmid, Esq. 41, Upper Harley Street.
 Alexander Anand, Esq. Sutton, Surrey.
 Thomas Weeding, Esq. 47, Mecklenburgh Square.
 Sir R. P. Glyn, Bart. 37, Upper Brook Street.
 Lieut.-Col. Robert Barnwell, 21, Henrietta Street, Cavendish Square.
 Thomas Fielder, Esq. 23, Manchester Street.
 Clerk.—E. Thornton, Esq.

LIST OF THE DIRECTORS

With the Dates when first Elected.

William Astell, Esq.—23rd January 1809, vice Thomas Fitzhugh, Esq. Deceased.
 William Stanley Clarke, Esq.—9th March 1815, vice Charles Mills, Esq. Disqualified.
 John Masterman, Esq.—25th November 1823, vice Charles Grant, Esq. Deceased.
 Henry Alexander, Esq.—8th March 1826, vice John Huddleston, Esq. Disqualified.
 Sir William Young, Bart.—5th March 1829, vice Sir G. A. Robinson, Bart. Disqualified.
 Russell Ellice, Esq.—23d February 1831, vice S. Toome, Esq. Disqualified.
 Sir Richard Jenkins, M. P.—27th June 1832, vice Charles E. Prescott, Esq. Deceased.
 William Lutterworth Bayley, Esq. (Chairman)—23d July 1833, vice George Smith, Esq. Disqualified.
 John Shepherd, Esq.—17th June 1835, vice the Right Hon. C. Fergusson, Disqualified.
 Francis Warden, Esq.—13th July 1836, vice George Parkes, Esq. Disqualified.
 Hon. Hugh Lindsay, General Election, 1841.
 Sir Robert Campbell, Bart.—23d July 1817, vice Richard Parry, Esq. Deceased.
 Sir Henry Willock, K. L. S.—30th January 1833, vice John Morris, Esq. Disqualified.
 James Weir Hogg—11th September 1833, vice Josias Du Pre Alexander, Deceased.
 William Wigram, Esq.—10th May 1807, vice John Maanhip, Disqualified, re-elected General Election, 1815.
 John Petty Muggatt, Esq.—23d March 1824, vice Sir Thomas Reid, Bart. Deceased.
 Major General Sir James Lushington, G. C. B. 25th July 1827, vice Edward Perry, Esq. Deceased.
 George Lyall, Esq. (Deputy Chairman)—General Election 1830.
 Patrick Vans Agnew, Esq. C. B.—14th March 1833, vice John Bailie, Esq. Deceased.
 Martin Tucker Smith Esq.—12th December 1833, vice Sir J. R. Caracac, Disqualified.
 Colonel Sykes, vice J. G. Ravenshaw 1840.
 Colonel Galloway, C. B., vice Campbell Majoribanks, 1840.

The following Gentlemen went out of the Direction by Rotation in April 1840.

John Loch, Esq.—General Election 1821.
 Chas. Mills, Esq.—25th August 1822, vice John Inglis, Esq. Deceased.
 H. St. George Tucker, Esq.—General Election 1825.
 John Forbes, Esq.—6th April 1830, vice John Bebb, Esq. Disqualified.
 Henry Shank, Esq.—7th April 1830, vice James Pattison, Esq. Disqualified.
 John Cotton, Esq.—22th April 1833, vice James Stuart, Esq. Deceased.

HOME ESTABLISHMENT.

SECRETARY'S DEPARTMENT.
Secretary—James Cosmo Melville, Esq.
Deputy Secretary—John Deewra Dickinson, Esq.

Accounting and Correspondence Branch.
Assistant—Edw. Thornton, Esq.
Clerks—Henry Mills, W. H. Mayne, Mary-
madelle Horridge, Thomas Campbell, J.
C. Melville, P. S. Dauvers.
Clerk Buying and Warehouse Department,
John Davison.
Clerk of the College Department—Wm. T.
Hooper.

Accounts Branch.
Assistant—William Keith, Esq.
Clerks—W. Collingwood, George Friend,
Thomas Hennah, J. Oulvie, Thomas H.
Keith, Wm. T. Daviniere, H. Robinson,
Edward Jenkins, Robert M. Hotson, G.
W. White, Duncan Campbell.
Temporary Clerk—James Waghorn.

Pay Branch.
Assistant—Jos. B. Wilks, Esq.
Clerks—Wm. Morgan, Sidney J. Smith,
James Dunsmuir, J. E. Boucher, Clifford
Crawford.

Audit Branch.
Assistant—Charles Ryle, Esq.
Clerks—George Browne, Frederick Stan-
don, William Baston, Wills H. Low,
Charles Sanderson, Geo. Browne, jun.

Marine Branch.
Assistant—John Charles Mason, Esq.
Clerks—R. Rutherford, William Thomas
Thornton, William Byron.
Superintendent of the Extra Clerks—Ele-
nizer Barnett.
Assistant—W. A. Franks.

Mt. Sergeant Spankie, Standing Counsel.
Edward Lawford, Esq., Solicitor.
Horace H. Wilson, Esq., M. A., F. R. S. Sanscrit Professor, Oxford Librarian.
Thomas Horsfield, Esq., M. D., F. R. S. Keeper of the Museum.
John Walker, Esq., Geographer.
Dr. J. R. Hume, Examining Physician, 9, Curzon Street.
Mr. Samuel Proctor, Inspector Surgeon for Invalid Seamen and Soldiers.
William Sewell, Esq., Examiner of Veterinary Medicines and Instruments for India.
Thomas Lynn, Esq., Astronomical Examiner.
Rev. Henry Higginson, A. M. Chaplain of Poplar Hospital.
Mr. Francis Beale, Surgeon of do.
George Harrison, Clerk of the Works.
Peter Cropper, Head Door-keeper.
John Saunders, Augustine Raymond, James Cummins, and Edward B. Doggett, Under
Door-keepers.

The Corps of Royal East India Volunteers, Commanded by Colonel Astell, was dis-
embodied on the 25th March 1834. His late Majesty was graciously pleased, as a
mark of his Royal approbation, to allow the Officers to retain the rank and honours
belonging to their respective commissions.

DEPOT.

Commandant.....	Lieutenant Colonel Edward Hay.....	Chatham.
Adj. in Command and Qr. M.....	Major H. E. Somerville.....	do.
Adjutant.....	Captain Henry Browne.....	do.
Paymaster.....	Captain William Elsey.....	do.
Surgeon.....	Robert Elliot.....	do.

RECRUITING OFFICERS.

Major.....	Richard Anford.....	Liverpool.
Captain.....	James Murray, 29, Soho Square.....	London.
	Richard George Grange.....	Dublin.
	Thomas Otho Travers.....	Cork.
	W. H. Grelg.....	Edinburgh.

EXAMINER'S DEPARTMENT.
Examiner of Indian Correspondence—
Thomas L. Pencock, Esq.
Assistant Examiner—David Hill, Esq.
Assistant—J. Stuart Mill, Esq.
Clerks' Correspondence Department—
Octavius Greene, Horace Grant, Francis
William Pridoux, Esqrs.
Senior Clerks—Jos. Maitland, Thos. Run-
dall, Thomas R. Andrews.
Clerks—John D. Closs, Stoddart Drysdale,
Macvey Napier, Edmund D. Bourdillon,
James F. Shillito, James Pattison, Thom.
Arthur Scott, W. H. Balher.
Superintendent of the Extra Clerks—
Richard Grasswell.
Book Office Registrar—Christopher Waud.

MILITARY DEPARTMENT.
Secretary—Philip Melville, Esq.
Assistant—James B. Yarn, Esq.
Clerks—William Eade, George Appleton,
Robert E. Smith, Charles T. P. Metcalf,
William Archer Shee, Thomas R. Chakre,
George E. Cocklane.
Clerk for passing Cadets and Assistant Sur-
geons—Thomas Rob. Clarke.

Inspector of Military Stores—Lt. Col.
Bonner.
Clerk—Lewis Humbert.

Clerk to the Finance and Home Commit-
tee—J. D. Dickinson, Esq.
Clerk to the Political and Military Com-
mittee—James B. Yarn.
Clerk to the Revenue, Judicial and Legis-
lative Committee—David Hill, Esq.

EAST INDIA COLLEGE.

The Right Reverend the Lord Bishop of London—*Visitor.*
The Reverend Charles Webb Le Bas, A. M.—*Principal.*
The Reverend James Amiraux Jeremie, A. M.—*Dean.*
The Reverend Frederick Smith, A. M.—*Registrar.*

EUROPEAN DEPARTMENT.

PROFESSORS.

Classic.....	The Reverend J. A. Jeremie, A. M.
Mathematics...	{ The Reverend J. W. Lucas Heavside, A. M.
	{ The Reverend Frederick Smith, A. M.
History and Political Economy, The Reverend Richard Jones, A. M.	
Law	Wm. Empson, Esq. A. M., F. R. S. L.

ORIENTAL DEPARTMENT.

H. H. Wilson, Esq. A. M., F. R. S.—*Visitor.*

PROFESSORS.

Edward Vernon Schalch, Esq.
Necrzd Mahomed Ibrahim.
Francis Johnson, Esq.

MILITARY SEMINARY.

PUBLIC EXAMINER AND INSPECTOR.

Colonel C. W. Pasley, Royal Engineer.

LIEUTENANT-GOVERNOR.

Major-General Sir Ephraim G. Stannus, Knight, C. B., Bombay N. I.
Chaplain..... Rev. Thomas Bisset, A. M.
Staff Captain..... Major T. Richerdon, late Bombay Artillery.
Orderly Officers... { Lieutenant J. D. Scott, Madras Artillery.
 { Lieutenant Alexander Tod, Madras N. I.

PUBLIC EXAMINER ORIENTAL DEPARTMENT.

Horace H. Wilson, M. A., F. R. S., Sanscrit Professor, Oxford.
PROFESSORS AND MASTERS.

	{ Rev. Jonathan Cape, A. M.
	{ Alexander Anderson, L. L. D.
Mathematics and Classics.....	{ Samuel Parlour.
	{ Rev. T. Bisset, A. M. (Chaplain)
	{ John B. Rudduck.
Fortification	{ Captain Hector Straith.
	{ Lieutenant T. Cook, R. N.
Military Drawing... ..	Edward B. Metcalf.
Military Surveying	Major Basil Jackson.
	{ T. H. Fielding.
Landscape Drawing.....	{ J. C. Schetky.
	{ Richard Haughton, M. R. A. S.
Oriental Languages.....	{ Charles Bowels.
Chemistry and Geology... ..	J. F. Daniel, F. R. S.
French	Marin de la Voye.
Sword Exercises.....	H. Angelo, Junior.

PURVEYOR AND STEWART—R. M. Leeds.

EAST-INDIA HOUSES OF AGENCY IN LONDON.

Arbuthnot and Latham, Great St. Helen's, Bishopsgate Street.
 Burnie, William and John, 124, Bishopsgate Street.
 Chalmers and Guthrie, No. 9, Idol Lane, Tower Street.
 Chambers, Francis, No. 22, St. Dunstan's Hill, Great Tower St. London.
 Cockburn, J. and Co., No. 11, New Bond Street.
 Cockerell, and Co., No. 8, Austin Friars.
 Crawford, Colvin, and Co., No. 71, Broad Street.
 Fletcher, Alexander and Co., No. 10, King's Arms Yard, Coleman Street.
 Forbes, Forbes and Co., No. 9 and 10, King William Street.
 Gardner and Urquhart, No. 11, St. Helen's Place.
 Gregson, Melvill and Co., 14, Austin Friars.
 Haviside and Co., No. 69, Cornhill.
 Hunter, Gouger and Co., No. 6, Gt. Winchester Street.
 Laurence, Phillips and Sons, 59, Old Broad Street.
 Lubbock, Sir John and Co., No. 2, St. Mildreds Court Poultry.
 Lyall, Brothers, and Co., No. 65, St. Helen's Passage.
 Mangles, Price and Co., No. 8, New Broad Street.
 Majoribanks and Ferrers, No. 25, Bucklersbury.
 Palmers, Mackillop, Dent and Co., 11, King's Arms Yard, Coleman Street.
 Richards, Little and Co., No. 15, Bishopsgate St. Within.
 Reid, Irving and Co., 16, Token House Yard.
 Samuel Philips, 133, Finchurst Street.
 Scott, Robert, Fairlie and Co., No. 37, Great Winchester Street.
 Scott, Bell and Co. Alderman's Walk New Broad Street.
 Smalls, Colquhoun and Co., No. 8, Old Jewry.
 Thacker and Price, Leaden-Hall Street.
 Walkinshaw and Co., Bishopsgate Street.
 Weeding, Thomas, No. 6, Great Winchester Street.
 Wigram and Co., No. 3, Crosby Square.

EAST-INDIA ARMY AGENTS AND AGENTS FOR PASSENGERS TO AND FROM INDIA, &c.

Alexander Kerr and Co., Indian Army Agency and Agency for Passengers to and from India.—No. 6, Leadenhall Street and at Carlton Chambers, No. 8, Regent St.
 Ashley and Son, Army Agents and Bankers, 135, Regent St.
 Baber, J. Captain, 64, Cornhill.
 Dodwell and Miles, General Agents, 69 Cornhill.
 Rundall, James, 8 and 9, New City Chambers, Bishopsgate Street. London.
 Maynard and Co., 27 Poultry.
 Waghorn and Co., Egypt—Madras Branch, E. A. Langley, Esq.
 Captain Vanrenen—Cape of Good Hope—Madras Branch, E. A. Langley, Esq.
 Captain T. S. O'Halloran—Adelaide, South Australia.

EAST-INDIA OUTFITTING ESTABLISHMENTS.

Maynard, and Co., 27, Poultry.
 Tresher, Son, and Glennie, 152, Strand.
 Landon and Co., 17, Jermyn St., St. James's
 Silver, and Co., Cornhill.

BANKERS IN LONDON.

Bank of Australasia, 55, Moorgate-street.
 Ditto of British North America, 7, St. Helen's-place.
 Barclay, Bevan, Tritton, and Co. 34, Lombard-street.
 Barnard, Dinsdales, & Barnard, 50, Cornhill.
 Barnett, Hoares, and Co. 62, Lombard-street.
 Biggerstaffs, W., 82 West Smithfield.
 Bosanquet, and Co. 73, Lombard-street.
 Couvrie, Norman, and Murdoch, 11, Hay-B market.
 Brown, Janson, and Co. 32, Abchurch-lane.
 Call (Sir W. P. Bart.), Marten, and Co. 25, Old Bond-street.
 Child and Co., 1, Fleet-street.
 Cockburns, and Co. 4, Whitehall.
 Cocks, Biddulph, and Biddulph, 43, Charing Cross.
 Colonial Bank, 62, Old Broad-street.
 Coutts and Co. 59, Strand.
 Cunliffe, Brooks, and Co. 22, Lombard-street.
 Cunliffe, Roger, 21 Bucklersbury.
 Currie, and Co. 29, Cornhill.
 Davies, R., 190, Shoreditch.
 Denison, Heywood, Kinnaird, and Co. 4, Lombard-street.
 Dixon, Brooks, and Dixon, 25, Chancery-lane.
 Dorriens, Magens, Mello, and Co. 22, Finch-lane.
 Drevett, and Fowler, Princes St., Mansion House.
 Drummond, Messrs. 48, Charing Cross.
 Dundee Union Bank, 2, Billiter-square.
 Fullers and Co. 81, Cornhill.
 Glyn, Halifax, Mills, and Co. 67, Lombard-street.
 Goslings and Sharpe, 19, Fleet-street.
 Hallet, and Robinson, 14, Great George-street, Westminster.
 Hanburys, Taylor, and Co. 60, Lombard-street.
 Hankeys and Co. 7, Fenchurch-street.
 Herries, Farquhar, Halliday, Davidson, Chapman, and Co. 17, St. James's-street.
 Hill, and Son, 17, West Smithfield.
 Hoare, Messrs. 37, Fleet-street.
 Hopkinson, (Chas.) Barton and Co., 3, Regent-street.
 Johnston, H. and Co. 15, Bush-lane.
 Jones, Lloyd, and Co. 43, Lushbury.
 Jones and Son, 41, West Smithfield.
 Keil, Jas. 2, Billiter-square.
 Kinloch, G. F. and Sons, 1, New Broad-street.
 Labbrokes', Kingscote and Co. Bank buildings.
 London, and Country joint Stock Banking Comy. Rich. Jaffray, Manager, 71, Lombard-street.
 London, joint stock Bank, 5, Princes-street.
 London, and Westminster Bank, 38, Lushbury.
 Lubbock, Sir John Wm. bart. Forster and Co. 11, Mansion House street.
 Mastermans, Peters, Milred, Masterman, and Co. 35, Nicholas lane, Lombard st.
 Metropolitan Bank, (Alexander Wright, Manager) 4, Pall Mall East.
 National Bank of Ireland, 39, Old Broad-street.
 National Provincial Bank of England, 13, Austin friars.
 Pocklington, and Lacy, 60, West Smithfield.
 Praed, Fano, Praed, and Johnston, 152, Fleet-street.
 Prescott, Grote, Ames, Cave, and Grote, 62, Threadneedle-street.
 Price, Marryat and Co. 3, King Wm. street, City.
 Provincial Bank of Ireland, 42, Old Broad-street.
 Puzet, Bainbridge, and Co. 12, St. Paul's Church-yard.
 Ransom, and Co. 1, Pall Mall East.
 Roberts, Curtis, and Co. 15, Lombard-street.
 Rogers, Olding, and Co. 29, Clements-lane.
 Scott, Sir Claude, Bart. and Co. 1, Cavendish-square.
 Smith, Payne, and Smith's, 1, Lombard-street.
 Snow, Strahan, Paul and Paul, Temple Bar without.
 Spooner, Attwoods, and Co. 27, Gracechurch-street.
 Stallard, Wm. Henry, 76, West Smithfield.
 Stevenson, Salt, and Sons, 29, Lombard-street.
 Stone, Martins, and Stone, 63, Lombard-street.
 Tisdale, Thos. Geo. 15, West Smithfield.
 Twining, Alfred, and Co. 215, Strand.
 Union Bank of Australia, 35, Old Broad-street.
 Union Bank of London, Wm. W. Settemour, Manager, 8, Moorgate-street.
 Vere, Sapse, Banbury, Muspratt, and Co. 77, Lombard-street.
 Wakefield, F. and Co. 70, Old Broad-street.
 Weedon, (Edwin), 35, West Smithfield.
 Weston, and Young, 6, Wellington St. Boro.
 Whitmore, Wells, and Whitmore, 21, Lombard-street.
 Williams, Deacon, Labouchere, and Co. 20, Birchin-lane.
 Willis, Percival, and Co. 76, Lombard-street.
 Wright, and Co. 5, Henrietta-street, Covent Garden.
 Young, and Sons, 11, West strand.

GRANADA (New.)
 Carthage de Columbia.. Patrick W. Kelly, esq.
PANAMA... Joseph Cade, esq.
GREECE
 Patras... George W. Crowe, esq.
 Syra... R. Wilkinson, esq.
HANSEATIC REPUBLIC.
 Hamburg... Henry Canning, esq.
 Bremen... B. Parkes, esq.
 Lubeck... W. L. Behneke, esq.
 Cuxhaven... H. H. Dutton, esq.
HAYTI.
 Port-au-Prince... Capt. Courtenay, R. N.
 Cape Haytien... H. C. Thompson.
 Jacmel... R. E. Hodges.
MEXICO.
 John Parkinson, esq.
 Vera Cruz... F. Giffard, esq.
 Tampico... J. T. Crawford, esq.
 San Blas... E. Burton, esq.
MONTE VIDEO.
 Thomas S. Hood, esq.
NETHERLANDS.
 Amsterdam... Robert Melvil, esq.
 Rotterdam... Sir Alex. Ferrier, K. H.
PERU-BOLIVIAN CONFEDERATION.
 Lima... Belford H. Wilson, esq.
 Islay... Thomas Crompton, esq.
 Arica... Hugh Wilson, esq.
 Le Paz... Masterton, esq.
POLAND.
 Warsaw... Lieut.-colonel Barnett
PORTUGAL.
 Lisbon... William Smith, esq.
 Oporto... Edwin Johnston, esq.
 Azores, St. Michael's... Thomas C. Hunt, esq.
 Fagal... J. Minchin, esq.
 Terceira... H. Alton, esq.
 Cape Verd Islands... J. Rendall, esq.
 Madeira... George Stoddart, esq.
PRUSSIA.
 Dantzic... H. R. Plaw, esq.
 Memel... W. J. Hertlet, esq.
 Königsberg... J. D. Brockmann
 Stettin... F. H. Petersen
 Pillau... C. E. Elasser
ROMAN STATES.
 Ancona... George Moore, esq.
 Rome... J. Freeborn, esq.
RUSSIA.
 Odessa... James Yeames, esq.
 Taganrog... W. Yeames, esq.
 St. Petersburg... Sir Ed. S. Baynes
 Archangel... John Whitehead, esq.
 Riga... Robert Hay, esq.
 Libau... Francis Kienitz, esq.

SANDWICH AND SOCIETY ISLANDS.

Wohahoo... R. Charlton, esq.
 Tahiti... George Pritchard, esq.
SARDINIA.
 Cagliari... George Boncester, esq.
 Nice... P. Lacroix, esq.
 Genoa... J. Sterling, esq.
SAXONY.
 Leipzig... Jacob James Hart, esq.
SPAIN.
 Bilbao... John Clark, esq.
 Coruna... John Crispin, esq.
 Cadiz... John M. Brackenbury, esq.
 Malaga... W. P. Mark, esq.
 Barcelona... James Annesley, esq.
 Alicante... Jasper Waring, esq.
 Carthage... Matthew Carter, esq.
 Mahon... Lieut.-colonel Fitzgerald
 Teneriffe... Richard Bartlett, esq.
 Havanah... C. D. Tolme, esq.
 St. Jago, Cuba... J. Hardy, jun. esq.
 San Lucar... Charles Philippe
SWEDEN AND NORWAY.
 Stockholm... Captain Sir J. Ross
 Gottenburg... Henry T. Liddell, esq.
 Christiana... George Mygind, esq.
 Bergen... John Greig, esq.
 Hammerfest... J. R. Crowe, esq.
TURKEY.
 Constantinople... J. Cartwright, esq.
 Dardanelles... Charles Lander, esq.
 Salonica... C. Blunt, esq.
 Adrianople... John Kerr, esq.
 Envs... Nicolas Rossy, esq.
 Bucharest... R. G. Colquhoun, esq.
 Ibraila... St. Vin. Lloyd, esq.
 Jassy... Samuel Gardner, esq.
 Galatz... Charles Cunningham, esq.
 Belgrade... Colonel Hodges
 Prevesa... Sidney S. Saunders, esq.
 Erzerum... James Brant, esq.
 Trebizond... Henry Suter, esq.
 Smyrna... Richard W. Brant, esq.
UNITED STATES OF AMERICA.
 Philadelphia... Thomas de Grenier, Fonblanque
 New York... James Buchanan, esq.
 Charleston... William Ogilby, esq.
 Savannah... Edmund Molyneux, esq.
 Baltimore... John M. Tavish, esq.
 Norfolk... W. Gray, esq.
 Boston... J. C. Gratton, esq.
 Portland... Joseph Sherwood, esq.
 Mobile... James Baker, esq.
VENEZUELA.
 Caracas... Sir Robert K. Porter
 Puerto Cabello
 Maracaibo... R. Mackey, esq.

BRITISH COLONIES.

Europe.

GIBRALTAR. Governor and Commander-in-Chief. —Maj. Gen. Sir Alex. Woodford.	IONIAN ISLANDS. Lord High Commissioner—Lieut. Gen. Sir Howard Douglas, Bt.
MALTA. Governor—Major General Sir H. F. Bouverie.	HELIGOLAND. Lieut. Governor—Major Gen. Sir H. King.

America.

LOWER CANADA. Governor General—Right Hon. C. P. Thomson. Governor of Quebec—Major Genl. William G. Strutt. Lieut. Governor—Lieut. General William T. Dilkes. Lieut. Governor of Gaspe—Alex. Forbes, Esq.	BARBADOES. Governor and Commander-in-Chief of Barbadoes, St. Vincent, Grenada, and Tobago—Maj. Gen. Sir E. J. Murray Macgregor, Bt. ST. VINCENT. Lieut. Governor—Capt. Sir George Tyler, R. N. GRENADA. Lieut. Governor—Col. J. Doyle. TOBAGO. Lieut. Governor—Major Genl. H. C. Darling. ANTIGUA AND MONTserrat. Gov. and Com.-in-Chief—Lieut. Col. Sir Wm. M. G. Colebrooke. ST. CHRISTOPHER'S. Lieut. Governor—Charles Cunningham, Esq. NEVIS. President—James Daniell, Esq. VIRGIN ISLANDS. President of Council—E. H. Drummond, Esq. DOMINICA. Lt. Governor—Maj. J. Macphail. BRITISH GUIANA. Consisting of the United Colonies of Demerara, Essequibo, and Berbice. Governor—Henry Light, Esq. TRINIDAD. Lieut. Governor—Colonel Sir H. T. Macleod. ST. LUCIA. Lieut. Governor— BERMUDA. Governor—Colonel W. Reid.
UPPER CANADA. Lieut. Governor—Major Genl. Sir Geo. Arthur, K. C. H. NOVA SCOTIA. Lieut. Governor—Major Genl. Sir Colin Campbell. NEW BRUNSWICK. Lieut. Governor—Major Genl. Sir John Harvey, K. C. H. ISLAND OF PRINCE EDWARD. Gulph of St. Lawrence. Lieut. Governor—Sir C. A. Fitzroy.	
NEWFOUNDLAND. Governor—Captain Henry Prescott, R. N. Lieut. Governor of Placentia—Col. Reeves. JAMAICA. Governor—Sir C. T. Metcalfe, Bt. BAHAMA ISLANDS. Lieut. Governor—Col. F. Cockburn. HONDURAS. Superintendent—Col. Macdonald.	

Africa.

CAPE OF GOOD HOPE. Governor and Commander-in-Chief—Maj. Genl. George T. Napier. Lieut. Governor Eastern Division—Andries Stockenstorm, Esq.	Secretary—Colonel Bell. Chief Justice—Sir John Wylde, D. C. L. Judges—William Menzies, Esq. G. Kekewich, Esq.
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Master of Supreme Court—C. Burton, Esq.
 Registrar of Supreme Court—T. H. Bowles, Esq.
 High Sheriff—J. Stewart.
 Treasurer and Accountant General—W. H. Harvey, Esq.
 Attorney General—Musgrove, Esq. *Acting ad Interim.*
 Auditor General—P. G. Brink, Esq.
 Judge of Admiralty—Sir J. Wyld.
 Clerk of Legislative Council—K. B. Hamilton, Esq.
 Post Master Genl.—R. Crozier, Esq.
 Surveyor Genl.—C. C. Michel, Esq.
 Coltr. of Customs—W. Field, Esq.
 Comptroller—G. F. Rowan, Esq.
 Superintendent of Police—C. D. Lorents, Esq.

Comm. of Stasaps—J. Carey, esq.
 Chaplain—Revd. George Hough, A. M.
 Agent—Edward Barnard, Esq. 2, Parliament-street.

ST. HELENA.
 Governor—Major General George Middlemore.
MAURITIUS.
 Governor—Lieut. General Sir William Nicolay.
 Chief Secretary—G. F. Dick, Esq.

SIERRA LEONE.
 Governor—Lieut. Col. R. Doherty.

GAMBIA.
 Lieutenant Governor—W. Mackie, Esq.

Asia.

NEW SOUTH WALES.
 Governor—Sir George Gipps, Kt.
 Legislative Council—The Governor, Chief Justice, Secretary, Attorney General, Collector of Customs, Auditor General, Lieutenant-Colonel Snodgrass, Robert Campbell, Alexander Berry, Richard Jones, John Blackland, Edward C. Close, H. MacArthur, Sir J. Jameson.
 Executive Council—The Senior Officer in Command of the Troops stationed in the Colony, Bishop of Australia, Colonial Secretary, and Colonial Treasurer.
 Clerk of the Council—William Macpherson, Esq.
 Bishop of Australia—Right Rev. William Grant Broughton, D. D.
 Colonial Secretary, Registrar of Records, and Clerk of the Councils—Edward D. Thomson, Esq.
 Chief Justice—Hon. James Dowling.
 Puisne Judges—Hon. W. W. Burton, and Hon. W. W. Willis.
 Attorney General—John H. Plunkett, Esq.
 Crown Solicitor—F. Fisher, Esq.
 Registrar—James E. Manning, Esq.
 Clerk of the Court—John Gurner, Esq.
 Sheriff—Thomas Macquoid, Esq.

Treasurer—C. D. Riddell, Esq.
 Surveyor General—Sir T. L. Mitchell.
 Botanist. ———
 Agent—Edward Barnard, Esq. 2, Parliament-street.

VAN DIEMAN'S LAND.

Governor—Sir J. Franklin.
 Legislative Council—The Lieutenant Governor, Chief Justice, Secretary, Attorney-General, Treasurer, Senior Chaplain, Collector of Customs, Thomas Anstey, Thomas Archer, John Kerr, Chas. Swanton, James Cox, Richard Willis, Esquires.
 Executive Council—The Lieutenant Governor, Senior Officer in command of the Troops, Senior Chaplain, Colonial Secretary, and chief Police Magistrate.
 Chief Justice—Sir J. L. Pedder.
 Puisne Judge—Alex. Montagu, Esq.
 Agent—Edward Barnard, Esq. 2, Parliament-street.

WESTERN AUSTRALIA.

Governor—J. Hutt, Esq.
 Secretary—P. Brown, Esq.
 Treasurer—John Lewis, Esq.
 Collector of Revenue—H. C. Sutherland, Esq.
 Judge—W. H. Mackie, Esq.

SOUTH AUSTRALIA.
Colonization Commis. in London, (Office, 6, Adelphi Terrace.)
 Lieut. Colonel Torrens, W. A. Mackinnon, William Hutt, J. G. S. Lefevre, George Palmer, junior, Jacob Montefiore, Samuel Mills, Edward Barnard, Josiah Roberts, James Pennington, Esquires.

Secretary to ditto—Rowland Hill, Esq.
 Resident Commissioner in South Australia—J. H. Fisher, Esq.
 Governor and Commander in Chief—Lieut. Col. George Gawlor.
 Judge—Charles Cowper, Esq.
 Colonial Secretary—Robt. Gouger, Esq.

EUROPEAN STATES AND SOVEREIGNS.

Great Britain.

VICTORIA I.

Of the United Kingdom of Great Britain and Ireland, QUEEN, Defender of the Faith, &c. Born May 24, 1819; succeeded her Uncle William Henry, June 20, 1837.

Mother of the Queen.

VICTORIA MARIA LOUISA, Sister of the King of Belgians; born August 17, 1786.

Uncles and Aunts of the Queen.

THE QUEEN DOWAGER, ADELAIDE LOUISA THERESA, daughter of the Duke of Saxe Meiningen, born Aug. 13, 1792.

ELIZABETH, born May 22, 1770; married, April 7, 1818, to his Serene Highness Frederic Joseph Louis Charles Augustus, Landgrave of Hesse Homburg; who was born July 30, 1769, and died April 2 1829.

ERNEST AUGUSTUS, King of Hanover, &c. born June 5, 1771; married May 29, 1815, Frederica Sophia Carolina, daughter of the late Duke of Mecklenburg Strelitz, and widow of Frederick William, Prince of Solms Braunsfel, born March 22, 1778: they have issue, Geo. Fred. Alex. Chas. Ernest Augustus, born May 27, 1819.

AUGUSTUS FREDERIC, Duke of Sussex, &c. born Jan. 27, 1773.

ADOLPHUS FREDERICK, Duke of Cambridge, born Feb. 24, 1774; married June 1, 1818, her Serene Highness Augusta Wilhelmina Louisa, Princess of Hesse, youngest daughter of his Serene Highness Frederick, Landgrave of Hesse Cassel, and niece of his Royal Highness the Elector of Hesse, born July 25, 1797; has issue George William Frederick Charles, born March 26, 1819, and Augusta Caroline Elizabeth Sophia Louisa, born at Hanover, July 29, 1822.

MARY, born April 25, 1776; married to her cousin the Duke of Gloucester, July 22, 1816; who died December, 1834.

SOPHIA MATILDA, daughter of William, Duke of Gloucester; born 23d May, 1773.

Empire of Austria.

FERDINAND I. (LEOPOLD CHARLES) Emperor of Austria, King of Hungary, Bohemia, Lombardy, and Venice, styled *His Imperial, Royal, and Apostolic Majesty*; born 19th April, 1793; succeeded his father 2d March, 1835; crowned King of Hungary, 28th Sept. 1830; married, 27th Feb. 1831, Anne, daughter of the late King of Sardinia, born 19th Sept. 1803.

Brothers and Sisters of the Emperor.

1. Maria Louisa, Grand Duchess of Parma, born December 12, 1791; married 2d April, 1810, Napoleon Buonaparte, late Emperor of France; and had issue Francis Joseph Charles, Duke of Reichstadt, born March 26, 1811, who died in 1832.
2. Mary Clem. Frances Josephine, b. Mar. 1, 1793; married 23th July, 1816, Leopold, Prince of Salerno, brother to the King of the two Sicilies.
3. Francis Charles Joseph, born Dec. 7, 1802; married 4th November, 1821, Princess Sophia, sister of the late King of Bavaria.
4. Mary Anne Frances, born 8th June, 1804.

Uncles of the Emperor.

1. Archduke Charles, Palatine, and Viceroy of Bohemia; born Sept. 5, 1771; married Sept. 17, 1816, the Princess Henrietta, of Nassau-Weilburg; and has issue four sons and two daughters.
2. Archduke Joseph Palatine, and governor and captain general of Hungary; born March 9, 1776; married 1st, Oct. 31, 1799, Alexandrina, daughter of the Emperor Paul of Russia; 2d, Hermina, Princess of Anhalt, and 3d, Maria, Princess of Wurtemberg; issue, three sons and two daughters.
3. Archduke John, born Jan. 10, 1782.
4. Archduke Rainer, born Sept. 30, 1783, Viceroy of Lombardy and Venice; married May 28, 1820, Frances sister of Charles Albert, King of Sardinia.
5. Archduke Lewis, born Dec. 13, 1784.

Austria was erected into an empire in 1804, by Francis II. Emperor of Germany, who assumed the title of Hereditary Emp. of Austria. In 1806, Francis II. resigned his title of Emperor of Germany, and the German empire was dissolved. The Austrian Empire is composed of several states or countries, which are situated towards the south of Europe, and which are inhabited by different nations, speaking different languages. The empire is more extensive in territory than the Kingdom of France, and the number of inhabitants about equal.

GOVERNMENT.

Each Canton is an independent republic. In some of the Cantons the form of government is a democracy; but in most of them, an oligarchy. But for the general security, the Cantons are confederated together, and the regulation of affairs which concern the whole confederation, is entrusted to a Diet composed of deputies from the 22 cantons, who assemble commonly on the first Monday in July at Zurich, Berne, or Lucerne, the place of meeting being changed in rotation every two years; and the deputy of the Canton in whose capital the Diet assembles, presides. In 1835 and 1836, the Diet meets at Berne; in 1837 and 1838, at Lucerne; and in 1839 and 40, at Zurich.

Grand Duchy of Baden.

LEOPOLD (CHARLES LEOPOLD FREDERICK), Grand Duke, Duke of Zechringen, Landgrave of Nellenburg; born August 29, 1790; succeeded his half-brother Lewis, March 30, 1830; married July 25, 1819, Princess Sophia Wilhelmina, daughter of Gustavus Adolphus IV., ex-king of Sweden; and has issue:—

1. Alexandrina Louisa Amelia Frederica Elizabeth Sophia, born December 6, 1820.
2. Louis (Hereditary Grand Duke), born 15th August, 1824.
3. Frederick William Louis, born September 9, 1826.
4. William Louis Augustus, born December 18, 1829.
5. Charles Frederick Gustavus William Maximilian, born Mar. 9, 1832.
6. Maria Amelia, born 20th November, 1834.

Brothers of the Grand Duke. (Styled Margraves of Baden.)

1. William Louis Augustus, born April 8, 1792.
2. Maximilian Frederick John Ernest, born December 8, 1796.

Kingdom of Bavaria.

LEWIS (CHARLES AUGUSTUS), King of Bavaria, born August 25, 1786; succeeded his father, Oct. 13, 1825; married Oct. 12, 1816, Theresa, daughter of the Duke of Saxe-Altenburg, born July 8, 1792, and has issue; Maximilian Joseph, prince royal, born Nov. 28th, 1811, Otho Frederic Louis, born June 1, 1815 (King of Greece), and 2 other sons and 4 daughters.

Brother and Sisters of His Majesty.

1. Augusta Amelia, born 1788, widow of Prince Eugene Beauharnois, the late Duke of Leuchtenberg.
2. Caroline Augusta, born February 8, 1792; married Nov. 19, 1816, to the late Emperor of Austria.
3. Charles Theodore, born June 7, 1795.

Bavaria, composed of the greater part of the late circles of Bavaria and Franconia, was erected into a kingdom, in 1805, under Maximilian Joseph (formerly Elector of Bavaria), on whom Bonaparte conferred the title of King and caused to be ceded to him at the peace of Presburg, the same year. Maximilian Joseph died in 1825, and was succeeded by his son Louis, the present king.

Kingdom of Belgium.

LEOPOLD I. King of the Belgians, K. G. inaugurated July 21, 1831, Prince of Saxe Coburg-Gotha, born December 16, 1790; married May 2, 1816, Princess Charlotte of Wales, only child of George IV., who died without issue 6th November, 1816. He married, secondly, August 9, 1832, Louisa Maria Theresa, born 3d April 1812, daughter of the King of the French: has issue, Prince Leopold (Louis Philippe), born April 9, 1835, and Philippe, born March 25, 1837.

The political condition of Belgium, formerly known by the name of the Austrian Netherlands, has undergone many changes within a few centuries past; and it has, for the most part, been under foreign government. In 1713, it was ceded by Spain to the house of Austria, in whose possession it remained till near the end of the last century.—At an early period of the French revolution, this country was invaded by the French, who having conquered it from Austria, formally incorporated it into the kingdom of France in 1795.

After the downfall of Bonaparte, in 1814, the Congress of Vienna, composed of all the great powers of Europe, undertook the difficult and delicate task of adjusting the affairs of Europe, in such a manner as to restore and preserve an even balance of power; and with a view of raising up a formidable barrier against France, the Netherlands were severed from that country and annexed to the United Provinces; and these two countries were formed into a Kingdom under William, Prince of Orange, with the title of King of the Netherlands.

This union was effected by a confederacy of foreigners, without the consent of the parties; and it never obtained the cordial acquiescence of the Belgians. The two nations were by no means well fitted to be united under the same government, inasmuch as they differed widely in character, manners, institutions, religion and language. The inhabitants of Holland are Dutch, who are a commercial people, and of the Protestant religion; the Belgians are Catholics, are distinguished for manufactures, generally speak the French language, and resemble the inhabitants of France in their character and manners.

The Belgians, long dissatisfied with their political condition, at length broke out into an open insurrection in August, 1830; and on the 4th of October made a declaration of their independence.

The representatives of the five great powers of Europe, viz. Austria, France, Great Britain, Prussia, and Russia, assembled in London, and agreed to a protocol in favor of an armistice, directing that hostilities should entirely cease between the Dutch and Belgians; and on the 27th of December the acknowledgment of the independence of Belgium was officially communicated to the national congress of Brussels.

On the 4th of June 1831, the Belgian Congress made choice of Prince Leopold of Saxe Coburg for their king, by a vote of 152 to 34; and on the 23th he accepted the crown on certain conditions. On the 2nd of July, the congress, by a vote of 125 to 70, acceded to the preliminaries and articles agreed on at London by the five great powers, and again declared Leopold of Saxe Coburg, King of Belgium; and on the 21st July the new king made his entrance into Brussels, and took his oath to the constitution.

Empire of Brazil.

DON PEDRO II., Constitutional Emperor and Perpetual Defender of the Brazil, born December 2, 1825; succeeded on the abdication of his father, Don Pedro I., April 13, 1831.

N. B.—A Regency has been nominated, according to the Fundamental Law of the Empire, to govern it during the Minority of the Emperor, and is composed of Francisco de Lima Silva, Jose da Costa Carvalho, and Joao Bräulio Muniz.

Sisters of His Majesty.

1. Donna Maria da Gloria, Queen of Portugal, born April 4, 1819.
2. Donna Januaria, born March 1, 1821.
3. Donna Frances Caroline, born August 2, 1824.
4. Donna Maria Amalia, born December 1, 1831.

Duchy of Brunswick.

WILLIAM (AUGUSTUS WILLIAM FREDERICK), Duke of Brunswick and Oels, K. G.; born April 25, 1806, succeeded on the Dethronement of his brother, Duke Charles Frederick Augustus William, 1830.

Kingdom of Denmark.

FREDERICK VI., King of Denmark, K. G. born Jan. 27, 1768; succeeded his father Christian VII. March 13, 1808; married July 31, 1790, the Princess Maria Sophia Frederica, daughter of the elector of Hesse Cassel, born Oct. 23, 1767, and has issue:—

1. Caroline, Princess Royal, born Aug. 23, 1793.
2. Wilhelmina, born Jan. 17, 1803.

Prince Royal, Christian Frederick, nephew of the King, born Sept. 18, 1786, proclaimed King of Norway, May 19, 1814; abdicated August 15, in the same year: married 1st, Charlotte, Princess of Mecklenburg, and 2dly, May 22, 1813, Caroline, of the ducal house of Holstein.

Denmark is a small kingdom, composed of the peninsula of Jutland, the duchy of Sleswick, and several islands in the Baltic, the largest of which are Zealand and Funen; to this kingdom also belong the German duchies of Holstein and Lauenburg, the Faroe islands, and the large, dreary island of Iceland; it also possesses Greenland in North America, the islands of Santa Cruz, St. Thomas, and St. John's, in the West Indies. Tranquebar and Serampore in Hindostan, and a settlement in Guinea, in Africa.

Kingdom of France.

LOUIS PHILIP I., proclaimed "King of the French" August 9, 1830; born October 6, 1773; married November 25, 1809, to Maria Amelia, born April 26, 1782, daughter of Ferdinand, King of the two Sicilies. Has issue:—

1. Ferdinand Philip Louis, Duc d'Orleans, Prince Royal, born September 3, 1810; married May 30, 1837, Helen Louisa Elizabeth, born Jan. 24, 1814, daughter of the Hereditary Grand Duke of Mecklenburg Schwerin.
2. Louisa Maria Theresa Charlotta Isabella, born April 3, 1812; married August 9, 1832, Leopold I., King of Belgium.
3. Maria Christiana Caroline, born April 12, 1813.
4. Louis Charles, Duc de Nemours, born October 25, 1814.
5. Maria Clementina, born June 3, 1817.
6. Francis Ferdinand Philippe, Prince de Joinville, born August 14, 1818.
7. Henry, Duc d'Anguleme, born January 16, 1822.
8. Anthony, Duc de Montpensier, born July 31, 1824.

Sister of the King.

•Eugenia Adelaide Louisa, Mademoiselle D'Orleans, born Aug 25, 1777.

GOVERNMENT.

The government of France is a constitutional monarchy. The legislative power is vested in the King, a Chamber of Peers, nominated by the King, and a Chamber of Deputies, elected by the people.

Chamber of Peers. The rights of the Peers were formerly hereditary; but, in 1831, their hereditary rights were abolished by an act which was passed in the Chamber of Deputies, on the 18th of October, by a vote of 356 to 40; and in the Chamber of Peers, on the 23th of December, by a vote of 103 to 70. The Peers are now nominated by the King and hold their office for life; their number is unlimited.

The *Chamber of Deputies* is composed of 450 members. Under the new electoral law, every Frenchman who pays a direct tax of 200 francs, is authorized to vote.

Kingdom of Greece.

OTHO I. Prince Royal of Bavaria, born June 1, 1815; elected Oct. 5, 1832, by the authority of the Greek nation given to the allied powers; ascended the throne January 25th, 1833; married Nov. 22, 1833, Maria Amelia, born Dec. 21, 1818, daughter of the reigning Duke of Oldenburg.

Kingdom of Hanover.

ERNEST AUGUSTUS, King of Hanover; born June 5, 1771; married May 29, 1815, Frederica, daughter of the late Duke of Mecklenburg Strelitz, widow of William, Prince of Solms Braunsfels, born March 2, 1778; and has issue, George Frederick, born May 27, 1819.

(*Vide* Royal Family of England.)

Free Hanse-Towns.

Hamburg, Burgomasters Bartels, Abendroth, Benecke, and Schluter.
Lubeck, Burgomasters Kindler, D'Evers, Wunderlich, and B. H. Frister.
Bremen, Burgomasters Smidt, H. Grœning, Nonnen, and Dantze.

Electorate of Hesse.

WILLIAM II., Elector, born July 28, 1777; succeeded his father Feb. 27, 1821; married February 13, 1797, Augusta, daughter of Frederick II., King of Prussia, and has issue, Frederick, born Aug. 20, 1802, Hereditary Prince, and two daughters. (There are three other sovereign branches of this Family.)

Grand Duchy of Hesse-Darmstadt.

LOUIS II., Grand Duke, born December 26, 1777; succeeded his father April 6, 1830, married June 19, 1804, Wilhelmina Louisa, born Sept. 10, 1783, daughter of the late Charles Louis, Hereditary Prince of Baden; and has issue:—

1. Louis (Hereditary Grand Ducal Prince,) born June 9, 1806; married Dec. 26, 1833, Matilda, daughter of King Louis of Bavaria, born August 30, 1813.
 2. Charles William Louis, born April 23, 1809; married October 22, 1836, Elizabeth, daughter of Prince William of Prussia.
 3. Alexander Louis Christian George Frederick Emilius, born July 5, 1823.
 4. Maria Wilhelmina Augusta Sophia, born August 4, 1824.
- (The Landgrave of Hesse-Homburg is a sovereign branch of this Family.)

Grand Duchy of Holstein-Oldenburg.

AUGUSTUS, Grand Duke, born July 13, 1783; married 1st July 24 1817, Adelaide, daughter of Frederick of Anhalt-Bernbourg, who died Sept. 13, 1820, and left issue two daughters; secondly, June 24, 1825, Ida, daughter of Prince Anhalt-Bernbourg, who died March 31st, 1824, by whom he has issue, Peter (Hereditary Grand Ducal Prince) born July 8, 1827; and thirdly, Cecilia, Princess of Sweden, born June 22, 1807.

Ionian Republic.

Under the Protection of Great Britain.

President, Count Spiridime Vettor Bulgari.

Lord High Commissioner, Sir Howard Douglas, bart. GC. MG. CB. &c.

Duchy of Lucca.

CHARLES (Louis), Duke of Lucca; born Dec. 22, 1799; married 15th Aug. 1820, to Maria Theresa, daughter of Victor Emmanuel, late King of Sardinia; and has issue, Ferdinand Charles, born Jan. 14, 1813.

Sister of the Duke.

Maria Louisa Charlotte, born Oct. 29, 1802; married Prince Maximilian, of Saxony.

Grand Duchy of Mecklenburg-Schwerin.

PAUL, Grand Duke, born Sept. 15, 1800; succeeded his uncle, Frederick I., February, 1837; married May, 25, 1822, Alexandrina, daughter of Frederick William III. King of Prussia; born February 23, 1803, and has issue—

1. Frederick (Hereditary Grand Ducal Prince,) born Feb. 23, 1823.
2. Louisa, born May 17, 1824.
3. William, born May 5, 1827.

Grand Duchy of Mecklenburg-Strelitz.

GEORGE (FREDERICK), Grand Duke, born Aug. 12, 1779; succeeded his father, November 6, 1816; married Aug. 12, 1817, Maria, daughter of the Elector of Hesse-Cassel; and has issue, Frederick, Hereditary Grand Duke, born Oct. 17, 1819; and one other son, and two daughters.

Sisters of the Grand Duke.

1. The Princess Dowager of Thurn and Taxis, born April 5, 1773.
2. The Queen of Hanover, born March 2, 1778.

Republic of Mexico.

President, General Bustamante.

Duchy of Modena.

FRANCIS IV. Duke of Modena, Archduke of Austria, born Oct. 6, 1779; recovered the Duchy on the abolition of the kingdom of Italy by the treaties of 1814 and 1815, married June 20, 1812, Beatrix, daughter of Victor, late King of Sardinia; and has issue, Maria Theresa, born July 14, 1817; Francis, born June 1, 1819; Ferdinand, born July 20, 1821; Maria Beatrix, born Feb. 13, 1824.

Naples.
(*Vide Two Sicilies.*)**Duchy of Nassau.**

WILLIAM, Duke of Nassau, born June 14, 1792; succeeded his father, Jan. 9, 1816; married June 24, 1813, Louisa, daughter of the Duke of Saxe-Altenburg, who died April 7, 1825; married, secondly, April 23, 1829, Paulina, born Feb. 25, 1810, daughter of Prince Paul of Wirtemberg. Issue by the first marriage, Theresa, born April 17, 1815; Adolphus, born July 24, 1817; and other children.

Duchy of Parma.

MARIA LOUISA, Archduchess of Austria, Duchess of Parma, Placenza, and Guastalla, daughter of Francis II. Emperor of Austria; born 12th December, 1791; married 1810, Napoleon Buonaparte late emperor of France.

Kingdom of Portugal.

MARIA DA GLORIA, born April 14, 1819, Queen of the United Kingdom of Portugal and Algarve by the abdication of her father, Pedro D'Alcantara (Ex-Emperor of Brazil,) May 2, 1826; married 1st Jan. 26, 1835, Duke Augustus of Lichtenberg, who died March 28, 1835; and secondly, April 9, 1836, Prince Ferdinand of Saxe-Cobourg-Gotha, born Oct. 29, 1816, and has issue Prince Pedro d'Alcantara, born 16th September, 1837.—(For Brothers and Sisters, *Vide Brazil.*)

Portugal, the most westerly state of Europe, is a small kingdom, once distinguished as a maritime power, but its prosperity long since declined; and it is now one of the most backward European countries with regard to agriculture, manufactures, education, and the arts.

Kingdom of Prussia.

FREDERICK (WILLIAM) III., KG., born Aug. 3, 1770; succeeded his father, Nov. 16, 1797; married Dec. 24, 1793, Louisa Augusta Wilhelmina of Mecklenburg-Strelitz, who died July 1810. His Majesty married, secondly, Augusta, Princess of Leignitz, daughter of Frederick Count de Harrach, born Aug. 30, 1800; by whom he has no issue.

Issue.

1. Frederick William, Prince Royal, born Oct. 15, 1795; married Nov. 16, 1823, Elizabeth, sister of the King of Bavaria.
2. Frederick William Lewis, born March 22, 1797; married 11th June, 1829, Augusta, daughter of the Grand Duke of Saxe-Weimar.
3. Charlotte, born July 13, 1798, married to Nicholas, Emperor of Russia.
4. Frederick Charles, born June 29, 1801; married May 26, 1827, Maria, daughter of the Grand Duke of Saxe-Weimar.
5. Alexandrina, born 1803; married Sept. 21, 1820, to Paul, Grand Duke of Mecklenburg-Schwerin.
6. Louisa, born 1st February, 1803; married Frederick, son of William, King of the Netherlands.
7. Frederick Henry Albert, born Oct. 4, 1809; married 14th September, 1830, Marianne, daughter of the King of Netherlands.

Prussia, which was first erected into a Kingdom in 1701, was originally a small state but it was much enlarged during the long reign of Frederick the Great.

and it has since received large additions, particularly at the time of the settlement of the affairs of Europe by the Congress of Vienna, in 1815; since which period, it has ranked as one of the five Great Powers of Europe.

The Prussian States consist chiefly of two parts, entirely separated from each other, the larger one lying in the north-east of Germany, and the smaller one in the west. The kingdom is divided into ten provinces. The two provinces of East Prussia and West Prussia comprise Prussia Proper; the Province of Posen is formed of the Prussian part of Poland; the other seven provinces are all included within the limits of the late German Empire. The western part of the kingdom includes the three provinces of Westphalia, Cleves-Berg, and Lower Rhine.

Papedom of Rome.

GREGORY XVI. (MAURICE CAPELLARI), born September 18, 1765; created Cardinal March 21, 1825; elected Pope February 2, 1831.

Empire of Russia.

NICHOLAS (PAULOWITSCH,) Emperor of all the Russias, King of Poland, &c. &c., K. G., born July 7, 1796; succeeded his brother Alexander, by the abdication of his brother the Grand Duke Constantine, 1st December, 1826; crowned at Moscow, September 3, 1827; married July 13, 1817, the Princess Charlotte Alexandra Feodorowna; born July 13, 1798, daughter of Frederick III. King of Prussia. Has issue—

1. Alexander, Prince Imperial, born April 29, 1818.
2. Maria, born August 3, 1819; 3. Olga, born Sept. 31, 1822.
4. Alexandra, born June 4, 1825; 5. Constantine, born Sept. 21, 1827; 6. Nicholas, b. Aug. 8, 1831; and 7. Michael, b. Oct. 25, 1832.

Brothers and Sisters of the Emperor.

1. Maria Paulowna, Grand Duchess of Saxe-Weimar, born February 16, 1786.
2. Ann, born Jan. 19, 1795; married Feb. 21, 1816. Frederick George, Prince of Orange.
3. Michael Paulowitsch, Grand Duke, born Feb. 8, 1798; married 1823, Helena Paulowna (Frederica Charlotte Maria), niece to the King of Wurttemberg, and has issue three daughters.

The empire of Russia, which includes the most of the north of Europe and all the north of Asia, is the most extensive empire on the globe, and is more than twice as large as all Europe; but the principal part of it is very thinly inhabited. The Asiatic part is far the larger in extent; but the European part is far the more populous; though this is much less populous than the middle and south of Europe.

The political importance of this empire, which is now one of the most powerful sovereignties of Europe, is of recent origin. The foundation of its greatness was laid by Peter the Great; and its dominions were subsequently very much extended during the reigns of Catherine II. and Alexander.

GOVERNMENT.

The government of Russia is an absolute hereditary monarchy; and in the succession to the throne, females are not excluded. The government is conducted by a Council of the Empire, the Ministry, and a Senate; but there is no representative body. The late Emperor Alexander gave the Senate the right of remonstrating against any ukase or edict contrary to law. It is a body partly deliberative and partly executive, and forms the highest judicial tribunal of the empire. It is divided into nine departments or sections, of which six, comprising 62 members, hold their sittings at St. Petersburg, and three sections, with 26 members, at Moscow. The ministers of the great departments are responsible to the Senate. The established religion is that of the Greek Church; but all others are tolerated.

Kingdom of Sardinia.

CHARLES (AMADEUS ALBERT,) King of Sardinia, born October 2, 1793; succeeded his father, April 27, 1831; married September 30, 1817, Theresa, Archduchess of Austria, born March 21, 1801; issue—

1. Prince Victor Emmanuel (Prince Royal), born March 14, 1820.
2. Prince Ferdinand, born November 15, 1822.

Grand Duchy of Saxe-Weimar.

FREDERICK, Grand Duke, born February 2, 1783; succeeded his father June 14, 1828; married August 3, 1804, Maria Paulowna, sister of Nicholas, Emperor of Russia, born February 16, 1786; issue—

1. Maria, born February 3, 1803; married Prince Charles of Prussia.
2. Augusta, born September 30, 1811; married Prince William of Prussia.
3. Charles, born June 24, 1818, Hereditary Grand Duke.

Duchy of Saxe-Coburg-Gotha.

ERNEST (ANTHONY CHARLES LEWIS,) born Jan. 2, 1784; Duke of Saxe-Coburg-Saalfeld, Dec. 9, 1806; married July 31, 1817, Dorothea Louisa, Princess of Saxe-Gotha, who died Aug. 30, 1831; and married 2dly, Dec. 23, 1832, Princess Maria of Wurttemberg, born Sept. 1799. Issue of first marriage—

1. Ernest, Hereditary Prince, born June 21, 1818.
 2. Albert, born Aug. 25, 1819.
- The Duke took the title of Saxe-Coburg-Gotha, Nov. 12, 1826.

Brothers and Sisters of the Duke.

1. Julia, born Sept. 23, 1781; married 1796, the Grand Duke Constantine, brother of the Emperor of Russia; separated March 20, 1820.
 2. Ferdinand, born March 28, 1785; married Jan. 2, 1816, Antoinette Countess Kohary, by whom he has three Princes and a Princess.
 3. Maria Louisa Victoria, born Aug. 17, 1786; married first Charles, Prince of Leiningen, and had issue; and secondly, May 29, 1818, his Royal Highness Edward, Duke of Kent, K. G., and by him (who died Jan. 1820) has issue, Alexandrina Victoria, Queen of Great Britain, born May 24, 1819.
 4. His Royal Highness Leopold George Christian Frederick, King of the Belgians, K. G. G. C. B. G. C. H., a Field Marshal in the English service; born Dec. 16, 1790, married May 2 1816, her Royal Highness Charlotte Augusta, Princess of Wales, who died Nov. 6, 1817; and secondly, August, 1832, Louisa, Princess of Orleans, born April 3, 1812.
- There are two sovereign branches of the House of Saxe.

Kingdom of Saxony.

FREDERICK (AUGUSTUS,) born May 18, 1797, succeeded his uncle June 6, 1836; married 1st, the Archduchess Caroline, daughter of Francis I., who died May 22, 1832; 2dly, April 24, 1833, Maria, daughter of the late king of Bavaria, born Jan. 27, 1805.

Saxony, situated towards the north-east of Germany, comprising a part of the late circle of Upper Saxony, is the smallest kingdom in Europe. It was formerly an electorate, but was erected into a kingdom in 1806, by Napoleon, by the treaty of Posen. It was greatly reduced, by the Congress of Vienna, the northern and eastern parts, containing a population of 550,000, being separated from the kingdom and transferred to Prussia.

Kingdom of the two Sicilies.

FERDINAND (Charles) II., born January 12, 1810, succeeded his father Francis I., November 8, 1830; married, first, November 21, 1832, to Christiana, daughter of the late king of Sardinia, who died Jan. 31, 1836, and has issue, Francis, born Jan. 16, 1836; and, secondly, Jan. 9, 1837, Maria Theresa, Archduchess of Austria, born July 31, 1816, and has issue, Prince Louis, born 1st August, 1838.

Mother of the King.

The Queen Maria Isabel, sister of the late King of Spain.

Uncle and Aunts of the King.

1. Maria Christiana, born 1779; married Charles Felix, King of Sardinia.
2. Maria Amelia, Duchess d'Orleans, born April 26, 1782
3. Leopold, Prince of Salerno, born 1790; married 1816, the Archduchess Maria Clementina, of Austria.

Kingdom of Spain.

MARIA ISABELLA II., born October 10, 1830; succeeded her father, Ferdinand VII., September 29, 1833, and proclaimed Queen at Madrid, October 2, 1833. *REGENT (the Mother of her Majesty),* Maria Christina, sister of the King of the Two Sicilies, born April 27, 1806.

Brothers and Sisters of his late Majesty Ferdinand VII.

1. Charles Isidor, Infant, born March 29, 1788; married, 1st Sept. 29, 1816, Frances, daughter of John VI. of Portugal, born April 22, 1800; and by her, who died September 4, 1834, has issue, the Infant Charles, born Jan. 31, 1818; John Charles, born May 15, 1822; and Ferdinand, born October 19, 1824.
2. Maria Isabella, widow of Francis I., King of the Two Sicilies.
3. Francisco de Paulo, Infant, born March 10, 1794; married June 12, 1819, the Infanta Louisa Charlotte, daughter of Francis Januaria, King of Naples, born October 24, 1804; and has issue, Isabella, born May 18, 1821; Ferdinand, Duke de Cadiz, born May 13, 1822; and Francis, Duke de Seville, born June 12, 1823; and 1 other son and 3 daughters.

Spain, a mountainous country, comprising the most of a great peninsula lying in the south-west of Europe, is advantageously situated, and two centuries ago it was the most formidable power in Christendom; but it is now comparatively weak, and is backward with respect to agriculture, manufactures, the arts, and education.

Kingdom of Sweden and Norway.

CHARLES (John) XIV., King of Sweden and Norway; elected Crown Prince August 21, 1810; succeeded Charles XIII. in 1818; born Jan. 2, 1764; married August 16, 1798; Eugenie Bernhardine born Nov. 8, 1781; has issue,—

Oscar, Prince Royal; born June 4, 1799; married July 19, 1823, Josephine, daughter of Eugene Beauharnois duc de Leuchtenberg, born March 14, 1807, and has 4 sons and 1 daughter.

The Swedish monarchy comprises Sweden and Norway, two of the least fertile and least populous countries in Europe; and excepting Russia, it possesses a greater extent of territory than any other European sovereignty.

In 1809, Sweden lost Finland, which was conquered by Russia; but in 1814 this loss was repaired by the acquisition of Norway.

Sweden comprises three general divisions, Gothland, Sweden, Proper, and Norrland, which are now divided into 26 lars of governments; and Norway formerly divided into the four dioceses, or governments, of Agderhus, Christian sand, Bergen, and Drontheim, is now formed into 18 divisions.

GOVERNMENT.

Sweden and Norway have different constitutions, though they are under the government of one and the same king, who is, of all constitutional monarchs of Europe, one of the most limited. The monarchical power is hereditary; but females are excluded. The liberty of the press is secured by a fundamental law. The king appoints to all employments, and has the right of conferring pardon; but he cannot make any new laws, or interpret old ones, raise taxes, or declare war, without the consent of the States, which he alone has the power of convoking. The Senate, or Court of Peers, is composed of 22 members; and 12 counsellors of the crown form a Council of State.

The legislative body, styled the Diet, or States-General consists of four orders: 1st, nobles, in which order each noble family has its representative; 2dly, clergy, represented by the bishops, and also by pastors chosen in each chapter; 3dly, burgesses, who are chosen by the principal towns; 4thly, peasantry, chosen by themselves in their assemblies. Each deputy must be of one of these orders, profess the Protestant religion, and be 25 years of age. Each order deliberates and votes separately. The States assemble every five years, except in extraordinary cases.

They have the right of legislation and taxation, and the superintendence of the finances; but the king has an unconditional veto.

The Constitution of Norway combines the principles of monarchy and democracy, nobility is abolished; and the legislative body or Diet, called the Storting, consists of two houses.

Swiss Confederation.

President of the Federal Diet, His Excellency J. KOPP.

Ottoman Empire.

SULTAN ABDUL MEDJIB, Grand Signor, and Sultan of the Ottoman Empire, born on the 20th April 1823. Proclaimed Emperor, 1st July, 1839.

Grand Duchy of Tuscany.

LEOPOLD II., Grand Duke of Tuscany, Archduke of Austria, born October 3, 1797; succeeded his father Ferdinand, June 18, 1824; married Nov. 16, 1817, Mary Ann Caroline, daughter of Maximilian, father of the King of Saxony, by whom he has issue, Caroline, born Nov. 19, 1822; and Augusta, born April 1, 1823; and married, 2dly, June 7, 1833, Antoinette, daughter of the late King of the Two Sicilies, born 19th Dec. 1814, by whom he has issue, Isabella, born May 21, 1834; Ferdinand, born June 10, 1835; and Maria, born Feb. 5, 1839.

Kingdom of Wurtemberg.

WILLIAM, King of Wurtemberg, K.G. G.C.B., born Sept. 27, 1781; succeeded to the throne Oct. 30, 1816; married, first, Catherine Paulowna, daughter of Paul, Emperor of Russia, who died Jan. 9, 1819, and left issue two daughters; and secondly, April 15, 1820, Paulina Theresa Louisa, daughter of Lewis, Duke of Wurtemberg, uncle to the King, born Sept. 4, 1800, and has issue by her.

1. Catharine, born August 24, 1821.
2. Charles Frederick Alexander, Prince Royal, born March 6, 1823.
3. Augusta Wilhelmina, born October 4, 1826.

Wurtemberg, a small kingdom, situated in the south-west part of Germany, comprises a part of the late circle of Swabia. It was formerly a dukedom; but in 1803, Frederick Duke of Wurtemberg, was raised to the rank of an Elector, and in 1806 to that of King, by Bonaparte.

Kingdom of the Netherlands.

WILLIAM (FREDERICK), King of the Netherlands, and Grand Duke of Luxembourg, K.G.; inaugurated King of the Netherlands, in Brussels, 21st Sept. 1815; born Aug. 24, 1772; married, Oct 1, 1791, Frederica Louisa, born Nov. 18, 1774, sister to the King of Prussia. Has issue,—

1. William Frederick George Lewis, Prince of Orange, GCB. KMT. a gen. in the British army; born 6th Dec. 1792; married, Feb. 21, 1816, Anna Paulowna, sister to the Emperor of Russia Has issue, William born Feb. 19, 1817; Alexander, born Aug. 2, 1818; Frederick, born June 13, 1820; Wilhelmina, born April 8, 1824.

2. William Frederick Charles, born 28th Feb. 1797; married, May 21, 1825, Louisa, daughter of the King of Prussia, born Feb. 1, 1803.

3. Princess Marianne, born 9th May, 1 10.

Holland, a small commercial kingdom, comprises the country formerly styled the Republic of the Seven United Provinces, and often also the Republic of Holland.

In 1575, the seven United Provinces revolted from Philip II., king of Spain, and established their independence, which they maintained till after the French Revolution; and they became distinguished for their commercial enterprise and prosperity.

These provinces were, for a few years, united to the French empire; but, after the downfall of Bonaparte, the Dutch and Belgic provinces, together with the German grand duchy of Luxemburg, were formed, by the Congress of Vienna, into a kingdom, and placed under the government of William, Prince of Orange, who received the title of King of the Netherlands and Grand Duke of Luxemburg.

In 1831, the Belgic Provinces revolted from the government of William, and declared their independence, which has been acknowledged by the five great powers of Europe.—See *Belgium*.

OUTLINES OF THE CONSTITUTION OF THE KINGDOM OF THE NETHERLANDS AS ESTABLISHED JULY 1815.

The crown is hereditary in the House of Orange-Nassau by right of primogeniture in the male line, females being excluded, unless there should be an entire failure of the male line.

The King as an annual revenue, of 2,400,000 florins, and attains his majority at the age of 18 years. The oldest son of the King, the presumptive heir of the crown, has the title of the Prince of Orange.

The King has the direction of foreign affairs, declares war and makes peace: has the control of the army and navy; grants titles of nobility and sanctions or rejects the propositions which are made to him by the States-General.

The Council of State is composed of not more than 21 members, chosen, as far as possible, from all the provinces of the kingdom. The King presides in the Council, and appoints and dismisses the members at his pleasure. The Prince of Orange is of right a member of the Council of State, and takes his seat at the age of 18 years.

The legislative power is exercised jointly by the King and States-General.

The States-General consist of two Chambers. The first Chamber is composed of not less than 40 nor more than 60 members, of 40 years of age and upwards, nominated for life by the King, of persons most distinguished for public services, birth, or fortune.—The second Chamber is composed of 110 members, chosen by the Provincial Estates. The members of the second Chamber must be, at least, 30 years of age; and they are elected for 3 years; one third being chosen every year. The President is nominated by the King from a list of three individual presented to him by the Chamber.

The States-General assemble, at least, once a year. The ordinary session commences on the third Monday of October.—Each member of the first Chamber receives 2,000 florins a year; and of the second, 2,500 florins.

The budget of the expenses of the kingdom must have the assent of the States-General. It is presented by the King to the second Chamber at the ordinary or regular session.

Justice is rendered in the name of the King, and the same civil, penal, and commercial code is established throughout the kingdom.—The judges are appointed for life by the King from a three-fold list presented to him by the Chamber.

The liberty of the press is established; religious liberty guaranteed to all; and equal protection granted to all religious communications. All the subjects of the King without distinction of rank or birth, or of religious belief, enjoy the same civil and political rights, and are equally admissible to all dignities, office, and employments.

General education is made the constant care of the government; and the King annually renders an account to the States-General of the condition of the common and higher schools.

The government is likewise charged with the care of affording assistance and education to the poor; and an annual statement respecting them is rendered to the States-General.

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FRENCH SETTLEMENTS IN INDIA.

Pondicherry.

POPULATION IN 1810.

Europeans 790, East Indians 822, Hindoos 78,131.
Total 79,743 Inhabitants.

M. de Nouzquer du Camper, o. L. H. Captain of the 1st Class in the Navy, Governor General. PRIVY COUNCIL. MM. The Governor General, President, The Principal Commissary of Marines, Vice President. His Majesty's Attorney General. Colonial Inspector. The Secretary to the Recorder. COUNCIL. MM. Barrot, Sub-Commissary of Marines, Cobard, General Treasurer. De Colons, Merchant. Faciolle, Justice of Peace and Superintendent of Police. Frien, Merchant. Joyau, Chief Judge. Nantapa Appasaamy. Le Pellier, Clerk of Marines. Perwon, (Charles) Merchant. De Rosiere, Registrar. STAFF TO THE GOVERNOR GENERAL. MM. Davout, Prince of Eckmuh, Duke of Avenard, L. B. Peer of France, Lieutenant of Cavalry and Aid de Camp to the Governor General. Robert, Clerk of Marines of the 2d Class. Private Secretary to the Governor General. Lemesle, Clerk of Marines of the 2d Class. Chief Secretary to Government. MILITARY DEPARTMENT. MM. Panon Dubazier, L. H. Colonel commanding the Detachment of the 3d regt. of marines (company of sepoys) stationed in the French Settlements in India. Séver, L. H. Captain. Jolivet, Lieutenant (on duty at Karikal). Dugrean, do. (on duty at Chandernagore). Jaray, Lieutenant, (on leave.) Chotel, sub-lieutenant. Couerbe, do. CIVIL DEPARTMENT. MM. Dalmas, L. H. commissary of marines of the 1st class, superintendent. Poznon, L. H. sub-commissary of marines of the 2d class, colonial inspector. Buette, L. H. sub-commissary of marines of the second class (on leave.) Barret, sub-commissary of marines of the 2d class, chief of details. Bernard, chief clerk of marines (on leave). Datelle, chief clerk of marines, superintendent to stores. Low de Chapernow, clerk of marines of the 1st class, storekeeper. Le Faucheur, clerk of marines 1st class, manager of the funds. Domin de Rosiere, clerk of marines of the 1st class, secretary of records. Le Pellier, clerk of marines of the 1st class, secretary to the superintendent. Viollet, clerk of marines of the 2d class. Garel, do. Le Bruse, do. Wrooy de Portampare, do. Hostein, master attendant.	MEDICAL DEPARTMENT. MM. Tronette, L. H. Surgeon of marines of the 1st class.—President. Robinet, surgeon of marines of the 2d class. HOME DEPARTMENT. MM. Weiss, Home Secretary. Kitchenassawmy, Treasurer. TEASURY. M. Couard, general treasurer. ECCLIASTICAL DEPARTMENT. MM. Bonand, Bishop of Drusipar. Calmels, Arch-Deacon. ENGINEER'S DEPARTMENT. MM. Duval Pireu, colonial engineer (on leave.) L. Guerre, colonial engineer in charge. Loulie, Superintendent of works. POLICE ESTABLISHMENT. MM. Faciolle, Superintendent of Police. T. Sice, Deputy Superintendent. Tardivel, Inspector of do. JUDICIAL DEPARTMENT. SUPREME COURT. MM. Mauro, Counsellor, President. De Senneville, 1st counsellor. Le Faucheur, 2d do. De Rosiere, 3d do. Gallois Monthran, 4th do. Pate notre, 1st Counsellor, and Auditor. Hennequin, 2d do. Barbe, L. H. His Majesty's Attorney General, (not arrived). Petit de Auster, L. H. Acting do. Guerre, Chief Registrar or Recorder. TRIBUNAL OF THE 1st INSTANCE. MM. Joyau, Chief Judge. Lenoir, 1st Judge Auditor. Depont, 2d do. Rolland, Lantout His M. Attorney. Berehou de Fontaine, Chief Recorder. TRIBUNAL OF THE PEACE AND POLICE. MM. Faciolle, Justice of the Peace and Police. T. Sice, Deputy do. Tardivel, Inspector of Police and Public Minister. Liard, Registrar. COURT OF PONDICHERRY. MM. C. Guerre, Advocate. J. J. Hocquet, Senior Counsel. Pind, 'homme do. Pitois, do. Prieur, do. MM. Brum, Counsel. E. Hocquet, do. OTHER MINISTERIAL OFFICERS. MM. C. Jame, His M.'s Notary. D. Virieux, Commissary Auctioneer. E. Hocquet, Guardian of Vacant Benefices. COMMITTEE OF INDIAN JURISPRUDENCE. M. Ramasaamy, Sastriar, President. PUBLIC INSTRUCTION. ROYAL COLLEGE. MM. Perreaux, Patron. N..... Professor of Mathematics. Prieur, Member of the Royal University of France, Professor of Natural Philosophy.
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M. M. C. Sicé, Professor of Arithmetic and Geography.
 N.....do. Professor of Drawing.
 do. do. Fromant, Acting Professor of Drawing.
 Cammiade, Professor of English.
 Cannasavary Pilly do. Tamil.
 Syed Mambud, do. Hindostanee.
YOUNG LADIES' SEMINARY.
 M. Mes. Tariat, sister Josephine directress.
 Aevil, do. Aglae.
 DeBain, do. Theodosia.
 Sairon-messis, do. Isabella.
 Villeneuve, do. Mary of the Cross.
 DeDica, do. Leontine.
 Boibonet, do. Flavie.
NATIVE FREE SCHOOL.
 M. Le Peltier, director.
MINT.
 M. Collard, Assay Master.
DIFFERENT INSTITUTIONS.
PUBLIC LIBRARY.
 M. Pognon, L. H. Librarian.
COMMITTEE OF PUBLIC CHARITY.
 H. M. Petit d' Anterin, President.
 Trouette, L. H. Vice President.
 Faciollé, Reporter.
 Mahe, Professor of French Elementary Latin.

Hosteln, director.
 J. Person, Treasurer.
 Spemann, do.
 De LaSelle, Secretary.
BUILDING FUND.
 M. M. Calmels, Arch-Deacon & President.
 Faciollé, Mayor of Pondicherry.
 Joyau, Church Warden.
 Froment, Treasurer.
 Le Peltier, Secretary.
 M. Gouard, Director.
PRINTING DEPARTMENT.
 M. Toufin, Manager.
BOTANICAL GARDEN.
 M. DeKersee, in charge of the Plantations.
 (Superintendent.)
HOUSES OF AGENCY.
 M. M. Amahie and Company.
 L. Buisette and Co. Directors of a Cotton Manufactory.
 DeColons.
 DeFries.
 DeBroke and Company.
 Perwan, Fallowfield and Company.
 Poulain, L. H. and Company (Directors of a Cotton Manufactory).
 Viazzy and Company.

Karikal.

POPULATION IN 1840.

Europeans 43: East Indians 71: Hindoos 49,193.

Total 49,297 Inhabitants.

M. M. de St. Hillaire, L. H. capt. of the artillery of the marines, Governor.
 St. Pourcain, Chief Secretary and Colonial Inspector.
 Jollivet, Lieutenant of Marines, Commandant.
 Noel, Chief Judge.
 Jamb, H. M.'s Attorney General.
 Petit d'Hiscourt, Registrar to the Court of the 1st Class.
 Goudart, Counsel to the Court.
 Bouche, do.
 Laforge, do.
 Ciere, Justice of the Peace and Superintendent of Police.
 Durhone de Beauver, Master Attendant.
 M. M. Maze, Surgeon of marines of the 2d class.
 Mehery, Rector of Karikal.
 Thiers, Conductor of Public Works.

Chandernagore.

POPULATION IN 1840.

Europeans, 213: East Indians, 435: Hindoos, 32,017.

Total 32,670 Inhabitants.

M. M. Jourdain, L. H. Captain of the 2d Class in the Navy, Governor.
 Bourgois, Sub-Commissary of marines of the 2d Class, Colonial Inspector.
 Dagoreau, Lieutenant of Marines, Commandant.
 Molinier de Montplaque, Chief Judge.
 Orianne, H. M.'s Attorney General.
 Perrot, Register to the Court of the 1st class.
 Lefranc, Counsel to the Court.
 Darlet, do.
 Chrelieu, do.
 M. M. Perrier, Counsel to the Court.
 Thiers, Chief Justice of the Peace, and Superintendent of Police, (on leave.)
 Bourrilhon, Acting Justice of the Peace and Superintendent of Police.
 Lenoir, Judge Supplément.
 Tardivel, Clerk to the Justice of the Peace.
 Perrin, Surgeon of Marines of the 2d Class.
 N....., Rector of Chandernagore.

Mahe.

POPULATION IN 1840.

Europeans 9: East Indians 109: Hindoos 2,493.

Total 2,616 Inhabitants.

M. Tassier.....Governor.

Tanam.

POPULATION IN 1840.

Europeans 20: East Indians 32: Hindoos 6,823.

Total 6,861 Inhabitants.

M. Collin de Bar.....Governor.

SIGNS OF THE DECORATIONS.

O. L. H. Officer of the Royal Order of the Legion of Honor. L. H. Commander of the Royal Order of the Legion of Honor.
 L. B. Commander of the Royal Order of Leopold of the Belgians.

TOTAL POPULATION.

	EUROPEANS.	EAST INDIANS.	HINDOOS.
Pondicherry.....	799	823	78,131
Chandernagore.....	213	425	32,017
Karikal.....	43	71	49,193
Mahe.....	9	109	2,493
Yacum.....	20	32	6,823
	1,089	1,463	1,68,663

NOTE FOR THE EDITOR.—The French not having the same Government in India as the English, the translation in English of the titles and duties of persons in our Establishment is often found to be incorrect, it is then advisable that the list made for the Almanac for 1841, be such as is given above, on account of there being so few of the English who understand the French language.

PORTUGUESE ESTABLISHMENT AT GOA.

Military.

Brigadier, Antonio Jose de Mello Souto
 Major Telles.
 Lt. Col. Miguel Carlos Labata Gameiro de Faria.
 Lt. Col. Joaquim Jose Fernandes Azev.
 Physician Genl. Victorino Pinheiro de Lacerda.
 Surgeon, Thomas da Silva Correa.
ENGINEERS,
 Lieut. Col. Francisco Antonio de Lemos.
 Major, Jose Antonio de Lemos.
 Captain, Jose da Costa Campo.
 1st Lieut. Candido Jose Mourao Garcez Palha.

ARTILLERY.

STATIONED AT PANGIM.

Lieut. Col. Frederico Leao Cabreira.....Gov. of Timor.
 Major, Luis da Costa Campos.....Commanding.
 Adjutant, D. Luis Bernardo de Noronha.....1st Lieutenant.
 Quarter Master, Thomas Joaquim Rodrigues.
 Banner Bearer, Francisco Jose de Aranjó.....2d Lieutenant.

Chaplain, Padre Isidoro Caetano Lebo.
 Surgeon.
 Asst. Surg. Jose Francisco Monteiro.
 Captain Caetano Antonio de Lemos.
 " Francisco Manuel Lopes Pinheiro.
 " Thomas Fernandes Pereira.
 " Jose de Souza Supelveda.
 " Vicente Maria de Resureicao e Consta.
 " Vena Acio da Costa Campos.
 1st Lieut. Agostinho Lopes Pereira Nunes.
 —In Portugal.
 " Manuel Lopes Pereira Nunes.
 " D. Luis Jose de Souza Menezes.
 " Bernardo Carneiro de Souza e Faro.
 " Diogo de Mello Sampaio.
 " Joaquim Pereira de Macedo.
 2d Lieut. D. Bernardo Jose de Noronha.
 2d Lieut. Antonio Bernardo Pinto Cordeiro.
 " Antonio Diniz de Ayalla.
 " Joao Ferreira Martins.
 " Ludovico Xavier Mourao.
 " Manuel Jose Alvares.
SUPERNUMERARIES.
 Major Joaquim Telles de Almada.—At Macao.
 Capt. Jose Soares da Vieira.
 " Francisco da Costa Campos.
 1st Lieut. Francisco Soares da Vieira.
 " Victorina Pereira Garcez.
 2d Lieut. Victor Ludovico Anastazio Mourao.
 " D. Joaquim de Noronha.
 " Antonio Augusto Leo.
 " Jose Lobato Faria.

1st REGIMENT.		STATIONED AT PANDEI.
INFANTRY.		
Colonel.		
Lieut. Col., Joao Cabral D'Estilique.		Governor of Damaun.
Major, Jose Paul d'Oliveira Pegado.		Commanding.
Fernando Luis Leite de Souza e Noronha.		
Adjutant, Joao Ignacio da Silva Neves.		Lieutenant.
Joachim Antonio de Souza.		do.
Quarter Master, Antonio Joaquim Gomes de Brito.		do.
Banner Bearer, Manuel Joaquim de Rocha.		Ensign.
Antonio Frederico Possolo.		do.

Chaplain, Padre Salvador Constancio da Costa.	Lieut., Silvestro Joaquim Sauvage.
Surgeon, Joaquim de S. Anna Cardoso.	Ensign, Manuel Jose Soares de Mello.
Capt., Caetano Jose da Cruz.	Raimundo d'Almeida Salema.
Alexandre Joaquim Teixeira.	David Pinto Cordeiro.
Francisco Xavier Teixeira de Beaumont.	Joachim Manuel de Mello.
Joao de Mello Sampaio.	Joao d'Espingola.
Christovao Pinto de Oliveira.	Caetano Gomes da Costa.
Nuno da Cunha Manuel Correia da Silva Maldonado.	Francisco Antonio de Aguiar.
Manoel Francisco Correa da Silva e Gama.	Antonio Joaquim Ariz.
D. Francisco Bernardo de Noronha.	Eduardo Dique da Fonseca.
Lieut., Antonio Jose Pereira.	
Francisco Manuel da Cunha Maldonado.	
Agostinho Caetano Henriques de Mello.	
Manoel Gomes da Costa.	
Jose Maria Lopes Pinheiro.	
Alberto Pereira Garcez.	
Francisco Gomes de Brito.	
Joao Rodrigues da Costa Caminho, at Macao.	

STATIONED AT PONDA.

Col., Joaquim Jose Xavier Henriques.	Commanding.
Lieut. Col., Jose Luis Alves.	
Major, Christovao de Souza Sepulveda.	
Antonio Luis Lobato de Faria.	
Adjutant, Agostinho Leal Garcia.	Lieutenant.
Francisco Xavier Henriques.	Ensign.
Quarter Master, Manuel Antonio Francisco da Costa.	
Banner Bearer, Francisco Simeons de Reis.	Ensign.
Bernardo Jose de Souza Brito.	do.

Chaplain, Padre Custodio Mariano da Silva.

Surgeon, Joaquim Sebastiao Baptista.

Capt., Manoel Jose Rodrigues.

Antonio Domingos da Silva e Sa.

Victorino Jose dos Santos Cacella.

Caetano Joaquim da Costa.

Manoel Antonio d'Oliveira Callado.

Joao Manoel de Souza Lisboa.

Joachim Xavier d'Oliveira Pegado.

Jose Thomas Guilherme.

Lieut., Luciano Xavier de Menezes.

Luiz Rebeiro.

Pedro d'Alcantara Xavier.

Joao Joaquim de Macedo.

Jose Ignacio de Brito.

Antonio Jeronima de Pinho.

Francisco Xavier de Pinho.

Sebastiao Antonio d'Oliveira.

Ensign, Joaquim Antonio Pereira Bacellor.

Antonio Luis Alves.

Domingos Luis de Souza.

Luiz Castilho da Silva Almeida.

Francisco Xavier Henriques.

Jose Ignacio da Costa Mousinho.

Antonio Sepulveda Pimental.

Joao Antonio Xavier da Silva Telles.

Francisco Maria Lopes Cunha.

Antonio Xavier da Silva Telles.

SUPERINTENDENT.

Ensign, Joao Gomes da Cunha.
Joachim Manuel de Mello e Mendonca, at the Powder Manufactory.
Diogo Francisco Mourao Garcez Palha.
Augusto Cesar Guedes Mascarenhas.

OFFICERS WITHOUT EMPLOY.

Lieut. Col., Joao Xavier da Silva Telles.
Dionestio de Mello Sampaio.
Caetano Lobato Gameiro da Faria.
Major, Joaquim Manuel Correa Mendes.
Francisco Antonio da Silva Pimenta.
Capt., Bernardo Carneiro de Souza e Faro.
Lieut., Caetano Jose Mendonca.
Jose Pedro Lenc.
1st Battalion of Cacadores, (Light Infantry), Stationed at Margao.
Lieutenant Colonel, Luis Manuel Correia de Mello.
Major, Joao Antonio Salinas.
Adjutant, Antonio Jose de Miranda Xavier.
Quarter Master, Jose Philippe Pereira.
Banner Bearer, Raimundo Maria Correia Mendes.

Chaplain, Padre Domingos d'Aravodo.
Surgeon, Balbazar Diogo de Souza.
Asst. Surgeon, Luis Mariano Rodrigues.
Capt., Joaquim Antonio Coelho Belem.
Jose Antonio da Silva, Secy. of the Supreme Military Council of Justice.
Capt., Manoel Jacinto Soares.
Vicente Manoel Candido de Souza.
Joachim Rodrigues dos Reis.
Daniel Duarte dos Reis.
Lieutenant Antonio Jaca Telles de Avelar.
Jose Maria Rodrigues.
Joachim d'Oliveira Villas Boas.
Raimundo d'Ena Castello Branco.
Sebastiao Jose Jacome de Souza.
Esteves Ignacio Gaspar.
Ensign, Lucas Xavier de Assumpcao.
Manoel Maria Pinto.
Jose Ignacio de Souza Brito.
Francisco Manoel da Silva Coutinho.
Joachim Antonio de Carvalho e Souza.

Miguel da Silva Ferreira.

SUPERINTENDENT.

Ensign, Eduardo Augusto Vidigal.

Bernardo Antonio da Figueiredo.

Joachim Pereira Garcez.

Manoel de Castro.

Xisto Antonio Barata Feio.

Joachim Jose Gameiro.

2d Battalion of Cacadores (Light Infantry) stationed at Bicholim.

Lieut. Col., Agostinho Jose Lopes Pereira, Commanding.

Major, Joao Manoel Lopes Pereira.

Adjutant, Francisco de Souza Xavier.

Banner Bearer, Joaquim Vicente Telles d'Avelar.

Banner Bearer, Antonio Luis Pereira.

Ensign.

Chaplain, Padre Manoel de Jesus Maria.

Surgeon, Pedro Paulo da Costa.

Captain, Antonio Luis Marques.

Miguel Coelho de Amaral.

Francisco do Canto Castro.

Manoel Lopes Pereira.

Joachim Vicente Fernandes da Silva.

Lieutenant, Pedro Xavier d'Oliveira.

Feliciano Fortunato Jaseu.

Antonio Torcato da Silva Mafra.

Possidonio Joaquim de Faria.

Ensign, Jose Francisco Pereira Bacellar.

Manoel Rodrigues Moreira.

Joao Jose Pereira d'Arambuja.

Francisco Xavier Barboza.

Francisco Jose de Mello Sampaio.

Christovao de Mello Sampaio.

SUPERINTENDENT.

Ensign, Guilherme da Cunha.

2d Battalion of Cacadores, at Colcaie.

Lieutenant Colonel.

Major, Francisco Vicente da Cunha.

Commanding.

Adjutant, Constantino da Silva, Lieut.

Quarter Master, Antonio Jose Belem.

Banner Bearer, Francisco Jose de Mello.

Ensign.

Chaplain, Padre Luis de S. Boaventura.

Surgeon, Isidoro Jose da Conceicao Rodrigues.

Captain, Jose Xavier de Azevedo.

Joachim Assumpcao de Figueiredo.

Jose Maria de Gusmao.

Joao Constantino Baptista de Amaral.

Joao Manoel Barboza.

Lieutenant, Jose Maria da Costa Maia.

Joao Jose Rodrigues.

Antonio Victorino d'Oliveira.

Francisco Antonio de Mello.

Ensign, Ignacio Loyolla Craveiro Lopes.

Jose Luis Correa de Mello.

Francisco Adriano Pereira Ferari.

Joao Ignacio Taborda.

Luis Manoel da Fonseca.

Christovao Joaquim Fragoso.

SUPERINTENDENT.

Major, Francisco Xavier Lobato Gameiro da Faria, Commanding.

Ensign, Joao da Costa Campos.

Francisco Antonio Correa da Cunha.

SUPERINTENDENT OF MILITARY JUSTICE.

President, Brigadier Antonio Jose de Mello Souto Major Telles.

Members, Colonel Comdt. Joaquim Jose Xavier Henriques, 2d Regiment.

Captain D. Jose de Noronha.

Capt. de Marie Guerra.

Lieut. Col. Comdt., Luis Manoel Correia de Mello, 2d Bt. Cacadores.

Lieut. Col. Joaquim Jose Fernandes de Azevedo.

Lieut. Col. Miguel C. Lobato Gameiro da Faria, 1st Battalion Cacadores.

MEDICAL DEPARTMENT.

Director and Physician General, The Barachel Victorino Pinheiro de Lacerda.

SEA CUSTOM DEPARTMENT AT GOA.

Director and Admiral General, Cipriano Silveiro Rodrigues Nunes.

Clerk, Joao Mariano Rodrigues.

Jose Dionisio Lopes.

SALSETTE.

Admr. Vicente Emigdio Gracias.

Clerk, Antonio Salvador Gracias, Actg.

Asst. do. Miguel Evaristo Leitao.

BARDEZ.

Admr. Reduzindo Francisco Christovao Pinto.

Clerk, Mathews Mariano de Braranga.

PROVINCES, GARRISONS AND PORTS.

SALSETTE.

Lieut. Colonel Luis Manoel Correia de Mello, Commandant.

BARDEZ.

Major, Francisco Vicente da Cunha, Commandant.

PONDA AND THE FIVE PROVINCES OF ZAMBALIN.

Colonel Joaquim Jose Xavier Henriques, Commandant.

CANACONA.

Major Girardo Xavier Barboza, Comdt.

BICHOLIM AND SATARA.

Lieut. Colonel Augustino Jose Lopes Pereira, Commandant.

PERNEM.

Major, Vicente Lobato Gameiro de Faria, Commandant.

FOUR OF ST. THIAGO.

Major Joaquim Manoel Correia da Silva, Commandant.

Adjutant, Francisco Antonio dos Reis.

Ensign, Agostinho C. Lopes da Cunha.

Chaplain, Padre Ignacio Caetano Piedade de Siquiera.

Surgeon, Paulo Francisco de Brito.

RACHOL.

Major, Vicente Jose de Moura Salgado Palha, Commandant.

Physician, Caetano Camillo Barretto.

CABO DE RAMA.

Captain, Cipriano Jose de Noronha, Commandant.

Adjutant, Ensign Jose Joaquim de Fonseca.

Chaplain, Padre Salvador de Silva.

Surgeon, Francisco Xavier de Almeida.

ANVEDIVA.
Major, José Maria Teixeira, Governor.
Adjutant, Carlos Rodrigues Miguel.
Vicar, Padre Manuel Xavier de Quadros.
Surgeon, Eustáquio Francisco dos Remedios.
Captain, Barnabé Francisco Xavier de Albuquerque, Commandant.
SETTEL.
Captain, Francisco Pereira, Commandant.
Ensign, Francisco Xavier de Costa.
Antonio José de Fonseca.
Surgeon, António Francisco Rebelo.
AGUADA.
Major, Francisco Xavier Lobato, Commandant.
Captain, Innocencio Mariano Mendes.
D. Francisco Bernardo de Noronha.
Adjutant, Francisco Soares da Virga.
Ensign, José Antonio de Almeida.
Chaplain, Padre Joaquim Francisco de Conceição.
Padre Luís José de Souza.
PORT OF GOA.
Lieutenant, José Lourenço Colhado, Commandant.
PORT OF REIS-MAGOS.
Major, D. Christovão de Carcorno Lobo, Commanding.
Captain, Luís Lázaro Pinto Cardoza.
Lieut., Manuel António Maria.
Adjutant, João Miguel Constância de Nazareth.
PORT OF CHAPORA.
Major, Francisco Pedro Livram, Commanding.
Captain, José Joaquim da Costa Lavoura.
Chaplain, Padre António João de Abreu.
Surgeon, Pedro Francisco de Almeida.
PORT OF SANQUELIM.
Captain, Vicente Gabriel de Remedios, Commanding.
Adjutant, João de Silva.
Lieut., José Salvador Lopes Pereira.
Chaplain, Padre João Vicente Cardoza.
ALORNA.
Major, Francisco José de Silva Alcantara, Commanding.
Adjutant, José Simões.
Ensign, D. Manuel de Meneses.
Manuel Martins.
Pascoal Fernandes.
PORT OF TIRACOL.
Captain, Joaquim Francisco da Silva, Commanding.
Ensign, Manuel José da Silva.
Chaplain, Padre Custódio Bernardino Pinto.
Surgeon, Francisco Peregrino da Costa.
PORT OF ARABO.
Major, Francisco Januário de Carvalho, Commanding.
Ensign, Custódio de Rocha.
DAWK DEPARTMENT.
Admr., Joaquim Thomas Xavier do Rego.
Clerk, António Francisco de Mendonça.
The Mails start from Goa tri-weekly at 4 p.m., viz. Mondays and Fridays to Vitoria, and 4 p.m. on Wednesdays to Belgaum. On the mornings of the same days, Mails are received at Goa from these stations.
GENERAL TREASURY OF THE STATE.
Treasurer General, Bernardo Hector da Silveira e Lencina.
Treasurer, Joaquim José de Sousa.
Shroff, Ory Setti.

TREASURY FOR THE PAYMENT OF THE TROOPS.
Treasurer, António José d'Oliveira e Mello.
Comy. and Asst., Manuel Xavier do Rosario e Osorio.
Comy. and Paymaster, Francisco Guilhermo Possollo.
Francisco Fernandes Nunes.
Correa Bacellar.
Clerk, Caeano Piedade de Sousa.
Casimiro Sebastião Gouto.
Shroff, Raya Sinay.
MARINE ESTABLISHMENT.
Captain de Mar e Guerra, D. José de Noronha.
Captain de Fragata, Marcos Lobato Gêmeiro da Faria.
Castala Lieutenant, Vicente Paulo da Cunha.
1st Lieut., João Simagry.
2d Lieut., Camillo Antonio Josino Cordeiro.
Joachim Francisco Marques—At Macao.
Pedro José da Silva Loureiro—At Macao.
Ignacio Lagolla da Cruz—At Macao.
Francisco Xavier de Lencina—At Macao.
Agostinho Manuel Pereira.
Felis Antonio Rodrigues.
JUSTICES OF PEACE AND ELECTS.
Penguin.
Justices of Peace, Ventura de Conceição.
Elect, José Caeano Jeremias de Gamu.
S. IGNEZ.
J. of Peace, TACEIGAM.
J. of P. Miguel João Martins.
J. E. Domingos Francisco Gomes.
S. CATZ.
J. of P. HERCZ E S. ZARDANA.
J. of P. Antonio Goncalo Caldeira.
J. E. Joaquim Francisco Caiado.
RIBANDAR.
J. of P. João Francisco da Conceição.
J. E. Ignacio de Sousa Brito.
S. PEDRO.
J. of P. Joaquim Salvador Peres.
J. E. Francisco Xavier Gonçalves.
S. BARTHOLOMEU E GZACA.
J. of P. Paulo Vicente de Souza.
J. E. ZEDADA.
J. of P. Francisco Caeano Bragança.
S. MATTHIAS.
J. of P. Manuel Nicolao Picardo.
J. E. Salvador Luis Philippe de Mehenes e Noronha.
J. of P. ANEOLA.
J. of P. António Philippe Pereira.
J. E. Ignacio Luis de St.
S. BRAZ.
J. of P. Caeano Xavier Luis de St.
J. E. Ignacio Caeano Xavier dos Remedios.
CORLIM, CARABHOLIM, &c.
J. of P. Domingos Sebastião de Siqueira.
J. E. Braz de Souza.
S. BRUA E S. SIMAM.
J. of P. José Caeano Bento de Noronha.
J. E. Panda Porobio.
MANDUR AND AZOSSIM.
J. of P. Vazatexa Camotin Sumbary.

BATIM.
J. of P. José Manuel Gonçalves.
J. E. Antonia Caeana de Meneses.
OLD GOA.
J. of P. Lourenço Mariano de Meneses.
J. E. André Severino Coelho.
S. LOURENCO.
J. of P. Braz Corillo Pires.
J. E. Thomas Francisco Paiz.
DISTRICTS OF SALSETTE.
MARGAM.
J. of P. Mariano Piedade Baretto.
J. E. Simeao Luis de Sete Dorez.
Clerk, José Epifanio de Souza.
VERNA.
J. of P. Luis Pascoal Nunes.
J. E. Roque Simeao Ferreira.
Clerk, Domingos Constancio Rebelo.
MORMOGAN AND CHICALIM.
J. of P. Anastazio Constancio de Siqueira.
J. E. Antonia Salvador Dias.
Clerk, Rafael Bernardo Fernandes Leitao.
DETALHATIM.
J. of P. Diogo de Rosario Carvalho.
J. E. Gabriel Crato.
Clerk, Romaldo Rodrigues.
COCCA.
J. of P. Evaristo do Rosario d'Aguilar.
J. E. Jorge Francisco da Costa.
Clerk, Antonia Rosario da Costa.
REMAZIM.
J. of P. Thome Piedade da Silva.
J. E. Joaquim Bernardo de Mesquita.
CARNOWA.
J. of P. André Avelino Dias.
J. E. Agostinho d'Amunhacao.
Clerk, Jacintho Antonia Viegas.

ASSOIA.
J. of P. Naze. I. E. Rafael José Antonio Vaz.
Clerk, Bonventura Ercristo Pinto.
VELIM.
J. of P. Caeano Caeiro.
J. E. Diogo José Caeano de Ave Maria Almeida.
Clerk, Joaquim Vicente d'Almeida.
CONCOLIM.
J. of P. Pedro Antonio Fernandes.
J. E. Francisco Antonio Fernandes.
Clerk, Caeano José Fernandes.
CORTALIM.
J. of P. Dionisio Constancio Carvalho.
Clerk, Joaquim Bonedijo Rebelo.
CHUNCHIM.
J. of P. Antonia Francisco Dias.
J. E. Izidoro Furtado.
Clerk, João Severino de Osorio.
LOZMOULIM.
J. of P. Pedro Paulo da Costa.
J. E. Joaquim Piedade Mascarenhas.
Clerk, José Epifanio Salvador Collaco.
SZHOULIM.
J. of P. Vicente Mariano Rebelo.
Clerk, Innocencio Cordoz.
TELCAM.
J. of P. Caeano Luis Rodrigues.
J. E. Calisto S. Annah Coelho.
Clerk, Camillo de Souza.
VANCA.
J. of P. Philippe Nery dos Martyres.
J. E. João Antonio Furtado.
Clerk, Francisco Caeano Sales.
NACHOL.
J. of P. Clerk, Roque Francisco Dinis.

Tables of Weights and Measures of Goa.

WEIGHTS AND MEASURES.					
24 Pounds.....	1 Maund.	2 Potes.....	1 Almude.	5 Almudes.....	1 Barril.
20 Maunds.....	1 Candy.	5 Barris or Barrels.....	1 Pipa or Pipe.	2 Pips.....	1 Toca.
21 Grains.....	1 Scruple.	GRAIN MEASURE.			
3 Seruples.....	1 Octava.	4 Quartos.....	1 Medida.	8 Medidas.....	1 Curo.
8 Octavas.....	1 Ounce.	20 Curos.....	1 Candil.	20 Candis.....	1 Cumbo.
4 Ounces.....	1 Quarter.	LIQUID MEASURE.			
2 Quarters.....	1 Marco.	4 Quartilhos.....	1 Canada.	6 Canadas.....	1 Calao.
2 Marcos.....	1 Libra or Arratel.	2 Caloes.....	1 Mao.	8 Maons.....	1 Dabi.
32 Arratels or Libs.....	1 Arroba.	WINE MEASURE.			
4 Arrobas.....	1 Quintal.	4 Quartilhos.....	1 Canada.	6 Canadas.....	1 Pot.
131 Quintals.....	1 Tunnellada.	TABLE OF TIDES AT THE BAR OF GOA.			

Days of the Moon.	MORNING.			EVENING.		
	High tide.	Low tide.	High tide.	Low tide.	High tide.	Low tide.
1	11 16	5 24	11 36	5 48	12 0	6 0
2	11 17	6 12	12 24	6 36	12 48	6 48
3	11 18	7 0	1 12	7 24	1 24	7 36
4	11 19	7 36	1 56	8 0	2 12	8 0
5	11 20	8 24	2 36	8 48	3 0	8 48
6	11 21	9 12	3 24	9 36	3 48	9 36
7	11 22	10 0	4 12	10 24	4 36	10 24
8	11 23	10 48	5 0	11 12	5 24	11 12
9	11 24	11 36	5 48	12 0	6 12	12 0
10	11 25	12 24	6 36	12 48	7 0	12 48
11	11 26	1 12	7 24	1 24	7 48	1 24
12	11 27	2 0	8 12	2 12	8 36	2 12
13	11 28	2 58	9 0	3 0	9 24	3 0
14	11 29	3 48	9 58	4 0	10 12	4 0
15	11 30	4 36	10 48	5 0	11 0	5 0

1 S. Thome..... 6 Rupees.

SILVER COINS.

1 Half Pardao..... 21 Tangas.
1 Pardao or Xeraphim..... 5 Tangas.
1 Rupee..... 10 Tangas.
2 Copper COINS.
1 Larin..... 100 Reas.
1 Half Tanga..... 30 Reas.
1 Tanga..... 60 Reas.

Ecclesiastical Department.

1. Governo do Arcebispado Metropolitano Primacial de Oricento.
Vicar Capitular & Governor of the Archbishopric, Antonio Joao de Attaide, chantre da Sé Primacial.

2. —CAMARA PONTIFICIA.
Official Major, Reduzindo Jose de Neves.
Official, Jose Luis de Souza.
1. Amamaense, Antonio Joao Affonso.
2. " Vicente Constancio Monteiro.

3. —JUIZO.
Provisor, Vicar Geral and Juiz de Casamentos, Querebino Furtado.
Promotor & Procurador de Mitra—Miguel Archêdo de Saldaña.
Escrivão, Manoel Gomes.
" Lourenço Sebastião de Souza.

4. Dezenahargadores da Relação:—
Antonio Joao de Attaide, chantre da Sé.
Paulo Antonio Dias da Conceição, Thesourero Mor.
Querebino Furtado, Arceidiago.
Miguel Jose Luis Mendes, Mestre Escola.
Miguel Archêdo de Saldaña, Conego.
Padre Benardo Pereira, Paroco.

Padre Antonio Jose Maria de Albuquerque, Paroco.
Padre Antonio Jose de St. Paroco.
Padre Cosme Bernardino Camillo Valeriano.

5. —SE PRIMACIAL.
5. Dignidades.
Deão Jose Maximiano Falcão de Carvalho.
Chantre, Antonio Joao de Attaide.
Tercoureiro-mor, Paulo Antonio Dias da Conceição.

Archeleacon Querebino Furtado.
Mestre Escola, Miguel Jose Luis Mendes.
—Apontador.
6. —EXAMINADORES PRO SYNODAES.
Pe. Mr. Manoel de S. Joaquim Neves.—
At Quilon.

Pe. Mr. Manoel de Souza.
Pe. Mr. Joao Xavier de Trindade.
Pe. Mr. Joaquim de S. Ritta Botelho.—In Portugal.
Pe. Mr. Jose Mariano.
Pe. Mr. Albino Ribeiro.
Padre Francisco de Miranda.—At Coveiros.
Padre Jose de Soledade.

CHIEF TOWN.—PANGIM.

The Island of Goa and the two Provinces, Bardez and Salsette.

THE ISLAND OF GOA.		BARDEZ.		SALSETTE.	
Pangim.	Curça.	Penhade Fran.	Siolim.	Cortalim.	Vaid.
Ta-zam.	S. Anna.	ga.	Anjuna.	Sanevale.	Orlim.
S. Cruz.	Sirlam.	Soçoro.	Assagam.	Chicalim.	Carmona.
Mercos.	Bambolim.	Silvador.	Mappa.	Mormegum.	Chinechima.
Ribandar.	S. Lourenço.	Pombalpa.	Patrã.	Velsam.	Assol.
S. Pedro.	Madur.	Aldona.	Nago.	S. Thomé.	Vellim.
S. Bartholo.	Azossim.	Nachiaolá.	Calangute.	Vernam.	Cuncolita.
Piedade.	Carimbolim.	Ucassaim.	Candolim.	Botallatim.	Maenzana.
S. Mathias.	Naroi.	Mofra.	Linhares.	Colra.	Curturim.
S. Esteram.	S. Barbara.	Tivim.	Nerul.	Banaulim.	Areal.
Codlim.	Graca.	Asnora.	Pierne.	Seraulim.	Rachol.
Nova.	Saul Iago.	Revard.	Reis Magos.	Marcao.	Raya.
Old Goa.	S. Thome.	Colvalle.	Oxel.	Navellim.	Loutulim.
Batim.	Sa. Lucia.				

Stations not attached to the above Provinces.

Marcella.	Zambaulim.	Canacona.	Porsem.
Ponda.	Parodá.	Sanquelim.	Varim.
Sirodi.	Quepem.	Bicholim.	Angediva.

Roman Catholic Priests in Canara.

Mangalore—Vicar Geral and Vara, Padre Leão Dias.
Mylagres—Vicar Geral and Vara, Padre Custodio Marcelino Cardoso.
Pezar—Vicar Geral and Vara, Padre Eusebio Antonio Baracho.
Bidrem—Vicar Geral and Vara, Padre Agostinho de Chagas Dore e Gousalves.
Hondal—Vicar Geral and Vara, Padre Jose Bernardo de Menezes.
Omzur—Vicar Geral and Vara, Padre Joao Manoel Evangelista Luis.
Buntwall—Vicar Geral and Vara, Padre Feliciano da Silva.
Honore—Vicar Geral and Vara, Padre Frederico Guilherme de Souza. (Vara).
Moolka—Vicar Geral and Vara, Padre Joao de Rozario Borges.
Bárcel—Vicar Geral and Vara, Padre Jose Nicolao de Albuquerque.
Quirim—Vicar Geral and Vara, Padre Joaquim Eleuterio da Costa.
Gangolim—Vicar Geral and Vara, Padre Manoel Salvador da Costa.
Callianpoor—Vicar Geral and Vara, Padre Antonio do Rozario e Souza.
Agra—Vicar Geral and Vara, Padre Antonio Aurelio Roque Soares.
Mogornad—Vicar Geral and Vara, Padre Vicente Paulo Peregrino Gracia.
Sirvam—Vicar Geral and Vara, Padre Joao Francisco Baretto.
Carcol—Vicar Geral and Vara, Padre Salvador Cazinero Serrao.
Chandor—Vicar Geral and Vara, Padre Anacleto d'Almeida.
Ankola—Vicar Geral and Vara, Padre Mariano Balthazar Sta. Anna Clemente.
Sivansor—Vicar Geral and Vara, Padre Bernardo Jose de Noronha.

Supreme Government.

GOVERNOR GENERAL.
The Right Hon. GEORGE, EARL AUCKLAND, G. C. B.

SUPREME COUNCIL.
His Excellency the Hon. Gen. Sir JASPER NICOLLS, K. C. B. Exty. Member.
Hon. W. W. Bird, Esq. 1st Ordinary Member.

Honorable Major General Sir W. Casement, K. C. B. 2d do. do.
Hon. H. T. Prinsep, Esq. 3d do. do.
Hon. A. Amos, Esq. 4th do. do.

When the Supreme Council shall assemble at any of the other Presidencies, the Governors thereof shall be extraordinary Members of the Council.

SECRETARIES TO GOVERNMENT OF INDIA.
General, Foreign and Financial Departments
G. A. Bushby, Esq. Secretary.
J. P. Grant, Esq. Junior Secretary.
SECRET, POLITICAL, REVENUE AND JUDICIAL DEPARTMENTS.

T. H. Maddock, Esq. (on leave to China Seas) Secretary.
H. W. Torrens, Esq. (Secret and Political) Officiating.

F. J. Halliday, Esq. (Judicial, Legislative and Revenue) Junior Secretary.
MILITARY DEPARTMENT.
Lieut.-Colonel J. Stuart, 34th N. I. Secretary.
Captain R. J. H. Birch, Deputy.
Captain H. A. Boscawen, Assistant.

PERSONAL STAFF.
J. R. Colvin, Esq. Private Secretary to Governor General.
Mil. Secy. to Governor General.

GOVERNMENT OF BENGAL, CALCUTTA.
Right Hon. George, Earl Auckland, G. C. B. Governor.
T. H. Maddock, Esq. (Secret and Political) Secretary—on leave.

H. W. Torrens, Esq. Officiating.
H. V. Bayley, Esq. Assistant.
G. A. Bushby, Esq. Secy. Genl. Foreign and Financial Dept.

J. P. Grant, Esq. Junior Secretary.
F. J. Halliday, Esq. Secretary, Revenue, and Judicial Departments.

J. H. Young, Deputy Secretary.
The Deputies under the Secretaries to the Government of India perform the same functions and hold the same designation relatively to the Government of Bengal.

Agra.

GOVERNMENT OF WESTERN PROVINCES.
Hon. T. C. Robertson, Esq. Lieut. Governor.
J. Thomson, Esq. (Judicial, Revenue and General Depts. on leave, Secretary.
W. Edward, Deputy Secretary.

SUPREME COURT.
The Hon. Sir Edward Ryan, Kt. Chief Justice, 1833.
The Hon. Sir J. P. Grant, Kt. Puisne Judge, 1833.

The Hon. Sir Hy. Wm. Seton, Kt. Puisne Justice, 1833.

CHURCH ESTABLISHMENT.
The Right Rev. Daniel Wilson, D. D. Lord Bishop of Calcutta and Metropolitan.

The Ven. T. Deatry, D. C. L. Archdeacon of Calcutta.

W. H. Abbott, (on leave) Registrar and Secretary.
R. Molloy, Acting Registrar and Secretary.

Fort St. George.

GOVERNOR.
The Right Hon. Lord Elphinstone.

COUNCILLORS.
Lieut. Genl. Sir S. P. Whittingham, K.C.B.
The Hon. C. M. Lushington, Esq.
The Hon. J. Bird, Esq.

SECRETARIES.
H. Chamier, Esq. Chief Secretary.
R. Clerk, Esq. Political and General Dept.
Lieut. Col. S. W. Steel, Military Dept.

Bombay.

GOVERNOR.
The Right Hon. Sir James Rivett Carnar, Bart. P. R. S.

COUNCILLORS.
Lieut. General Sir Thos. McMahon, K. C. B.
The Honorable J. Farish, Esq.
The Hon. G. W. Anderson, Esq.

SECRETARIES.
W. H. Wathen, Esq. (General Department).
J. P. Willoughby, Esq. (Political & Judicial).
Lieut. Col. E. M. Wood, (Military Department).

SUPREME COURT.
The Hon. Sir John Wither Awdry, Knight, Chief Justice.
The Hon. Sir Henry Roper, Knight, Puisne Justice.

CHURCH ESTABLISHMENT.
The Right Rev. Thos. Carr, DD. Bishop of Bombay—St. John's Col. Camb.: consecrated at Lambeth, Nov. 19th 1837, installed Feb. 21st, 1838.

The Ven. Henry Jeffreys, A. M. Archdeacon and Commissary, inducted June 10th, 1838.

H. A. Woodhouse, Esq. Registrar, appointed Feb. 21st, 1838.

Ceylon.

Sir Colin Campbell, Governor.
Major General Sir Thomas Arbuthnot, K.C.B. Commander of the Forces.
William Ogle Carr, Esq. 1st Puisne Judge.
James Stark, Esq. 2d do.
Arthur Buller, Esq. Advocate Genl.
Christopher Simple, Esq. Deputy do.
Patrick Anstruther, Esq. Colonial Secretary.

Prince of Wales' Island, Singapore, &c.

The Hon. S. G. Bonham, Esq. (Singapore) Governor.

COUNCILLORS.
The Hon. S. Carling, Esq. (Malacca).
The Hon. J. W. Salmond, Esq. P. W. Island.

The Hon. T. Church, Esq. (Singapore).

China.

Capt. Elliot, R. N. Chief Commissioner.

Residents of Native Courts, &c.

COMMISSIONERS, AGENTS, &c.
AURA.

R. N. C. Hamilton, Agent.

ATA.
Asst. Surg. Bayfield, Surg. & Asst. Resident at Rangoon on duty at Calcutta.
BARODA.
J. Sutherland, (By. E.)..... Resident.
A. Malet, (By. E.)..... 1st Assistant.
W. Cozittney (By. E.)..... 2d do.
BHOPAL.
J. Wilkinson, (By. E.)..... Political Agent.
Captain J. O. Lander, commanding contingent.
J. Inglis, M. D..... Assistant Surgeon.
BHUTTER COUNTRY.
Captain Thoresby, 65th N. I..... on deputation..... Superintendent.
BITHOOR.
Captain J. Manson, 72d N. I..... Commissioner with Bajee Row.
BOSSORAH.
Lt. Col. R. Taylor, 5th By. N. I. Political Agent.
BUSHIER.
Capt. S. Hennell, 12th By. N. I. resident and political agent in the Persian Gulf.
Lieutenant G. Edwards, B. N. I. Assistant to ditto.
CACHAR AND JYNTEAH.
Lieutenant E. R. Lyons..... Superintendent.
CHERACK.—(Madrass.)
Lieutenant Col. Walpole, M. N. I..... Agent.
COORG.
Col. M. Cubbon, M. N. I. Commissioner.
Captain C. P. Lister, 14th N. I. Superintendent.
COSSIAH HILLS.
Major F. G. Lister, 32d N. I. Political Agent.
A. H. Lenders..... Special Assistant.
CUTCH.
Colonel Sir Henry Pottinger, 24th B. N. I. Resident.
Captain P. M. Melville..... 1st Assistant.
Captain Ward..... 2d ditto.
DARJEELING AND SILHUR.
A. Campbell..... Superintendent and Political Agent.
Assistant Surgeon J. T. Pearson..... Surgeon.
DEYRAH DHOO.
Lieut. Col. F. Young, 7th N. I. Political Agent.
Captain J. Fisher..... Assistant.
FUERNOKABAD.
C. R. Cartwright..... (on leave)..... Agent.
A. P. Currie..... Acting.
KOTAH AND BOONDEE.
Major T. Robinson, (on depn.)..... Political Agent.
J. Corbet, (on leave)..... Assistant Surg.
E. Foler..... Officiating ditto.
Captain J. G. Bruce..... commanding the contingent.
SABATHOO.
Colonel Tapp, 64th N. I..... Political Agent.
SHIKARPOR OR UPPER SCINDE.
A. R. Bell..... Political Agent.
Lieut. H. M. Lawrence..... Officiating Assistant.
LOWER SCINDE.
Captain J. Outram..... Political Agent.
Lieutenant W. Young..... (on leave) Assistant.
GMSOOR.
R. A. Bainerman, (M. E.)..... Commissioner.
Captain Campbell, M. N. I. Assistant.
GVALIOK.
Lieutenant Col. J. Sutherland, 3d By. L. C. (on depn.)..... Resident.

Lieutenant Col. A. Spiers..... offg. ditto.
Captain D. Ross, 51st N. I. Assistant.
Major O. Stubbs, 41th N. I. (on leave) comg. Scindiah's contingent.
Captain W. Minto, 2d in command and Officiating ditto.
Captain J. C. Lumsdaine, 58th N. I. doing duty.
Lieutenant Smith, Artillery..... ditto.
Lieutenant G. B. Michell..... ditto.
Ensign T. G. St. George..... ditto.
J. Hope..... Surgeon.
HYDRABAD.
Major General J. S. Fraser..... Resident.
Captain Malcolm, By. N. I..... Assistant.
Major E. Sutherland, Military Secretary.
D. Vertue..... Assistant Surgeon.
INDORE.
Lieutenant Colonel Sir C. M. Wade, Resident.
Captain J. W. Douglas, 52d N. I. 1st Assistant.
Lieut. Eden, M. N. I..... 2d ditto.
J. Bruce..... Assistant Surgeon.
PERTABGHUR AND MEHIDPORE.
Major W. Borthwick, 22d M. N. I. Political Agent.
Captain Macmahon..... Assistant.
T. C. Elliott..... Assistant Surgeon.
BHOPALUR, BANSWARAH AND CHERIDA.
Major E. Pettinshall, 39th N. I. comg. local horse and in charge pol. duties.
NIMAU.
Major F. H. Sandys, 36th N. I..... Assistant in charge.
A. W. Stuart..... Assistant Surgeon.
JOODPORE.
Captain J. Ludlow..... Political Agent.
KATIANDHOO.
B. H. Hodgson..... Resident.
Lieutenant S. R. Tickell..... Assistant commanding Escort.
R. Christie..... Assistant Surgeon.
KATTYWAR.
James Erskine, (By. E.)..... Political Agent.
Captain Lung, (By. E.)..... 1st Assistant.
Captain Jacob, (By. E.)..... 2d ditto.
LUCKNOW.
Lieut. Col. J. Low, 16th M. N. I. (on leave) Resident.
Lieut. Col. J. Caulfield, C. B..... offg. ditto.
Captain J. Paton, Arty. 1st Assistant.
Lieut. Shakespear, Arty..... (on leave) 2d ditto.
L. D. Wilkie..... Acting.
W. Stevenson..... Assistant Surgeon.
MIRY CAUTA.
Captain J. Outram, (By. Est.)..... political Agent.
Ensign Leckie, (By. Est.)..... Assistant.
MUNKEPORE.
Captain G. Gordon, 8th N. I..... Political Agent.
Lieutenant L. P. D. Eld, 9th N. I. (on leave to Calcutta)..... Assistant ditto.
Lieut. W. McCulloch, 13th N. I. ditto.
MYSORE.
Col. M. Cubbon, 41st M. N. I. Commissioner.
Captain A. Macleod, 5th M. L. C. Comg. Selledar horse and Military Assistant.
Major R. Budd, 32d M. N. I. Superintendent of Bangalore Division.
Captain F. S. C. Chalmers, 22d M. N. I. Supt. of Ashtagram Div. C. S. C.
Ben. H. B. Devereux, (Ben. C. S.) Superintendent of Nugger Division.

Lt. R. S. Dobbs, 9th M. N. I. Supt. Chittledroog Division on leave Cape.
Major A. Clarke, 27th M. N. I. 1st Assistant to the Comr. Offg. Sec.
Capt. J. Briggs, 13th M. N. I. 2d Asst.
Lt. W. A. Hasted, 11th M. N. I. 3d Ditto.
Lieutenant H. Montgomery, M. Arty. 4th Asst. and Ag. Supt. of Ashtagram Div.
Lt. H. Cannan, E. S. F. 10th M. N. I. Junr. Asst. and Asst. Supt. of Nugger Div.
Lt. H. M. Donaldson, 50th M. N. I. Jr. Asst. and Asst. Supt. of Ashtagram Div.
Lt. G. Haines, 38th M. N. I. Junior Asst.
Lt. H. F. Gustard, 6th M. N. I. do. do.
Capt. E. Chatterbox, 38th M. N. I. Jr. Asst. and Asst. Supt. of Bangalore.
C. J. Smith, Esq. (Mad. Est.) Asst. Surgeon.
Lt. W. C. Onslow, 44th M. N. I. Junior Asst. and Asst. Supt. Chittledroog Division.
R. Venkatty Rao, Native Asst. to the Commissioner Mysore Sudr. Adalat Court.
JUDGES.
1st Tharaghenry Kour
2d H. Ramesawamy Iyah
3d Mohedeen Ally Khan Metree
NAGPORE.
Major T. Wilkinson..... Resident.
Captain G. J. Fraser, 1st L. C. Assistant.
H. C. Ludlow..... Assistant Surgeon.
PALANPORE.
Captain Prescott, (By. Est.)..... Political Agent.
PUNJAB.
G. R. Clerk..... Agent.
PERSIA.
His Excellency { Envoy Extraordinary & Minister Plenipotentiary from Her Britannic Majesty.
Sir J. MacNeill, (By. Est.)
S. M. Griffiths..... Assistant Surgeon.
SATARAH.
Lt. Col. Ovens..... (By. Est.)..... Acting Resident.
TANJORE.
Captain A. Douglas, 42th N. I..... Resident.
TRAVANCORE.
Colonel Cullen, M. Arty..... Resident.
MARELUY.
..... Agent.
F. H. Robinson..... Acting.
BENARES.
H. H. Thomas..... (on leave)..... Agent.
G. Lindsay..... Acting ditto.
BUNDLECORD.
S. Fraser..... Agent.
CANION.
J. H. Astell..... Senior Member.
H. M. Clark..... 2d ditto.
DELHI.
T. T. Metcalfe..... Agent.
Cornet E. J. Robinson, 7th L. C. Assistant.
Lieutenant J. H. Phillips, 32d N. I. ditto.
Captain R. Angelo, 31th N. I. ditto.
Capt. R. W. Wilson, Comg. palace Guards.
MOORSUDABAD.
Col. Caulfield C. B., 1st L. C. (on depn.) Agent.
Major General F. V. Raper, Officiating ditto.
MADRAS.
Capt. C. G. Dickson, Arty. Superintendent.
NEW OGGA.
Lieut. Col. A. Spiers, 37th N. I. (on depn.) Political Agent.
Major T. Robinson..... Officiating ditto ditto.
QUETTA.
Lieut. H. Marsh..... Acting Assistant.

Lieut. W. F. Hammersley..... ditto.
RAJPOOTANA.
Lieut. Col. N. Alves, 26th M. N. I. (on leave) Commissioner and Agent.
Lieut. Col. J. Sutherland..... Officiating, ditto ditto.
Lieut. J. D. Macnaghten..... (on leave) Supt. of Ajmere & 1st Asst. to do.
Capt. W. H. Trevelyan, By. Arty. 2d Asst. & Offg. Supt. of Ajmere and 1st Asst.
Lieut. R. Morrison..... 4th ditto.
W. Strachy..... 4th ditto.
H. J. Bushby..... Assistant.
C. Mottley..... Assistant Surgeon.
SCINDE.
A. R. Bell..... Resident.
Lieut. E. J. Brown..... Asst. at do.
Capt. Melville..... (By. Est.)..... Assistant.
Capt. Ward, (By. Est.)..... do.
INDUS AND SUTLEDGE.
Lieut. F. Mackeson, 14th M. I. British Agent, stationed at Methencote.
Sued Azemmoden..... Native Agent at the mouth of the Indus.
Seth Anund..... do. do. at Hyderabad.
Jher Ali Khan, do. do. at Herreckee.
CABOOL.
(Court of Shah Sooja-ool Moolk.)
Sir W. H. Macnaghten, Bart..... Envoy and Minister.
Lieut. Col. Sir Alexander Burnes, (By. Est.) Envoy to the Chief of Kelat at Afghanistan.
Major E. D. A. Todd, political assistant.
Major E. Poltenger..... do. do.
Major R. Leech..... do. do.
JELMARAB.
Capt. G. Macgregor..... offg. political agent.
CANDAHAR.
Lieut. C. A. Jackson, 31st N. I. assistant political agent.
LOODIANAH—(Punjab.)
G. R. Clerk..... political agent.
Lieut. J. D. Cunningham, Engrs. assistant.
H. Vansett..... do.
H. H. Greated..... do.
Capt. H. M. Lawrence..... do.
M. P. Edgeworth..... officiating do.
A. C. Gordon..... offg. assistant at Bahawalpore.
CHRISLAH.
G. R. Clerk, (on depn.) political agent.
W. Jameson, (M. D.) offg. political agent.
R. Money..... assistant.
R. Laughlon..... surgeon.
KUDIAON.
G. T. Lushington..... commissioner.
J. H. Batten..... senior assistant to be stationed at Kunson.
Capt. H. Huddleston, senior assistant stationed at Gurawar.
Lieut. A. Ramsay..... assistant.
Ensign H. Ramsay..... do.
SAGGOR AND MURUPPA TERRITORIES.
Jubulpore.
Charles Fraser..... agent and commissioner.
D. P. McLeod..... principal assistant.
Doctor G. G. Spilsbury..... surgeon.
Lieut. C. Brown..... (Scened) 1st junior assistant.
Lieut. C. Brown..... (on depn.)..... agent's Office, junior assistant.
Captain A. Wheatley, 5th L. C. (on depn.)..... do.
Lieut. J. S. Banks..... do. offg. principal assistant.

MUSKINGABAD.

Lieut. C. Browne.....principal assistant.
Capt. W. H. R. Boland, 7th N. I. (Baitool)
1st junior assistant.
Lieut. J. Duncan.....do. do.
J. Grant.....in medical charge.
Lieut. Robertson.....(on leave to Calcutta)
junior assistant.
Ensign F. T. Hayes.....assistant.

SAGOR.

M. C. Ommaney.....principal assistant.
Capt. W. Murray, 22d N. I. (Dumoh) 1st
junior do.
Lieut. W. Hore.....junior assistant.
Lieut. R. A. Herbert.....junior assistant.
Doctor J. Toke.....in medical charge.

SEONKE.

Capt. Wheatley.....1st junior assistant.
Doctor C. Garbett.....in medical charge.

BATOOL.

Doctor C. J. Davidson.....in medical charge.

THIRUGGER DEPARTMENT.

Major W. H. Sleeman, 11th N. I. commis-
sioner and general superintendent.
Capt. P. A. Reynolds, 53th N. I. supdt. in
the Duhun.
Capt. P. C. Elwall, 49th N. I. assistant
Lieut. W. C. Birch, 5th N. I. assistant do.
Lieut. J. R. Lumley, 5th N. I. do. do.
Lieut. G. E. C. Hollings.....officiating asst.
in Oude Territory.
J. C. Wilson.....do. in Dooab.

Lieut. C. H. Thomas, 11th N. I. do. Gwalior.
Lieut. C. Brown, 18th N. I. do. in the Sa-
gor and Nerbudda Territories.

Capt. W. H. Ramsay, 63d N. I. assistant
at Behar.

Lieut. C. E. Mills, Arty. do. Sirhind Ter-
ritories.

Capt. N. Lewis, 63d N. I. do. in Bengal.
Lieut. J. Sleeman, 72d N. I. do. at Benares.

Capt. W. Reddell.....assistant at Bhopal.
Capt. J. Graham.....do. at head quarters
Meerut.

Captain G. Vallancey, (Madras Est.) do. at
Madras.

Lieut. J. Burrows.....do. in Duckhin.
Capt. D. A. Malcolm, (By. Est.) extra
assistant at Hyderabad.

Lieut. H. M. Nation, Arty. assistant
at Lucknow.

R. W. Palin.....uncovenanted assistant.
NORTH EAST FRONTIER OF BENGAL.

Capt. F. Jenkins, 47th N. I. Agent
Governor General and Commissioner of
Assam and North East Rungpore.

Capt. J. Matthie, 1st European regt. R. W.
deputy commissioner of Assam.

Capt. J. Wemyss.....senior assistant.
Capt. H. Vetch, 54th N. I. princ. asst.
and Pol. Agent Eastern Assam.

Capt. J. T. Gordon, 15th regt. N. I. junior
assistant to the commr. of Assam.

Lieut. C. Scott.....junior assistant.
Ensign G. E. J. Law.....officiating junior
assistant.

John Arnott, Esq. in medical charge
of the Political Agency.

Mr. Apothecary F. Pinquait.....in do.
do. Sandya.

UPPER ASSAM.—JOREHAUT DIVISION.

Lieutenant T. Brodie, 2d European Regi-
ment.....principal assistant in charge.

G. T. Bayfield.....junior assistant to do.
Mr. C. Ross Strong.....sub-assistant
to do.

J. Wood, Esq. assistant surgeon appoint-
ed to medical charge not joined.

LUCKNOW DIVISION.

Captain Hamilton Vetch, 54th N. I. prin-
cipal assistant in charge.

Mr. H. Driver.....sub-assistant
Mr. Asst. Apothecary Michael Maher, ap-
pointed to medical charge not joined.

DURGUNG DIVISION.

Lieutenant A. A. Sturt.....(leave for 6
months) principal assistant.

Lieutenant C. Scott, 27th N. I. junior as-
sistant in charge.

Mr. C. Roche.....sub-assistant.
Mr. Apothecary P. Trasham.....in medical
charge.

NOWGONG DIVISION.

Lieutenant H. L. Bigge, 66th N. I. prin-
cipal assistant in charge.

Mr. E. Grange.....sub-assistant.
J. Wood, Esq. assistant surgeon acting in
medical charge.

R. V. Shuter, Esq. assistant ditto ap-
pointed not joined.

RASPOON DIVISION.

Lieutenant J. Wemyss, 44th N. I. prin-
cipal assistant in charge.

Lieutenant C. Scott, 27th N. I. junior as-
sistant absent on duty.

Mr. C. K. Hudson.....sub-assistant.
K. M. Scott, assistant surgeon in medical
charge.

Mr. Apothecary C. Simons. absent on duty.

NORTH EAST RUNGPORE.

Major A. Davidson, 2d Eurn. Regt. prin-
cipal assistant.

Lieut. A. A. Sturt, 6th N. I. junior assist-
ant.

Mr. John Strong.....sub-assistant.
Mr. Apothecary C. Simons.....in medical
charge.

SOUTH WEST FRONTIER AND SEMBULFORE.

Captain J. R. Onseley.....political agent.
Captain L. S. Bird, 24th N. I. (on leave)
senior assistant.

J. Davidson, M. D. principal assistant.
Lieut. J. C. Hannington, 24th N. I. prin-
cipal assistant.

Lieut. B. W. R. Jenner.....offg. junior asst.
Stationed at Colhan Sinthoom.

Lieut. Thos. Simpson, 57th N. I. junior
assistant offg. principal assistants.

Lieut. R. Onseley, 31st N. I. do. do. sta-
tioned at Colhan.

ARRACAN.

Captain A. Bozle, 2d N. I. commissioner.
Captain D. Williams, 45th N. I. senior as-
sistant.

Surgeon J. Morton.....senior assistant.
Ensign A. P. Phayre, 7th N. I. senior as-
sistant.

Lieut. J. R. Abbott.....junior assistant.
Lieut. J. R. Lumsden, 63d N. I. junior as-
sistant.

COAST OF TENASSERIM.

E. A. Blundell, P. C. S. civil commis-
sioner and governor general's Agent,
Moulmein and Amherst.

Captain H. Macleughar, 49th N. I. senior
assistant at Tavoy.

.....junior assistant at
Mergui.

Major — Williams.....in charge of the po-
lice Moulmein.

James DeLa. Condamine, Esq. senior
assistant at Moulmein.

Captain T. Corby.....junior assistant at
Amherst.

Captain C. Drumgoole.....in charge marine
dept. Moulmein.

Mr. Dray.....pilot at Amherst.

GARRISON OF FORT ST. GEORGE, AND ITS Dependencies.

THE RIGHT HON. JOHN, Lord ELPHINSTONE, G. C. H.
Governor, &c. &c. &c.

PRIVATE SECRETARY..... Walter Elliot, Esq. Civil Service.
MILITARY SECRETARY..... Major W. Havelock, K. H. H. M. 14th Lt. D.
absent with his
Regt. on Field
Service

AIDE-DE-CAMP..... { Lieut. The Hon. G. A. F. C. } H. M. 31st Foot
DO. { Graves..... }
EXTRA AIDE-DE-CAMP..... { Lieut. A. R. Thornhill..... } Artillery
RIGHT HONORABLE THE { Lieut. A. R. Thornhill..... } 5th Light Cavalry
GOVERNOR'S BODY GUARD. { J. Shaw, Esq. } Commandant
TOWN MAJOR..... { Lieut. Colonel P. L. Doveton } Assistant Surgeon
FORT ADJUTANT..... { Captain George Logan } 5th Regt. L. C.
SUPERINTENDING ENGINEER..... { Major J. J. Underwood..... } 1st Regt. N. I.
ACTG. ASST. SUG. ENGINEER..... { Captain J. C. Bouderson..... } 35th N. I.
GARRISON SURGEON..... { Robert Wight, M. D. } Absent on duty
John Richmond, Esq. Acting
GARRISON ASSISTANT SURGEON—S. Rogers, Esq.

GENERAL STAFF OF THE ARMY. SERVING UNDER THE PRESIDENCY OF Fort St. George.

* HIS EXCELLENCY LIEUTENANT GENERAL SIR SAMUEL
FORD WHITTINGHAM, K. C. B. AND K. C. H.
COMMANDER-IN-CHIEF.

MAJOR GENERAL..... Sir H. COUGH, K. C. B. Mysore Division.
absent on duty in
China.
* MAJOR GENERAL Sir R. H. DICK, K. C. B. & K. C. H. Centre Division.
MAJOR GENERAL..... J. WOLFE..... Ceded District.
MAJOR GENERAL..... E. M. G. SHOWERS..... Southern Division
BRIGADIER GENERAL..... GEO. MACKENZIE STEUART..... Northern Division

ADJUTANT GENERAL OF THE ARMY..... { Lieut. Col. Robert Alexander..... } 43d Regt. N. I.
DEPUTY ADJUTANT GENERAL OF THE ARMY..... { Major C. A. Browne..... } 15th Regt. N. I.
ASSISTANT ADJUTANT GENERAL OF THE ARMY..... { Lieut. R. Gordon..... } 37th Regt. N. I.
ACTING ASSISTANT ADJUTANT GENERAL OF THE ARMY..... { Lieut. W. G. Woods..... } 6th Light Cav.
ACTING DEPUTY ASST. DO. DO. { Captain C. Stafford..... } 51st Regt. N. I.
QUARTER MASTER GENERAL OF THE ARMY..... { Lieut. Col. William Strahan..... } 33th Regt. N. I.
DEPUTY QUARTER MASTER GENERAL OF THE ARMY..... { Major William John Butterworth, C. B. } 38th Regt. N. I.
ASSISTANT QUARTER MASTER GENERAL OF THE ARMY..... { Captain H. G. Taynton..... } 8th Regt. N. I.
DEPUTY ASSISTANT QUARTER MASTER GENERAL OF THE ARMY..... { Lieutenant T. A. Jenkins..... } 331 Regt. N. I.
ACTING DEPUTY ASSISTANT QUARTER MASTER GENERAL OF THE ARMY..... { Captain G. Hamond..... } 51st Regt. N. I.
JUDGE ADVOCATE GENERAL OF THE ARMY..... { Capt. T. E. Chalon..... } 33d Regt. N. I.
PERSIAN INTERPRETER TO HEAD QUARTERS..... { Captain Michael John Ross..... } 32d Regt. N. I.
MILITARY SECRETARY TO THE COMMANDER-IN-CHIEF..... { Lieutenant F. Whittingham..... } H. M. 67th Foot
AIDES-DE-CAMP..... { Lieutenant H. Bates..... } H. M. 82d Foot
EXTRA AID-DE-CAMP..... { Lieutenant T. Dundas..... } H. M. 79th Foot
Captain T. K. Whistler..... Artillery

HER MAJESTY'S FORCES.

DEPUTY ADJUTANT GENERAL. { Major General Robert Brice } H. M. 40th Foot
 DEPUTY QUARTER MASTER GENERAL. { Major General William Henry } H. M. 6th Foot
 BRIGADE MAJOR. { Captain Walter Forster Keir } H. M. 9th Foot
 ACTING INSPECTOR GENERAL OF HOSPITALS. { J. Mount, Esq. M. D. } Surgeon

Commandants of Divisions, Field Forces, Garrisons and Cantonments.

RANK.	NAMES.	
GENERAL OFFICERS.		
Major General	Sir H. Gough, K. C. B.	on duty in China.
"	" Sir R. H. Dick, K. C. B. & K. C. H.	Mysore Division, absent
"	J. Woulfe.	Central Division
"	E. M. G. Showers.	Ceded Districts
Brigdr. General	Geo. Mackenzie Stuart.	Southern Division
BRIGADIERS FIRST CLASS.		
Major General	G. W. Paty, C. B. and K. H.	Northern Division
BRIGADIERS SECOND CLASS.		
Colonel	James Wahab, C. B.	Malabar and Canara
"	John Turner Trevelyan.	Commandant of Art. & Commanding Saint Thomas's Mount
Major General	James Allan C. B.	Hedderbat Sub. Force
Colonel	M. Riddell.	Nagpore Sub. Force
"	R. L. Evans, C. B.	Cg. Bangalore, Temy Bellary
"	J. Napier.	Trichinopoly
"	R. Howe, C. B.	Palacernam
"	Joseph Logan.	Pellore
Colonel	Thomas Marrett.	Masulipatam
		Tenasserim Provinces
		Jaulnah

OFFICERS IN COMMAND.

Divisions of the Army,
AND STAFF ATTACHED.

Southern Division of the Army.

HEAD QUARTERS—TRICHINOPOLY.
 MAJOR GENERAL E. M. G. SHOWERS, COMMANDS—Appointed 22d Jan. 1837.
 DEPUTY ASST. ADJT. GENERAL. Capt. Matthew Stewart Poole 5th N. I.
 DEPUTY ASSISTANT QUARTER MASTER GENERAL. Lieut. John Chas. Fortescue } 1st N. I.
 MASTER GENERAL. Lieut. E. S. Grime Showers. } Artillery
 AIDE-DE-CAMP. SUPERINTENDING SURGEON. Claude Currie, Esq.

TROOPS
 15th Regt. Nat. Infantry. Trichinopoly
 19th do do do do
 25th do do do do
 35th do do do do
 45th do do do do
 55th do do do do
 65th do do do do
 75th do do do do
 85th do do do do
 95th do do do do
 105th do do do do
 115th do do do do
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 135th do do do do
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 995th do do do do

Northern Division of the Army.

HEAD QUARTERS—WALTAIN NEAR VIZAGAPATAM.
 BRIGADIER GENERAL GEO. MACKENZIE STEUART—Appointed 25th Jan. 1840
 DEPUTY ASST. ADJT. GENERAL. Capt. Charles Fred. Llandet. 14th N. I.
 DEPUTY ASSISTANT QUARTER MASTER GENERAL. Captain George Wright. } 10th N. I.
 MASTER GENERAL. Captain C. H. Warren. } 25th N. I.
 AIDE-DE-CAMP. SUPERINTENDING SURGEON. John Trebeck Conran, Esq.

TROOPS.
 22d Regt. Nat. Infantry. Vizagapatam
 27th do do do do
 32th do do do do
 37th do do do do
 42th do do do do
 47th do do do do
 52th do do do do
 57th do do do do
 62th do do do do
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Centre Division of the Army.

HEAD QUARTERS—PRESIDENCY.
 MAJOR GENERAL Sir R. H. DICK, K. C. B. AND K. C. H. COMMANDS—
 Appointed to the Staff 11th Dec. 1833 and to the Cen. Division 22d January 1837,
 On leave to Calcutta till 21st February 1841.
 DEPUTY ASST. ADJT. GENERAL. Captain R. Shirreff. } 2d N. I.
 DEPUTY ASSISTANT QUARTER MASTER GENERAL. }
 ACTING DEPUTY ASST. QUARTER MASTER GENERAL. } Captain John Jones. } 30th N. I.
 AIDE-DE-CAMP. Capt. L. Fyfe, On leave to Calcutta till 24th Feb. 1841. } 17th Foot
 SUPERINTENDING SURGEON. John McLeod, Esq.

TROOPS.
 7th Regt. Light Cavalry. Arcot
 8th do do do do
 1st Bat. Art. Company Mount
 2d do do do do
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 99th do do do do
 100th do do do do

Mysore Division of the Army.

HEAD QUARTERS—BANGALORE.
 (Including the Provinces of Malabar and Canara.)
 MAJOR GENERAL Sir H. GOUGH, K. C. B., COMMANDS—Appointed 22d Sept. 1837.
 Do. Do. JAMES ALLAN, C. B.—Temporary Commanding.
 DEPUTY ASST. ADJT. GENERAL. Capt. W. P. Deas. } 6th L. C.
 DEPUTY ASSISTANT QUARTER MASTER GENERAL. } Capt. Ric. Hippley Bingham } 7th N. I.
 AIDE-DE-CAMP. Captain J. B. Gough. } H. M. 3d Drags.
 SUPERINTENDING SURGEON. David Boyd, Esq. } absent on duty in China

TROOPS.
 H. Qrs. Horse Art. 2 Troops Bangalore
 H. M. 15th Hussars. do
 4th Regt. Light Cavalry. do
 1 Com. of Eur. Foot Art. do
 2d Eur. Lt. I. do
 23d Light Inf. do
 32d Regt. Native Inf. Hurryhur
 34th do do do
 38th do do do
 Detachment of Foot Art. French Rocks

Malabar and Canara.

HEAD QUARTERS—CANNANORE.
 MAJOR GENERAL G. W. PATY, C. B. AND K. H. Her Majesty's 94th Foot,
 COMMANDS—Appointed 3d May 1839.
 MAJOR OF BRIGADE. Captain Wm. Henry Simpson 36th N. I.
 SUPERINTENDING SURGEON. Ramsay Sladen, Esq.
 TROOPS
 1 Comp. of Arty. Golan. Cannanore
 2 do do do do
 3 do do do do
 4 do do do do
 5 do do do do
 6 do do do do
 7 do do do do
 8 do do do do
 9 do do do do
 10 do do do do
 11 do do do do
 12 do do do do
 13 do do do do
 14 do do do do
 15 do do do do
 16 do do do do
 17 do do do do
 18 do do do do
 19 do do do do
 20 do do do do
 21 do do do do
 22 do do do do
 23 do do do do
 24 do do do do
 25 do do do do
 26 do do do do
 27 do do do do
 28 do do do do
 29 do do do do
 30 do do do do
 31 do do do do
 32 do do do do
 33 do do do do
 34 do do do do
 35 do do do do
 36 do do do do
 37 do do do do
 38 do do do do
 39 do do do do
 40 do do do do
 41 do do do do
 42 do do do do
 43 do do do do
 44 do do do do
 45 do do do do
 46 do do do do
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 48 do do do do
 49 do do do do
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 51 do do do do
 52 do do do do
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LIEUTENANT COLONEL JAMES PERRY, 25th N. I. COMMANDS.
 ACTING STAFF OFFICER. Lieutenant W. C. Bell. } 28th N. I.
 TROOPS.
 28th Regt. Native Inf. do
 Det. of Sappers & Miners do
 Detachment of Foot Artillery

Ceded Districts.

HEAD QUARTERS—BELLARY.
 MAJOR GENERAL JOHN WOULFE, COMMANDS—
 Appointed 19th May 1840.
 DEPUTY ASST. ADJT. GENERAL. Capt. G. B. Arbuthnot. } 5d Lt. Cav.
 DEPUTY ASSISTANT QUARTER MASTER GENERAL. } Capt. Ham. Lavicount Harris } 15th N. I.
 AIDE-DE-CAMP. Captain C. H. Warren. } 25th N. I.
 SUPERINTENDING SURGEON. Robert Davidson, Esq.
 TROOPS.
 5th Regt. Light Cavalry. Bellary
 1 Com. of Eur. Foot Art. do
 H. M. 4th Foot. do
 4th Regt. Native Inf. do
 16th Regt. Native Inf. Kurnool
 45th do do Cuddalore

Troops Serving in the Southern Mahratta Country, &c.

1 Troop Horse Artillery, <i>Sholapur</i>	25th Regt. Native Inf., <i>Belgaum</i>
3d Light Cavalry, <i>do</i>	47th <i>do</i> <i>do</i>
Lt. W. H. M. 4th Foot, <i>Belgaum</i>	52d Regt. Native Inf., <i>Sholapur</i>
7th Regt. Native Inf., <i>Kulladghes</i>	1 Com. of Eur. Foot Art. <i>Belgaum</i>
18th <i>do</i> <i>do</i> <i>Belgaum</i>	

The Subsidiary Force Serving His Highness the Soubadar of the Deacon.

HEAD QUARTERS—SECUNDERABAD.
BRIGADIER JAMES WALLAB, C. B. COMMANDS—Appointed 6th Sept. 1857.
ASSISTANT ADJUTANT GENERAL Captain Samuel A. Grant, 15th N. I.
ASSISTANT QUARTER MASTER Captain Daniel Heerman, 21st N. I.
GENERAL Considine, ...
SUPERINTENDING SURGEON Cornelius Desormeaux, Esq.

1 Troop Native Horse Art. <i>Secunderabad</i>	55th Regt. Native Inf., <i>Secunderabad</i>
Hd. Qr. 1st Bat. Art. 1 Cy., <i>do</i>	51st <i>do</i> <i>do</i>
1st Mad. Eur. Regt., <i>do</i>	Detacht. of Golundauze, <i>Ahmednuggur</i>
1st Regt. Light Cavalry, <i>do</i>	20th Regt. Native Inf., <i>Asseerghur</i>
2d Regt. Light Infantry, <i>do</i>	21st <i>do</i> <i>do</i> <i>Ahmednuggur</i>
25th Regt. Native Infantry, <i>do</i>	

Jaulnah.

COLONEL THOMAS MARRETT, 5th N. I.—COMMANDS.
STAFF OFFICER, ... Lieutenant W. L. Boulderson 29th N. I.

TROOPS.

1st Troop European Horse Artillery	23rd Regiment Native Infantry.
2d Regiment Light Cavalry	

Nagpore Subsidiary Force.

HEAD QUARTERS—KAMPTEE.
BRIGADIER JOHN TURNER TREWMAN, COMMANDS—Appointed 31st Jan. 1849
ASSISTANT ADJUTANT GENERAL Lieut. John Grimes, 8th N. I.
ASSISTANT QUARTER MASTER Captain William Gordon, S.C., 6th N. I.
GENERAL till 31st March 1841.
ACTING ASSISTANT QUARTER MASTER Captain J. R. Brown, 6th Light Cav.
MASTER GENERAL
SUPERINTENDING SURGEON, James Stenson, Esq. *Bombay on leave.*
ACTING SUPERINTENDING SURGEON, B. Williams, Esq.

1 Troop of Eur. Horse Artillery <i>Kamptee</i>	11th Regt. Native Infantry <i>Jubbulpoor</i>
5th Regiment Light Cavalry, <i>do</i>	42d <i>do</i> <i>Hussingabad</i>
1st Bat. Artillery 1 Comp., <i>do</i>	43d <i>do</i> <i>Kamptee</i>
3d Battalion Art. Hd. Qrs. 1 Comp., <i>do</i>	49th <i>do</i> <i>Kamptee</i>
H. M. 39th Foot, <i>do</i>	

TROOPS EMPLOYED FIELD FORCE SCINDE.

H. M. 41st Foot. | Detachment Sappers and Miners.

Tenasserim Coast.

HEAD QUARTERS—MOULMEIN.
BRIGADIER J. LOGAN, H. M. 63d Foot COMMANDS—Appointed 26th Oct. 1840.
DEPUTY ASST. ADJT. AND DEPT. { Capt. T. G. E. O. Kenny, ... } 23 E. L. I.
ASST. Qr. MASTER GENERAL { }
STAFF SURGEON, John Morton, Esq.

TROOPS.

Her Majesty's 63d Foot	33d Regt. Native Infantry
1 Comp. of Eur. Foot Art.	41th <i>do.</i> <i>do.</i> <i>do.</i>
31st Regt. Light Infantry	

TROOPS SERVING AT PENANG, MALACCA, AND SINGAPORE.

1 Com. of Eur. Foot Art. <i>Penang</i>	8th Rt. N. I. { 3 Companies, <i>Malacca</i>
1 <i>do</i> of Golundauze, <i>Penang, Malacca</i>	{ H. Q. 6 <i>do.</i> <i>Singapore</i>
& <i>Singapore.</i>	24th Rt. N. I. { H. Q. Prince of Wales Island
	{ 12 Companies <i>Malacca</i>
	37th Rt. N. I. <i>For Service Eastward</i>

MILITARY SERVICE REGULATIONS.

FEES UPON COMMISSIONS.

FORT WILLIAM; 24th April 1834.

The Honorable the Vice President in Council is pleased to direct that the following Paras. (3 to 5) of a Military Letter from the Honorable the Court of Directors No. 97, dated the 6th November 1837, the provisions of which are applicable to the three Presidencies, be published in General Orders:

Para. 3. "We direct that Fees upon Commissions granted by His Majesty to the Company's Officers, shall be hereafter collected by and credited to Government, in the same manner as the Fees on Company's Commissions are now collected and credited, and that the Salary to be hereafter granted to the Military Secretary of the Commander-in-Chief be Two Thousand Two Hundred and Fifty Rupees, (Rupees 2,250) per month in lieu of Fees and all other Emoluments.

4. We observe a great discrepancy in the rates of Fees levied from Officers of the same rank at our several Presidencies, and that those rates in most instances materially exceed the rates paid by Officers of corresponding rank in His Majesty's Service.

5. We therefore direct, that the Fees on Commissions to be hereafter paid by the Company's Officers shall at all the Presidencies, be the same as those charged to His Majesty's Officers of corresponding rank: and that one moiety of those Fees be charged for the Company's and the other moiety for the King's Commissions.

General Order by the Right Honorable the Governor General of India in Council.
OOTACAMUND, 30th July 1834.

In conformity with instructions from the Honorable the Court of Directors, communicated in their Military Letter No. 97, dated the 6th November 1833, and published in General Orders "Fort William, 24th April 1834," the Right Honorable the Governor General of India in Council directs, that the following Scale of Fees be collected by, and credited to the Government, on Commissions issued to the Company's Officers at all the Presidencies; one moiety of which to be charged for Company's, and the other moiety, for the King's Commissions.

Revised Table of Fees chargeable on Commissions bearing date subsequent to the 24th April 1834

RANK.	In Corps of Light Cavalry.			In Corps of Artillery, Engineers and Infantry.		
	Amount in Sonat, Madras, or Bombay Rupees.			Amount in Sonat, Madras, or Bombay Rupees.		
	Rs.	A.	P.	Rs.	A.	P.
Colonel.....	99	0	0	99	0	2
Lieutenant Colonel.....	85	6	4	79	6	4
Major.....	82	3	2	77	12	9
Captain.....	78	3	2	73	12	9
Lieutenant.....	65	0	0	53	8	6
Cornet, 2d Lieutenant and Ensign	48	3	2	35	11	8
Surgeon.....	42	13	10	42	13	10
Assistant Surgeon.....	39	12	9	39	12	9
Veterinary Surgeon.....	40	3	2	—	—	—

MILITARY ESTATES.

Fort St. George, 15th February 1833.

The special attention of Commanding and other Officers is required to the provisions of the VI. Geo. IV. Cap. LXI, regarding the Estates of European Officers or Soldiers of the Company's Service, and to the following explanatory regulations on the subject.

1. Upon the death of any European Officer or Soldier, whether intestate or otherwise, his effects then in Camp or Garrison are to be secured under the authority of the Commanding Officer of the Regiment or Station to which the deceased belonged, as directed in Section XVI. of the Articles of War; the Committee invariably assembling within four and twenty hours from the time of the casualty.
2. Should there not be officers present with the description specified in Art. I. Section XVI. of the Articles of War, then the Committee may be composed of such as may be available, the seniors being selected.
3. The Committee are to take a correct inventory of the whole of the effects and account of the credits of the deceased, mentioning especially and in all cases whether any amount of cash was found in the deceased's possession, and whether any and what amount of Pay and Allowances was due to the deceased, as also an account of his regimental debts, and the same are to be entered in a book to be kept for that purpose to be entitled "Registers of Estates," which book shall form a regimental record, and a copy of such inventory and account shall be forthwith forwarded to the Secretary to Government in the Military Department, such copy to be attested "a true copy from the entry of the Register."
4. It will be the duty of the Committee in preparing such account of credits and debts, carefully to investigate the latter, and to record their opinions as to the correctness of each claim.
5. Claims coming decidedly within the description of regimental debts, to wit, Regimental Mess Accounts, charges or expenses relating to the illness or funeral of deceased Officers and Soldiers, charges for house rent, servants' wages and house expenses for periods not exceeding one month, and the portion of the month in which the casualty may occur, may be discharged by the Commanding Officer without previous reference to the Secretary to Government in the Military Department.
6. All other claims preferred at Regimental Head Quarters, such as accounts with Station Shopkeepers, loans, &c., must be left for adjustment by the person who may eventually administer to the Estate.
7. It will be the duty of the Commanding Officer to draw without delay whatever arrears of pay and allowances may be due to the deceased.
8. In cases of an intestacy it is ordered that within one fortnight after the taking of the inventory a sale of the effects shall take place by public auction to the highest bidder, due notice thereof having been given, and within one fortnight after such sale, the account sale shall be entered in the "Register of Estates" and a copy of such account sale shall be forthwith forwarded to the Secretary to Government in the Military Department, such copy to be attested as directed in para. 3.
9. The Officer Commanding will be accountable for the recovery of the amount of all purchases, and for the correctness of all payments from the proceeds of Estates. It being his province to nominate the auctioneer, and when he may see fit to prohibit the delivery of goods until their value has been received; credit may be given to military persons, but not beyond the second issue of pay after the sale.
10. It is ordered that within one fortnight after such second issue of pay the Officer Commanding shall cause to be entered in the said Register an Account in the form annexed, debiting himself with all the Credits of the Estate and crediting himself with all payments of Regimental Debts, and shewing that the balance has been lodged in the Pay Office and a transfer receipt obtained, and a copy of the same, attested as in para. 3, together with all vouchers for all payments, and the Sub-Treasurer's Receipt for the balance is to be forwarded to the Secretary to the Government Military Department as soon as the Sub-Treasurer's Receipt for the balance shall have been received.
11. The Auctioneer shall in no case receive a greater percentage or remuneration than five per cent. which shall be paid by the Commanding Officer on the day on which the accounts of the Estate are finally closed, if his accounts are correct, and the amount of purchases recovered, but not otherwise.
12. If there be any house, or article of great value, which may seem to the Officer Commanding to justify the postponement of the sale, or the extension of credit, beyond the time by this order limited, he may, if he sees fit, postpone the sale, or on his own responsibility, make a special agreement for the payment of the price of such house or article of great value, such postponement of the sale, and such special agreement being immediately brought to the notice of the Secretary to the Government in the Military Department, together with the special circumstances which have seemed to such Officer Commanding to justify a departure from the course prescribed in the 8th para. of this order.
13. When any Military person indebted to an Estate, shall, before the full payment of the account of his purchase, apply for leave of absence on sick certificate or otherwise, it will be the duty of the Officer in charge of the Estate from which such purchases have been made to recover the payment of the debt prior to the departure of the individual

from his Station, or to report the default to the Accountant General and to the Secretary to Government in the Military Department.

14. In the case of a will, and no executor named being at the time of the death within the Presidency of Madras, the Officer Commanding shall, together with the copy of the inventory and account of credits and debts mentioned in para. 2, forward to the Secretary to Government in the Military Department a copy of the will. In all other respects the Officer Commanding will proceed as in the case of an intestacy.

15. In the case of a will, in which an executor is named, who at the time of the death of the deceased is within the Presidency of Madras, the Officer Commanding shall, together with the copy of the inventory and account of credits and debts, mentioned in para. 2, forward to the Secretary to Government in the Military Department, a copy of the will.

16. It will in this case be the duty of the Officer Commanding not to direct the sale of any article except live stock, or such as are of a perishable nature, until he shall receive instructions, in writing, from the executor.

17. The Officer Commanding shall forward to such executor a copy of the will, also a copy of the inventory, and account of credits and debts mentioned in para. 3, noticing at the foot of such copy of the inventory the live stock and perishable articles which have been sold, and the prices which were given for the same respectively.

18. The Officer Commanding must, in the first place, take care that all Regimental debts, &c. are paid, and in the next place, he will attend, as to the disposal of the property of the deceased, as nearly as he can, to the wishes of the executor expressed in writing.

19. When an Officer, whether intestate or otherwise, dies at a Station to which he does not properly belong, it will be the duty of the Officer Commanding to take all necessary steps, in conformity with the preceding instructions; and the Commanding Officer of the Corps or Station to which the individual was attached, will likewise on receiving intimation of the Officer's decease, take similar measures with regard to the property which may there be forthcoming.

20. An Officer Commanding, quitting, or being relieved from the charge of a regiment, shall render to the Officer succeeding to such charge the account of every estate, whether of an intestate or otherwise, the accounts and balances of which shall not have been then already rendered to the Secretary to Government in the Military Department, or executor, as the case may be; and such succeeding Officer will be responsible for the correctness of the account, unless at the time of receiving charge of the Regiment, he objects to the account, and brings such objection to the notice of the Secretary to Government in the Military Department.

21. In case of any Officer Commanding dying, or being by sickness incapacitated from rendering any account, the next Senior Officer shall direct the assembly of a Committee consisting of three of the Senior Officers of the Station or Regiment, for the purpose of taking an account of all Estates, whether of intestates or otherwise, the accounts and balances of which shall not have been then already rendered to the Military Secretary or Executor, as the case may be; and the Committee so assembled shall render the accounts taken to the Officer succeeding to the command, in case of such death or sickness.

22. Officers Commanding will be held responsible for the strict fulfilment of the several provisions of this order, and any loss which may arise by a deviation therefrom, will be recovered from their pay and allowances under the authority of Government.

23. They will likewise on making over an estate to the Secretary to Government in the Military Department, to the Executor, or to the Registrar of the Supreme Court, as the case may be, submit a notification of their having done so for publication in the Fort St. George Gazette.

Dr. _____ Commanding _____ Regiment _____ Cr.
In Account Current with the Estate of the late _____ of _____ Regiment _____ deceased.

1833		1833	
To Cash found among the effects...		By Cash paid Funeral Expenses	
To Pay and Allowances as follows....		By do do Servants' Wages do No	
To gross amount of Account Sale.....		By do do House Expense per do No	
		By do do for House Rent per do No	
		By do do for Mess per do No	
		By do do for Military Fund per do No	
		By do do Band Fund per do No	
		By cash paid Auctioneer being his commission on amount of Account Sale at 5 per cent	
		Total Cash paid Rs.	
		By Balance paid into Pay Office as per Cash Receipt of this date and on this day forwarded to the Sub-Treasurer for his Receipt.	

OFFICERS RETIRING FROM SERVICE.

Regulations respecting Military and other Officers retiring from the Company's Service.

Officers who have served less than three years in India, and have lost their health there, are entitled to an allowance from Lord Clive's Fund, if the Court of Directors shall adjudge them to be proper objects of that bounty, to the extent of

If a 2d Lieutenant, Cornet, or Ensign, two shillings a-day; or £36 10s. a-year; if a Lieutenant, two shillings and sixpence a-day, or £45 12s. 6d. a-year; provided they are not possessed of, or entitled to, real or personal property, to the extent of, if an Ensign £750, if a Lieutenant, £1,000.

Officers who are compelled to quit the service by wounds received in action, or by ill health contracted on duty after three years service in India, are permitted to retire on the half-pay of their rank, viz.

If a second Lieutenant, Cornet, or Ensign, three shillings a-day, or £54 15s. per annum if a Lieutenant, four shillings a-day or £73 per annum.

A Subaltern Officer, or Assistant Surgeon, having served six years in India, is permitted to retire on the half-pay of Ensign, if his constitution should be so impaired as to prevent the possibility of his continuing in India.

A Lieutenant having served thirteen, or a 2d Lieutenant, Cornet, or Ensign, nine years in India, (including three years for a furlough), may retire on the half-pay of his rank, in case his health shall not permit him to serve in India.

Regimental Captains, Majors, and Lieutenant Colonels, who have not served sufficiently long in India to entitle them to retire on full pay, and whose ill state of health renders it impossible for them to continue to serve in India, are allowed to retire from the service on the half-pay of their respective ranks, viz.

Captains, seven shillings a-day, or £127 15s. per annum, Major, nine shillings and sixpence a-day, or £173 7s. 6d. per annum; Lieut. Colonel, eleven shillings a-day, or £200 15s. per annum.

All Officers who have actually served twenty-two years in India, or twenty-five years, including three years for a furlough, are allowed to retire on the full pay of their respective ranks.

Officers are also allowed to retire on the following pensions without reference to the rank they may have attained, if they have served for the undermentioned periods, viz.

After twenty-three years' service in India, including three years for a furlough, on the full pay of Captain, viz. £191 12s. 6d. per annum; after twenty-seven years' service in India, including three years for a furlough, on the full pay of Major, £392 per annum; after thirty-one years' service in India, including three years for a furlough, on the full pay of Lieut. Colonel, £565 per annum; after thirty-five years' service in India, including three years for a furlough, on the full pay of Colonel; £456 5s. per annum.

Members of the Medical Board, who have been in that station not less than two years, and not less than twenty years in India, including three years' furlough, are permitted to retire from the service, and allowed £500 per annum, or in the event of ill health, they may retire on that pension, after any period of service as Member of the Medical Board. If they have served five years, or are obliged after three years' service in that Station to retire from ill health, they are allowed £700 per annum.

Superintending Surgeons, who have been in that Station not less than two years, and whose period of service has been not less than twenty years, including three years for one furlough, are permitted to retire from the service, and allowed £200 per annum, or in the event of ill health, they may retire on that pension after any period of service as Superintending Surgeon. If they have served five years, or are obliged after three years' service in that Station to retire from ill health, they are allowed £365 per annum.

All other Surgeons, and Assistant Surgeons attached to the Military, are permitted to retire from the service on the pay of their rank, after having served in India not less than twenty years, including three years for one furlough.

When Officers on furlough retire upon the pay or half-pay of their rank, they are only entitled to claim the benefit of the rank held by them at the expiration of one year from the date of their landing in the United Kingdom.

A Veterinary Surgeon is allowed to retire on seven shillings a-day after twenty years' service, including three years for one furlough; five shillings and sixpence a-day after thirteen years' service, including three years for one furlough; and three shillings a-day after six years' service, in the two last cases provided his health shall not permit him to continue to serve in India.

A Chaplain (appointed previously to the 1st September 1836) after eighteen years' service in India, including three years for one furlough, is allowed to retire on the pay of Lieutenant Colonel, £355 per annum; after ten years (if compelled by ill health to quit the service), on the half pay of Lieutenant Colonel, £200 15s. per annum; after seven years, on the half-pay of Major, £173 7s. 6d. per annum.

If appointed subsequently to that date, according to the following scale viz. after eighteen years' service, including three years for one furlough, the pay of Major, viz.

£202, per annum; after ten years' service, (if compelled by ill health to quit the service) on the half-pay of Major, viz. £173 7s. 6d. per annum; after seven years' the half-pay of Captain, viz. £127 15s. per annum.

A Commissary or Deputy Commissary of Ordnance, not being a Commissioned Officer, is allowed to retire on full pay if he has served twenty-seven years in India, of which twelve must have been in the Ordnance Department; twenty-five years, fourteen of which in that Department; or twenty-two years, seventeen years of which in the Ordnance Department.

A Conductor of Stores is allowed to retire on £60 per annum after twenty-five years' actual service in India.

Officers retiring from the service, will be considered to have retired from the date of their application for leave to retire: or from the expiration of two years and a half from their quitting India; whichever shall happen first.

FURLOUGH.

Officers (of whatever rank) must be ten years in India, before they can be entitled (except in case of certified sickness, and as hereafter specified) to their rotation to be absent on furlough, and the same rule is applicable to Assistant Surgeons, and Veterinary Surgeons. The furlough to be granted by the Commander-in-Chief at each Presidency, with the approbation of the respective Governments.

Officers who have not served ten years in India, but whose presence in England is required by urgent private affairs, may be allowed a furlough for one year without pay.

A Chaplain (appointed previously to the 1st September 1836,) after seven years' residence in India, is allowed to come home on furlough and receive the pay of Major, £292 per annum. Should he come home from sickness prior to this period of service, he is allowed the pay of Captain only, viz. £191, 12s. 6d. per annum.

If appointed subsequently to that date, after seven years' residence in India, the pay of Captain, viz. £191 12s. per annum; and if compelled by ill-health to come home prior to this period of service, the half-pay of Captain, or £127 15s. per annum.

A Conductor of Stores is allowed furlough pay only in case of coming home from sickness.

Officers coming to England on furlough, are required immediately to report their arrival by letter to the Secretary, stating the name of the ship in which they came, and their address, forwarding at the same time the certificates they received in India.

The period of furlough is three years, reckoning from its date to the day of the return of the officer to his Presidency.

Officers are required to join the Establishment to which they belong at the expiration of the three years' furlough, unless they shall have obtained an extension of leave from the Court, six months before the expiration of that period. No furlough will be extended, except in cases of sickness, certified in the manner hereafter mentioned, or in cases, in which it shall be proved to the Court that a further residence in Europe is indispensably necessary.

All Officers finding it necessary to solicit a further leave of absence on account of sickness, must, if resident in London or its vicinity, appear before the Company's Examining Physician, Dr. J. R. Hume, 9 Curzon-street, who will report to the Court of Directors his opinion on the state of such Officer's health. And if resident in the country, in any part of the United Kingdom, they must transmit with their letter of application for such leave, a certificate according to the following form, signed by at least two gentlemen, eminent in the medical profession, viz.

I do hereby certify, that I have carefully examined (state the nature of the case, as well as the name of the party,) and I declare, upon my honor, that according to the best of my judgment and belief, _____ is at present unfit for military duty, and that it is absolutely necessary for the recovery of his health, that he should remain at least _____ longer in this country.

Also previously to such extension of furlough being granted, such further proof shall be adduced by personal examination, or by such other evidence as shall be deemed satisfactory.

Officers abroad in any part of Europe, applying to remain a further time from their duty on account of sickness, are to furnish a certificate of two eminent physicians in the above form, with the attestation of a magistrate, that the persons who signed the certificate are physicians.

Officers having obtained an extension of furlough, to a given period, must at its expiration apply for permission, either to return to their duty, or to reside a further time in England.

No Officer who has failed to obtain an extension of furlough, will be considered eligible to return to the service after five years' absence under the Art. of 33, Geo. III, Cap. 52, Sec. 70.

8. By the annexed Regulations for the disposal of crown lands, it will be observed that the general sales will take place periodically. But in order to prevent inconvenience to Officers who may arrive in the intervals between those sales and be desirous at once to obtain an allotment, the Governors of the Colonies are authorized to allow Officers to acquire at any time on payment of the upset price, lands which have previously been offered for sale at some general sale and not been bought.

Officers will thus be relieved from delay at the time of establishing themselves in the Colony. They will also be enabled by this arrangement, which will permit them to obtain their land at a fixed price, to choose such a quantity as shall be exactly equivalent to the amount of the remission to which they are entitled, instead of being liable to be called upon to pay a balance, which must be the case if they bid for lands at a sale by auction.

Terms upon which the Crown Lands will be disposed of in New South Wales, Van Diemen's Land and the New Settlements of Western Australia.

It has been determined by His Majesty's Government that no land shall in future be disposed of in New South Wales or Van Diemen's Land, otherwise than by public sale, and it has therefore been deemed expedient to prepare for the information of settlers, the following summary of the rules which it has been thought fit to lay down for regulating the sales of land in those Colonies.

1.—A division of the whole territory into counties, hundreds and parishes is in progress. When that division shall be completed, each parish will comprise an area of about twenty-five square miles.

2.—All the lands in the Colony, not hitherto granted, and not appropriated for public purposes, will be put up to sale. The price will of course depend upon the quality of the land and its local situation, but no land will be sold below the rate of 5s. per acre.

3.—All persons proposing to purchase lands not advertised for sale, must transmit a written application to the Governor, in a certain prescribed form, which will be delivered at the Surveyor General's Office to all persons applying on payment of the requisite fee of 2s. 6d.

4.—Those persons who are desirous of purchasing will be allowed to select within certain defined limits such portions of land as they may wish to acquire in that manner. These portions of land will be advertised for sale for three calendar months, and will then be sold to the highest bidder, provided that such bidding shall at least amount to the price fixed by article 2.

5.—A deposit of £10 per cent. upon the whole value of the purchase must be paid down at the time of sale, and the remainder must be paid within one calendar month from the day of sale, previous to which the purchaser will not be put in possession of the land, and in case of payment not being made within the prescribed period, the sale will be considered void and the deposit forfeited.

6.—On payment of the money a grant will be made in fee-simple, to the purchaser at the nominal quit rent of a pepper corn. Previous to the delivery of such grant, a fee of forty shillings will be payable to the Colonial Secretary for preparing the grant, and another fee of five shillings to the Registrar of the Supreme Court for enrolling it.

7.—The land will generally be put up to sale in lots of one square mile, or 640 acres; but smaller lots than 640 acres may, under particular circumstances be purchased on making application to the Governor, in writing, with full explanations of the reasons for which the parties wish to purchase a smaller quantity.

8.—The crown reserves to itself the right of making and constructing such roads and bridges as may be necessary for public purposes in all lands purchased as above, and also to such indigenous timber, stone, and other materials, the produce of the land, as may be required for making and keeping the said roads and bridges in repair, and for any other public works. The Crown further reserves to itself all mines of precious metals.

With reference to the foregoing Regulations, the Right Honorable the Governor General of India in Council is pleased to notify for general information, that Officers who, on retiring from the Military Service of the East India Company, may wish to avail themselves of the advantages now extended to them by their Gracious Sovereign, will on signifying their intention to proceed as settlers to any of His Majesty's Australian Colonies, be furnished by the Military Secretary to Government at the Presidency to which they belong, with a Certificate of the following form and tenor.

I do hereby certify, that A. B. late _____ in the Military Service of the East India Company, on the _____ Establishment, obtained on the _____ of _____, the permission of the Governor _____ in Council, to retire from the service, for the purpose of proceeding as a settler, to His Majesty's Colony of _____; and that the length of service, of the said A. B., at the period of his retirement was _____ years _____.

Given under my hand, at _____ in _____, this _____ day of _____
(Signed) _____
Secy. to the Govt. of _____

Military Department.
(Signed) Wm. CASEMENT, Colonel,
Secy. to Govt. of India, Military Department.

Correspondence.

G. O. G. 19th May, 1840, No. 83.—The Right Honorable the Governor in Council is pleased to notify for general information, that the 7th Section (containing Rules connected with Military Correspondence) of the General Regulations published in 1836, has been cancelled.

G. O. C. C. 22d May, 1840.—The Officer Commanding the Army in Chief has directed the publication of the following "Extract Regulations," for the guidance of the Army.

G. O. G. 15th February 1814

" 8th November 1819

" 14th March 1823

" 11th July 1823

" 6th July 1827

" 19th December 1831

" 23d January 1833

Gazette 12th March 1832

" 27th July 1832

" 3d August 1832

" 8th August 1833

The General Orders by Government noted in the margin, are included in this Regulation.

CORRESPONDENCE OF THE ARMY.

ADJUTANT GENERAL.

G. O. G. 19th December, 1834, No. 412.—1. All correspondence which has for its object the arming and clothing of the Troops—which relates to leave of absence—the discharging or transferring of Soldiers—appointment or removal of General or other Officers to, or from the Staff—the recruiting of the Army—the drafting, casting, &c. of Horses in Regiments of Horse Artillery, Dragoons and Cavalry—and to subjects connected with the discipline and personal equipment and efficiency of the Army; and all applications relative to allowances which require the sanction of Government or to such contingent disbursements as the Commander-in-Chief may authorize and which may require the sanction of his signature—or which have for their object the explanation of Civil Regulations of Government affecting the Military Service—are to pass through the Adjutant General.

QUARTER MASTER GENERAL.

2. All applications relative to the Marching, Embarking, and Disembarking, Quartering and Cantoning of Troops—the Relief of Detachments—Encampments—Issues of Camp Equipage and Carriage—and generally to the Lodgment and Conveyance of Troops—are to be made to the Quarter Master General—with the exception of those relating to the disembarkation of Company's Recruits and the embarkation of Invalids and Time Expired Men of the Company's Service, which are conducted under the orders of the Town Major.

3. All Correspondence relating to Military Geography and Topography—Maps—Plans and Dispositions for Defence, is to be transmitted to the Quarter Master General.

HER MAJESTY'S FORCES.

G. O. G. 19th December, 1834, No. 412, Para. 1.—4. All ordinary correspondence between Government and the Commander-in-Chief, relating to Her Majesty's Forces, which may belong to the Military Department, shall be conducted through the Offices of the Secretary to Government in the Military Department and of the Adjutant General or Quarter Master General of the Army as the case may be. The only exceptions will be references relative to pecuniary or other claims of Her Majesty's Service which the Commander-in-Chief may deem it necessary to recommend to the consideration of Government, applications for embarkation orders for Officers of Her Majesty's Regiments returning to Europe, and for bounty money to be authorized to Volunteers from Corps returning to Europe and transferring their Services to other Regiments in India, which shall be submitted through the Deputy Adjutant General Her Majesty's Troops.

5. Communications of a general nature equally affecting Her Majesty's Troops and the Company's Forces are to be addressed to the Adjutant or Quarter Master General of the Army, as the case may be, and forwarded through the prescribed channels.

6. All applications for leave of absence, whether confined within, or extending beyond the limits of this Presidency, will be referred, in the first instance, by Commanding Officers of Regiments, through the usual channel, to the Officers Commanding the Division—the consent of that authority being obtained, the Regimental Commandant will then submit the application to Head Quarters, through the medium of the Deputy Adjutant General Her Majesty's Forces. The acquiescence of the Officer Commanding the Division will be signified by his countersignature to the letters intended for the consideration of the Commander-in-Chief.

7. All details of discipline which may have reference to the interior regulation of the Regiment, will be transmitted by the Commanding Officer to Her Majesty's Deputy Adjutant General, for submission to the Commander-in-Chief. Under this head will be included all references respecting Regimental Courts Martial and Courts of Enquiry, which relate exclusively to circumstances of a Regimental nature.

8. All references which it may be necessary to make to the Commander-in-Chief respecting General Courts Martial on Officers or Soldiers of Her Majesty's Service, whether

preliminary to or consequent on trial, are to be addressed for his consideration, through the prescribed channels, to the Deputy Adjutant General of Her Majesty's Forces.

* Horse Keepers—Grass Cutter—Puckallies—
Artificers—Medical Subordinates—Bazaar Estab- Native Establishments and Horses at-
lishment—also Books of Regulations and Orders tached to Her Majesty's Regiments, are
Company's Service. are to be addressed to the Adjutant
General of the Army.

10. Indents for Arms for the use of Her Majesty's Regiments are to be forwarded to the Adjutant General of the Army for submission to the Commander-in-Chief, by whose order they will be countersigned.

GENERAL RULES.

Gazette 8th August, 1835, Page 523.—11. All reports and communications, intended for the use of the Court of Directors or the Board of Commissioners for the affairs of India, shall be prepared on Foolscap when it can be conveniently used, or, if not, on Demi paper, with the margin on the left of the first and third and right of the second and fourth sides of each sheet.

Gazette 3d August, 1832.—12. All reports and communications on matters of interest or importance, with their enclosures and abstracts, addressed to the Court of Directors or intended for the use of the Board of Commissioners for the affairs of India, are to be transmitted to Government in triplicate in the first instance, or, when such course would be attended with delay, the duplicates and triplicates will be furnished at the earliest practicable period after the despatch of the originals.

Gazette 3d August, 1832.—13. It is to be understood that these instructions are not intended to apply to periodical returns, forwarded merely for the immediate information of Government, or to be lodged with the records for occasional reference and not usually transmitted to England, nor to render necessary any alteration in the present mode of preparing and transmitting books of accounts, &c. which are now sent to Government merely for the purpose of being forwarded through them to the Court of Directors and quired intended solely for the use of the Authorities at Home.

G. O. G. 23d January, 1838 No. 17.—14. All memorials to the Court of Directors are to be forwarded in triplicate through the prescribed channels.

15. None but Officers especially authorized thereto shall address Government otherwise than through the established channel of the Commander-in-Chief.

16. The practice of transmitting letters *not on the Public Service* to the Authorities in England under official covers is strictly forbidden, and letters thus irregularly transmitted will be sent to the General Post Office in London to be duly charged with postage.

17. Letters on official subjects are not to be transmitted by the Overland Mail, but by the regular conveyance of Ships, except on very pressing occasions, when despatch may be considered of urgent importance.

G. O. G. 10th September, 1839, No. 170.—18. In all correspondence with the Government, as well as between Officers or Departments, separate letters must be written upon separate subjects.

19. All correspondence should be condensed as much as possible. The letters which contain the most useful information and pertinent suggestions or instructions within the shortest compass, are the most valuable, and will be held by the superior authorities in highest estimation.

20. All official communications sent to the Adjutant General which are not of a personal or confidential nature, are to be addressed simply "To the Adjutant General of the Army, Fort Saint George," without adjoining his name.

21. The like mode of address shall be observed in all similar communications to Staff or other Public Officers.

22. All official letters and reports from General or other Officers, which are designated to be laid before the Commander-in-Chief, are to be signed by the General or Commanding Officers themselves.

23. In all cases where explanation can be required to elucidate the subject in question, a letter containing such explanation is invariably to accompany the documents transmitted, and furthermore without explanatory letters is strictly to be limited to such periodical reports, returns, and communications of *usual routine*, as require no further comment or remark than can be conveniently noted on the document itself.

24. Communications transmitted with *countersignature* only will be understood to have the sanction of the authorities through whom they have passed—and letters will not in that case be required to accompany them.

25. Whenever Officers in Command may forward communications to Head Quarters on subjects requiring the decision of the Commander-in-Chief, they are to submit their own opinions on the matter referred, together with such particulars as may be necessary in elucidation, in order that the subject may come before the Commander-in-Chief with every advantage which the experience and the local means of the authority through whom it may pass can afford.

26. Officers in Command of Divisions and Forces which may be separately employed against the Enemy otherwise than on the requisition of the Civil Power, shall report their operations to the Government through the channel of the Chief Secretary, at the same time transmitting similar information to the proper Military authorities as directed in para. 28—except on occasions of Officers being employed under special orders from the Secret Department of Government, when such copies shall be addressed personally to the Commander-in-Chief or Officer Commanding the Forces, and superscribed "Secret."

27. Officers Commanding Divisions, Stations, Corps, or Detachments of Corps, shall on the receipt of orders directing the movement of any part of the Troops under their

Command for service, if not ordered from the Head Quarters of the Army, forwarded by the same day's post a copy of such orders to the Adjutant and Quarter Master General, except on occasions of Officers being employed under special orders from the Secret Department of Government, when such copies shall be addressed personally to the Commander-in-Chief or Officer Commanding the Forces, and superscribed "Secret."

28. All reports from Officers Commanding Divisions and Forces, as well as Corps or Detachments on Field Service, not attached to Divisions or Forces, which may have reference to movements and their objects, shall be addressed to the Quarter Master General—and all details of actions with the Enemy, resulting from such movements, shall be transmitted to the Adjutant General.

29. When Officers may be employed on any special or peculiar service, instructions relative to their correspondence thereon will be communicated to them at the time.

30. Officers Commanding or appointed to, Divisions or Government Commands, are to report direct to the Secretary to Government in the Military Department, as well as to the Adjutant General of the Army for the Commander-in-Chief's information and submission to Government, their arrival within their Divisions and assumptions of their Commands, also their return thereto from any leave of absence.

31. The attention of Officers Commanding Divisions and Forces is required to the examination of all documents passed by them to Army Head Quarters, and the Staff Officers attached to each will be held responsible for their correctness.

32. Letters addressed to Head Quarters *being such as require no explanation*, may be transmitted under cover to the Officer Commanding the Station or Brigade, who, if he approves, will countersign them on any convenient place *inside and pass* them on without a letter to the Officer Commanding the Division.—The

Form No. 1. prove, will countersign them on any convenient place *inside and pass* them on without a letter to the Officer Commanding the Division.—The

Form No. 2. latter Officer will in like manner countersign them, with or without remark, cause them to be endorsed as in the annexed Form No. 3, and transmit them to Head Quarters.

33. When letters are transmitted *direct* to Head Quarters, the abstract or endorsement is to be made by the Officer forwarding them in the manner exhibited in Form No. 3.

Annual Descriptive Registers of Native Officers.
Monthly Returns of Corps, Garrisons, Stations, Divisions, and Forces.
Monthly Returns of Recruiting Parties.

Recommendations for promotion to the Commissioned Ranks of the Native Army.

Applications for Passports for Native Soldiers proceeding on furlough to Bengal or Bombay Presidencies.

Registers of Casualties—Europeans.

Gratuity and Bounty Certificates for Europeans.

Statements of Officers' services.

Indents for Cloth.

Reports of Casualties.

Reports on Non-Commissioned Staff of Departments, Garrisons, and Corps.

Reports on Medical Subordinates.

Note.—Canteen Accounts, Returns of Schools, and other Returns not enumerated above, are in future to be forwarded to their respective destinations through Divisions.

35. All applications from Regimental Officers must, in the first instance, be submitted to the Commanding Officers of their Regiments.

36. Commanding Officers are to forward through the prescribed channel such applications from the individuals under their Command as are deemed to be correct and reasonable, stating their own opinion on the subject.—In the instance of references or appeals to superior authority which the Commanding Officer may consider objectionable, it will be his duty to inform the party of his opinion on the subject, but should the appeal be still desired, it is to be forwarded by the Commanding Officer accompanied by his remarks in explanation.

37. The preceding rule is equally applicable to memorials to whatever Department transmitted.

38. References or appeals from individuals which an Officer at the head of the Corps or Department may find himself unable to dispose of, are, in the first instance, to be made to the Brigadier who, if necessary, will submit them to the Officer Commanding the Division, with whom it will rest to decide upon the necessity of referring them to Head Quarters.

39. Officers are prohibited addressing such references or appeals in the first instance direct to the Adjutant General for the consideration of the Commander-in-Chief, before whom they will come if necessary, with the sentiments of the intermediate authorities.

40. Applications from Officers for Regimental Staff Appointments are to be made to their immediate Commanding Officers, from whom only will such requests be received by the Commander-in-Chief—and Officers are prohibited from addressing such applications to the Commander-in-Chief's Military Secretary.

41. All applications for submission to the Commander-in-Chief are to be forwarded through the prescribed channel of communication, and Officers are prohibited from addressing Head Quarters direct, except in cases of pressing and evident necessity which the Officer departing from the regular course must in every instance fully explain.

42. In particular cases where unforeseen circumstances may prevent the possibility of applications for an extension of leave from Officers absent on medical certificate or private affairs being received at Head Quarters, through the regular channel, in sufficient

31. All communications to Head Quarters with the exception of those noted in the margin, which are to be transmitted direct, are to be forwarded through the Brigades and Divisions in which the Corps may be serving.

time for the decision of the Commander-in-Chief being notified previous to the expiration of the leave originally granted, Officers are permitted to forward duplicates *direct* to the Adjutant General of the Army, notifying that the originals have been transmitted through their Corps or Department.

43. Letters on the public service and other official papers must be addressed to the head of the Department which they may concern, and all letters in reply are to acknowledge the communications as having emanated from the head of the Department although under the signature of one of his deputies.

G. O. G. 15th Feb. 1814. 44. No Officer Commanding Troops can correspond with any superior or distinct authority, Civil or Military, through the channel of his Staff—such correspondence must proceed direct from himself. This is not, however, to affect the correspondence of a Brigadier with Commanding Officers of Corps, which may always be conducted through his Staff.

G. O. G. 15th Feb. 1814. 45. In matters of ordinary routine Staff may correspond with Staff.

46. Officers of all ranks in Command of Regiments are to sign all documents as "Commanding," whether they may be in permanent or only in temporary charge.

47. When the Officer exercising Command of a Corps, may be absent from its Head Quarters, all periodical reports and returns are to be prepared at Regimental Head Quarters, and signed by the Officer present as "in Charge at Head Quarters."

48. Although it is directed that the established channel shall invariably be attended to, by all subordinates addressing their superiors—it is expressly desired that whenever a *direct* communication may be deemed necessary, the Officer, Corps or Department receiving such communication shall reply *direct* to the Officer or Department making it, reporting having done so to the immediate superior authority.

49. The receipt of all letters from Head Quarters conveying orders for execution, not consequent upon previous reference to Head Quarters, is to be acknowledged by return of postal, stating whether carried into effect, or cause, if any, which may necessitate delay.

50. The number of a letter from any Public Department is always to be mentioned when acknowledging its receipt.

51. Military authorities, on all matters which may arise within the limits of their respective Commands relating to Foreign Settlements, are to correspond with the Principal Collector of South Arcot—but when necessary to facilitate the settlement of any question, they are permitted to make the Collector of the District in which matter of reference may arise the channel of communication with the Principal Collector of South Arcot.

52. Individual Officers on route to join their Regiments are permitted to frank letters on the public service when they may have occasion to make reports from stations where there is a Post Office, but no Commanding Officer. Where however two or more Officers are proceeding in company, this privilege is restricted to the Senior Officer.

53. All communications in the Military Department from the Medical Board, to Government are to be transmitted through the Commander-in-Chief.

54. All communications from Medical Officers whether in the Civil or Military Department, intended for submission to the Government or Commander-in-Chief, with the exception of appeals against retrenchments, are to be transmitted, through the channel of their respective superintending Surgeons, to the Secretary to the Medical Board.

G. O. G. 6th July 1827. 55. Letters relative to the details of the Military Accounts under the "Accountant General," are to be addressed to the "Accountant in the Military Department of the Accountant General's Office."

56. The Accountant General is the medium of communication between Paymasters and Government regarding applications for leave of absence and resignation of appointments.

57. Officers Commanding Divisions, Detachments, Stations, or Corps, having occasion to correspond with the Military Board are to address their letters, which must be signed by themselves, "To the Secretary to the Military Board, Fort Saint George."

58. All correspondence with the Clothing Board, and all references regarding clothing claims, are to be addressed to the Secretary, to whom also are to be forwarded all official letters which Commanding Officers may have occasion to address to the Contractors or Agent.

59. All returns, reports, and official communications, which the Regulations of the Service require to be made by Officers of the Corps of Engineers to the Chief Engineer, are to be addressed to "The Adjutant to the Corps of Engineers, Fort Saint George"—in order to such papers being submitted to the superior authorities for which they may be intended.

G. O. G. 11th July, 1823. 60. Officers of the Commissariat, in charge of Officers, correspond direct with all Civil authorities, Commanding Officers of Divisions, Detachments, or Garrisons, with whom they may have business to transact.

G. O. G. 8th November, 1819. 61. No direct communication is permitted, either personally or in writing between Officers of the Army and the Department of Military Audit, on subjects connected with the duties of the Auditor General.

G. O. G. 14th March, 1823. 62. All appeals against retrenchments are to be submitted to Government through the Military Auditor General.

G. O. G. 8th November, 1819. 63. Officers requiring information respecting the validity of doubtful claims, or in regard to retrenchments from Paymasters' accounts—or requiring anticipated audits—or having claims on the Pay Department for charges which require to be passed before payment—are in these and other cases of a similar nature to address the Paymaster of the Division or Station, whose duty it is to communicate with the Auditor on the subject.

64. The Superintendent of Family Payments corresponds with all Civil and Military authorities on subjects connected with his duties.

65. All letters on public business are to be written on not less than half a sheet of Foolscap Paper, with a margin on the left of the first and third and right of the second and fourth sides of the sheet. The pages are to be numbered 1, 2, 3, &c.

66. Where more than one side of the sheet of Paper is written on, the full sheet is to be sent.

67. When more than one sheet is contained in a letter or other document, the whole are to be tacked together by a thread, passed through the upper left hand corner, of sufficient length to allow them to open freely.

68. All letters from Corps or Departments are to be numbered, a fresh series of numbers being taken at the beginning of each year.

69. In order to insure uniformity, it is directed that in all official correspondence, the number of the letter and the designation of the person to whom it is addressed shall be written at the top of the first and the date at the foot of the last page.

70. No phrases of personal compliment are to be used in official correspondence.

Gazette 27th July, 1832. 71. All Public Authorities are required to authenticate official documents by affixing their signatures in a uniform and legible manner.

72. In all letters on the public service passing between Military Officers, the official designation or the Rank and Regiment of the person writing the letter must be added to the signature.

73. All letters and papers are to be folded in the following manner.

The letter being placed face uppermost, the lower half of the page or sheet is to be brought up and doubled down on the upper half and the same process is to be repeated, which completes the fold.

The abstract is to be made on the back of the second fold from the top of the letter and written across—the opening of the letter being to the right hand.—The other outward fold is to be left blank.

The above directions will be better understood on a reference to the Form (No. 4.)

74. All enclosures in letters are to be endorsed by the authority from whom they proceed with a clear and succinct summary of their contents or notice of their purpose.

75. Each enclosure is to be marked 1, 2, 3, &c. according to the number contained in the letter transmitting them.

76. When an original correspondence is forwarded to Head Quarters the whole should be tacked together in order, by passing a thread (of sufficient length to allow the whole to open freely) through the upper left hand corner with an additional half sheet for the endorsement.—This will be considered as *one* enclosure.

77. When copies of a correspondence are transmitted, they should be transcribed consecutively according to their dates, on as many sheets as may be required, and the whole tacked together in the manner above described.

78. Periodical reports and returns, to whatever Department addressed, being properly endorsed, may be forwarded without the addition of letters accompanying them.

79. All periodical returns and reports are to be endorsed in a manner similar to their headings.

Gazette 13th Mar. 1832. 80. With a view to expedite the business of the Post Office, it is directed that whenever an Officer (except Officers of the Commissariat when they are required to forward accounts) may have occasion to transmit more than one letter to the same address by one day's post, the whole shall be forwarded *under one envelope* simply putting a narrow binder round each of the letters enclosed, which can be severally numbered until the packet amounts to 12 Rupees weight, when a second will be required.—Each packet to be superscribed "By dawk," otherwise it will be forwarded by dawk.

81. One envelope only is necessary, the last being that from the Division to Head Quarters.

82. Envelopes are to be made of substantial paper.

83. Envelopes are to be closed with wax or wafers. The use of paste or gum for this purpose is forbidden.

84. The principal of the foregoing Regulations is to be extended to the conduct of Correspondence within Divisions, &c.

(FORM No. 1.)

No. 54.

BANGALORE, 14th August, 1832.

(Here may be entered if necessary any remark or comment not of sufficient length to require a separate letter.)

A. D.
Commanding Bangalore.

(FORM No. 2.)

No. 331.

HEAD QUARTERS, MYSORE DIVISION:

Bangalore, 15th August, 1832.

(Here may be entered if necessary any remark or comment not of sufficient length to require a separate letter.)

C. D. Major General,
Commanding Mysore Division.

(FORM No. 3.)

No. 31.

Officer Commanding

Mysore Division.

Officer Commanding the 24th or Chica-
cote Light Infantry, forwards documents
called for in Adjutant General's Letter
of the 1st August.

3 Enclosures numbered 1, 2, and 3.

Bangalore, 15th August 1839.

* These spaces of one inch and a half each to be left blank for entries required to be made at Head Quarters.

(FORM No. 4.)
No. 1.

No. 20.
Head Quarters, Mysore Division,
Bangalore, 3d January 1840.
L. F. Major General,
Commanding Mysore Division.

To

THE ADJUTANT GENERAL OF THE ARMY,
Fort Saint George.

Sir,

I have the honor, to acknowledge the receipt of your Letter of the
24th Ultimo, No. 1039, and in reply, to state that your instructions regard-
ing the preparation of the School Returns shall be attended to in future.

I have the honor to be,

Sir,

Your most obedient Servant,

A. B. Lieutenant Colonel,

Commanding 2d Mad. Eur. Lt. Infy.

Bangalore,
1st January, 1840.

No. 5.

Bangalore, 2d January, 1840.

G. D. Brigadier,
Commanding Bangalore.

(1st Fold.)

(2d Fold.)

(3d Fold.)

(4th Fold.)

(FORM No. 4.)

N. B.—When necessary the Abstract or Endorse-
ment of a Letter may be continued on this
space.

No. 20.

Officer Commanding
Mysore Division.

Officer Commanding 2d
Madras European Light In-
fantry, acknowledges the re-
ceipt of instructions from
Adjutant General regarding
the preparation of School
Returns.

Bangalore, 3d January, 1840.

Furlough to Europe and Retiring Regulations.

Extract from Court's Letter, dated 9th May, 1800.

G. O. G. 29th Dec. 1840.—51st.—In regard to the second point mentioned in the Com-
mander-in-Chief's minute, all Officers who have served twenty-two years in India (to be
computed from the period before mentioned) are permitted to retire on the full pay of
their rank—but if after serving that time successively they come to Europe on furlough,
they are to be subject to the Regulations prescribed in our Letter of the 5th January
1795, relative to Officers wishing to retire, *while on furlough*.

62d.—With respect to the cases of absentees mentioned in the 33th paragraph, as no Of-
ficer who has not served twenty-two years actually in India can be permitted to retire on
the full pay of his rank, a declaration to the effect prescribed by the Regulations by such
Officers is unnecessary, as they must return to their duty, in order to complete that
period of service, to entitle them to retire on full pay, although they may have been
twenty-five years or more on the strength of the Army.

Extract from a Letter from the Court of Directors, dated 28th Aug. 1800.

G. O. G. 10th Feb. 1801.—Para. 2d.—Having observed that in some instances, Officers
who had received the benefit of the Regulations respecting furlough, had soon after their
return to their duty in India applied for, and obtained further furlough, we directed that
the pay to such Officers, should be withheld after three years receipt of such pay, unless
in cases of certified ill-health.

2d.—As the Regulations do not appear to have been understood by the Governments in
India, in the manner above stated, it may seem a hardship in some instances to Officers
who have been permitted to come home on a second furlough, under an implied sanction
for drawing their pay, if they are not allowed their pay during their second furlough,
although the pay altogether drawn, may not exceed three years. But in order to prevent
the Regulations from being misunderstood in future, we have resolved that, no Officer
who has drawn three years' pay on furlough shall be allowed any further pay on being
permitted to come home again on furlough hereafter, unless in cases of sickness under
the prescribed certificate.

Extract from Court's Letter, dated 26th August, 1801.

G. O. G. 8th March 1802.—11th.—“We have resolved that Military Officers who have
“ continued to serve in India from their first arrival for the space of twenty-two years,
“ without having a furlough, shall, when they are permitted to come home on furlough,
“ at the expiration of that period, be allowed two years instead of one year, as by the
“ present Regulations, before they shall be called upon to signify their intention of retir-
“ ing from the Service.”

147.—“Should however these Officers apply at the end of two years to retire from the
“ Service, they can then, only be allowed the pay of the rank they held at the expiration
“ of twelve months from their arrival in Europe.”

G. O. G. 22d Sept. 1802.—The Governor in Council has been pleased to resolve that it
shall be in future considered, to be an established rule of the Public Service, that in these
cases when Officers permitted to proceed to Europe on furlough shall not have availed
themselves of that permission by embarking for England, previously to the expiration
of the period of three months from the publication of their leave in General Orders, the
pay and allowances of such Officers, surplus to the subsistence of the respective ranks,
shall cease from that time, with the exception of Officers permitted to proceed to England
on sick certificate.

Military Letter to Bengal, dated 7th February, 1811.

G. O. G. 9th June 1813.—10.—“You acted correctly in not granting an advance of pay
“ to Lieutenant Colonel Hutchinson, he having previously drawn three years' pay when
“ on furlough.”

11.—“In reserving to ourselves the power of granting pensions after certain periods of
“ service to our Officers, we did not intend to refuse them the pay of their several ranks
“ during their passage home. In all cases therefore, where we shall allow Officers to
“ retire on the pensions of their ranks, we shall also allow them pay, from the date at
“ which it shall appear from their several certificates they shall have ceased to draw it
“ in India.”

12.—“But as Officers may sometimes quit India with an intention of requesting our
“ permission to retire on the pensions of their respective ranks, and may yet afterwards
“ decline to prefer, or may withdraw those requests, we direct that no advance of pay be
“ in any case made to Officers who have already drawn three years' pay on furlough, but
“ that the adjustment of their claims after leaving India be left to us.”

Court's Letter to Bengal, dated 16th February, 1814.

G. O. G. 28th Oct. 1811.—217.—“In addition to the Regulations on the subject of furlough which have been at various times passed by us and communicated to you, we have come to the following resolutions, and we are not aware that any further Regulations are necessary or can with propriety be added to those now in force.” viz.

That in future whenever the absence of a Military Officer from India shall exceed the period of his regular furlough, no further leave of absence shall be given to him, upon the mere production of a medical certificate, or other unauthenticated statement of circumstances; but that previous to such leave being granted, proof of the statement made by the Party in support of his application shall be adduced to the Committee of Correspondence, by personal examination or by such other evidence as shall be deemed fully satisfactory to the Committee.

218.—“Also that Military Officers wishing to avail themselves of the Provisions of the Act of the 33d of His present Majesty, (Sec. 70, Cap. 52), as to the time of absence after which Civil, and Military Officers may return to our Service, must arrive in India within five years from their departure from thence; or otherwise they will not be entitled to any pay, rank or Military authority; unless they shall have permission from us to return to India, having previously proved to our satisfaction and to that of the Board of Commissioners for the affairs of India, that their absence was occasioned by sickness or infirmity, or some inevitable accident.”

Court's Letter, dated 30th September, 1814.

G. O. G. 27th May 1815.—136.—“We shall cause a notification to be made to all Officers and Cadets leaving England, that no pay or passage money will be allowed to them until they reach the Presidency to which they may be respectively appointed, unless they shall have special authority from us to proceed by the way of another Presidency.—We therefore direct, that no allowances be made to any Officer or Cadet until he reach the Presidency to which he belongs; unless such Officer or Cadet shall produce special authority from us for embarking in any Ship bound for another Presidency, or unless he shall have been compelled to land in some other place by stress of weather, or inevitable accident; and we desire that you will publish these Regulations for general information.”

Court's Letter, dated 3d January, 1817.

G. O. G. 8th July, 1817.—10.—Adverting to the frequent applications made to us by Military Officers for an extension of furlough, and being of opinion that all such applications preferred on the ground of sickness should be accompanied by the most satisfactory testimonials, to prove that the parties are unavoidably compelled to make the same, we have resolved that it would be required of all Officers whenever they shall find it necessary on account of sickness to solicit a further leave of absence, to transmit with their letter of application, a Certificate signed by at least two Gentlemen, eminent in the medical profession, describing the nature of the Applicant's complaint, and stating it to be their opinion that the circumstances of the case render a compliance with his request absolutely necessary; also, that previously to an extension of furlough being granted, such further proof of the statement made by the Party in support of his application, shall be adduced by personal examination, or by such other evidence as we may deem satisfactory.

11.—We have further resolved that all Officers abroad in any part of Europe applying for permission to remain a further time absent from their duty, on account of sickness, be required to furnish a Certificate signed by at least two eminent Physicians, also the attestation of a Magistrate in support of the fact, that the Persons who have signed the Certificate are Physicians.

12.—Whenever any Officer on your Establishment shall receive permission to come to Europe, whether it be on account of ill health, or of private affairs, we desire you to furnish him with a copy of these orders.

G. O. G. 10th April, 1821.—In order fully to inform the Officers upon this Establishment of the existing Regulations, with respect to Furlough to Europe as well as to check the practice which to a certain extent, has lately prevailed, of Military Officers postponing their return to their duty for a period longer than is compatible with the good of the Service; the following Extract from a letter from the Honorable the Court of Directors, under date the 13th of September 1823, is published to the Army.

“Officers coming to England on Furlough are required, as soon as they arrive, to report their arrival and address, by letter, to our Secretary, forwarding at the same time the certificates which they received in India.

“In all cases of Furlough, whether it be granted for private affairs, or on sick certificate, Officers are required to join the Establishment to which they belong, at the expiration of three years from the commencement of their furlough, unless they shall have obtained an extension of leave from us, six months before the expiration of the said term of three years.

“Extension of Furlough will not, in future, be granted except in cases of sickness, certified in the manner prescribed, in Orders by Government of the 3d January 1817, or in cases in which it shall be proved to us, that a further residence in Europe is indispensably necessary.”

“When under any such circumstances, an Officer shall have obtained an extension on Furlough to a given period, he must at the expiration thereof, apply for, and obtain permission, either to return to his duty, or to reside a further term in Europe.

“The Act of the 33d Geo. 3, Cap. 52, Sec. 70, as it respects Military Officers, applies only to cases of sickness, infirmity or inevitable accident, and no Officer will be hereafter considered eligible to return to the Service after five years absence, under that enactment, who has failed to obtain from us agreeable to the foregoing Regulations an extension of Furlough under the circumstances referred to in the Act.

“The plea of ignorance of the Regulations will not hereafter be admitted as any justification of the breach of them, but Officers who shall come home on Furlough, and who shall not, in due time, apply so as to effect their return to the Presidency to which they belong, within the period of three years from the commencement of their Furlough, will subject themselves to the loss of the Service, unless they shall be permitted by us to remain a further time in this Country.”

G. O. G. 29th Sept 1821.—Instances having occurred of Officers who have had charge of Public Departments, and others who have been entrusted with the receipt and disbursement of the public money, postponing the final adjustment of their accounts until they are on the eve of embarking for Europe, whereby the Honorable Company have been exposed to much risk and loss, and the current business of the public departments under Government has been impeded, the Governor in Council is pleased to direct, that, all Officers who have held, or may hold situations involving the receipt and disbursement of public money, shall notify to the Accountant General in the Military Department of accounts their intention of proceeding to Europe at least three months previous to the computed period of their embarkation, in order that the necessary arrangements be made for the regular adjustment and final settlement of their accounts,—and in the event of any Officer of the above description omitting to furnish the notification prescribed in this order, the usual certificates, to enable him to proceed to Europe shall be withheld.

G. O. G. 9th March, 1821.—With reference to General Orders under date the 10th of April 1821, on the subject of Furlough.—The Honorable the Governor in Council is pleased to publish the following Extract from a Letter from the Honorable the Court of Directors in the Military Department, dated the 10th of September 1823.

“We have resolved that at the expiration of two years from the date of quitting India each Officer be informed by our Secretary that he is required to join the Establishment to which he may belong at the termination of three years from the commencement of his Furlough, unless he shall obtain an extension of leave from us six months before the expiration of the said term of three years; that extensions of furlough will not be granted except in cases of sickness certified to our satisfaction, or in cases in which it shall be clearly proved that a further residence in Europe is indispensably necessary, and that any Officer failing when two years and a half shall have elapsed from the time of quitting India to apply for permission either to return to the Service or to remain in Europe will subject himself to be struck off the List of our Army.”

Rates of Regimental Subsistence payable to Officers of the Honorable Company's Service, who quit India on Furlough after the date of these orders, shall for the period during which, by the existing Regulations they receive pay, be allowed at the following rates per diem respectively.

	Cavalry	Inf.	Arty. & Engin- neers.
Lieutenant Colonel.....	£11 3 0	£11 0 0	£11 0 0
Major.....	0 19 3	0 16 0	0 16 11
Captain.....	0 13 7	0 10 6	0 11 1
Lieutenant.....	0 9 0	0 6 6	0 6 10
Cornet, Ensign or 2d Lieutenant.....	0 8 0	0 5 3	0 5 7

8. This arrangement is not to occasion any alteration in the issue of Pay or Allowances in India except in the payment of the regulated advances to Officers of the Honorable Company's Service quitting India on Furlough.

Advances of Subsistence to Officers of the Honorable Company's Service proceeding to Europe is not to commence at the Europe rate, until the 1st of the month following that in which they embark.

10. The advance of Regimental Subsistence to Officers of the Honorable Company's Service proceeding to Sea or to other Settlements and eventually to Europe, is to be made at the Europe rate commencing on the 1st of the month following that in which they embark, subject to retrenchment if they return, without having proceeded to Europe.

13. All Officers of the Honorable Company's Service whether of Cavalry, Artillery, Engineers or Infantry who may hereafter retire under the existing Regulation shall be allowed the following Rates of Pay and Half Pay per diem respectively.

	Full.	Half.
Lieutenant Colonel.....	£1 0 0	£0 11 0
Major.....	0 16 0	0 9 6
Captain.....	0 10 6	0 7 0
Lieutenant.....	0 6 6	0 4 0
Ensign, 2d Lieutenant or Cornet.....	0 5 3	0 3 0

G. O. G. 21st June, 1835.—The Honorable the Governor in Council is pleased to publish the following Extract from a General Letter in the Military Department, from the Honorable the Court of Directors, dated the 10th November 1834.

2. "Several instances have lately occurred of Military Officers in the Company's Service arriving in England upon Furlough, producing to our Auditor, Certificates granted in India showing their claim to an arrear of Pay for a period anterior to the date of the commencement of their Furlough.

3. "It is our desire that you immediately adopt such measures as may be necessary for the payment in India, to Officers of your Establishment coming to Europe of the full amount of their pay up to the date of their embarkation."

2. In order to give effect to the above orders from the Honorable the Court of Directors, it is directed that the Accountant General shall not issue Certificates of last pay to Officers proceeding to Europe, unless they shall have drawn their subsistence up to the latest date; but if, in any case, a departure from this rule should be unavoidable, the particular circumstances which may prevent the pay being drawn are to be explained on the face of the Certificates for the information of the Honorable Court—these provisions are not, however, to interfere with the advances of pay to which Officers are entitled on proceeding to Europe.

G. O. G. 7th Sept. 1832. No. 205.—The following Extract of a Letter from the Honorable the Court of Directors, in the Military Department to the Supreme Government, dated the 6th March 1832, No. 15, is published in General Orders.

1. We are very solicitous for the comfort of our Officers upon retirement and are therefore disposed cordially to encourage the institution of Funds in furtherance of that desirable object.

11. Schemes of a nature similar to that which you have submitted, though differing from it in some points of detail, have been proposed at Madras and at Bombay, and we think it desirable that the Funds which may be formed at the three Presidencies should be constituted upon a uniform principle in all respects.

11. We regret that in the present state of the Company's affairs it is not possible for us to aid the Funds by a direct contribution, but we are willing not only to bear the increased charge of Retired Pay that will be consequent upon their establishment, but also to sanction the grant of an interest of 6 per cent. per annum on the balances of the several Funds, and the remittance of the Annuities which they may grant through our Treasury at the rate of 2s. the Sicca Rupee.

IV. The only conditions we require are, that the Regulations shall be submitted to us for our approbation, that the aggregate amount of the Annuities to be granted in each year shall not exceed £7,750, in the proportion of

23,850	Bengal
2,700	Madras, and
1,200	Bombay
£7,750	

which are the amounts contemplated in the several Schemes, and that the number of Annuities granted in each year shall not exceed 24, in the proportion of 12 at Bengal, 8 at Madras and 4 at Bombay. These amounts and numbers are of course fixed by us with reference to the Establishments as they now exist.

V. We shall transmit a copy of this Dispatch to the Governments of Madras and Bombay, with instructions to them to communicate with you upon the subject.

G. O. G. 8th December, 1835. No. 422.—The following Extract from a Letter from the Honorable the Court of Directors in the Military Department, under date the 18th March last, No. 21, is published for the information of the Army.

Para. 1. We observe from the List of Officers on furlough, dated 1st July 1834, that the furloughs of Officers of your Establishment who embarked at Bombay, have been dated as commencing from the period of their embarkation and not, (according to the rules established in Bengal and Bombay) from the time of quitting the Frontier station of their own Presidency.

2. We desire that your practice in this respect may be assimilated to that which obtains at the other Presidencies.

G. O. G. 25th January, 1836. No. 19.—The Governor in Council is pleased to announce that Officers of this Establishment serving in the Eastern Settlements proceeding to Calcutta for the purpose of embarking thence to Europe on Medical Certificate, will not be entitled to Indian Allowances posterior to the date of their embarkation from those settlements, except when in cases of certified sickness a passage to Madras could not be procured, of which a Certificate from the Chief Civil or Military authority will be required.

G. O. G. 26th January, 1836. No. 20.—The Governor in Council is pleased to direct that Officers of this Establishment serving in the Eastern Settlements when proceeding to Calcutta for the purpose of embarking thence on Medical Certificate to Europe or to Sea, shall furnish the Pay Code, Page 110, Paras. 46 and 47, and deal Certificate to Europe or to Sea, shall furnish the security prescribed by existing Regulation noted in the Margin.

G. O. G. 13th May, 1836. No. 103.—The following Extract from a Letter from the Honorable the Court of Directors, dated 29th January 1835, No. 9, is published for the information of the Army.

Letter dated 29th January 1836, No. 9.

"In consequence of the unequal operation of the Regulation prescribed in our Military Letter to Bengal of the 25th November 1833, Para. 64, we have resolved to substitute for it the following rule, viz., Officers retiring from the Service shall be considered to have retired from the date of their applications for leave to retire, or from the expiration of two years and a half from the date of the commencement of their furloughs, whichever shall first happen; and casualties by death in this country, after the expiration of the same period of two years and a half from the date of the commencement of their furloughs, shall be considered to have occurred from the date when that period expired, notwithstanding in both cases the Officers may have received from us an extension of furlough."

Note.—This para is Extracted from Court's VI. We consider this Regulation to be Letter to Bengal, dated 10th February 1836, equally applicable to the cases of Officers (No. 19) and published in G. O. G. 17th April 1836, excluded from the Service by failing to 1832, No. 99; the former para (V) having been return to India within the prescribed superseded by the above Extract from Court's period, Letter under date 29th Jan. 1836.

G. O. G. 10th June, 1835. No. 130.—The following General Order by His Excellency the Right Honorable the Governor General of India in Council, is published for the information of the Army.

Fort William, 23d May, 1836.

No. 104 of 1833.—The Governor General of India in Council has much pleasure in publishing to the Army, the following Extract, Paragraphs 5 and 6, of a Letter from the Honorable the Court of Directors, No. 15, dated the 23d of December 1833, announcing an enlargement of the Retiring Pension Regulations. The boon thereby conferred upon the several Ranks of the Army, will, his Lordship has no doubt, be duly appreciated; and he received as a testimony of the warm interest felt by the Honorable the Court of Directors in the welfare of the Old Officers of their Army in India.

Para. 5. Adverting to the many obstacles which have hitherto prevented the Establishment of a General Retiring Fund, and considering it hopeless to expect that any Fund can be so framed as to meet on the one hand with the general concurrence of the Army and on the other with the sanction of the authorities at Home, we have thought it right no longer to rely on the formation of such a Fund, but so far as we can feel justified in doing it ourselves to provide for the object contemplated in schemes of that nature, without the aid, of contributions from our Officers, by an enlargement of the Retiring Regulations; and we have therefore resolved—

That every Officer who shall have served 23 years (3 years furlough included) shall be allowed to retire on the pay of a Captain, whether he shall have attained that rank Regimentally or not;

That every Officer who shall have served 23 years (3 years furlough included) shall be allowed to retire on the pay of a Major, whether he shall have attained that rank or not;

That every Officer who shall have served 38 years (3 years furlough included) shall be allowed to retire on the pay of a Lieutenant Colonel, whether he shall have attained that rank or not; and

That every Officer who shall have served 38 years (3 years furlough included) shall be allowed to retire on the Full Pay of a Colonel, whether he shall have attained that rank or not.

G. These arrangements are to have effect without prejudice to any claims arising out of the present Retiring Regulations.

G. O. G. 21st October, 1836. No. 233.—The following General Orders by the Right Honorable the Governor General of India in Council, are published for the information of the Army.

* Requiring a Certificate from the Accountant General of "no Demands" or if that cannot be granted a Certificate that the requisite security has been deposited with the Accountant General.

GENERAL ORDERS BY THE RIGHT HONORABLE THE GOVERNOR GENERAL OF INDIA IN COUNCIL.

FORT WILLIAM, 5th October, 1836.

No. 192 of 1836.—The Governor General of India in Council has great pleasure in publishing to the Army, the following Extract, (paragraph 3) of a Military Letter from the Honorable the Court of Directors, No. 3, of 11th May 1836, permitting Officers to retire on Half-Pay, who may be compelled by wounds received in action, or by ill health contracted on duty, to return finally to Europe after three years' service in India.

"Para. 3. Having taken into our consideration the distressed situation to which our Officers are sometimes reduced, by bad health, at an early period of their service, we have resolved, that Officers who shall be compelled to quit the Service, by wounds received in action, or by ill health contracted on duty, after three years' service in India, shall be permitted to retire on the Half-Pay of their rank, on the production of the usual Certificates that their health will not permit them to serve in India."

FORT WILLIAM, 5th October, 1836.

No. 195 of 1836.—The following paras. of a Military Letter, No. 4, from the Honorable the Court of Directors, dated 1st June 1836, addressed to the Governor General of India in Council, together with a copy of the papers from the Colonial Office, specifying the advantages which are given to Naval and Military Officers, settling in the Colonies of New South Wales, Van Diemen's Land and the new settlement of Western Australia, are published in General Orders.

Para. 1. "We have been apprized that His Majesty's Government are willing to extend to the Retired Officers of our Army the advantages which are enjoyed by His Majesty's Officers on their settlement in the Colonies of Western Australia, New South Wales and Van Diemen's Land.

2. "We have gladly availed ourselves of this offered advantage, and we desire that you will take the necessary measures for making it known to those Officers of the Army on your Establishment, who may from time to time retire from the Army under the Regulations of the Service.

3. "A Copy of the papers from the Colonial Office, specifying the advantages which are given to Naval and Military Officers, is herewith forwarded."

"Information for the use of the Military and Naval Officers proposing to settle in the British Colonies."

COLONIAL OFFICE, 16th August, 1834.

1. Annexed is a statement of the Regulations according to which, with such modifications as local circumstances may render necessary, lands belonging to the Crown are disposed of in the several British Colonies in North America, as well as a Statement of the Regulations in force in the Australian Colonies.

2. Under these Regulations, Military and Naval Officers cannot receive free grants of land; but in buying land they are allowed a remission of the purchase money according to the undermentioned scale:

Field Officers of 25 years' service and upwards in the whole.....	£ 300
Ditto 20 ditto ditto	250
Ditto 15 ditto ditto	200
Captains of 25 ditto ditto	200
Ditto 15 ditto ditto	150
Subalterns of 20 ditto ditto	150
Ditto 7 ditto ditto	100

Regimental Staff Officers and Medical Officers of the Army and Navy will be deemed to come within the benefit of this rule.

3. Officers of the Army and Navy, who propose to proceed to the Colonies in order to take advantage of this indulgence should provide themselves with certificates from the office of the General Commanding-in-Chief, or of the Lords Commissioners of the Admiralty, shewing that their emigration has been sanctioned, and stating exactly their rank and length of service. No document from the Office of the Secretary of State is necessary.

4. Officers on half pay residing in the Colony where they propose to settle, may be admitted to the privileges of Military and Naval settlers, without referring to this country for testimonials, provided they can satisfy the Governor that there is no objection to their being allowed the indulgence, and that their return of their rank and length of service is accurate, and provided, if they belong to the Navy, that they produce their letter of leave of absence from the Admiralty.

5. Military Chaplains, Commissariat Officers and Officers of any of the Civil Departments connected with the Army cannot be allowed any privileges on the subject of Land; Purser, Chaplains, Midshipmen, Warrant Officers of every description, and Officers of any of the Civil Departments connected with the Navy, must also be considered as not qualified for these privileges. Although Members of these classes may have been admitted formerly and under a different state of circumstances, they must now be excluded.

6. Gentlemen, who have ceased to belong to His Majesty's Service cannot be allowed the advantages to which they were entitled while in the Army or Navy. It is not, however, proposed to effect by this rule Officers who desire to quit the Service for the express purpose of settling in the Colonies, it is only required that when they resign their Commissions, they should apply for a Certificate from the General Commanding-in-Chief or from the Lords Commissioners of the Admiralty that they do so, with the view

of emigrating; and such Certificate if produced to the Governor of any Colony within one year from its date, but not otherwise, will be a sufficient warrant for allowing the bearer the same advantages as Officers still in His Majesty's Service.

Officers who have sold out within the last twelve months preceding the date of this memorandum will be allowed the usual privileges, notwithstanding their want of the Certificate required by these Regulations, if they present themselves to the Governor of the Colony within a year from the present date. And all Officers who have already been recommended by the General Commanding-in-Chief will be entitled to their privileges without regard to any objection which might otherwise be offered by the Regulations now established.

7. Officers cannot be allowed advantages in the acquisition of land in any Colony unless it be their intention to fix their residence in that Colony. In order to ensure the observance of this rule, it has been determined that the titles to lands obtained by Officers who take advantage of the peculiar regulations existing in their favour shall be withheld for a period sufficient to prove that they have not repaired to the Colony for the mere purpose of gaining possession of a portion of land and then departing. Two years is the period for which it has been decided that the titles shall be kept back: this delay will be sufficient for the salutary object in view, and will not constitute any serious inconvenience to the bona fide Settler.

8. By the annexed Regulations for the disposal of Crown Lands, it will be observed that the general sales will take place periodically. But in order to prevent inconvenience to Officers who may arrive in the intervals between those sales and be desirous at once to obtain an allotment, the Governors of the Colonies are authorized to allow Officers to acquire at any time, on payment of the upset price, lands which have previously been offered for sale at some general sale and not been bought.

Officers will thus be relieved from delay at the time of establishing themselves in the Colony. They will also be enabled, by this arrangement, which will permit them to obtain their land at a fixed price, to choose such a quantity as shall be exactly equivalent to the amount of the remission to which they are entitled, instead of being liable to be called upon to pay a balance, which must be the case if they bid for lands at a sale by auction.

Terms upon which the Crown Lands will be disposed of in New South Wales, Van Diemen's Land, and the New Settlement of Western Australia.

It has been determined by His Majesty's Government that no Land shall in future be disposed of in New South Wales or Van Diemen's Land otherwise than by public sale, and it has therefore been deemed expedient to prepare, for the information of Settlers the following summary of the rules which it has been thought fit to lay down for regulating the sales of Land in those Colonies.

1.—A division of the whole territory into counties, hundreds and parishes is in progress. When that division shall be completed, each parish will comprise an area of about twenty-five square miles.

2.—All the lands in the Colony, not hitherto granted, and not appropriated for public purposes, will be put up to sale. The price will of course depend upon the quality of the land and its local situation, but no land will be sold below the rate of 5s. per acre.

3.—All persons proposing to purchase lands not advertised for sale, must transmit a written application to the Governor, in a certain prescribed form, which will be delivered at the Surveyor General's Office to all persons applying, on payment of the requisite fee of 2s. 6d.

4.—Those persons who are desirous of purchasing will be allowed to select, within certain defined limits such portions of land as they may wish to acquire in that manner. These portions of land will be advertised for sale for three calendar months, and will then be sold to the highest bidder, provided that such bidding shall at least amount to the price fixed by article 2.

5.—A deposit of £10 per cent. upon the whole value of the purchase must be paid down at the time of sale, and the remainder must be paid within one calendar month from the day of sale, previous to which the purchaser will not be put in possession of the land, and in case of payment not being made within the prescribed period, the sale will be considered void and the deposit forfeited.

6.—On payment of the money, a grant will be made in fee-simple, to the purchaser at the nominal quit-rent of a pepper corn. Previous to the delivery of such grant, a fee of forty shillings will be payable to the Colonial Secretary for preparing the grant, and another fee of five shillings to the Registrar of the Supreme Court for enrolling it.

7.—The land will generally be put up to sale in lots of one square mile, or 640 acres; but smaller lots than 640 acres may, under particular circumstances, be purchased on making application to the Governor, in writing, with full explanations of the reasons for which the parties wish to purchase a smaller quantity.

8.—The Crown reserves to itself the right of making and constructing such roads and bridges as may be necessary for public purposes in all lands purchased as above, and also to such indigenous timber, stone, and other materials, the produce of the land, as may be required for making and keeping the said roads and bridges in repair, and for any other public works. The Crown further reserves to itself all mines of precious metals.

With reference to the foregoing Regulations, the Right Honorable the Governor General of India in Council is pleased to notify for general information, that Officers who, on retiring from the Military Service of the East India Company, may wish to avail themselves of the advantages now extended to them by their gracious Sovereign, will on signifying their intention to proceed as Settlers to any of His Majesty's Australian Colonies, be furnished by the Military Secretary to Government at the Presidency to which they belong, with a Certificate of the following form and tenor:

I do hereby certify, that A. B. late a _____ in the Military Service of the East India Company, on the _____ Establishment, obtained on the _____ of _____, the permission of the Governor _____ in Council, to retire from the Service, for the purpose of proceeding as a Settler, to His Majesty's Colony of _____; and that the length of Service of the said A. B. at the period of his retirement, was _____ years _____

Given under my hand, at _____ in _____ this _____ day of _____

(Signed) _____
Secy. to the Govt. of _____
Military Department.

G. O. G. 25th Sept. 1837. No. 184.—The following Extract from a Military Letter from the Honorable the Court of Directors, No. 32, dated 3d May 1837, received from the Right Honorable the Governor General of India in Council, is published for general information.

18. "In reply to this reference we have to inform you that the enlarged Retiring Regulations apply to Effective Officers only, and that no distinction as respects Pension can be allowed between Invalid Officers employed and unemployed."

G. O. G. 3d Oct. 1837. No. 191.—The following Extract from a Letter dated 14th June 1837, No. 31, from the Honorable the Court of Directors to the Government of Bombay, published at the Presidency in G. O. No. 413 of 1837, is re-published for general information.

Separate Letter from, dated 13th January 1837. "It is always a source of gratification to us to promote the advantage and comfort of our Military Servants, and we have re-appointed to deliberate on the establishment recently afforded substantial evidence of our want of a Military Retiring Fund. (feelings upon this subject.)

2d. When we framed the Retiring Regulations transmitted in our Military Letter to India, 23d December 1835, we adverted to the difficulties which stood in the way of the establishment of a General Retiring Fund, and distinctly stated that we regarded the realization of such an object as hopeless. To meet this want thus created, and to provide in another way for that which was desired alike by the Army and by us, we passed the Regulations to which we have referred. Our views in taking this step were explained in para. 5th of the Letter above quoted, a copy of which we transmit for the information of the memorialists.

3d. "Retaining the opinions which we expressed at the period referred to we are precluded from extending our sanction to the plan which has been transmitted."

Extract from the letter from the Honorable the Court, to the Governor General of India in Council, dated 23d December 1835. No. 15.

5th. "Adverting to the many obstacles which have hitherto presented the establishment of a general Retiring Fund, and considering it hopeless to expect that any Fund can be so framed as to meet on the one hand with the general concurrence of the Army, and on the other with the sanction of the authorities at Home, we have thought it right no longer to rely on the formation of such a Fund, but so far as we can feel justified in doing it ourselves, to provide for the object contemplated in schemes of that nature, without the aid of contributions from our Officers, by an enlargement of the Retiring Regulations.

G. O. G. 10th October, 1837. No. 193.—In reference to G. O. G. No. 223 of 1836, dated the 21st of October, the following General Orders by the Right Honorable the Governor General of India in Council, are published for the information of the Army.

GENERAL ORDERS BY THE RIGHT HONORABLE THE GOVERNOR GENERAL OF INDIA IN COUNCIL.

Fort William, 18th September, 1837.

No. 193 of 1837.—In continuation of General Orders No. 155, of the 5th October 1836, the following paras. of a Letter No. 8, from the Honorable the Court of Directors in the Public Department, dated the 28th June last, are published in General Orders.

Para. 1. "In our Letter in the Military Department, dated the 1st of June, (No. 4) of 1836, we informed you, that His late Majesty's Government had consented to extend to the Retired Officers of our Army the same advantages which were enjoyed by His Majesty's Officers settling in the Colonies of Western Australia, New South Wales, and Van Diemen's Land.

2. We have now to communicate the concession to Retired Officers of our Navy of the same benefits to which Officers of the same rank and standing in Her Majesty's Navy are entitled in those Colonies, and further the extension of similar privileges to the Members of both Services settling in the British North American Colonies.

3. It is necessary, however, to state for the guidance of those who may be disposed to avail themselves of the last named privilege, that the Legislature of Upper Canada have in their last Session passed an Act for the Regulation of the System on which the Crown Lands are disposed of. In New Brunswick also, a Bill was passed by the Council and Assembly for restraining the free grant of Land, except in certain specified cases, and although this Bill was prevented by circumstances from becoming Law during that Session, it is the belief of Her Majesty's Colonial Authorities in this Country, that a similar Bill

may, by this time, have been again passed and may have received the assent of the Lieutenant Governor.

Under the circumstances, and in reference to the probability that the other North American Colonies will follow the example of Upper Canada and New Brunswick, it has been suggested from the Colonial Department, that it will be necessary in communicating the concession of the above named privilege to the Officers of our Army and Navy, distinctly to explain to them, that their acquisition of Land in North America, on the specified conditions, is altogether dependent on the measures which the Legislatures of the respective Provinces may think proper to adopt on the general question, and that Her Majesty's Government can offer no guarantee for the permanency of the present system."

G. O. G. 12th January, 1838. No. 7.—The following Notification, which appeared in the Fort St. George Gazette, is published in General Orders for the information of the Army.

Fort St. George, 5th January, 1838.

Notice is hereby given, that all parties under this Presidency, who intend to avail themselves of the Honorable Company's Steamers for passage to and from Bombay, must adopt measures to pay for their accommodation in Cash at that Presidency.

G. O. G. 15th January, 1838. No. 13.—The following General Order by the Honorable the President in Council, under date the 29th December 1837, No. 238, is published for the information of the Army.

GENERAL ORDERS BY THE HONORABLE THE PRESIDENT IN COUNCIL.

Fort William, 29th December, 1837.

No. 238 of 1837.—The Honorable the President in Council has much pleasure in publishing to the Army the following Extract (paragraphs 2 to 5) of a Letter from the Honorable the Court of Directors, to the Government of India, No. 5, dated 20th September 1837, announcing the grant of additional advantages to the Senior Officers of the Army in respect of Retiring Pension.

Para. 2. "In our Letter of the 23d December 1835, we announced to you that as we considered it hopeless to expect that any Military Retiring Fund could be successfully formed, we have thought it right so far as we could feel justified in doing so to provide for the object contemplated in schemes of that nature by an enlargement of the Retiring Regulations, and that we had in consequence resolved to grant the Full Pay of Captain to every Officer who should have served in India 23 years, (3 years furlough included) whether he had attained that Rank Regimentally or not, and the full pay of each of the superior ranks of Major, Lieutenant Colonel and Colonel after the completion of an additional period of 5 years' service for each of those ranks in succession, viz.

For Major's pay	.....	28 years' service, including 3 years for a Furlough.
For Lieut. Colonel's pay	33	do. do. do.
For Colonel's pay	38	do. do. do.

3. Being now of opinion that some additional advantage in respect to the periods of retirement may properly be granted to the Senior Officers who would have been more especially the immediate objects of benefit from a Retiring Fund had such a Fund been established, we have resolved that the period of service to qualify an Officer for the pay of each advanced rank after that of Captain, shall be reduced from five to four years, the periods of service in India required for each rank being consequently hereafter as follows, viz.

Every Officer who shall have served 23 years (3 years furlough included) shall be allowed to retire on the pay of a Captain, whether he shall have attained that rank Regimentally or not.

Every Officer who shall have served 27 years (3 years furlough included) shall be allowed to retire on the pay of a Major, whether he shall have attained that rank or not.

Every Officer who shall have served 31 years (3 years furlough included) shall be allowed to retire on the pay of a Lieutenant Colonel, whether he shall have attained that rank or not.

Every Officer who shall have served 35 years (3 years furlough included) shall be allowed to retire on the full pay of a Colonel, whether he shall have attained that rank or not.

4. These arrangements to have effect without prejudice to any claims arising out of the Retiring Regulations as established in the year 1793.

5. We desire that it may be distinctly understood that the present is a final measure. You will accordingly decline to forward to us any application which may have in view a further extension of the Regulations now established with regard to the retirement of our Military Servants."

G. O. G. 23d January, 1838. No. 15.—The following Extract from a Letter from the Honorable the Court of Directors in the Military Department, under date the 18th October 1837, No. 67, is published for the information of the Army.

"Referring to our Military Letter of the 15th August last, we have now to apprise you that Officers returning to their duty on the Bengal or Madras Establishments via Bombay, will be granted the same advantages as Officers coming to England by the same route, viz., that when their Regiments shall be stationed at Ports nearer to Bombay than the Capitals of their respective Presidencies, their Indian allowances shall commence from the date of their landing at Bombay, provided that no avoidable delay take place in their joining their Regiments."

* Vide G. O. G. 19th February 1830, No. 24.

G. O. G. 20th February, 1838, No. 23.—The following Extract from a Letter from the Honorable the Court of Directors in the Public Department, dated 15th November 1837, No. 34, is published for the information of the Army.

"From a desire to promote to the utmost of our power the convenience and advantage of the Members of our Civil, Military and Marine Services, when resident in this Country, we have been induced to make a change which we have reason to believe will be highly beneficial to those interested, by determining that their pay be in future issued quarterly, instead of half yearly as heretofore."

O. O. G. 29th May, 1838, No. 83.—The following General Orders by the Right Honorable the Governor General of India, under date the 2d May 1838, are published for the information of the Army.

GENERAL ORDERS BY THE RIGHT HONORABLE THE GOVERNOR GENERAL.

SIMLA; 2d May, 1838.

The Right Honorable the Governor General of India, has much pleasure in publishing to the Army, the following Paragraphs of a Letter from the Hon'ble the Court of Directors, in the Military Department, to the address of the Governor General of India in Council, No. 7 of 1837, dated the 29th of November last.

"Reply to Military Letter dated 14th February 1837, (No. 20.)

Submit, for Court's favorable consideration, five Memorials from Officers of the Bengal Army, praying that, for the reasons stated, the Court will recall their Orders of 6th June 1798, requiring from an Officer, about to retire on pension, a declaration on oath, that he had not received, and would not receive, any pecuniary or other gratification or compensation for so retiring. Government consider, that the practice which has for some time obtained, although now for the first time brought to notice, of inducing time-expired Officers, under the rank of Lieutenant Colonel, to retire from the Service, must conduce to the contentment of the Officers, and to the efficiency of the Army.

interfering with the arrangements which the Junior Officers of a Regiment may make, in individual cases, for adding to the comforts of a Senior Officer, on his retirement from the Service, upon the pension to which he may be entitled.

3. The Regulation of 1798, requiring Officers upon retirement to make oath, that they have received no pecuniary consideration for quitting the Service, has not been enforced by us in any single case of retirement in England, during the period of nearly forty years which has since elapsed. It was established chiefly upon financial grounds, to prevent (as observed by Lord Cornwallis when recommending other rules for the same object) "an unreasonable load of Pensions." This presumed necessity for the rule has however not yet been felt; on the contrary, additional facilities have been required and have been given, for enabling Officers to retire upon full pay: we shall therefore continue to suspend the operation of the Rule, and Officers retiring from time to time will not be called upon to make the declaration, unless the financial necessity to which we have referred, (and of which due notice shall be given) shall at a future period be fully realized."

G. O. G. 26th June, 1838, No. 103.—The following Extract from a General Letter from the Honorable the Court of Directors in the Military Department, under date the 21st of February 1838, No. 17, is published for the information of the Army.

Para. 19. "We observe that you have permitted an Officer (Lieutenant Pearson) to retire in India upon half pay. No authority to permit of such retirements has yet been given by us to the Local Governments, and as we think it undesirable that Officers whose health require them to return to Europe should be granted a Pension on Retirement except upon their satisfying us at the close of their furlough that their health will not permit of their continuing to serve in India, we desire that you will not again grant a similar permission."

G. O. G. 7th August, 1838, No. 132.—The Right Honorable the Governor in Council is pleased to direct that passage money to which Officers of Her Majesty's, and the Honorable Company's Armies, on this Establishment may become entitled, under Regulation, on obtaining permission to return to Europe on sick certificate, shall in future be payable to their order, supported by a certificate of final embarkation, from the Commander of the Vessel on which they are to proceed.

G. O. G. 6th November, 1838, No. 181.—The following Extract from a Letter from the Honorable the Court of Directors in the Military Department, dated 25th July 1838, No. 59, is published for the information of the Army.

Letter dated 25th July 1838, No. 69.

"Referring to our Military Letters of the 16th August and * 18th October 1837, relating to the commencement and termination of the Indian allowances of Officers of the Ben-

* Published in G. O. G. 23d January 1838, No. 15

gal and Madras Establishments proceeding to, or returning from, their respective Presidencies via Bombay. We have now to apprise you that the Officers of the Bengal Army whose Corps may be stationed at any place, above Allahabad including the Saugor Division, and the Officers of the Madras Army whose Corps may be stationed to the North of the Kistnah, are to be granted the benefits of the arrangement."

G. O. G. 19th February, 1839, No. 28.—The following General Order by the Hon'ble the President of the Council of India in Council, dated the 21st January 1839, No. 8, is re-published at this Presidency.

GENERAL ORDERS BY THE HONORABLE THE PRESIDENT IN COUNCIL.

FORT WILLIAM: 21st January, 1839.

No. 8 of 1839.—The Honorable the President in Council is pleased to publish, for general information, the following paragraphs of a Military Letter, No. 4, from the Honorable the Court of Directors, to the address of the Governor General of India in Council, dated the 16th August 1837, also paras. of Military Letters, Nos. 79 and 53, dated the 18th October 1837, and 23rd July 1838, addressed to the Governor of Fort William.

Letter No. 4, dated 16th August, 1837.

Para. 1. "In our Military Letter to Bengal dated the 16th April 1825, we expressed our regret at the inconvenience to which Officers proceeding on Furlough via another Presidency, would be exposed in being deprived of their Indian allowances from the date of quitting their own Presidency, but that we were precluded by the Act of the 33 Geo. 3d, Cap. 32, Sec. 37, from sanctioning a different arrangement.

2. In our Letter in the Public Department to the Government of Madras, dated the 20th March 1835, we apprized you, that we considered ourselves precluded by the Act of 3d and 4th William 4, Cap. 85, Sec. 79, from sanctioning an arrangement allowing Civil and Military Servants to draw from month to month through Agents at their respective Presidencies the allowances to which they were entitled when absent on leave to the Cape, or at St. Helena, on their giving security to refund any sum which might be overdrawn by them.

3. It is now a matter of satisfaction to us to acquaint you, that by the Act of the 1st of Victoria, Cap. 42, (of which Copies have been sent with our Public Letter of the 9th Instant,) such parts of the Act of the 33d George 3d, and 3 and 4 William 4th, as prevented our sanctioning the two arrangements above referred to, have been repealed.

4. We now approve and confirm the Regulation established by your Government upon the subject first referred to, as published in General Orders of the 12th May 1826, of which the following is a copy, viz.

FORT WILLIAM, 12th May, 1826.

"In conformity with the rule prescribed by the Hon'ble the Court of Directors in their General Letter in the Military Department to the Government of Fort Saint George, under date the 25th of April 1809; the Right Honorable the Governor General in Council is pleased to direct, that all Military Officers of the Bengal, Madras and Bombay Establishments who may proceed by permission of their respective Governments from any Subordinate Stations under the Presidency to which they belong, to the Seat of Government of another Presidency, for the purpose of finding a passage to Europe, shall be permitted to draw Indian allowances until their departure from the Presidency to which they have so proceeded, provided no unnecessary delay in their embarkation at such Presidency shall take place."

"It is to be distinctly understood, however, that this indulgence is restricted to Officers who, from the proximity of the Seat of Government of another Presidency and the remoteness of that of their own, would suffer unnecessary inconvenience and delay if compelled to proceed to the latter for the purpose of embarking to Europe."

"As it is not intended that this Order should disturb the operation of that of the 21st January 1825, No. 21, with exception to the special case above provided for, the allowances hereby granted are invariably to be drawn by the Agent of the Absent Officer at the Presidency to which the latter belongs."

5. "With reference to the second subject, viz., the issue of the absentee allowances of Officers who are absent at the Cape of Good Hope, we now empower you to frame a Regulation by which our Officers who are entitled under existing Rules to draw Indian allowances upon their actual return to India from leave of absence to any place within the limits of the Company's Charter, or the Cape of Good Hope, or Mauritius, or the Island of St. Helena, shall be entitled through their Agents at their respective Presidencies, to draw their allowances from month to month, upon their giving sufficient security to re-

fund the whole amount in the event of their proceeding to England without previously returning to India, or such part of the amount as may have been over issued on any other account.

6. You will take measures for introducing similar Regulations at the Presidencies of Madras and Bombay, to the Governments of which we shall send copies of the present Dispatch."

Letter No. 79, dated 18th October, 1837.

Referring to our Military Letter of the 16th August last, we have now to apprise you that Officers returning to their duty on the Bengal or Madras Establishments via Bombay, will be granted the same advantages as Officers coming to England by the same route, viz. that when their Regiments shall be stationed at posts nearer to Bombay than to the Capitals of their respective Presidencies, their Indian allowances shall commence from the date of their landing at Bombay, provided that no unavoidable delay take place in their joining their Regiments.

Letter No. 59, dated 25th July, 1838.

Referring to our Military Letters of the 16th August and 18th October 1837, relating to the commencement and termination of the Indian allowances of Officers of the Bengal and Madras Establishments proceeding to, or returning from, their respective Presidencies via Bombay, we have now to apprise you that the Officers of the Bengal Army whose Corps may be stationed at any place above Allahabad, including the Saugor Division, and the Officers of the Madras Army whose Corps may be stationed to the North of the Kistnah, are to be granted the benefits of the arrangement.

The following Extracts from a Resolution of the Government of India, in the General Department, dated the 31 January 1838, containing Rules regarding Military Officers, holding Civil Employ and providing for their drawing their Salaries during absence on Sick Certificate, beyond Sea, under the Act 1st Victoria, Cap. 47, are also published for general information.

"Military Officers holding Civil Situations."

Para. 7. "Military Officers employed in the Civil Departments and drawing a Civil allowance are entitled in common with Officers holding Staff situations in the Military Department, to draw the Military Pay and Allowances of their rank while absent at Sea on leave under Medical Certificate, and likewise one-half of the difference between such allowances and the Civil or Staff Pay of the Offices to which they stand appointed.

8. The above allowances are to be drawn for a total period not exceeding two years, from the date when the vessel in which such Officers embark may leave the Presidency or other Port of departure, and the Civil Situation held by any Officer who shall not return within that period shall be considered vacant.

9. The rules for furnishing Medical Certificates and for regulating the forms and manner of drawing Military allowances during absence on leave, have been laid down in General Orders in the Military Department.

10. The Civil Auditor will pass the Bills of Officers, on leave beyond Sea under Medical Certificate, for the portion of their Civil Salary which they are permitted to draw by those Rules, in like manner as is provided for Civil Servants, proceeding to Sea on Medical Certificate. But it is hereby provided that Civil allowances shall not be drawn by a Military Officer under this rule after the date of departure beyond Sea, unless security shall have been previously given in such amount as may be fixed by Government.

11. Under the authority of the provisions contained in the latter part of Clause I. Act I Victoria, Cap. 47, it is further provided in this respect to all the above classes of Officers, that if they embark with the permission of Government at any other Presidency than their own, or at any other place or port in India, provided that it be not more distant from their Station than the ports of their own Presidency, the date for the commencement of the operation of the above rules for sick leave beyond Sea shall be that of actual embarkation at such place or port, and not that of leaving the frontier of their own respective Presidencies, and the same privilege in respect to the date of leaving India will be granted to Officers of the several Services referred to, embarking at other Presidencies or places in India not more distant from their Station than the ports of their own Presidency, with the leave of Government previously obtained for the purpose of proceeding to Europe on Furlough, or of retiring from the Service altogether.

12. In the above rules no provision is made for the cases of Servants of the classes mentioned resigning the Service, after leaving their Presidency with the permission of the Government, in consequence of sickness. The case of such persons has been considered by the President in Council to require a new rule, which under the term of the Act requires to be submitted for the confirmation of the Hon'ble Court of Directors before it can take effect. It is accordingly declared that the security to be given by Servants as the condition of their drawing allowances while absent from their Presidency must pro-

vide for the case of such retirement, and the Servants must bind themselves to refund the whole of the allowances so drawn in case of their resignation and departure for Europe, without previous return to their Presidency, provided that the new rules to be established should require such refund."

G. O. G. 20th August, 1839. No. 132. The following Extract from a Letter from the Honorable the Court of Directors in the Military Department, under date the 19th April 1839, No. 12, is published for the information of the Army.

Para. 2. "The decisions passed by you under which Officers serving at Posts nearer to Madras than to Bombay, are not admitted to the indulgence of receiving Indian allowances after quitting the limits of their own Presidency, were in accordance with our orders and have our approbation.

3. "With reference to the further communication on this subject made in your Letter of the 21st December 1838, we have to apprise you that Officers of the Madras Establishment serving in Northern Circars were not contemplated as ever requiring to traverse the Peninsula for the purpose of proceeding to England via Bombay. Officers so situated being nearer to Madras than Bombay, are not entitled to the benefit of the arrangement. You will now revise the Regulations on this subject and declare that Officers whose Corps are serving to the North of the Kistnah and also of the Toomboodra (the Southern Mahratta Country, being now occupied by Madras Troops) are, excepting those in the Northern Circars, entitled to its benefits."

Remittances.

G. O. G. 13th June, 1812.—The Honorable the Governor in Council is pleased to publish for the information of the Army, the following Extracts of General Letters from the Honorable the Court of Directors.

Letter dated 18th December, 1811.

37th.—In consequence of a representation made to us from the War Office of the great inconvenience that has been experienced in remitting to the Agents of England, the fees of commissions and the effects and credits of deceased Officers and Soldiers of His Majesty's Regiments stationed in India; we have agreed, on application to that effect, to authorize our Governments of Bengal, Madras and Bombay, to grant bills to the Paymaster of these Regiments for the sums they may have to remit for the services above mentioned, on such bills being applied for by the respective Commanding Officers, the remittances to be made half yearly on the 25th June and 25th December, and the bills to be drawn at 90 days' sight, and at

"Bengal Rs. the Current Rupee.

"Madras Rs. the Pagoda.

"Bombay Rs. 32. the Bombay Rupee."

Letter dated 21st February, 1812.

6th.—"We have agreed at the request of the Secretary at War, that the bills for the amount of the effects of deceased Officers and Soldiers of His Majesty's Regiments in India, shall be drawn quarterly and at forty-two days' sight, instead of half yearly and at ninety days' sight, as directed in our despatch of the 18th December last."

G. O. G. 17th July, 1812.—The Honorable the Governor in Council is pleased to establish the following Regulation, in pursuance of the orders of the Honorable the Court of Directors, bearing date the 18th of December and 21st of February last, and published to the Army on the 13th ultimo.

Commanding Officers of His Majesty's Regiments having occasion to apply for bills of exchange on the Honorable the Court of Directors, for the purposes expressed in the orders of the Honorable Court, will address their applications direct to the Office of the Accountant General, accompanied by drafts on the Paymaster at the Presidency for the sums proposed to be remitted. The quarterly periods for granting bill on the Honorable Court are fixed on the 25th of March, the 25th of June, the 25th of September, and 25th of December, and bills will be issued at the close of each quarter, in compliance with the applications received in the course of it.

It is further directed, that this arrangement shall have effect from the 13th ultimo.

G. O. G. 25th August, 1823.—Para 1. In furtherance of the provisions of a Circular Order from the War Office No. 456, of the 30th of April 1823 (copy of which is annexed,) the Honorable the Governor in Council is pleased to fix the following mode for carrying into effect the remittances of Non-Commissioned Officers and Privates of His Majesty's Service to their families in Europe, pending a reference to the Honorable the Court of Directors.

2. Lists are to be prepared of all sums which the Non-Commissioned Officers and Soldiers of His Majesty's Service may desire *bona fide*, to allot from each Month's Pay for remittance to their families in the United Kingdom, specifying the following particulars.

1st. The names and rank of the men making the remittance. 2d. The Troop or Company. 3d. The sums for remittance. 4th. The month from the pay of which the sums have been allotted. 5th. The full address and residence of the parties to whom each sum is payable by the Regimental Agent—the lists to be signed by the Commanding Officer and Paymaster respectively, who are to certify underneath that the amount is *bona fide* for the purpose set forth, and for the use and benefit only of the parties named in the lists.

3. The amount of these lists is to be paid by the Regimental Paymasters into the offices of the Division, Station or Field Paymasters by whom the Regiments may be paid, who will pass their receipts for the amount, which are invariably to be written at foot of the lists prepared and authenticated as above directed.

4. These lists with the receipts of the Paymaster annexed to them should be prepared Quarterly, and transmitted by the Officer Commanding Regiments to the Accountant General, so as to reach his office on or before the 25th March, 25th June, 25th September and 25th December, with a request that bills on the Honorable the Court of Directors may be granted for the amount of them; bills will be granted accordingly, but only on the above specified Quarterly dates drawn at forty-two days after sight, and at the Exchange of 2 Shillings 3 Pence per Madras Rupee, or 875 Madras Rupees per £100 Sterling.

5. The Regimental Paymasters under the direction of their Commanding Officers are to forward with each Counterpart Bill to the Agents a true copy of the authenticated lists, specifying the several particulars above directed with such other memoranda from the men under the signature of the Commanding Officers or Captains of Troops or Companies relative to the appropriation as may serve to prevent mistakes on the part of the Regimental Agents, and to fulfil the intention of the facility thus afforded to the men and their families.

COPY.

CIRCULAR No. 456.

WAR OFFICE.

DEPARTMENT OF ACCOUNTS, 30th April, 1823.

Sir,—It having been presented to me that Soldiers on foreign service are often desirous of sending money to this country for the use of their families or friends, but that considerable difficulty is experienced in affording the means of so doing.

I have the honor to acquaint you that, with a view to afford facility to the Soldier to make such remittances without loss or risk: The Regimental Paymaster may deduct from the total of the expenditure in the Regimental Pay List, the amount of whatever remittances may be wished to be made, specifying the names of the men, and the sums of each in the sheet appropriated for sums deducted; a separate memorandum from each man, having the signature of the Commanding Officer or the Captain of his Company, directing the appropriation of the sum he has allowed, is to be transmitted to the Regimental Agent; and when, in addition to this voucher, the Agent shall have obtained the receipt of the person to whom the money was sent, the money will be admitted as a charge in the Agent's Accounts.

Officer Commanding
Regiment of Foot.

I have, &c.

(Signed) PALMERSTON.

6. The Honorable the Governor in Council is further pleased to permit Bills on the Honorable Court of Directors, drawn as above provided, to be granted for the amount of the estates of deceased out Pensioners of Chelsea Hospital, on the claims thereto (which are to be addressed to the Accountant General) being legally established.

G. O. G. 18th Nov. 1825.—The following extract from a General Letter from the Honorable the Court of Directors in the Territorial Department, dated the 25th of May 1825, is published in General Orders.

Para. 6. "We desire that in future a remittance be granted through the Company in such case as it may be desired for Fees of Commissions in His Majesty's Service and for the proceeds of the Effects of Officers and Soldiers of the King's and Company's Service dying in India, and that the payments whether made by bills drawn in India or upon application by the legal representatives in England be adjusted at the same rate of exchange as is observed in the re-payment of advances made by the Company for His Majesty's Service in the East Indies."

G. O. G. 31st May, 1826. No. 65.—In pursuance of instructions from the Honorable the Court of Directors, that the indulgence granted by General Orders of the 25th August 1823, to such Non-Commissioned Officers and Privates of His Majesty's Service, as are desirous of remitting *bona fide* savings from their pay to their families in Europe, through the medium of the Honorable Court, shall be extended to Non-Commissioned Officers and Privates of the Company's European Forces, the Honorable the Governor in Council is pleased to direct that the following regulations shall be established for effecting the remittances of the Honorable Company's Troops.

Rule 1st. Lists are to be prepared of all sums, which the Non-Commissioned Officers and Privates of the Company's European Forces may desire *bona fide*, to allot from each month's pay for remittance to their families in the United Kingdom, according to the following form.

List of the *bona fide* Savings of the Non-Commissioned Officers and Privates of the (here enter Regiment or Department.)

NAMES.	RANK.	Troop or Company.	Amount.	From what Month's Pay saved.	To whom payable in Europe.
A. B. . . .	Sergeant	B. Troop.	0 0	0 June 1821	L. K. (here enter address)
C. D. . . .	Private.	D. Company. . . .	0 0	0 for May June and July.	H. I. (do.)
		Total Rupees or £			

Lists to be signed by the Commanding Officer and Regimental Paymaster respectively, or if the individuals belonging to any Department or Staff Office, by the Head of such Department or Office who are to certify underneath that the amount is *bona fide* for the purpose set forth, and for the use and benefit only of the parties named in the lists.

2d. The amount of these lists is to be paid by the Regimental Paymasters or Staff Officers into the Offices of the Division, Station, or Field Paymasters, by whom the Regiments, Departments, &c. may be paid, who will pass their receipts for the amount, which are invariably to be written at the foot of the lists prepared and authenticated as above directed.

3d. These lists, with the receipts of the Paymaster, annexed to them, should be prepared quarterly, and transmitted by the Officers Commanding Regiments to the Accountant General so as to reach his Office, on or before the 25th March, 25th June, 25th September, and 25th December of each year—and that Officer will prepare and submit to Government quarterly a consolidated or General Roll in triplicate, of all the sums so paid to the several Paymasters for the purpose of eventual transmission to the Honorable the Court of Directors, and for payment of the several sums thereon detailed to the families of the European Non-Commissioned and Privates of the Honorable Company's Troops in Europe, in forty-four days after receipt of such document by the Honorable Court at the Exchange of 2 Shillings 3 Pence per Madras Rupee, or 875 Madras Rupees per £100 Sterling.

G. O. G. 27th June 1831, No. 261.—The Governor in Council has much satisfaction in publishing for the information of the Army, the following Copy of a Dispatch addressed by the Honorable the Court of Directors to the Supreme Government under date the 26th February 1831, No. 9.

Para. 1. Your Letter dated the 30th of March, No. 41, of 1833, and its two accompanying Memorials addressed to the Governor General, by the Officers of the Rajpootana Field Force and of the Surlind Division, representing the difficulties which they experience in remitting funds to England for the support of their Families and soliciting assistance from Government, have received our early and particular attention.

2. The question of allowing the Officers of the Indian Army to effect remittances to their families in this country through the medium of the Company's Treasury, is one which you have very properly referred to our decision.

3. The interest we have ever felt in the welfare of our Officers and of those dependant upon them, would have led us to grant an indulgence of this kind on the former occasion when this question was brought to our notice in your Dispatch dated the 25th March 1823; had not the pressure upon our Home Treasury already caused by the numerous and heavy demands on account of the Indian Territory prevented a compliance with the suggestion of your Government.

4. The same consideration still exists, indeed we may remark, that the amount disbursed from our Treasury on account of furlough and retiring pay to Officers, which forms a very large proportion of the Home payments has greatly increased since the period to which we have just alluded, besides which the sum annually required for advances to the various Military Funds is very largely augmented and may be expected to increase. Nevertheless we have taken into our serious consideration the representations contained in the several Memorials which we have received, and after having weighed

the subject in all its bearings and circumstances we are disposed to grant the utmost relief which consistently with the important interests committed to our charge we feel at liberty to concede. We have accordingly come to the determination to grant to our Officers a remittance through our Treasury at such a rate of exchange as will not occasion positive loss to our finances.

5. The rate of exchange which we intend shall be observed is that at which advances made from the Indian Treasuries to His Majesty's Government are annually repaid to us in this Country. This rate (which as you are aware is fixed every year in communication with the Lords of His Majesty's Treasury) has for some time past fluctuated between 2s. and 1s. 11d. the Sicca Rupee.

6. The sums which we will undertake to pay out of our Home Treasury on account of each grade of Officers, are as follows:

On account of each Colonel	£ 300 per Annum.
Lieutenant Colonel	200 do.
Major	150 do.
Captain and Surgeon	100 do.
Lieut. and Asst. Surgeon	70 do.
Cornet and Ensign	50 do.

7. We estimate the demand to which the grant of such a remittance will give rise on behalf of the Officers of the whole Indian Army, King's and Company's, at about £330,000 per annum.

8. The mode in which this remittance is to be effected is, that which is already observed in making Family remittances on behalf of the European Non-Commissioned Officers and Privates in your Service, with the exception only of the rate of exchange which is to be regulated upon the principle already laid down.

9. You will forward to us quarterly rolls of the stoppages, made from the Pay and Allowances of the Officers, who desire to avail themselves of this indulgence, and it must be clearly understood that the remittance is to be granted for the benefit only of the immediate relatives, that is to say, of the Parents, Wives, Children, Brothers or Sisters of the Officers who apply for it.

10. You will cause this Dispatch to be published in G. O. to the Army upon your Establishment, and give immediate effect to the arrangement which it sanctions. We shall communicate a copy of it to the Madras and Bombay Governments in order that similar measures may be adopted for the benefit of the Officers serving under those Presidencies.

G. O. G. 28th Nov. 1834, No. 337.—1st. The Hon'ble Court of Directors having directed, that the present plan of drawing Bills upon them, for the amounts remitted by the Non-Commissioned Officers and Privates upon this Establishment, to their Families in England, be relinquished, and that the method observed at the other Presidencies, be adopted, of merely forwarding Quarterly Rolls of the sums paid into the Public Treasuries for the purpose of their being issued by them to the proper parties at home; The Governor in Council is pleased to order that attested Extracts from the Rolls prescribed by the G. O. by Government dated the 9th May 1826, shall be furnished to the Non-Commissioned Officers and Privates entered therein, by Heads of Departments or Offices, or Officers Commanding Regiments, as the case may be, in order that they may be enabled to transmit them to their Families at home, who have to receive the amount from the Honorable the Court of Directors.

2d. Heads of Departments and Officers will transmit in one Quarterly Roll the lists of the bona fide savings of their respective Departments and Officers duly certified as such, with the receipt of the Division, Station or Field Paymasters, written at the Foot thereof, to the Accountant General by the dates prescribed in Para. 3d of the G. O. by Government above referred to, for the transmission of the list by Officers Commanding Regiments.

3d. The Governor in Council is pleased to declare the above rules applicable to the bona fide savings of Commissioned Officers likewise; and that as their remittances are to be granted for the benefit only of the immediate relatives (that is to say of the Parents, Wives, Children, Brothers or Sisters) of the Officers who apply for them, it is necessary, that the name and degree of relationship of the party to whom, or for whose benefit, the remittances are to be made, should be distinctly specified in the Rolls.

G. O. G. 21 January, 1835, No. 7.—The following General Orders by His Excellency the Right Honorable the Governor General of India in Council, dated the 19th December 1834, are published for the information of the Army.

No. 243 of 1831.

GENERAL ORDERS BY HIS EXCELLENCY THE RIGHT HONORABLE THE GOVERNOR GENERAL OF INDIA IN COUNCIL.

FORT WILLIAM, 19th December, 1834.

The following Paragraphs 1 and 2, of a Letter No. 21, from the Honorable the Court of Directors, to the Governor General of India in Council, in the Financial Department, under date the 11th July 1831, are published for general information.

Para. 1. "In reference to our Dispatch to the Government of Bengal, dated the 25th of May 1835, we desire that in future the Bills of Exchange upon us for the effects of deceased Non-Commissioned Officers and Privates in both the King's and the Company's Service, be drawn at the rate at which their Pay is issued at the respective Presidencies.

2. We also desire that the Bills upon us granted to pay for necessaries, for the same ranks in the King's Regiments serving in India, may be drawn at similar rates."

ERRATUM.

G. O. G. 6th January, 1835, No. 10.—In the 3d Paragraph of the G. O. G. of the 28th November 1834, No. 337, for "Parents, Wives, Children or Sisters;" read "Parents, Wives, Children, Brothers or Sisters."

G. O. G. 24th February, 1835, No. 99.—With reference to the G. O. G. of the 27th of June 1834, No. 201, The Governor in Council is pleased to declare the following General Orders by the Supreme Government, under date the 9th October 1831, No. 192, applicable to this Presidency.

GENERAL ORDERS BY THE HONORABLE THE VICE PRESIDENT IN COUNCIL.

FORT WILLIAM, 9th October 1834.

No. 192 of 1834.—In continuation of General Orders, No. 139, of the 10th July last, the Honorable the Vice President in Council is pleased to admit Chaplains on this Establishment and the undermentioned grades of Warrant Officers, to a participation in the indulgence therein conferred, of making remittances to their Families in Europe through the Honorable Company's Treasury, to the following extent, viz.

Military Chaplains as Majors, to rank in which they subscribe to the Military Orphan Fund.....	£ 150 per Annum.
Deputy Commissaries.....	£ 50 per Annum.
Assistant and Deputy Assistant Commissaries.....	£ 40 per "
Conductors and Riding Masters.....	£ 30 per "
Sub-Conductors.....	£ 20 per "

G. O. G. 18th July, 1837, No. 135. The following paragraph of a Military Letter No. 13, from the Honorable the Court of Directors, to the Governor of Fort St. George, dated the 8th February 1837, is published for general information:

"Referring to the orders given in our Military Dispatch of the 26th February 1831, on the subject of remittances by Officers for the benefit of their families or relatives in England, we have resolved that the amount which may be remitted under like circumstances and with the like restrictions by Major Generals or Brigadier Generals serving in India, be fixed at £400 per annum."

G. O. G. 25th July, 1837, No. 143. The following General Orders by the Right Honorable the Governor General of India in Council, under date the 10th July 1837, No. 128, are published for the information of the Army.

GENERAL ORDERS BY THE RIGHT HONORABLE THE GOVERNOR GENERAL OF INDIA IN COUNCIL.

FORT WILLIAM, 10th July, 1837.

No. 128 of 1837.—Under instructions from the Honorable the Court of Directors, His Lordship in Council is pleased to direct, that Family Remittances from Non-Commissioned Officers and Privates of King's Regiments serving in India, be strictly confined to the spirit of the Secretary at War's Circulars of the 30th April, 1822, and 22d January, 1827, the former of which gave rise to the indulgence of such Remittances from Soldiers on Foreign Stations.

It was never intended by these Regulations that money accumulated in a long course of years by individuals belonging to Regiments under orders for Europe, should be considered in the light of Family Remittances, or possess a claim to be forwarded to England through the medium of the Honorable Company's Treasuries at any of the Presidencies.

The object contemplated was, to afford to Soldiers on Foreign Stations the means of contributing periodically, by *bona fide savings from their Pay*, without loss or risk, to the support of their families or connexions during their absence; or to send such savings periodically to England, to be held in deposit for their own advantage on their return.

G. O. C. 16th August, 1839. No. 123.—The following General Orders by the Honorable the President of the Council of India in Council, are published for the information of the Army.

GENERAL ORDERS by the Honorable the President in Council.

FORT WILLIAM, 29th July, 1839.

No. 124 of 1839. —The following Paras. of a Letter, No. 11, from the Honorable the Court of Directors, in the Financial Department, under date the 24th April, 1839, are published for general information :

Para. 5. " We also direct that the Family Remittances of the Non-Commissioned Officers and Soldiers, be restricted at all the Presidencies, to the actual savings from their subsistence, for a period not exceeding one year since their last remittance. This restriction is particularly necessary to prevent the abuse by remittance of other Funds at the Exchange allowed to the Soldiers.

6. And we direct, that it be notified in General Orders, at all the Presidencies, that the Family Remittances, and the Effects and Credits of deceased Officers and Soldiers, will hereafter be payable, in this country, at twenty-one days after the receipt of the quarterly Bills, instead of forty-four days as at present."

Reports.

G. O. C. 6th July, 1815.—The Commander-in-Chief is pleased to direct that, in future all Officers leaving the limits of the Presidency of Fort St. George on furlough, or on sick certificate, shall report to the Adjutant General of the Army, the date of their departure; and they will also notify their return to the same Officer. The departure of Officers neglecting this duty, shall be considered as having taken place from the date of the G. O. granting them permission; and their return, from the date of the first Official Report, announcing it.

G. O. C. 21st January, 1823.—On the death of a European Officer at any Military Station, the Commanding or Staff Officers, and in any District where there may be no Military Station, the Civil authority will report such Casualty to the Superintendent of Family Payments and Pensions.

G. O. C. 17th May, 1836.—The Commander-in-Chief directs that on all occasions of Officers being removed from one Corps or Station to another, they will report to the Adjutant General the dates of their departure to join and of their arrival at their new Station, while on route, they will also report progress weekly.

G. O. C. 25th October, 1835. No. 227.—The Right Honorable the Governor in Council considers it necessary to issue the following instructions for the guidance of Officers employed in Civil Departments, or otherwise removed from under the immediate orders of the Commander-in-Chief.

All Officers so employed, of whatever rank, are required punctually to conform to the regulations of the Service respecting Reports of arrival at, or departure from, any Military Station—observing that upon visiting the Presidency, whether on duty or otherwise, they are invariably to report their arrival and departure to the Adjutant General for the information of the Commander-in-Chief. They are further required strictly to adhere to the orders regarding Dress, and are forbidden to appear at the Presidency, or in any Military Cantonment, except in the costume prescribed for their appointments.

G. O. C. 8th August, 1839.—The attention of Officers is required to the orders of the service regarding reports.

All Officers arriving at or quitting the Presidency, are required to report in person at the Adjutant General's Office, unless prevented by sickness, in which case a written report is sufficient.

All Officers on route to join either upon removal, first appointment, or return from leave of absence to Europe or to Sea, are required to report progress weekly to the Adjutant General.

The arrival of all Officers, as above, at their destinations is required to be reported to the Adjutant General by their respective Commanding Officers.

Sick Absent.

G. O. C. C. 21st November, 1839.—The Officer Commanding the Army in Chief is pleased to direct the publication of the following "Extract" Regulations, for the guidance of the Army.

SICK ABSENT.

I. OFFICERS.

1. All Medical Certificates, otherwise than to Europe, must distinctly specify the period for which the Surgeon is of opinion that the Officer's state of health requires that leave of absence should be granted to him, and no further Certificate will be necessary during that period.

2. Should continued indisposition preclude Officers from rejoining at the expiration of the original leave, they are authorized to make application through the regular channels, supported by the prescribed Medical Certificate, for an extension: The certificate to specify to what period, as ordered in the preceding paragraph.

3. In particular cases, where circumstances prevent the possibility of such applications being received at Head Quarters, through the regular channel, in sufficient time for the decision of the Commander-in-Chief being notified previous to the expiration of the leave originally granted.—Officers are permitted to forward duplicate Certificates with a letter direct to the Adjutant General, notifying that the originals have been transmitted through their Corps or Department.

4. Medical Certificates are to be countersigned by the Superintending Surgeon, or in his absence, by the Senior Surgeon present, the prescribed Forms being strictly attended to.

5. On the arrival of an Officer at the Presidency, on Sick Certificate, he is to report himself to the Medical Officer of the District in which he resides, or to the Garrison Surgeon.—At any outstation, to the Senior, Staff, or Garrison Surgeon.—These reports are not of course intended to supersede others required to be made to the several authorities by the Regulations of the Service.

6. Whenever a Sick Officer residing at Madras may change his place of residence, or remove into another District, he shall make an immediate report of the circumstance to the Medical Officer of both Districts.

7. Any Officer proceeding to Sea or beyond the limits of the Presidency upon Medical Certificate, who shall remain absent for a period exceeding two years, will be accounted on furlough in like manner as if he had proceeded to Europe, unless he shall prove to the satisfaction of Government, that no opportunity offered for his returning or embarking on his return at any time within three months previous to the completion of an absence from his Corps or Department of two years.

II.—NATIVE COMMISSIONED, EUROPEAN AND NATIVE NON-COMMISSIONED, &c.

1. Whenever any Soldier absent from his Corps on Furlough or on Duty, may be prevented by Sickness from returning to the Regiment, or proceeding on his march, he is to be received into the nearest Hospital, and the Commanding or Staff Officer of the Station, or in their absence the Surgeon under whose charge he may be, shall immediately report the circumstance to his Corps or Department.

2. If a Soldier be attacked by sickness at a place distant from any Civil or Military authority, to a degree incapacitating him from prosecuting his journey and rejoining his Regiment within the period of his leave, he shall procure a report of the circumstance to be made by the Head Native of the Town or Village. Every individual proceeding on Furlough or on Medical Certificate should be instructed on his leave previous to his departure.

3. Officers Commanding Stations and Posts are to communicate on the 1st day of each month with Corps to which any Native Commissioned Officer, European or Native Non-Commissioned Officer or others who remain in the Hospital of the Station, may belong, forwarding a Medical Officer's Report of the case, which is to state the period when the Patient may be expected to be discharged, agreeably to the annexed Form No. 1. The date of discharge from Hospital and departure to join of every Patient is to be reported by the Commanding, Staff or Medical Officer to the individual's Corps or Department.

4. If, after a lengthened time, it may appear that such Individual is unlikely to become fit to perform his duty, the Officer Commanding his Corps must report to Army Head Quarters on the subject, specifying the period of his absence from the Corps, his length of service, the nature of his claims upon it, if any; and his character, in order that the Commander-in-Chief may determine upon the mode of his disposal.—A copy or extract, from the last report on his case by the Medical Officer in whose charge he may be, must accompany the report to Head Quarters.

5. Individuals, who, under the provisions of Para. 45 of Sect. II and 10 of Sect. III Medical Regulations, are permitted to proceed on leave of absence for a given period

for the benefit of their health, are not to be brought to notice of Head Quarters by Officers Commanding Regiments or Departments, unless their leave of absence on that account shall have expired.

6. Officers Commanding Garrisons, Cantonments and all minor Stations, will transmit to the Adjutant General on the 1st January and 1st July in each year, a Nominal Roll in the annexed Form No. 2, of all Men belonging to other Stations Sick in Hospital in the Garrisons, Cantonments, &c. under their Command, stating the Corps to which each individual belongs, the date of his admission into Hospital, the probable period when he will be able to rejoin his Corps, and whether likely to be again fit for duty. Should any of the Patients have left their Corps or Departments for the benefit of their health, an entry is to be made to that effect under the head "Remarks," stating also whether such leave has expired or when it will be at an end.

7. The Men remaining in Hospital on the date of the Rolls to be ~~above~~ returned therein. — When there may be no Patients in Hospital on the above dates, a letter to be forwarded in lieu of the return, reporting the circumstances.

8. The rules to be observed regarding European and Native Soldiers requiring to be removed from their Stations on Medical Certificate, are specified in the Medical Regulations, pp. 27 and 44.

FORM No. 1.

RETURN OF MEN ——— Regimental ——— Sick absent in the ——— Hospital of
Station Date

Regimental Number.	Rank and Names.	Disease.	Date of Admission into Hospital.	Whether likely to recover and when.	Remarks.
				Under this head is to be inserted, the probable period when each individual will be able to rejoin his Corps or whether likely to be again fit for duty.	

C. D.
Commanding.

Size Foolscap.

A. B.
Surgeon.

FORM No. 2.

ROLL of MEN belonging to other Stations Sick in the Governor's Hospital of ———
for the half year ending 31st December 18——.

Corps.	Regimental Number.	Rank and Names.	Disease.	Date of Admission into Hospital.	Whether likely to recover and when.	Remarks.
					Under this head is to be inserted, the probable period when each individual will be able to rejoin his Corps or whether likely to be again fit for duty.	

C. D.
Commanding.

Size Foolscap.

A. B.
Garrison Surgeon.

Queen's Military Fund.

Regulations of a General Military Fund for the benefit of Widows and Children of deceased Officers in Her Majesty's Service in India, established in 1820 and revised in 1827.

Under the protection and countenance of the Most Noble the Marquis of Hastings, Commander-in-Chief of India, the above named Fund was established in the year 1820, for the purpose of sending home, in comfort and respectability, the families of deceased Officers in Her Majesty's Regiments, serving in India, who may have been left destitute; and of preventing the painful and degrading practice of appealing to the Public for subscriptions on such occasions; and also of providing relief in such cases as may require it, until they can be conveniently sent home. It having since been found advisable to make some alterations in the Rules and Regulations then established, the following revised Regulations, passed with the general consent of the Officers of the Army, have been approved of by His Excellency the Right Honorable Viscount Combermere, Commander-in-Chief in India, who has been pleased to become Patron to the Institution.

1st. That the Committee of General Management formed at Calcutta, shall consist of the following persons for the time being, being Subscribers; viz. —

The Major General Commanding the Presidency Division.

The Adjutant General of Her Majesty's Forces in India.

The Quarter Master General of Her Majesty's Forces in India.

The Inspector General of Hospitals.

The Commandant of Fort William.

The Assistant Adjutant General of Her Majesty's Forces in India.

The two senior Officers of Her Majesty's Regiment quartered in Fort William.

Two senior Subalterns of ditto.

Commandant of Depôt.

The Military Secretary to the Commander-in-Chief.

The Major of Brigade of Her Majesty's Forces.

The Pay Master of Her Majesty's Troops;

AND

The Pay Master of Her Majesty's Regiment quartered in Fort William.

2d. That a Sub-Committee for enquiring into all circumstances connected with this Fund, and acting under the General Committee, shall be formed at Madras and Bombay, composed as follows — such Officers being Subscribers: —

The Commander-in-Chief, the Patron.

The senior Officer of Her Majesty's Army at the Presidency.

All Officers of the General Staff.

The two senior Officers of Her Majesty's Regiments stationed at the Presidency.

The two senior Subalterns of ditto. And that the Major of Brigade of Queen's Troops may be good enough to act as Honorary Secretary.

• STAFF.

3d. That every Officer shall pay monthly according to his rank, as specified in the margin.

4th. That the Pay Master of Corps shall be authorized and required to make those deductions monthly, and shall regularly remit the same to the Agent or Agents of the Queen's Military Fund, acting for the Committee of General Management, Fort William.

5th. All married Officers shall subscribe to the Fund within three months after joining their Regiments or Stations, and Bachelors within three months after their marriage: any Officer neglecting so to do, shall at no future time be admitted as a Subscriber, unless by the sanction of the General Committee, always paying up arrears from the date of his joining or marriage, (as the case may be) or if in India at the time, from the date of the revision of these Regulations, 1st August 1827.

6th. That in order to obviate the difficulties which would arise from the occasional remote situations of Her Majesty's Corps serving under the several Presidencies, the Most Noble the Governor General in Council was pleased to order and direct when the Fund was established, that Bills may be granted to the Pay Masters of Her Majesty's Regiments by the Governments of Madras and Bombay, or the Government of Bengal, at the exchange of 108 Calcutta Sica Rupees, for every 116 Madras Rupees, and 325 Calcutta Sica Rupees for every 350 Bombay Rupees, payable at sight to the Agent or Agents of the Queen's Military Fund, acting for the Committee of General Management, Fort William, thereby avoiding commission, double Agency, and risks of exchange.

7th. That all grants of assistance from this Fund shall be regulated and assigned by Committees of Subscribers, as herein declared.

8th. That in order to ascertain the circumstances of any Widow or family, who may have become destitute by the death of any Regimental Officer, such Widow shall send in a Memorial or represent the case of herself and family, through the Commanding Officer of the Corps, the casualty occurred in, in order to its being brought to the consideration of a Committee, and the Commanding Officer shall, as far as his knowledge will enable him, state his opinion of any case so received.

GENERAL COMMITTEE.

PRESIDENT.

A Field Officer, (if practicable.)
1 Captain, or Surgeon, or Pay Master.
2 Lieutenants, or 1 Lieutenant and 1 Quarter Master, 1 Esquire, or Assistant Surgeon.

9th. That whenever there may be mixed Corps of Her Majesty's Service, or more than one stationed together at the same time, every application for relief from this Fund shall be heard and decided on by a General Committee, composed, as equally as possible of Officers from such Corps present, being Subscribers to the Fund.

10th. As it may often happen that Officers die while the Corps they belong to is stationed by itself, or remotely detached, it shall be in the power of every Commanding Officer of a Regiment so situated, to assemble a Committee of any five Officers (being Subscribers) to hear and decide upon the case of any Widows and children so become destitute, and seeking relief from this Fund. It shall also be competent for the Commander-in-Chief at either Presidency to assemble a Special Committee to report on the case of any Lady who may become a Widow, whilst the Regiment to which her husband belonged, shall be at another distant Station, or on service beyond Sea.

11th. That such General, Special, or Regimental Committees as the case shall be, having duly examined into the circumstances of the party seeking relief, shall report their opinion on, and recommend the amount to be granted whether for passage money or maintenance, strictly in conformity with the Regulations annexed. The opinion and recommendation of such Committees shall be forwarded to the Agent or Agents of the General Committee if in Bengal, or to the Honorary Secretary of the Sub-Committee, or such person as may be appointed by the Commander-in-Chief at the Presidency of Madras or Bombay, by the Officer Commanding the Corps in which the casualty may have occurred.

12th. The Sub-Committee at Madras and Bombay will, on satisfying themselves with the accuracy of the statements laid before them, draw upon the Agent or Agents of the Queen's Military Fund, acting for the Committee of General Management, Fort William, for the amount of the sum which may be awarded; but in the final adjustment of the accounts of such Sub-Committee, the General Committee will consider themselves bound to object to any sum, however trifling, which may be granted in excess of the Rules laid down.

13th. The Sub-Committee will, on drawing for any sum on the Agent or Agents of the Queen's Military Fund, acting for the Committee of General Management, transmit the Report of the Station Committee, as well as their own opinion and explanations of the Award, as a voucher, and they will afterwards, as soon as possible, transmit the proper Receipts and Certificates, shewing that the money has been appropriated in the manner and for the purposes for which it was awarded.

14th. The object of this Fund being clearly confined to sending Home distressed Families of deceased Officers, with a view of preventing those painful appeals for assistance to the Public, as once so humiliating to respectable individuals and the Queen's Service in India, it is earnestly hoped, that all ranks of Staff, and Regimental Officers will support it.

15th. But to prevent doubts and misconceptions which might possibly arise hereafter, it is distinctly declared, that no Widow, who is not in distressed circumstances, or no Lady, continuing to reside in this country after the death of her husband, can expect any provision or pension for herself or children from the Fund, further than is stated in the 8th Clause of the Schedule of Awards. It is also declared, that no Widow is entitled to passage money or allowance for travelling, unless she shall actually proceed to Sea or on her journey in the manner for which any allowance may have been drawn, and should she have received such allowance, she will be required to refund; and further, that no Widow, under any circumstances, shall be entitled to any assistance from this Fund, unless the application shall be made in the usual form, within six months after the demise of her husband.

16th. Orphan Children are eligible for the benefits of this Fund, but awards for them must be specially made by a General or Sub-Committee and sanctioned by the Commander-in-Chief of the Presidency, who is requested to appoint some eligible person to take care of them, and provide a passage, &c. &c.

17th. That the Agent or Agents of the Queen's Military Fund, acting for the Committee of General Management, Fort William, shall furnish an annual Account of the Receipts and Disbursements of this Fund, agreeably to forms annexed, to the Adjutant General of Her Majesty's Forces; and that, that Officer be applied to, to circulate the same amongst the Subscribers, and the several Officers of Government at the three Presidencies.

18th. That Commanding Officers of Her Majesty's Regiments be requested to pay particular attention in causing the regular quarterly remittances to be made to the Agent or Agents of the Queen's Military Fund, acting for the Committee of General Management, Fort William, who are requested from time to time to apprise Commanding Officers whenever any Corps may fall in making such remittances.

19th. That no general Rule or Regulation of this Fund shall be altered, except recommended by the General Committee, and approved by a Majority of the Subscribers.

20th. In taking the opinion of the Regiments and Staff Officers of Her Majesty's Forces in India, a very general wish has been expressed that all Widows should have their passage to England, &c. &c. defrayed. The Funds will not now admit of it, but should the positive standing balance of the Fund ever amount to forty thousand rupees (40,000) the Committee will again put the question for the sense of the Subscribers, with a provision that such charge should again cease on the balance falling to thirty thousand rupees (30,000) and as in that event all married Officers will have a claim on the Fund, their Subscriptions should then be augmented. As an Officer ceases to be a Subscriber on leaving India, all claims on the Fund must in like manner cease from the same period; but an Officer going to Sea for the benefit of his health, being entitled to his Company's allowance, will be considered as a Subscriber during his absence.

APPENDIX.

(FORMS.)

THE QUEEN'S MILITARY FUND.

REPORT and AWARD of

Committee.

[As the case may be.]

PRESIDENT.

Lieutenant-Colonel or Major

Members
Heard the case of Mrs. _____ being the widow of _____
of _____ having also _____ children.

The Committee deem the Family or widow (as the case may be) eligible to the provisions of this Fund, and recommend that they (or she) shall receive maintenance from _____ to _____ under Regulation 4th.
being _____ months, at _____ per month.
Ditto ditto under Regulation 3d, _____ months, at _____ per ditto
Maintenance under Regulation 6th, _____ months, at ditto _____
Passage money to the widow _____
Children _____
Travelling expenses from London to _____

Total Sica Rupees _____

(Signed by) _____ President.

Members.

Mrs. _____ and _____ children
Amount of Grant, Rupees _____

FORM OF DRAFTS TO BE USED BY SUB-COMMITTEES.

To—

General Agents to the Military Fund for Her Majesty's Service.

GENTLEMEN,

At—days after sight, please to pay to Brigade Major, Captain A. B. or order, the sum of Sicca Rupees being amount of maintenance allowance granted to Mrs. by us, as per our report and proceedings of this date.

Maintenance.

Sub-Committee.

GENTLEMEN,

At—days after sight, please pay to Brigade Major, Captain A. B. or order, the sum of being amount of Passage Money and Travelling allowance granted to Mrs. by us, as per our report and proceedings of this date.

Passage Money and Travelling Allowance.

Sub-Committee.

Note.—This Draft to be accompanied by a Certificate of the passage being actually engaged, and name of the Ship specified.

Rule for Awards to be paid to the Widows of Officers from the General Fund for Her Majesty's Service.

- 1st.—The amount of Passage Money to the widow of a Field Officer shall be limited to
- | | |
|--|------|
| Rupees of the Country..... | 2000 |
| Captain and Subaltern..... | 1500 |
| For each Child, not exceeding three in number..... | 500 |
| For each exceeding three..... | 300 |

2d.—The following shall be the scale of Award for all Widows to defray the expenses of their journey to England; the amount to be paid to them in Bills at sight, if procurable, or in cash at the current rate of exchange, viz.

	£.	s.	d.
For every widow per mile.....	0	1	0
For one child.....	0	0	6
If more than one child, each per mile,...	0	0	4

The distance to be computed from the Port to which the Ship on which she proceeds may be bound.

3d. * If an Officer shall die at Calcutta, Madras or Bombay, or within 14 days' march of these Presidencies, his widow shall receive an allowance equal to the full pay and allowance of her deceased husband for two months and no longer, unless it shall be certified by a Queen's Medical officer, that she is from ill health, or an approaching confinement, unable to proceed to sea; in which case this allowance may be extended to such further period (on no occasion exceeding in the whole four months) as may be considered necessary by the Medical Officer.

4th. Subsistence according to the same rate be granted to such widows whose husbands may die at a greater distance from either Presidency, according to the annexed Scale No. 1.

5th. The nature of the climate and admitting persons to travel at all seasons of the year, and the months noted in the annexed Scale No. 1, having been ascertained to be the only practicable ones: any Lady becoming a widow at any other period, shall, in addition to all other claims, be allowed subsistence until she can proceed on her journey.

6th. An Officer being allowed no additional pay unless on duty, the full pay and allowances of her deceased husband's rank are deemed sufficient to enable any Lady to proceed to the Presidency.

7th. Every Lady receiving subsistence under Regulations 5 and 6, shall be entitled to one month's full pay and allowances and no more, over and above the time required for her journey to the Presidency, unless it is shown by a medical certificate as per No. 3, that she is from ill health or approaching confinement, unable to travel, but in no case shall the allowance be drawn for a period exceeding three months in addition to the time allowed for travelling.

8th. Any Lady intending to reside in the East Indies, shall be allowed to draw for the number of months march required to proceed to the place of intended residence, under restrictions, &c. allowed for those proceeding to England, and three month's full pay and allowances in addition, in full of all demands on the Fund.

Lord Clive's Fund,

Instituted 6th April, 1779.

Pensions are granted from this institution to Commissioned and Warrant Officers and soldiers superannuated or worn out in the service of the Honorable Company.

The following Commissioned and Warrant Officers are entitled to the half pay of their respective ranks, from the date of their debarkation in England, on their making affidavit, that they do not possess property to the amount opposite to their respective ranks:—

Colonel.....	£1,000	Deputy Commissary of Ordnance.....	£1,000
Lieutenant Colonel.....	8,000	Assistant Surgeon.....	1,000
Major.....	2,500	Ensign.....	750
Captain.....	2,000	Assistant Commissary of Ordnance.....	
Commissary of Ordnance.....	2,000	Deputy ditto, Conductor, Troop.....	750
Surgeon.....	2,000	Quarter Master, Riding Master.....	
Lieutenant.....	1,000	and Overseer.....	

All commissioned Staff, or Warrant Officers to have half the ordinary pay they enjoyed whilst in the service, viz.

	per annum.	per day.
Colonel.....	£228 2 6	or 12s. 6d.
Lieutenant Colonel.....	182 10 0	19 0
Major.....	125 17 6	7 6
Captain, Surgeon, and Commissary.....	91 5 0	5 0
Lieutenant, Assistant Surgeon, and Deputy Commissary.....	45 12 6	2 6
Ensign.....	35 10 0	2 0
Conductor of Ordnance.....	35 10 0	2 0

Their widows, one half the above, to continue during their widowhood.

Pensions to non-commissioned officers and privates, are paid from the day of their debarkation in England as follows:

Sergeant of Artillery, 9d. per day, 1s. to those who have lost a limb.

Privates of ditto, 6d. ditto and 9d. to ditto ditto.

All other non-commissioned officers and privates receive 4 pence and 3 farthings. The pensions to commissioned, warrant, and non-commissioned, officers and soldiers, are payable half yearly, at the India House, in London, without deduction, at Midsummer and Christmas; but if non-commissioned officers and soldiers receive their pensions in the country, which if they reside more than 25 miles from London, they are permitted to do so by the special leave of the Court of Directors, who will appoint a proper person for paying them, a shilling will be charged on each payment, for the person who pays them.

The pensions of commissioned, and warrant officers are payable as they fall due; non-commissioned officers and privates paid in advance, on their landing, for the broken period, to the end of the first year, and afterwards half yearly in advance.

PENSIONS TO WIDOWS.

The widows of Commissioned and Warrant Officers, are entitled to a sum equal to one-fourth of the pay of their husbands, upon providing satisfactory evidence, that their husbands, did not die possessed of property, to the amount stated opposite to their respective ranks:

TABLE of Pensions to the Widows of Officers from Lord Clive's Fund of every branch of the Service, under the G. O. G. 23d May and 12th June 1853.

Amount of Property including Pension.	Rank.	Monthly.	Annually.
4050	Colonel.....	75 1 6	
3000	Lieutenant Colonel.....	60 14 0	
2500	Major.....	45 10 6	
2000	Captain.....	30 7 0	
1000	Lieutenant.....	15 3 6	
750	Cornet, 2d Lieutenant and Ensign.....	12 5 10	
1000	Adjutant of Invalids on Commission.....	15 3 6	
<i>Medical Department.</i>			
4000	Member of the Medical Board.....	60 14 0	
3000	Superintending Surgeon.....	45 10 6	
2000	Surgeon.....	30 7 0	
1000	Assistant Surgeon.....	15 3 6	
1000	Veterinary Surgeon of all classes.....	15 3 6	
<i>Ecclesiastical Department.</i>			
3000	Chaplain after 15 years' actual service in India.....	45 10 6	
2500	Do. after 7 years' ditto.....	30 7 0	£. s. d.
2000	Do. less than 7 years' ditto.....		31 18 9
<i>Warrant Officers.</i>			
3000	Commissary.....	30 7 0	
1000	Deputy Commissary of Ordnance.....	15 3 6	
750	Assistant and Deputy Assistant Commissary of Ordnance and Head Overseer.....	13 5 4	
	Conductor of Ordnance and Overseer.....		
	Troop Quarter Master.....	19 8 0	
	Riding Master.....		
	Sub-Conductor and Sub-Overseer.....	7 9 9	
	Apothecary, 2d Apothecary.....	12 8 0	
	Assistant Apothecary, Senior or Junior.....	6 4 0	

TABLE OF PENSIONS FROM LORD CLIVE'S FUND TO THE WIDOWS OF EUROPEAN AND NON-COMMISSIONED OFFICERS AND SOLDIERS.

		1 Day.			28 Days			29 Days			30 Days			31 Days		
		R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.
The Widow of a	<i>Cavalry.</i>															
	Serjeant.....	0	3	9 1/2	6	10	2	6	13	11	7	1	9	7	5	6
	<i>Horse Artillery.</i>															
	Serjeant.....	0	4	7 3/4	8	1	11	8	6	7	8	11	2	8	15	10
	Corporal after 14 years' service.	0	3	9 1/2	6	9	10	6	13	7	7	1	4	7	5	4
	do. under do.	0	3	5 1/2	6	1	8	6	5	1	6	8	7	6	12	1
	Bombardier after do.	0	3	5 1/2	6	0	8	6	4	2	6	7	7	6	11	1
	do. under do.	0	3	1 1/2	5	8	6	5	11	8	5	14	10	6	2	0
	Gunner after do.	0	2	8 1/2	4	11	8	4	14	5	5	1	1	5	3	9
	do. under do.	0	2	4 1/2	4	3	6	4	5	11	4	8	4	4	0	9
	Farrier after do.	0	2	8 1/2	4	11	8	4	14	4	5	1	1	5	13	9
	do. under do.	0	2	4 1/2	1	3	6	4	5	5	4	8	4	4	10	9
	Trumpeter.....	0	2	11 1/2	5	3	10	5	6	9	5	9	10	5	12	10
The Widow of a	<i>Foot Artillery and Sappers and Miners.</i>															
	Serjeant.....	0	3	9 1/2	6	7	10	6	11	6	6	15	3	7	2	11
	Corporal after 14 years' service.	0	3	5 1/2	6	0	10	6	4	3	6	7	9	6	11	2
	do. under do.	0	3	2 1/2	5	8	8	5	11	10	5	15	0	6	2	2
	Bombardier after do.	0	2	11 1/2	5	2	10	5	5	9	5	8	9	5	11	8
	do. under do.	0	2	8 1/2	4	10	8	4	13	4	5	0	0	5	2	8
	Gunner after do.	0	2	3 1/2	4	0	2	4	2	5	4	4	9	4	7	0
	do. under do.	0	2	0	3	8	3	3	10	0	3	12	0	3	14	0
	Drummer or Fifer.....	0	2	0	3	8	1	3	10	1	3	12	1	3	14	1
The Widow of a	<i>Infantry and Engineers.</i>															
	Serjeant.....	0	3	2 1/2	5	9	10	5	13	0	6	0	3	6	3	5
	Corporal after 14 years' service.	0	2	7 1/2	4	9	6	4	12	1	4	14	9	5	1	4
	do. under do.	0	2	4	4	1	4	4	3	8	4	6	0	4	8	4
	Private after do.	0	2	1 1/2	3	9	2	3	11	2	3	13	3	3	15	3
	do. under do.	0	1	9	3	1	0	3	2	9	3	4	6	3	6	3
	Drummer or Fifer.....	0	2	0	3	8	1	3	10	1	3	12	1	3	14	0

Widows of Commissioned and Warrant Officers requiring to be admitted on Lord Clive's Fund are to forward an application to the Adjutant General of the Army in the undermentioned Form, accompanied by an authenticated Copy of their Marriage Certificate, or in default thereof, by an affidavit of Marriage and also by a declaration of property as prescribed by the regulations.—Form of which is herewith subjoined.

To the Adjutant General of the Army,
Fort St. George.

Sir,—I have the honor to forward the necessary Certificates, and to request that the requisite authority may be obtained for my admission upon Lord Clive's Fund. I beg to state that my late Husband was born at _____, in _____, and was about _____ years of age at the time of his decease, and that it is my wish to reside and draw my stipend in _____ (England or India.)

I have the honor to be, Sir,
Your obedient Servant,
A. B. Widow of the late &c. &c.

ENCLOSURE TO ACCOMPANY LETTER TO THE ADJUTANT GENERAL.

1st.—An authenticated copy of Marriage Certificate, or in default thereof, an affidavit as under.

I, A. B. Widow of the late lieutenant colonel, C. D. of the _____ N. I. do solemnly

declare that I was lawfully married to the said C. D. then a captain at _____ on the _____ by the Reverend _____ (Signed) A. B.
Sworn before me _____ Widow of the late
this _____ day of _____ Lieut. Col. C. D.

(Signed) E. F. Justice of the Peace.

2d.—Affidavit of Property.
A. B. hereby maketh oath that she is the Widow of C. D. late a Lieutenant To Wit: Colonel in the Honorable East India Company's Service, and that she has not contracted Marriage with any other person since the death of her aforesaid Husband, and this deponent further swears that her said Husband did not die possessed of or entitled to real and personal Estate to the amount in value (three thousand pounds) including any settlement that may have been made at the time of Marriage, nor any person or persons in trust of him.

Sworn before me _____ (Signed) A. B.
this _____ day of _____ Widow of the late
Lieut. Col.

(Signed) E. F. Justice of the Peace.

Widows admitted on Lord Clive's Fund and proceeding to Europe are required to provide themselves with a Certificate from the Military Paymaster specifying up to what date their pensions have been paid in India, or should they not have drawn any pension in India, certifying to that effect.

Widows are allowed the option of residing and drawing their pension either in England or in India as they may prefer.

For Widows of Non-Commissioned Officers and Soldiers, applications supported by authenticated Copies of their Marriage Certificates are to be forwarded by the Commanding or Staff Officers under whose charge they may be, as soon as practicable after the occurrence of the Casualty, in the undermentioned Forms—the Marriage Certificates granted by Romanist Priests bearing the countersignature of the Commanding or Station Staff Officer.

1st.—An authenticated Copy of the Marriage Certificate.

ROLL.						
Widows Name of deceased Soldier.	Rank.	CLASS.		Corps or Department.	Date of Decease.	Where the Widow wishes to reside.
		Under provision of G. O. 16th Aug. 1839.	Under provision of G. O. 35th Aug. 1831.			
G. H.	I. K.					

I do hereby certify that the above named G. H. is the widow of the individual mentioned in the above Roll and that she has not been Married since the decease of the late I. K. abovementioned.

Station and date. _____ (Signed) L. M. Lieut. Col. Commanding Corps or Department.

3d.—AFFIDAVIT.
I—G. H. hereby make oath that I am the Widow of I. K. late a (Serjeant) To Wit: of the Honorable East India Company's Service, and that I have not contracted Marriage with any other person since the death of my aforesaid Husband.

Sworn before me _____ (Signed) G. H. Widow
this _____ day of _____ of the late I. K.
(Signed) E. F. Justice of the Peace.

Widows residing in India for whom pay is drawn by Commanding or Public Staff Officers of Stations must, half yearly, after their admission on the Fund furnish an affidavit of Widowhood on the 1st January and 1st July, according to the undermentioned form to be deposited with the Officer drawing the Pension and to remain on record in his Office.

FORM.

I _____, Widow of the late Name, Rank, and Corps, do hereby make oath that I have not Married since the death of my aforesaid Husband.

Signature. _____
Sworn before me _____ Widow, &c.
this _____ day of _____ (Signed) E. F. Justice of the Peace.

Printed Forms of this Affidavit will be supplied by the Superintendent of Pensions whenever they may be required on application from Officers charged with the payment of

Pensions, a Copy of which is to be delivered to the Widow on the issue of Pension on the 1st December and 1st June, that it may be completed and returned to the drawing officer on the next issue of Pension, to prevent delay and inconvenience to the parties.

SCALE OF PENSIONS TO WIDOWS OF SOLDIERS.

Who were in receipt of Good Conduct Pay at the period of Decease.

General Orders by the Right Honorable the Governor in Council.

FORT ST. GEORGE, 16th August 1839.

No. 129 of 1839.—The Right Hon'ble the Governor in Council is pleased to declare that on the demise of European Corporals, and others of inferior grade, who at the time may be in receipt of Good Conduct Pay, their Widows, if entitled to admission on Clive's Fund, shall receive a proportionate benefit according to the respective classes of their Husbands.—Pensions to such Widows are consequently fixed at the following rates, with retrospective effect to those admitted on the Fund prior to the publication of this Order.

					Horse Brigade.	Foot Artillery and Sappers and Miners.	Infantry and En- gineers.
The Widow of a Corporal	in receipt of	4d. a day	Good Conduct Pay		7 4 11	7 2 2	5 8 9
do.	3d. do.	do.			7 7 6	6 13 8	5 4 4
do.	2d. do.	do.			7 3 0	6 9 3	4 5 11
do.	1d. do.	do.			6 14 7	6 1 10	4 11 5
do. Bombardier	4d. do.	do.			7 2 0	6 2 11	0 0 0
do.	3d. do.	do.			6 13 7	5 14 6	0 0 0
do.	2d. do.	do.			6 9 2	5 10 0	0 0 0
do.	1d. do.	do.			6 4 9	5 5 7	0 0 0
do. Gunner or Farrier	4d. do.	do.			5 11 2	4 11 7	0 0 0
do.	3d. do.	do.			5 6 9	4 10 2	0 0 0
do.	2d. do.	do.			5 2 3	4 5 9	0 0 0
do.	1d. do.	do.			4 13 10	4 1 4	0 0 0
do. Private	4d. do.	do.			0 0 0	0 0 0	4 7 0
do.	3d. do.	do.			0 0 0	0 0 0	4 2 7
do.	2d. do.	do.			0 0 0	0 0 0	3 14 2
do.	1d. do.	do.			0 0 0	0 0 0	3 9 8
do. Trumpeter	4d. do.	do.			6 12 11	0 0 0	0 0 0
do.	3d. do.	do.			6 8 6	0 0 0	0 0 0
do.	2d. do.	do.			6 4 1	0 0 0	0 0 0
do.	1d. do.	do.			5 15 7	0 0 0	0 0 0
do. Drummer or Fifer	4d. do.	do.			0 0 0	4 14 3	4 14 9
do.	3d. do.	do.			0 0 0	4 10 4	4 10 1
do.	2d. do.	do.			0 0 0	4 5 11	4 5 11
do.	1d. do.	do.			0 0 0	4 1 5	4 1 5

MONEY AND TRADE.

Fort St. George, December 1, 1840.

The following Notification of the Government of India, is re-published for general information.

PORT WILLIAM, Financial Department, the 11th November 1840.

PROCLAMATION.

The Governor General in Council is pleased to notify, that from and after the 11th day of November 1840, in respect to the Mint of Calcutta, and from and after the 1st day of April 1841, in respect to the Mints of Fort Saint George and Bombay, those parts of Act No. XVII. of 1835, which were suspended by Act No. XXXI of 1837, directing that certain Silver Coins issued from the Mints within the Territories of the East India Company shall bear on the Obverse the Head of the Reigning Sovereign of the United Kingdom of Great Britain and Ireland, will be again in force; and that the Device of the Silver Coins which shall be coined from and after the said dates respectively in the Mints of India, in conformity with Acts XVII of 1835 and XXI of 1835, will be as Act No. XVII of 1835 requires, viz.

On the Obverse—The head of Her Majesty Victoria, with the words

Victoria Queen.

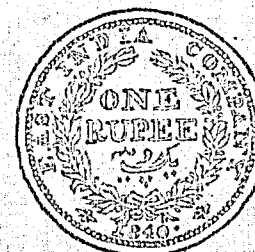
On the Reverse—The denomination of the Coin in English and Persian in the Centre, encircled by wreath, and around the margin the words

EAST INDIA COMPANY 1840.

The Coin will be milled on the edge, with a serrated or upright milling like the Rupee now current bearing the head of His late Majesty William IV.
An engraving of the Victoria Device is hereunto annexed for the information of the public.

OBVERSE

REVERSE



The Weight, Standard, Fineness and Value of the Company's Rupees, as defined in the Act, are here repeated.

Weight—180 grains Troy, or one Tola.

Standard Quality—Eleven twelfths Silver, one twelfth alloy.

Value—The same as the Company's Rupee of 1835, the Madras, Bombay, Furruckabad, and Sonat Rupees, and equal to fifteen sixteenths of the late Sica Rupee.

The other Silver Coins authorized to be issued from the Government Mints by Act No. XVII. of 1835 and Act No. XXI. of 1835, viz. double, half and quarter rupees and two anna pieces will bear in all respects a due proportion to this Rupee.

The Governor General in Council hereby directs that all Magistrates, Collectors and other Public Officers will promulgate this proclamation, throughout their respective districts; and that a translation of it be affixed in a conspicuous place at every Public Treasury.

Money Changers, Shroffs, Podars and others, should be required to take notice of the Provision in Act No. XVII. of 1835, against clipping, filing, punching or otherwise defacing the legal Coin. The Silver Coins issued from the Mints of Government under Act XVII. of 1835 if not cut, clipped, marked, or otherwise wilfully impaired are legal tender for their full value until by gradual wear they have lost two per Cent. of their original Weight.

Published by order of the Right Hon'ble the Governor General of India in Council.

(Signed) G. A. BUSHBY, Secy. to the Govt. of India.

Re-published by order of the Right Honorable the Governor in Council.

(Signed) H. Y. CHAMBERLAIN, Chief Secretary.

Introduction to the Tables of Measure and Weight.

In the following tables, besides the measures in use in England and other parts of Europe, a few tables of those common in the Madras Presidency are given.

On the present occasion, we have endeavoured to make known some of the divisions and values of measures most in use and most generally esteemed; but the fact is that every rogue in the bazars has measures of his own; and not only do the seer, cullum and marcal of Madras, Trichinopoly and Coimbatore differ from one another, but also those of buyer and seller.

Our subscribers are therefore requested to excuse the errors which will doubtless be discovered among these; and we venture to hope that those who can point out mistakes or deficiencies will have the kindness to do so, in order that they may be corrected in future editions, and also temporarily, in the *ATHENÆUM* newspaper.

We have also some hope that the humble pages of our Almanac may, by showing in a condensed form how great confusion exists with regard to the standards of our commercial and of the revenue transactions in the Presidency, attract more general attention to a highly important subject, and be among the causes of some regulations being made by Government.

No. I.—TABLES OF EXCHANGE.
London and Madras.

[illegible]

No. II.—TABLES OF EXCHANGE.
Madras and London.

Rs.		1s. 10d. per Rupee.		1s. 11d. per Rupee.		1s. 12d. per Rupee.		Rs.		2s. 1d. per Rupee.		2s. 2d. per Rupee.	
R.	A.P.	£	S. D.	£	S. D.	£	S. D.	R.	A.P.	£	S. D.	£	S. D.
10000	0 0	916	13 4	953	6 8	571	13 4	10000	0 0	1000	0 0	1000	0 0
5000	0 0	458	6 8	479	3 4	285	6 8	5000	0 0	500	0 0	500	0 0
4000	0 0	366	5 4	383	6 8	228	6 8	4000	0 0	400	0 0	400	0 0
3000	0 0	274	4 0	287	0 0	171	13 4	3000	0 0	300	0 0	300	0 0
2000	0 0	183	2 8	191	13 4	114	6 8	2000	0 0	200	0 0	200	0 0
1000	0 0	91	1 4	95	6 8	57	13 4	1000	0 0	100	0 0	100	0 0
500	0 0	45	6 8	47	3 4	28	6 8	500	0 0	50	0 0	50	0 0
400	0 0	36	5 4	38	0 0	22	6 8	400	0 0	40	0 0	40	0 0
300	0 0	27	4 0	28	0 0	17	13 4	300	0 0	30	0 0	30	0 0
200	0 0	18	2 8	19	0 0	11	6 8	200	0 0	20	0 0	20	0 0
100	0 0	9	1 4	9	6 8	5	13 4	100	0 0	10	0 0	10	0 0
50	0 0	4	6 8	4	3 4	2	6 8	50	0 0	5	0 0	5	0 0
40	0 0	3	5 4	3	0 0	1	6 8	40	0 0	4	0 0	4	0 0
30	0 0	2	4 0	2	0 0	1	13 4	30	0 0	3	0 0	3	0 0
20	0 0	1	2 8	1	0 0	0	6 8	20	0 0	2	0 0	2	0 0
10	0 0	0	1 4	0	6 8	0	13 4	10	0 0	1	0 0	1	0 0
5	0 0	0	6 8	0	3 4	0	6 8	5	0 0	0	0 0	0	0 0
4	0 0	0	5 4	0	0 0	0	0 0	4	0 0	0	0 0	0	0 0
3	0 0	0	4 0	0	0 0	0	13 4	3	0 0	0	0 0	0	0 0
2	0 0	0	2 8	0	0 0	0	6 8	2	0 0	0	0 0	0	0 0
1	0 0	0	1 4	0	6 8	0	13 4	1	0 0	0	0 0	0	0 0

TABLE No. III.
INCOME FROM 1,000 TO 6,000. COMPANY'S RUPEES
FOR A MONTH OF 30 DAYS, SHOWING
THE AMOUNT PER DAY.

Number of Days.	1,000 Company's Rupees.			2,000 Company's Rupees.			3,000 Company's Rupees.			4,000 Company's Rupees.			5,000 Company's Rupees.			6,000 Company's Rupees.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
1	33	5	4	66	10	8	100	0	0	133	5	4	166	10	8	200	0	0
2	66	10	8	133	5	4	200	0	0	266	10	8	333	5	4	400	0	0
3	100	0	0	200	0	0	300	0	0	400	0	0	500	0	0	600	0	0
4	133	5	4	266	10	8	400	0	0	533	5	4	666	10	8	800	0	0
5	166	10	8	333	5	4	500	0	0	666	10	8	833	5	4	1000	0	0
6	200	0	0	400	0	0	600	0	0	800	0	0	1000	0	0	1200	0	0
7	233	5	4	466	10	8	700	0	0	933	5	4	1166	10	8	1400	0	0
8	266	10	8	533	5	4	800	0	0	1066	10	8	1333	5	4	1600	0	0
9	300	0	0	600	0	0	900	0	0	1200	0	0	1500	0	0	1800	0	0
10	333	5	4	666	10	8	1000	0	0	1333	5	4	1666	10	8	2000	0	0
11	366	10	8	733	5	4	1100	0	0	1466	10	8	1833	5	4	2200	0	0
12	400	0	0	800	0	0	1200	0	0	1600	0	0	2000	0	0	2400	0	0
13	433	5	4	866	10	8	1300	0	0	1733	5	4	2166	10	8	2600	0	0
14	466	10	8	933	5	4	1400	0	0	1866	10	8	2333	5	4	2800	0	0
15	500	0	0	1000	0	0	1500	0	0	2000	0	0	2500	0	0	3000	0	0
16	533	5	4	1066	10	8	1600	0	0	2133	5	4	2666	10	8	3200	0	0
17	566	10	8	1133	5	4	1700	0	0	2266	10	8	2833	5	4	3400	0	0
18	600	0	0	1200	0	0	1800	0	0	2400	0	0	3000	0	0	3600	0	0
19	633	5	4	1266	10	8	1900	0	0	2533	5	4	3166	10	8	3800	0	0
20	666	10	8	1333	5	4	2000	0	0	2666	10	8	3333	5	4	4000	0	0
21	700	0	0	1400	0	0	2100	0	0	2800	0	0	3500	0	0	4200	0	0
22	733	5	4	1466	10	8	2200	0	0	2933	5	4	3666	10	8	4400	0	0
23	766	10	8	1533	5	4	2300	0	0	3066	10	8	3833	5	4	4600	0	0
24	800	0	0	1600	0	0	2400	0	0	3200	0	0	4000	0	0	4800	0	0
25	833	5	4	1666	10	8	2500	0	0	3333	5	4	4166	10	8	5000	0	0
26	866	10	8	1733	5	4	2600	0	0	3466	10	8	4333	5	4	5200	0	0
27	900	0	0	1800	0	0	2700	0	0	3600	0	0	4500	0	0	5400	0	0
28	933	5	4	1866	10	8	2800	0	0	3733	5	4	4666	10	8	5600	0	0
29	966	10	8	1933	5	4	2900	0	0	3866	10	8	4833	5	4	5800	0	0
30	1000	0	0	2000	0	0	3000	0	0	4000	0	0	5000	0	0	6000	0	0

TABLE No. IV.

TABLE OF DAILY PAY OR ALLOWANCE.

Rupees per month.	of 28 Days.	of 29 Days.	of 30 Days.	of 31 Days.
1	0 0 7	0 0 7	0 0 6	0 0 6
2	0 0 2	0 0 1	0 0 1	0 0 1
3	0 0 1	0 0 1	0 0 1	0 0 1
4	0 0 2	0 0 2	0 0 2	0 0 2
5	0 0 3	0 0 2	0 0 2	0 0 2
6	0 0 3	0 0 3	0 0 3	0 0 3
7	0 0 4	0 0 3	0 0 3	0 0 3
8	0 0 4	0 0 4	0 0 4	0 0 4
9	0 0 5	0 0 5	0 0 5	0 0 5
10	0 0 5	0 0 5	0 0 5	0 0 5
11	0 0 6	0 0 6	0 0 5	0 0 5
12	0 0 6	0 0 6	0 0 6	0 0 6
13	0 0 7	0 0 7	0 0 6	0 0 6
14	0 0 8	0 0 7	0 0 7	0 0 7
15	0 0 8	0 0 8	0 0 8	0 0 7
16	0 0 9	0 0 8	0 0 8	0 0 8
17	0 0 9	0 0 9	0 0 9	0 0 8
18	0 0 10	0 0 9	0 0 9	0 0 9
19	0 0 10	0 0 10	0 0 10	0 0 9
20	0 0 11	0 0 11	0 0 10	0 0 10
21	0 0 12	0 0 11	0 0 11	0 0 10
22	0 0 12	0 0 12	0 0 11	0 0 11
23	0 0 13	0 0 12	0 0 12	0 0 11
24	0 0 13	0 0 13	0 0 12	0 0 12
25	0 0 14	0 0 13	0 0 13	0 0 12
26	0 0 14	0 0 14	0 0 13	0 0 13
27	0 0 15	0 0 14	0 0 14	0 0 13
28	1 0 0	0 0 15	0 0 14	0 0 14
29	1 0 7	1 0 0	0 0 15	0 0 15
30	1 1 2	1 0 7	1 0 0	0 0 15
31	1 1 9	1 1 1	1 0 6	1 0 0
32	1 2 3	1 1 8	1 1 1	1 0 6
33	1 2 10	1 2 2	1 1 7	1 1 0
34	1 3 5	1 2 9	1 2 2	1 1 7
35	1 4 0	1 3 4	1 2 8	1 2 1
36	1 4 7	1 3 10	1 3 2	1 2 7
37	1 5 2	1 4 5	1 3 9	1 3 1
38	1 5 9	1 5 0	1 4 3	1 3 7
39	1 6 3	1 5 6	1 4 10	1 4 2
40	1 6 10	1 6 1	1 5 4	1 4 8
41	1 7 5	1 6 7	1 5 10	1 5 2
42	1 8 0	1 7 2	1 6 5	1 5 8

TABLE No. V.

TABLE OF DAILY PAY OR ALLOWANCE.

Rupees per month.	of 28 Days.	of 29 Days.	of 30 Days.	of 31 Days.
43	1 8 7	1 7 9	1 6 11	1 6 2
44	1 9 2	1 8 3	1 7 6	1 6 9
45	1 9 9	1 8 10	1 8 0	1 7 3
46	1 10 3	1 9 5	1 8 6	1 7 9
47	1 10 10	1 9 11	1 9 1	1 7 3
48	1 11 5	1 10 6	1 9 7	1 8 9
49	1 12 0	1 11 0	1 10 2	1 9 3
50	1 12 7	1 11 7	1 10 8	1 9 10
51	1 13 2	1 12 2	1 11 2	1 10 4
52	1 13 9	1 12 8	1 11 9	1 10 10
53	1 14 3	1 13 3	1 12 3	1 11 4
54	1 14 10	1 13 10	1 12 10	1 11 10
55	1 15 5	1 14 4	1 13 4	1 12 5
56	2 0 0	1 14 11	1 13 10	1 12 11
57	2 0 7	1 15 5	1 14 5	1 13 5
58	2 1 2	2 0 0	1 14 11	1 13 11
59	2 1 9	2 0 7	1 15 6	1 14 5
60	2 2 3	2 1 1	2 0 0	1 15 0
61	2 2 10	2 1 8	2 0 6	1 15 6
62	2 3 5	2 2 2	2 1 1	2 0 0
63	2 4 0	2 2 9	2 2 1	2 0 6
64	2 4 7	2 3 4	2 2 2	2 0 0
65	2 5 2	2 3 10	2 2 8	2 1 7
66	2 5 9	2 4 5	2 3 2	2 2 1
67	2 6 3	2 5 0	2 3 9	2 2 7
68	2 6 10	2 5 6	2 4 3	2 3 1
69	2 7 5	2 6 1	2 4 10	2 3 7
70	2 8 0	2 6 7	2 5 4	2 4 2
71	2 8 7	2 7 2	2 5 10	2 4 8
72	2 9 2	2 7 9	2 6 5	2 5 2
73	2 9 9	2 8 3	2 6 11	2 5 8
74	2 10 3	2 8 10	2 7 6	2 6 2
75	2 10 10	2 9 5	2 8 0	2 6 9
76	2 11 5	2 9 11	2 8 6	2 7 3
77	2 12 0	2 10 6	2 9 1	2 7 9
78	2 12 7	2 11 0	2 9 7	2 8 3
79	2 13 2	2 11 7	2 10 2	2 8 9
80	2 13 9	2 12 2	2 10 8	2 9 3
81	2 14 3	2 12 8	2 11 2	2 9 10
82	2 14 10	2 13 3	2 11 9	2 10 4
83	2 15 5	2 13 10	2 12 3	2 10 10
84	3 0 0	2 14 4	2 12 10	2 11 4

Rupees per month.	of 28 Days.			of 29 Days.			of 30 Days.			of 31 Days.		
85	3	0	7	2	14	11	2	13	4	2	11	10
86	3	1	2	2	15	5	2	13	10	2	12	5
87	3	1	9	3	0	0	2	14	5	2	12	11
88	3	2	3	3	0	7	2	14	11	2	13	5
89	3	2	10	3	1	1	2	15	6	2	13	11
90	3	3	5	3	1	6	3	0	0	2	14	5
91	3	4	0	3	2	2	3	0	6	2	15	0
92	3	4	7	3	2	9	3	1	1	2	15	6
93	3	5	2	3	3	4	3	1	7	3	0	0
94	3	5	9	3	3	10	3	2	2	3	0	6
95	3	6	3	3	4	5	3	2	8	3	1	0
96	3	6	10	3	5	0	3	3	2	3	1	7
97	3	7	5	3	5	6	3	3	9	3	2	1
98	3	8	0	3	6	1	3	4	3	3	2	7
99	3	8	7	3	6	7	3	4	10	3	3	1
100	3	9	2	3	7	2	3	5	4	3	3	7
200	7	2	3	6	14	4	6	10	8	6	7	3
300	10	11	5	10	5	6	10	0	0	9	10	10
400	14	4	7	13	12	8	13	5	4	12	14	5
500	17	13	9	17	3	10	16	10	8	16	2	1
600	21	6	10	20	11	0	20	0	0	19	5	8
700	25	0	0	24	2	2	23	5	4	22	9	3
800	28	9	2	27	9	5	26	10	8	25	12	11
900	32	2	3	31	0	7	30	0	0	29	0	6
1000	35	11	5	34	7	9	33	5	4	32	4	2
2000	71	6	10	68	15	5	66	10	8	64	8	3
3000	107	2	3	103	7	2	100	0	0	96	12	5
4000	142	13	9	137	14	11	133	5	4	129	0	6
5000	178	9	2	172	6	7	166	10	8	161	4	8
6000	214	4	7	206	14	4	209	0	0	193	8	9
7000	250	0	0	241	6	1	233	5	4	225	12	11
8000	285	11	5	275	13	10	266	10	8	258	1	0
9000	321	6	10	310	5	6	300	0	0	290	6	2
10,000	357	2	3	344	13	3	333	5	4	322	9	3

No. VIII.

Money, Weights and Measures.

The following is the Assay produce of one hundred Company's Rupees weight of Gold Bullion, according to the fineness specified in the following Table.

Weight of Bullion in Company's Rupees.	Assay in Carats and Grains.	Touch, or pure Gold in 100 parts.	Intrinsic produce in Company's Rupees.	Weight of Bullion in Company's Rupees.	Assay in Carats and Grains.	Touch, or pure Gold in 100 parts.	Intrinsic produce in Company's Rupees.
100	C. 20 Br.	100.000	1636.365	100	C. 20 Br.	87.239	1427.550
"	1 31 Br.	99.740	1672.915	"	1 04 wo	86.979	1421.290
"	1 31 Br.	99.479	1627.845	"	1 04 wo	86.719	1419.030
"	1 31 Br.	99.219	1623.585	"	1 1 wo	86.458	1414.770
"	1 3 Br.	98.958	1619.310	"	1 11 wo	86.198	1410.510
"	1 21 Br.	98.698	1615.050	"	1 11 wo	85.937	1406.250
"	1 21 Br.	98.437	1610.790	"	1 11 wo	85.677	1401.990
"	1 21 Br.	98.177	1606.530	"	1 2 wo	85.416	1397.730
"	1 12 Br.	97.917	1602.270	"	1 2 wo	85.156	1393.470
"	1 12 Br.	97.656	1597.910	"	1 2 wo	84.896	1389.210
"	1 12 Br.	97.396	1593.650	"	1 2 wo	84.635	1384.950
"	1 14 Br.	97.135	1589.400	"	1 3 wo	84.375	1380.690
"	1 1 Br.	96.875	1585.230	"	1 3 wo	84.115	1376.430
"	1 0 Br.	96.615	1580.970	"	1 3 wo	83.854	1372.170
"	1 0 Br.	96.354	1576.710	"	1 3 wo	83.594	1367.910
"	1 0 Br.	96.094	1572.450	"	2 0 wo	83.333	1363.650
"	1 0 Br.	95.833	1568.190	"	2 0 wo	83.073	1359.390
"	0 31 Br.	95.573	1563.930	"	2 0 wo	82.812	1355.130
"	0 31 Br.	95.313	1559.670	"	2 0 wo	82.552	1350.870
"	0 31 Br.	95.052	1555.410	"	2 1 wo	82.291	1346.610
"	0 3 Br.	94.792	1551.150	"	2 1 wo	82.031	1342.350
"	0 2 Br.	94.531	1546.890	"	2 1 wo	81.770	1338.090
"	0 2 Br.	94.271	1542.630	"	2 1 wo	81.510	1333.830
"	0 2 Br.	94.010	1538.370	"	2 2 wo	81.250	1329.570
"	0 2 Br.	93.750	1534.110	"	2 2 wo	80.990	1325.310
"	0 1 Br.	93.489	1529.850	"	2 2 wo	80.729	1321.050
"	0 1 Br.	93.229	1525.590	"	2 2 wo	80.469	1316.790
"	0 1 Br.	92.969	1521.330	"	2 3 wo	80.208	1312.530
"	0 1 Br.	92.708	1517.070	"	2 3 wo	79.948	1308.270
"	0 04 Br.	92.448	1512.810	"	2 3 wo	79.687	1304.010
"	0 04 Br.	92.187	1508.550	"	2 3 wo	79.427	1299.750
"	0 04 Br.	91.927	1504.290	"	3 0 wo	79.166	1295.490
"	Standard	91.667	1500.030	"	3 0 wo	78.906	1291.230
"	0 04 wo	91.406	1495.770	"	3 0 wo	78.646	1286.970
"	0 04 wo	91.146	1491.510	"	3 0 wo	78.385	1282.710
"	0 04 wo	90.886	1487.250	"	3 1 wo	78.125	1278.450
"	0 1 wo	90.625	1482.990	"	3 1 wo	77.864	1274.190
"	0 1 wo	90.365	1478.730	"	3 1 wo	77.604	1269.930
"	0 1 wo	90.104	1474.470	"	3 1 wo	77.344	1265.670
"	0 1 wo	89.844	1470.210	"	3 2 wo	77.083	1261.410
"	0 2 wo	89.583	1465.950	"	3 2 wo	76.823	1257.150
"	0 2 wo	89.323	1461.690	"	3 2 wo	76.562	1252.890
"	0 2 wo	89.062	1457.430	"	3 2 wo	76.302	1248.630
"	0 2 wo	88.802	1453.170	"	3 3 wo	76.042	1244.370
"	0 3 wo	88.541	1448.910	"	3 3 wo	75.781	1240.110
"	0 3 wo	88.281	1444.650	"	3 3 wo	75.521	1235.850
"	0 3 wo	88.021	1440.390	"	3 3 wo	75.260	1231.590
"	0 3 wo	87.760	1436.130	"	4 0 wo	75.000	1227.330
"	1 0 wo	87.500	1431.870	"			

No. IX:

Money, Weights and Measures.

The following is the Assay produce of one hundred Company's Rupees weight of Silver Bullion according to the fineness specified in the following Table.

Weight of Bullion in Tolas or New Sica Weight.	Assay Report.	Touch, or fine Silver in 100 parts.	Produce in Furukhabad, Madras or Bombay Rupees.	Weight of Bullion in Tolas or New Sica Weight.	Assay Report.	Touch, or fine Silver in 100 parts.	Produce in Furukhabad, Madras or Bombay Rupees.
100	Dwts. Br	100.000	109.091	100	Dwts. Br	99.583	97.727
99	" Br	99.792	108.861	99	" Br	99.375	97.500
98	" Br	99.583	108.636	98	" Br	99.167	97.273
97	" Br	99.375	108.409	97	" Br	98.958	97.045
96	" Br	99.167	108.182	96	" Br	98.750	96.818
95	" Br	98.958	107.955	95	" Br	98.542	96.591
94	" Br	98.750	107.727	94	" Br	98.333	96.364
93	" Br	98.542	107.500	93	" Br	98.125	96.136
92	" Br	98.333	107.273	92	" Br	97.917	95.909
91	" Br	98.125	107.045	91	" Br	97.708	95.682
90	" Br	97.917	106.818	90	" Br	97.500	95.455
89	" Br	97.708	106.591	89	" Br	97.292	95.227
88	" Br	97.500	106.364	88	" Br	97.083	95.000
87	" Br	97.292	106.136	87	" Br	96.875	94.773
86	" Br	97.083	105.909	86	" Br	96.667	94.545
85	" Br	96.875	105.682	85	" Br	96.458	94.318
84	" Br	96.667	105.455	84	" Br	96.250	94.091
83	" Br	96.458	105.227	83	" Br	96.042	93.864
82	" Br	96.250	105.000	82	" Br	95.833	93.636
81	" Br	96.042	104.773	81	" Br	95.625	93.409
80	" Br	95.833	104.545	80	" Br	95.417	93.182
79	" Br	95.625	104.318	79	" Br	95.208	92.955
78	" Br	95.417	104.091	78	" Br	95.000	92.727
77	" Br	95.208	103.864	77	" Br	94.792	92.500
76	" Br	95.000	103.636	76	" Br	94.583	92.273
75	" Br	94.792	103.409	75	" Br	94.375	92.045
74	" Br	94.583	103.182	74	" Br	94.167	91.818
73	" Br	94.375	102.955	73	" Br	93.958	91.591
72	" Br	94.167	102.727	72	" Br	93.750	91.364
71	" Br	93.958	102.500	71	" Br	93.542	91.136
70	" Br	93.750	102.273	70	" Br	93.333	90.909
69	" Br	93.542	102.045	69	" Br	93.125	90.682
68	" Br	93.333	101.818	68	" Br	92.917	90.455
67	" Br	93.125	101.591	67	" Br	92.708	90.227
66	" Br	92.917	101.364	66	" Br	92.500	90.000
65	" Br	92.708	101.136	65	" Br	92.292	89.773
64	" Br	92.500	100.909	64	" Br	92.083	89.545
63	" Br	92.292	100.682	63	" Br	91.875	89.318
62	" Br	92.083	100.455	62	" Br	91.667	89.091
61	" Br	91.875	100.227	61	" Br	91.458	88.864
60	" Br	91.667	100.000	60	" Br	91.250	88.636
59	" Br	91.458	99.773	59	" Br	91.042	88.409
58	" Br	91.250	99.545	58	" Br	90.833	88.182
57	" Br	91.042	99.318	57	" Br	90.625	87.955
56	" Br	90.833	99.091	56	" Br	90.417	87.727
55	" Br	90.625	98.864	55	" Br	90.208	87.500
54	" Br	90.417	98.636	54	" Br	90.000	87.273
53	" Br	90.208	98.409	53	" Br	89.792	87.045
52	" Br	90.000	98.182	52	" Br	89.583	86.818
51	" Br	89.792	97.955	51	" Br	89.375	86.591
50	" Br	89.583	97.727	50	" Br	89.167	86.364

MONEY, WEIGHTS AND MEASURES.

In Madras, since the year 1820, the seignorage upon both Gold and Silver has been two per cent. and there is no extra charge for refining.

It will be seen from the foregoing regulations of the Bullion Office, that it continues the same now.

The legal coins now in circulation throughout the whole of the Company's Territories, are the Company's Rupees, weighing 180 Grains, and 11 ounces fine, (containing 165 grains of pure Silver, and 15 grains of Alloy) also the Half, and the Quarter Rupee. The Gold Mohur, weighing 180 grains, and 22 Carats fine, (containing 165 grains of pure Gold and 15 grains of Alloy.) The half Anna Copper Coin, weighing 200 grains; the quarter Anna weighing 100 grains, and the one Pie weighing 33 $\frac{1}{3}$ grains.

Silver is the legal currency of the country, Gold is also a legal tender at 15 rupees to a Gold Mohur, but cannot be demanded in payment; Copper Coins are only a legal tender to the extent of one rupee.

No. X.

The following is a very convenient Table for converting Annas and Pie into decimal parts of a rupee.

For reducing ANNAS and PIE into DECIMAL parts of a RUPEE.

1 anna = 0.0625.

Annas.	0	1	2	3	4	5	6	7	8	9	10	11 pie.
0	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875
1	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500
2	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125
3	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750
4	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375
5	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000
6	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625
7	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250
8	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875
9	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500
10	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125
11	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750
12	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375
13	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000
14	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625
15	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250

MONEY, WEIGHTS AND MEASURES.

No. XI.

The following Table shows the produce of 100 Company's Rupees, and the consequent rate of exchange at the different market prices of Silver in England.

Shewing the Produce of 100 Furukhabad, Sugar, Sonat, Madras, or Bombay rupees (or 100 tolas) or Bengal standard silver, ($\frac{1}{4}$ th alloy) in shillings, and the consequent rate of exchange.

London price of silver per troy ounce.		100 Furukhabad, Madras or Bombay rupees will produce.	Exchange per Fd. rupee.	Remarks.
s.	d.	shillings.	s. d.	
at 5	6.	204.390	2 0.5	Intrinsic par of coins. { (2s. 0.04d. Calcutta mint price of silver. (1s. 11.51) commercial par of exchange. (1s. 11.04d.) London mint price of silver. (5s.2d.)
5	5.	201.293	2 0.15	
5	4.	198.196	1 11.8	
5	3.	195.099	1 11.5	
5	2.	192.002	1 11.1	
5	1.	188.095	1 10.7	
5	0.	185.809	1 10.3	
4	11.	182.712	1 10.0	
4	10.	179.615	1 9.6	
4	9.	176.518	1 9.2	
4	8.	173.421	1 8.8	
4	7.	170.324	1 8.4	
4	6.	167.228	1 8.06	

The Gold Coins of the Madras Presidency being precisely of the same fineness as the English Sovereign, when the market price of Gold in England is £3 17s. 6d. an ounce, the same weight of the Madras or Company's Gold Coins are of the same value.

To convert the decimals of a lb. into ounces and dwts., and vice versa.

12 oz.=1.000	6 oz.=0.500	20 dwt.=0.083	9 dwt.=0.037
11 .916	5 .416	18 .075	7 .029
10 .833	4 .333	16 .066	5 .020
9 .750	3 .250	14 .058	3 .012
8 .666	2 .166	12 .051	2 .008
7 .583	1 .083	10 .041	1 .004

1 ounce troy=2.667 tolas, or 2 tolas, 8 mashas.

7½ dwts. „ =1 tola; and 1 dwt.=0.133 tola.

Imperial dry and liquid measures.	Cubic contents.	Avoirdupois wt.	Indian wts.
1 pint, ...	34.659 c. i.	1 lb. 4 oz.	48.611 tolas
2 = 1 quart, ...	69.318 do.	2 lb 8 oz.	97.222 do.
8 = 4 = 1 gallon, ...	277.274 do.	10 lbs.	4.861 seer.
64 = 32 = 8 = 1 bushel, ..	1.284 c. f.	80 do.	38.888 do.
512 = 256 = 64 = 8 = 1 quarter.	10.269 do.	640 do.	7.777 mun.
2048 = 1024 = 256 = 32 = 4 = 1 chal.	41.075 do.	2560 do.	31.111 do.

MONEY, WEIGHTS AND MEASURES.

No. XII.

The following is the scale of measures in use at Madras :

Cub. Inches.

1 olluck, =11.719.

8 ollucks, =1 puddy, =93.752.

8 puddies, =1 marcal, =750 =27 lb. 2 oz. 2 dr. water.

5 marcals, =1 parah, =3750.

400 parahs, =1 garce, =360000.

For the mutual conversion of Bengal, Madras, and Bombay maunds.

Bengal Muns.	Madras maunds.	Bombay maunds.	Madras maunds.	Bengal muns.	Bombay maunds.	Bengal muns.
1000	3291.428	2938.775	1000	303.820	1000	340.278
100	329.143	293.877	100	30.382	100	34.028
90	296.229	264.492	90	27.344	90	30.625
80	263.315	235.104	80	24.306	80	27.222
70	230.401	205.716	70	21.268	70	23.819
60	197.487	176.328	60	18.230	60	20.416
50	164.571	146.938	50	15.191	50	17.014
40	131.656	117.552	40	12.152	40	13.612
30	98.724	88.164	30	9.114	30	10.209
20	65.828	58.775	20	6.076	20	6.806
10	32.914	29.388	10	3.038	10	3.403
1	3.291	2.939	1	0.304	1	0.340
seers, 30	2.469	2.203	seers, 30	0.228	seers, 30	0.255
20	1.616	1.469	20	0.152	20	0.170
10	0.823	0.734	10	0.076	10	0.085
5	0.411	0.367	5	0.038	5	0.042
4	0.329	0.294	4	0.030	4	0.034
3	0.246	0.220	3	0.022	3	0.025
2	0.164	0.147	2	0.015	2	0.017
1	0.082	0.073	1	0.008	1	0.008

Place.	Denomination of Weight.	Value in English avoirdupois weight.	No. of standard Tolas per seer, &c.	Value of mds. &c. in Muns. and decimals.
MADRAS.	Pagoda weight=52.56 grs	lb. oz. dr.	Tolas.	Muns.
	Maund, of 40 seers or polys.	.....	0.292	.....
	or 8 vis Candy, of 20 mds.	25 0 0	24.304	0.3638
	Garce, for grain =12.8 mds.	500 0 0	..	6.0764
	Puddy, oil mc.=3 ollucks, or	320 0 0	...	3.8888
	Parah, for chunam=5 mer.	9375 cub. in		
	Maugelin, for pearls=6 grs.	3750 cub. in		
	18 Md. chows=55 Bom. chs.			

MEASURES.

TIME.

No. I.—European Measure.

365 days, 5 hours, 48 minutes and 49.7 Seconds,...a Solar Year. *
 365 days,.....a Common Year. †
 366 days,.....a Leap Year. ‡
 28 days,.....a Lunar Month. §
 28, 29, 30, or 31 days, ¶ a Calendar Month. ||

No. II.—	Year.	Weeks.	Days.	Hours.	Minutes.	Seconds.
	1	52	365½	8766	525947	31556923
		1	7	168	10080	604800
			1	24	1440	86400
				1	60	360
					1	60

No. III.—Indian Measure.

From Sun-set to Sun-rise.....the Night. **
 From Sun-rise to Sun-set.....the Day.
 † Watches } the Day or Night.
 30 Ghurri }
 60 Ghurri †† one Day.

* This solar or tropical year is the period of the return of the seasons, determined by the apparent passages of the sun across the equinoctial. The sidereal year or revolution of the Earth about the sun is 365 days, 6 hours, 9 minutes, 9.6 seconds. The anomalistic year or period of return to the perihelion is 365 days, 6 hours, 13 minutes, 49.3 seconds. The Julian year is 365½ days. The Gregorian year 365.2425 days. The tropical year 365.24224 days.

† The first year of every century and all such as will not divide by 4 without remainder are of this description. For the names of the years in the Hindoo cycle of 60 years see page and for further particulars regarding Eras and the Indian &c. Divisions of time, see the 6th part of the Almanac for 1839.

Table of Leap Years.							
1841	1856	1868	1880	1892	1904	1916	1928
1848	1860	1872	1884	1896	1908	1920	1932
1852	1864	1876	1888	1900	1912	1924	1936

‡ The synodical period of the moon or lunar month, reckoning from new moon to new moon, is 29 days, 12 hours, 44 minutes, 2.87 seconds. The mean sidereal period of her revolution on her axis and in her orbit around the Earth is 27 days, 7 hours, 43 minutes, 11.5 seconds.

§ See the first pages of the Almanac. For the lengths and names of Indian month and their correspondence with the European, see the first pages of this Almanac.

¶ The mean solar day is 24 hours. The sidereal day is 23 hours, 56 minutes, 4.09 seconds. The lunar day 24 hours, 54 minutes.

** See the first pages of the Almanac for the times of sun-set and sun-rise against each day of the month.

†† The average length of the Ghurri is 24 minutes.

MEASURES.

No. IV.

ANGULAR MEASURE.

The Circle.	Quadrants.	°	'	"
1	4	360	21600	129600
	1	90	5400	32400
		1	60	3600 *

LONG MEASURE or of ONE DIMENSION. †

No. V.—English Measure.

Mile.	Furlongs.	Yards.	Feet.	Inches.
1	8	1760	5280	63360
	1	220	660	7920
		1	3	36
			1	12

No. VI.—2203 yards.....one knot or mile at sea. ‡
 3 knots.....one league.
 69½ statute miles.....
 60 knots or geographical or } One degree of a great circle
 nautical miles..... } of the earth §
 12172¾ yards.....
 16½ feet = 5½ yards.....one pole or rod. } used in
 40 poles.....one furlong. } Road and
 7 inches 92 hundredths.....one link. } Land
 100 links = 66 feet.....one chain. } Measure.
 2½ inches.....one nail. } used in
 4 nails.....one quarter. } Cloth
 5 quarters.....one ell. } Measure.
 4 inches.....one hand, used in measuring
 horses.
 6 feet.....one fathom do. depths.

* The French at one time divided the Circle into 400 degrees, and each degree into 100 minutes &c. It is now also usual to divide the degree decimally.

† The standard for this is the length of the seconds pendulum, vibrating in the latitude of London (51° 31') with the Barometer at 29 inches and the Thermometer by Fahrenheit, at 60 degrees and equal to 39.139 inches. For practical purposes the diameter of the Company's Rupee will serve to test the accuracy of long measures. It has been (since 1st September 1835) 1.25th of an English inch, or one-tenth of an English foot.

‡ The length of the seconds pendulum at Madras, is 39.026303 inches—at the equator 39.0152 inches.

	Feet.	Miles.
Greater or Equatorial Diameter.....	41817426	or 7925648
Equatorial Circumference.....	131466720	or 24890
Lesser or Polar Diameter.....	41707620	or 7899.170
Polar Circumference.....	1298906	or 26478

§ This measure is in use among Navigators of all nations, and is the land measure of the Italians—we do not know what advantage can arise from having one measure for sea and another for land—more especially in India.

MEASURES.

No. VII.

Shewing the relative value of British and Foreign Long Measures.

NAMES OF PLACES.	LONG MEASURE.		NAMES OF PLACES.	LONG MEASURE.	
	Names of Measures.	Number of each equal to 100 Eng- lish feet.		Names of Measures.	Number of each equal to 100 Eng- lish feet.
Amsterdam....	Foot	107-719	Hamburg....	Foot.....	106-382
	Rhineland		Hanover....	Foot.....	104-803
	Foot.....	97-166	Leghorn....	Foot.....	108-010
Antwerp	Foot.....	106-761	Leipsic....	Builder's	
Berlin.....	Foot.....	98-441	foot.....	foot.....	107-816
Boulogne....				Foot.....	92-735
Bordeaux....			Lisbon.....		
Brest.....			Lyons.....		
Bruges.....			Malaga....		
Cadiz.....			Marseilles....		
	Mathemati- cal foot	91-463	Moscow....	Foot.....	91-416
China.....	Builder's		Naples.....	Palmo....	115-606
	foot.....	94-414	Netherlands....		
	Trades- man's foot	90-022	Persia.....		
	Land Sur- veyor's foot	95-389	Poland.....		
	Foot.....	110-803		Rhineland	
Cologne....				foot.....	97-166
Constantino- ple.....	Rhineland		Prussia....	Foot.....	97-166
	Foot	97-166	Rhineland....	Foot.....	111-214
Copenhagen..	Foot	106-194	Riga.....		
Dantzic....	Foot		Rochelle....	Foot.....	102-389
Dieppe.....			Rome.....		
Dresden....	Foot	107-719	Rotterdam....		
Dunkirk....			Rouen.....	Foot.....	87-272
England.....	Foot	100-000	Russia....	Palmo....	122-699
Florence....			Sardinia....	Palmo....	125-918
France.....	Pied de Roi.	93-806	Sicily.....		
	Metre.....	30-480	Smyrna....	Foot	107-913
Frankfort....	Foot	106-382	Spain.....	Foot	105-355
Geneva.....	Foot	62-467	Strasburg....	Foot	103-270
Genoa.....	Palmo....	123-450	Land foot..	Foot	102-739
Groningen..				Foot	94-339
Haarlem....			Sweden.....	Foot.....	87-719
			Turin.....	Foot.....	96-385
			Venice.....	Foot.....	101-608
			Vienna....	Foot.....	
			Zurich.....	Foot.....	

MEASURES.

No. VIII.

Showing the relative value of British and Foreign Road Measures.

NAMES OF PLACES.	Measure.	Number equal to 100 Eng- lish miles	NAMES OF PLACES.	Measure.	Number equal to 100 Eng- lish miles
Arabia	Mile	81-336	Hungary	Mile	19-313
Brabant	League....	28-966	Ireland.....	Mile.....	78-571
China.....	Li.....	278-481	Netherlands..	Mile, Metri- cal.....	161-024
Dantzic....	Mile	20-767	Persia.....	Parasang	28-918
Denmark....	Mile	21-348	Poland.....	Mile, Long. Mile, Short.	21-725 28-966
England....	Mile	100	Portugal.....	League....	26-035
	Mile, Geo- graphical.	86-913	Prussia.....	Mile.....	21-367
Flanders....	League....	25-641	Rome.....	Mile.....	108-108
France.....	Kilometre.	161-024		Mile, Metri- cal.....	161-024
	League of 2000 toises.	41-285		Mile, Geo- graphical.	86-913
	League of 25 to the De- gree.....	36-214	Russia.....	Werst....	150-814
	League, Ma- rine.....	28-966	Scotland.....	Mile.....	88-709
Germany....	Mile, Geo- graphical.	21-725	Spain.....	League, Common..	23-732
	Mile, Long.	17-381		League, Ju- dicial....	37-972
	Mile, Short.	25-659	Sweden.....	Mile.....	15-042
Hamburgh....	Mile.....	21-348	Switzerland..	Mile.....	19-228
Hanover.....	Mile.....	15-226	Tuscany.....	Mile.....	97-345
Holland.....	Mile.....	21-725	Turkey....	Berri....	96-385

No. IX.

Showing the relative value of French and English New Long Measures.

French.		English.	
Millimetre	=	0-03937	Inches.
Centimetre	=	0-39371	Inches.
Decimetre	=	3-93710	Inches.
Metre	=	39-37100	Inches.
Decametre	=	32-80916	Feet.
Hectometre	=	328-09167	Feet.
Kilometre	=	1093-6389	Yards.
Myriametre.....	=	{ 10936-38900 Yards, or 5 Miles, 1 Fur- long, 28 Poles.	
Old Measures.		New or Metrical.	
Ligne	=	2-31	Millimetre.... = 0-091 Inches.
Pouce.....	=	2-77	Centimetres .. = 1-090 Inches.
Pied.....	=	3-33	Decimetres..... = 13-110 Inches.
Aune.....	=	12	Decimetres..... = 3 Feet, 11-24 Inches.
Toise.....	=	2	Metres..... = 6 Feet, 6-74 Inches.

MEASURES.
No. X.
Indian Measure.

About 8 English inches.....	one span.	
About 18 do. do.....	one cubit.	
About 2464 do yards.....	one Malabar mile. *	
7½ Malabar miles about 10½ Statute miles.....	one gao or kadum.	
About 2 Malabar miles.....	one koss or kuro. †	
8 torahs.....	1 vurrul.....	1½ inch
24 vurrul.....	1 molakole.....	28 do
4 molakole.....	1 dunnoo.....	3 yds. 4 in.
2000 dunnoo.....	1 koeda.....	6222½ yds.
4 koeda.....	1 kadum.....	24888½ do.
9 ungul.....	1 genoo.....	
12 do.....	1 heji.....	
18 do.....	1 mola or cubit.....	
3 heji.....	1 gezoo.....	
2 gezoo.....	1 maroo.....	
2000 maroo.....	1 hurudari or coss.....	
Tinnevelly kole.....	20½ English feet.....	
Madura kole.....	12 do. do.....	
Tinnevelly chain.....	398 do. do.....	
Madura do.....	160 do. do.....	
do. pootjakole.....	5 do. do.....	
Coimbatore chain.....	102 do. do.....	
do. mercal.....	6½ do. do.....	

No. XI.

Superficial Measure of Two Dimensions.

English Measure.	Length.	Breadth.
144 square inches.....	1 square foot	12 inches. × 12 inches.
9 square feet.....	1 square yard.	3 feet. × 3 feet.
30½ square yards.....	1 rod or perch.	5½ yards. × 5½ yards.
40 perches.....	1 rood.	40 poles. × 1 pole.
4 roods.....	1 acre.	10 chains. × 1 chain.
4840 square yards.....	1 square mile.	100 do. × 64 do.
640 acres.....		1 mile. × 1 mile.

No. XII.

English and French Superficial Measures.

Centiare.....	=	1-1960 Square Yards.
Are (a Square Decametre).....	=	119-6046 Square Yards.
Decare.....	=	1196-0460 Square Yards.
Hectare.....	=	{ 11960-4604 Square Yards, or 2 Acres, 1 Rood, 35 Perches.

* This is the distance that would be walked in an average ghurri of 21 minutes at the rate of 34 English miles per hour.

† According to Reynell, the coss in road measure is about 1-9-16th of an English statute mile. Distances to be laid down in maps may be calculated.

In Malwa.....	25 Coss.....	1 degree.
Between Baglana and Masulipatam.....	46 do.....	1 do.
In the Carnatic.....	35½ do.....	1 do.
In Hindoostan.....	43½ do.....	1 do.
In Munda, Nagpoor, Bundelcund.....	22 Goondy do.....	1 do.

The Emperor Akbar's coss about 2-1-16th English miles.
In India, direct distances are shorter than winding roads intersected by water-courses by 1 part in 7; in flat country with few obstacles, for short distances by 1 part in 10; for distances of 100 to 150 miles, by 1 part in 8; for distances of 200 to 300 miles by 1 part in 7; in the Carnatic, for distances of 100 miles by 1 part in 9; in England, for distances of 100 miles by 1 part in 11.
† A thorah is the breadth of the seed called "jeyan" (poppy?)

MEASURES.
No. XIII.

Showing the relative value of British and Foreign Land Measures.

NAMES OF PLACES.	Names of Measures.	English Square Yards.	NAMES OF PLACES.	Names of Measures.	English Square Yards.
Amsterdam	Morgen.....	9722	Nuremberg	Meadow Morgen.....	2544
Basil.....	Juchart.....	3816	Portugal....	Geira.....	6970
Berlin....	Great Morgen.	6786	Prussia.....	Morgen.....	3053
Berne.....	Little Morgen.	3054	Rhineland..	Morgen.....	10185
Canary Isles	Wood Juchart.	4032	Rome.....	Pezza.....	3158
Dantzic....	Fanegada....	2422	Russia.....	Dessetina.....	43066-6
England....	Morgen.....	6650	Saxony.....	Acre.....	5590
France.....	Acre.....	4840	Scotland... Acre.....		6150
Geneva.....	Hectare.....	11960	Spain.....	Fanegada....	5500
Hamburgh..	Arpent.....	6179		Arranzada.....	4623
	Scheffel of Corn Land.....	5022	Sweden.....	Tunneland....	5900
Hanover....	Morgen.....	11545	Switzerland	Faux.....	7855
Ireland....	Morgen.....	3100	Tuscany....	Quadrato.....	4074
Naples.....	Acre.....	7840	Vienna.....	Joch.....	6889
Netherlands.	Moggia.....	3998	Zurich.....	Common Acre	3875-6
	Vierkantebunder.....	119-6		Wood Acre....	4806
Nuremberg	Corn Land			Meadow Acre.	3445
	Morgen....	5654			

No. XIV.

Showing the relative value of British and Foreign Square and Cubic Measures.

NAMES OF PLACES.	Square Measure.	NAMES OF PLACES.	Square Measure.
	English Sq. Inches.		English Sq. Inches.
Amsterdam.....	124-255	Hamburgh.....	127-441
Antwerp.....	126-337	Hanover.....	131-194
Berlin.....	148-693	Lisbon.....	167-547
Bremen.....	129-504	Milan.....	243-984
Cologne.....	147-288	Munich.....	129-390
Dantzic.....	127-690	Rhineland.....	132-670
Dresden.....	124-099	Riga.....	116-424
England.....	144-000	Rome.....	137-358
France.....	—	Spain.....	123-832
	Cubic decim.....	Sweden.....	136-515
	Pied de roi.....	Turin.....	161-798
	Square Metre.....	Venice.....	187-142
Geneva.....	1550-075	Vienna.....	255-002
	309-024	Zurich.....	139-476

MEASURES.
No. XV.
Indian Measure.

2480 Square feet 1 Madras Munny 60 feet. × 40 feet.
24 Munnies or Grounds.... }
6100 Square yards or 57600 Square feet..... } 1 do. Cawny * { 80 yards × 80 yard.
5 Cawnies... .. 1 Tanjore Veyly.

No. XVI.
Table shewing the relative value of English Acres and Madras Cawnies. †

Acre....	1	2	3	4	5	6	7	8	9
Cawny..	756875	1.51375	2.270625	3.0275	3.784375	4.54125	5.298125	6.055	6.811875
Cawny..	1	2	3	4	5	6	7	8	9
Acre....	1.3010	2.6032	3.9018	5.2064	6.5090	7.8095	9.1112	10.4129	11.7144

No. XVII.

2877-7 square yards... } one kooli } Measures of dry grain
1/4 cawny..... } lands in Madura.
18496 square yards..... } one vullum. }
2 2/3 cawnies..... } Do. Do. in Coimbatore.
7680 square yards..... } one sheye..... }
1 1/2 cawny..... }
18496 square feet } one koonta..... } Land measure in Guntoor.
2055 square yards..... }
32 koonta..... } one koochul..... }
10 1/2 cawnies..... }

* The Cawny is very nearly equal to the half of a circle of 460 yards circumference, and 481 Cawnies make exactly one square mile.
† To convert measures of one denomination to those of another by means of the Tables of relative value.
Rule.—Look for the value of each digit of the number which it is required to convert. Beneath it will be found the corresponding value. Move the decimal point to the right, 1, 2, 3, 4, &c. steps according as the numbers in tens, hundreds, thousands, tens of thousands, &c. and then add—

EXAMPLES.

Required the value of 2357 Cawnies in English acres, *

Cawnies.	Acres.
2000	2093.2
300	30.5
50	6.1
7	9.1

Answer.....3057.9

Required the value of 333 acres in Madras Cawnies.

Acres.	Cawnies.
3000	2270.6
300	227.06
30	22.706
3	2.2706

Answer.....3330.336

MEASURES.

9 square yards.....one purrah..... }
256 purrah..... } one koonta..... } Do. Do. in Masulipatam.
2304 square yards..... }
32 koonta } one cutty..... }
11 1/3 cawnies..... }

15125 square yards } one gooroo or } Do. Do. in Nellore.
2 2/3 cawnies..... } goortoo..... }

In Salem one goonta of } 64 } Fathoms } In Salem Talook.
dry land is equal to... } 36 } square } In Ahtoor and Razpoor do.
24 } } } In Trichengood, Wamloor
One bulla 96 } } } Dhurmpoory & Sunklidroog do.
In Namkul and Purmutty do.

9 fathoms Square—In Attoor.

The goonta is..... 33 feet square...In Kishnagerry, Tripatoor
Denca-mi-cotta and Oosoor do,

The goonta for irrigated } 32 } Country } In Salem do.
land in Salem Zillah } 36 } feet } In Razpoor do.
24 } square } In Purmutty and Namkul do.

1 chain square... }
17600 1/2 square yards.. } one chain or } Measures of dry grain lands in
2 1/2 kotay. } sunkly. } Tinnevelly.
2 1/2 cawnies..... }

1 square kole... } one naly }
420 1/2 square feet..... } or puddy }
8 puddy } 1 koorooni }
8825 1/2 square feet..... } or marcal } Used in measuring irrigated land
21 marcal. } in Tinnevelly.
7845 1/2 square yards ... } 1 kotay * }
1 1/2 cawny..... }

100 kooli..... } 1 cawny } Do. Do. in Coimbatore.
6100 sq yds }

100 square molakole } 1 tooni † } Do. Do. in Malabar.
543 square feet..... }
12 square vurrul... 1 kole..... Used in measuring planks do.

No. XVIII.

CUBICAL or SOLID MEASURE or of THREE DIMENSIONS.

English Measure.	Length.	Breadth.	Thickness.
1728 Cubic Inches.....1 Cubic Foot ...	12	× 12	× 12
27 Cubic Feet.....1 Cubic Yard...	3	× 3	× 3

* The Kotay in Tinnevelly is supposed to require one Kotay or 21 Marcal of seed.
† The Tooni in Malabar is supposed to require 1 tooni or 6 puddy of seed.

MEASURES.

No. XIX.

English and French Solid Measures.

Decistres.....	=	3·5317 Cubic Feet.
Stere (a Cubic Metre) =		35·3171 Cubic Feet.
Decastere	=	353·1714 Cubic Feet.

No. XX.

British and Foreign Cubic Measures.

NAMES OF PLACES.	Cubic Measure. <i>English Cubic Inches</i>	NAMES OF PLACES.	Cubic Measure. <i>English Cubic Inches</i>
Amsterdam.....	1385·070	Hamburgh.....	1438·684
Antwerp.....	1420·027	Hanover.....	1502·696
Berlin.....	1813·162	Lisbon.....	2163·728
Bremen.....	1473·755	Milan.....	3811·030
Cologne.....	1270·229	Munich.....	1471·811
Dantzic.....	1442·897	Rhineland.....	1886·390
Dresden.....	1382·463	Riga.....	1256·215
England.....	1728·000	Rome.....	1609·835
France.....	2091·743	Spain.....	1378·002
Cubic decim.....	61·023	Sweden.....	1595·041
Pied de roi.....	—	Turin.....	2058·070
Cubic Metre.....	—	Venice.....	2360·102
Geneva.....	7085·951	Vienna.....	1929·774
		Zurich.....	1617·211

No. XXI.

MEASURES OF CAPACITY.

British Imperial Measure.

4 Gills.....	1 Pint ...	=	34 $\frac{2}{3}$ Cubic Inches nearly.
2 Pints.....	1 Quarter.	=	69 $\frac{1}{3}$ do.
4 Quarters.....	1 Gallon.	=	277 $\frac{1}{4}$ do.
2 Gallons.....	1 Peck.....	=	554 $\frac{1}{2}$ do.
8 Gallons.....	1 Bushel...	=	2218 $\frac{1}{2}$ do.
8 Bushels.....	1 Quarter.	=	10 $\frac{1}{4}$ do.
5 Quarters.....	1 Load....	=	51 $\frac{1}{2}$ Cubic Feet nearly.

MEASURES.

No. XXII.

British and Foreign Corn Measures.

NAMES OF PLACES.	CORN MEASURE.		NAMES OF PLACES.	CORN MEASURE.	
	Names of Measures.	Content in Imperial Bushels.		Names of Measures.	Content in Imperial Bushels.
Amsterdam	Mudde.....	3·060	Hanover...	Hintem.....	·855
Antwerp...	Hectolitre...	2·750	Leghorn...	Sacco.....	1·939
Berlin.....	Scheffel.....	1·434	Lisbon...	Alqueire.....	·372
Boulogne..	Setier.....	4·748	Lyons.....	Asnée.....	5·277
Bordeaux..	Boisseau.....	2·110	Malaga...	Fanega.....	1·550
Brest.....	Tonneau.....	37·956	Marseilles.	Charge.....	4·401
Bruges.....	Hoed.....	4·582	Naples.....	Tomolo.....	1·407
Cadiz.....	Fanega.....	1·550	Netherlands	Mudde.....	2·750
Cologne...	Malter.....	4·458	Persia.....	Artaba.....	1·809
Constanti-			Poland....	Korzec.....	1·407
nople.....	Killow.....	·912	Prussia...	Scheffel.....	1·511
Copenhagen	Toende.....	3·826	Riga.....	Loop.....	1·878
Dantzic...	Scheffel.....	1·503	Rochelle..	Boisseau.....	·904
Dieppe.....	Mine.....	2·814	Rome.....	Rubbio.....	8·101
Dresden...	Scheffel.....	2·910	Rotterdam.	Sack.....	2·349
Dunkirk...	Sea Rasier.e..	4·121	Rouen.....	Setier.....	4·922
England...	Land Rasier.e..	3·667	Russia.....	Chetwert....	5·770
Florence...	Bushel.....	1·000	Sicily.....	Salma Grossa..	9·472
France.....	Stajo.....	·670	Salma Generale		7·611
	Setier.....	4·292	Smyrna....	Killow.....	1·411
	Hectolitre...	2·750	Spain.....	Fanega.....	1·546
	Boisseau usuel	·343	Sweden....	Tunna of 32	
Geneva.....	Coupe.....	2·136		Kaper.....	4·030
Genoa.....	Mjaa.....	3·321		Kann.....	·071
Groningen.	Madde.....	2·504	Venice.....	Stajo.....	2·201
Haarlem...	Sack.....	2·174	Zurich.....	Mutt.....	2·275
Hamburgh.	Scheffel.....	2·896			

No. XXIII.

English and French Measures of Capacity.

Millilitre.....	=	0·06103 Cubic Inches.
Centilitre.....	=	0·61023 Cubic Inches.
Decilitre.....	=	6·10280 Cubic Inches.
Litre (a Cubic Decimetre) =		61·02802 Cub. Ins., or 2·1135 Wine Pints.
Decalitre.....	=	610·28028 Cub. Ins., or 2·642 Wine Galls.
Hectolitre.....	=	3·5317 Cub. Ft., or 2·838 Winch. Bushs.
Kilolitre.....	=	35·3171 Cub. Ft. or 1·2812 Wine Galls.
Myrialitre.....	=	353·17146 Cubic Feet.
Boisseau = ...	125 Litres	= 2837 Gallons.

MEASURES.
No. XXIV.

British and Foreign Wine Measures.

WINE MEASURE.			WINE MEASURE.		
NAMES OF PLACES.	Names of Measures.	English Imperial Gallons.	NAMES OF PLACES.	Names of Measures.	English Imperial Gallons.
Amsterdam...	Wine Stekan...	4.270	Oil Barile ...	7.357	
	Brandy Stekan	4.129	Leipsic...	Elmer	16.747
	Beer Stekan ..	43.27	Lisbon...	Almude	3.611
Antwerp...	Stoop.....	605	Naples ...	Wine Barile ...	9.175
Berlin.....	Anker.....	8.243		Oil Salma.	35.643
Bordeaux...	Barrique.....	50.610	Netherlands	Vat	22.010
	Velle	1.580	Oporto	Almude	5.611
Cologne (Imple)	Viertel	1.316	Poland	Garniec	3.19
Constantino...	Almud	1.051	Prussia ...	Eimer	15.117
Copenhagen...	Viertel	1.700	Rochelle...	Wine Barrique	38.356
	Enker.....	8.287		Brandy Velte ..	1.608
Dantzic.....	Ahm	32.968	Rome	Wine Barile...	12.841
Dresden.....	Limer.....	14.888		Oil Barile.....	12.651
Dunkirk.....	Lot.....	507		Ahm	33.319
England	Wine Gallon...	1.000	Rouen	Barrique.....	43.062
	Beer Gallon...	—	Russia	Vedro.....	2.696
Florence.....	Wine Barile ...	10.032	Scotland...	Piat.....	372
	Oil Barile.....	7.357	Spain... ..	Wine Arroba...	3.537
France... ..	Hetier.....	1.638		Oil Arroba.....	2.600
	Sectolitre	22.010	Sweden ...	Kana	376
Geneva.....	Setier	9.954	Venice	Secchio.....	2.377
Genoa	Wine Barile ..	16.337		Oil Mir.....	3.356
	Oil Barile	14.231	Vienna	Eimer	12.118
Hamburgh...	Ahm	31.866	Zurich	Land Maass ...	401
Hanover.....	Ahm	34.237		City Maass	361
Ireland.....	Gallon.....	78.4		Oil Maass.....	302
Leghorn.....	Wine Barile...	10.032			

No. XXV.

Indian Grain Measure.

Grains of Paddy.	Jodoo.	Allakoo.	Naria Puddi	Koorin or Marcal.	
360	1	...	...	...	Jodoo or Chagadoo.
1800	5	1	...	...	Allakoo = 11.719 cubic inches *
3606	10	2	...	...	Ooorukoo.

* The imperial gallon of water weighs exactly 10 lbs. Avoirdupois and is nearly equal to three Madras measures or puddies of 8 olocks, each nearly equal to $\frac{1}{2}$ of a pint.

MEASURES.
No. XXV.
Indian Grain Measure.—Continued.

Grains of Paddy.	Jodoo.	Allakoo.	Naria Puddi	Koorin or Marcal.	
...	20	4	...	...	Oori.
...	30	6	1	...	Puddi (in Trichinopoly) elsewhere [rookoo]
...	...	6	1	...	Measure, Nari or Puddi = 93 $\frac{1}{2}$ cubic inches.
...	...	16	2	...	Vullum (in Coimbatore) Marcal, (in Tanjore).
...	...	24	3	...	Colagum or Marcal (in North Coimbatore.)
...	...	32	4	...	Yeddungali (in Malabar) *
...	...	48	6	...	Tooni or Tuuni (in do.)
...	...	64	8	1	Kooroomi or Marcal.
...	...	...	16	2	Puthakoo.
...	...	...	24	3	Mookoorooni.
...	...	...	32	4	Tooni (Mudday in Coimbatore.)
...	...	...	36	...	Cullum (in Trichinopoly.)
...	...	...	40	5	Parrah.
...	...	...	64	8	Moottooni (Shalagay in Coimbatore.)
...	...	...	96	12	Cullum.
...	...	...	192	...	Podi (in Coimbatore.)
...	...	...	...	20	Candy.
...	...	...	...	21	Kotay (in Tinnevely.)
...	...	...	...	400	Gursay or garce.
4	Gidna	1	Soliga	...	In Canara.
4	Soliga	1	Mana	...	
4	Mana	1	Bulla	...	
4	Bulla	1	Kolaga	...	
5	Kolaga	1	Punchaga	...	
5	Punchaga	1	Chundaga	...	In Mysore.
50	Pukka seer	1	Moora	...	
60	do.	1	Batty	...	
521	24 do.	1	Garce	...	
		1	Candy	...	

No. XXVI.

MEASURES OF WEIGHT OR GRAVITY ENGLISH MEASURES.
Troy and Apothecaries Weight.

Pound lb.	Ounces oz. 3	Drachs. 3	Scruples 3	Penny Weights dwts.	Grains. grs.
1	12	96	288	240	5760
	1	8	24	20	480
		1	3	2 $\frac{1}{2}$	60
			1	$\frac{5}{16}$	20
				1	24

* The yeddungali should be a cylindric measure 2 $\frac{1}{2}$ varrels = 2 $\frac{1}{2}$ inches high and 5 $\frac{1}{2}$ varrels 6 $\frac{1}{2}$ inches in diameter or nearly 65 Cubic Inches.

WEIGHTS.
No. XXVII.
Avoirdupois Weight.

Ton	Hundred weight cwt. *	Quarters. qrs.	Pounds. lbs. †	Ounces oz.	Drms drs.	Grains. grs.
1	20 1	80 4 1	2240 112 28 1	448 16 1	256 16 1	7000 437½ 27¼

No. XXVIII.

Table of the relative value of Troy and Avoirdupois Weights. †

Troy lb.	1	2	3	4	5	6	7	8	9
Avoir. lb.	0.823	1.646	2.469	3.291	4.114	4.937	5.760	6.583	7.406
Avoir. lb.	1	2	3	4	5	6	7	8	9
Troy lb.	1.215	2.431	3.646	4.861	6.076	7.292	8.507	9.722	10.937

For the mutual conversion of Bengal, Madras, and Bombay maunds.

Bengal Muns.	Madras maunds.	Bombay maunds.	Madras maunds.	Bengal muns.	Bombay maunds.	Bengal muns.
1000	3291.428	2938.775	1000	303.820	1000	340.278
100	329.143	293.877	100	30.382	100	34.028
90	296.229	264.492	90	27.344	90	30.625
80	263.315	235.104	80	24.306	80	27.222
70	230.401	205.716	70	21.268	70	23.819
60	197.487	176.328	60	18.230	60	20.416
50	164.571	146.938	50	15.191	50	17.014
40	131.656	117.552	40	12.152	40	13.612
30	98.724	88.164	30	9.114	30	10.209
20	65.828	58.775	20	6.076	20	6.806
10	32.914	29.388	10	3.038	10	3.403
1	3.291	2.939	1	0.304	1	0.340
seers, 30	2.469	2.203	seers, 30	0.228	seers, 30	0.255
20	1.646	1.469	20	0.152	20	0.170
10	0.823	0.734	10	0.076	10	0.085
5	0.411	0.367	5	0.038	5	0.042
4	0.329	0.294	4	0.030	4	0.034
3	0.246	0.220	3	0.022	3	0.025
2	0.164	0.147	2	0.015	2	0.017
1	0.082	0.073	1	0.008	1	0.008

* By the following calculation, using the table No. XXVIII. of the relative value of Avoirdupois and Troy weights, it is found that the hundred weight of 112lbs. Avoirdupois is equal to 136 $\frac{1}{5}$ lb. Troy.

Avoirdupois lbs.	Troy lbs.
100	121.5
10	12.15
2	2.431
112	136.031

† 5760 Troy grains make 1 pound Troy, and 7000 Troy grains 1 pound Avoirdupois; hence 175 pounds Troy are equal to 144 pounds Avoirdupois.

‡ Vide note page 210.

MEASURES.

No. XXIX.

Indian Weights.

10 Gold Star Pagodas } weight.....	= 1 Pollum =	1½ oz. *
40 Pollums.....	= 1 Viss....	3 lbs. 2 oz.
8 Viss.....	= 1 Maund =	25 lbs.
20 Maunds.....	= 1 Candy =	500 lbs.
100 Pool.....	= 1 Maund =	30 lbs.
20 Maunds.....	= 1 Candy =	500 lbs.
	= 1 Mical..	2 cwt. 21 grs.
100 Tolas.....	= 1 Puddi =	
100 Pollums.....	= 1 Tolam =	In Tinnevely.
18 Tolams.....	= 1 Podi... =	
8 Pollums... ..	= 1 Seer... =	
5 Seers.....	= 1 Viss... =	In Coimbatoor.
6½ Do.	{ 1 Took or }	
1½ Viss.....	{ Nirei Cotay }	

No. XXX.

English and French new Weights.

French.	English.
Milligramme.....	= 0.0153 Grains.
Centigramme.....	= 0.1543 Grains.
Decigramme.....	= 1.5434 Grains.
Gramme.....	= 15.4340 Grains.
Decagramme.....	= 154.3402 Grains, or 5.64 Drachs., Avoird.
Hectogramme.....	= 3.2154oz. Troy, or 3.527oz. Avoirdupois
Kilogramme.....	= { 2lb. 8oz. 3dwt. 2gr. Troy, or 2lb. 3oz. 4.428 Drachms Avoirdupois.
Myriagramme.....	= 26.795 Ps. Troy, or 22.0485 Ps. Avoird.
Quintal.....	= 1cwt. 3qrs. 25lb. nearly.
Millier, or Bar.....	= *9 tons, 16cwt. 3qrs. 12lb.

Old.	New or Metrical.	English.
Grain.....	= 5.425 Centigrammes =	0.837 Grains.
Gros.....	= 3.906 Grammes . . . =	60.285 Grains.
Once.....	= 31.25 Grammes . . . =	{ 482.312 Grains, or 1oz. 1.628 dr. Avoirdupois.
Livre.....	= 500 Grammes.. . . =	{ 1lb. 4oz. 1dwt. 13gr. Troy or 1lb 1oz. 10½dr. Avoird.

* The average weight of the Gold Star pagoda (See Page 125 Almanac for 1839) is 52.4 grains. Therefore 10 such pagodas weigh 524 grains, which is 23 grains less than an ounce and a quarter Avoirdupois.

MEASURES.

No. XXXI.

Table showing the relative value of British and Foreign Weights.

NAMES OF PLACES.	AVOIRDUPOIS WEIGHT.		NAMES OF PLACES.	AVOIRDUPOIS WEIGHT.	
	Names of Weights.	Number equal to 112lb. Avoird.		Names of Weights.	Number equal to 112lb. Avoird.
Amsterdam.	Pound, old weight.	102.819	Persia.	Batman of Cherray	88.316
	—, Flemish.	50.796		Batman of Tauris.	176.634
Antwerp.			Poland.	Cracow Pound	125.440
Berlin.	Pound.	108.421		Warsaw Pound	134.430
Bordeaux.				New Pound.	125.721
Bremen.	Pound.	101.950	Portugal.	Arratel.	110.687
Brunswick.	Pound.	108.798	Prussia.	Pound.	108.617
China.	Catty.	84.002	Riga.	Pound.	121.512
Cologne.	Pound.	108.646	Rochelle.		
Constanti- nople.	Oke.	39.536	Rome.	Libbra.	149.790
Copenhagen.	Pound.	101.553	Rotterdam.	Pound.	102.819
Dantzic.				Light Pound.	108.242
Dresden.			Rouen.	Livre, Poids de Vicomté.	95.131
Dunkirk.					
England.	Pound.	112.000	Russia.	Pound.	121.079
Florence.	Libbra.	149.609	Sardinia.	Libbra.	127.999
France.	Livre, Poids de Marc.	103.771	Scotland.	Pound, Dutch weight.	103.157
	Kilogramme.	51.796	Sicily.	Rottolo Grosso	58.181
	Livre Usuelle.	101.593		Rottolo Sottile	64.000
Geneva.	Heavy Pound.	92.256		Libbra.	159.999
	Light Pound.	110.709	Smyrna.	Oke.	39.535
Genoa.	Libbra, Peso Grosso.	145.697	Spain.	Libra.	110.406
	Libbra, Peso Sottile.	160.261		Pound, Victua- lie weight.	119.456
Hamburgh.	Pound.	104.868	Sweden.	—, Miner's weight.	141.874
Hanover.	Pound.	104.378		—, Uppstads, or Inland Town weight — Metal, or Staplestad weight.	106.772
Ireland.					
Leghorn.	Libbra.	149.609	Venice.	Libbra, Peso Grosso.	163.601
Leipsic.				Libbra, Peso Sottile.	50.796
Lisbon.				Libbra, Nuova	
Lyons.	Livre, Poids de Soie.	110.617		Pound.	90.688
	Livre, Poids de Table.	118.518	Vienna.	Heavy Pound.	96.337
Naples.	Cantaro Grosso.	50.997	Zurich.	Light Pound.	108.391
	Cantaro Piccolo.	105.600			
Netherlands Oporto.	New Pound.	50.796			

WEIGHTS.

Tolas or Rupees weight.	1	2	3	4	5	6	7	8	9
Troy ounces.	0.3075	0.615	0.9225	1.23	1.5375	1.845	2.1525	2.46	2.7675
Troy lbs.	0.0256	0.0512	0.0769	0.1025	0.1281	0.154	0.1794	0.205	0.2306
Avoirdupois oz.	0.11135	0.22272	1.23408	1.64544	2.0568	2.46816	2.87952	3.29088	3.70224
Avoirdupois lbs.	0.02571	0.05142	0.07713	0.10284	0.12855	0.15426	0.17997	0.20568	0.23139
Troy ounces.	1	2	3	4	5	6	7	8	9
Rupees weight.	2.66666	5.33333	8.00000	10.66666	13.33333	16.00000	18.66666	21.33333	24.00000
Troy lbs.	1	2	3	4	5	6	7	8	9
Rupees weight.	32	64	96	128	160	192	224	256	288
Avoirdupois oz.	1	2	3	4	5	6	7	8	9
Rupees weight.	2.43055	4.86111	7.29166	9.72222	12.15277	14.58333	17.01388	19.44444	21.875
Avoirdupois lbs.	1	2	3	4	5	6	7	8	9
Rupees weight.	33.888	67.777	101.666	135.555	169.444	203.333	237.222	271.111	305.

No. XXXII.—Tables showing the relative Weights of the Company's Rupees, and the English ounces and pounds.*

* Vide Note on page 210.

WEIGHTS AND MEASURES.

No. XXXIII.

Table of Miscellaneous Weights and Measures.

1 firkin of butter...56 pounds.	1 last of soap.....12 barrels.
soap...64 pounds.	pitch & tar 12 barrels.
soap.....8 gallons.	flax.....17 cwt.
1 fodder of lead, at	feathers...17 cwt.
Stockton.....22 cwt.	wool.....4368 pounds.
at Newcastle....21 cwt.	1 pack of wool....240 pounds.
at London.....19 ½ cwt.	1 palm.....3 inches.
1 gallon, imperial [inches.]	1 pipe of Madeira.110 gallons.
measure.....277-274 cubic	Cape do..110 gallons.
imp. mea. distil-	Teneriffe.120 gallons.
led water at 62°, 10 pounds.	Bucellas..140 gallons.
former wine mea.231 cubic inches.	Barcelona120 gallons.
former ale mea..252 cubic inches	Vidonia..120 gallons.
Irish measure....217-6 cubic inches	Mountain120 gallons.
1 gross.....12 dozen.	Port.....138 gallons.
1 great gross.....12 gross.	Lisbon...140 gallons.
1 hand.....4 inches.	1 pole, Woodland.18 feet.
1 hogsd. of claret.58 gallons.	Plantation.21 feet.
tent...63 gallons.	Cheshire..24 feet.
1 hundred of salt.7 lasts.	1 sack of wool...364 pounds.
1 keg of sturgeon.4 or 8 gallons.	1 seam of glass..124 pounds.
1 last of salt.....18 barrels.	1 span.....9 inches.
gunpowder.24 barrels.	1 stone of meat...8 pounds.
beer.....12 barrels.	fish.....5 pounds.
potash..12 barrels.	(horseman's
cod-fish..12 barrels.	weight).....14 pounds.
herrings.12 barrels.	glass.....5 pounds.
meal...12 barrels.	wool...14 pounds.
1 ton of vegetable oil...236 gallons.	Winchester mea...2150-42
animal oil.....252 gallons.	cubic inches.
1 tod of wool.....28 pounds.	coal.....83 pounds.
1 wey of cheese, in Suf-	flour.....56 pounds.
folk.....256 pounds.	1 butt of sherry.....130 gallons.
in Essex..336 pounds.	1 chaldron of coals,with
1 wey of wool.....182 pounds.	ingrain.....104309-572
1 aum of hock contains. 36 gallons.	cubic inches.
1 barrel, imp. measure.9981-864 cu-	without ingrain....99818-64 cubic
bic inches.	inches.
anchovies.....30 pounds.	at Newcastle, is...53 cwt.
soap.....256 pounds.	8 chaldrons. of coals at
herrings.....32 gallons.	Newcastle are equal
salmon or eels.42 gallons.	to.....15 ½ London chaldrons.
1 bushel, imp. measure.2218.192 cu-	1 clove of wool.....7 pounds.
bic inches.	

Sizes of Drawing-paper.

Wave Antique.....4 ft. 4 × 2 ft. 7	Imperial.....2 ft. 5 × 1 ft. 9 ½
Double Elephant.3 ft. 4 × 2 ft. 2	Super Royal.....2 ft. 3 × 1 ft. 7
Atlas.....2 ft. 9 × 2 ft. 2	Royal.....2 ft. 3 × 1 ft. 7
Columbier.....2 ft. 9 ¾ × 1 ft. 11	Medium.....1 ft. 10 × 1 ft. 6
Elephant.....2 ft. 3 ¾ × 1 ft. 10 ¼	

No. XXXIV.

BAROMETRICAL TABLE.

English Barometer.			English Barometer.			French Barometer.	
Ins.	10lbs.	millimét.	Ins.	10lbs.	millimet.	Ins.	12lbs.
24	0	609,59	27	4	695,95	26	0
	1	612,13		5	698,49		1
	2	614,67		6	701,03		2
	3	617,21		7	703,57		3
	4	619,75		8	706,11		4
	5	622,29		9	708,65		5
	6	624,83	28	0	711,19		6
	7	627,37					7
	8	629,91		1	713,73		8
	9	632,45		2	716,27		9
25	0	634,99		3	718,81		10
	1	637,53		4	721,35		11
	2	640,07		5	723,89	27	0
	3	642,61		6	726,43		
	4	645,15		7	728,97		
	5	647,69		8	731,51		1
	6	650,23	29	0	734,05		2
	7	652,77			736,59		3
	8	655,31		1	739,13		4
	9	657,85		2	741,67		5
26	0	660,39		3	744,21		6
	1	662,93		4	746,75		7
	2	665,47		5	749,29		8
	3	668,01		6	751,83		9
	4	670,55		7	754,37		10
	5	673,09		8	756,91		11
	6	675,63	30	0	759,45	28	0
	7	678,17			761,99		
	8	680,71		1	764,53		1
	9	683,25		2	767,07		2
27	0	685,79		3	769,61		3
	1	688,33		4	772,15		4
	2	690,87		5	774,69		5
	3	693,41		6	777,23		6
				7	779,77		7
1 =	2-54		4 =	10-16		7 =	17-78
2 =	5-08		5 =	12-70		8 =	20-32
3 =	7-62		6 =	15-24		9 =	22-86

The above shews the comparative value of English inches and French centimètres, or of tenths of an English inch and French millimetres.

No. XXXV.
COMPARISON OF THERMOMETRICAL SCALES.

Fahrenheit.	Centigrade.	Fahrenheit.	Centigrade.	Fahrenheit.	Centigrade.
-4°	-20°00	33°	0°56	70°	21°11
-3	-19,44	34	1,11	71	21,67
-2	-18,89	35	1,67	72	22,22
-1	-18,33	36	2,22	73	22,78
0	-17,78	37	2,78	74	23,33
1	-17,22	38	3,33	75	23,89
2	-16,67	39	3,89	76	24,44
3	-16,11	40	4,44	77	25,00
4	-15,56	41	5,00	78	25,56
5	-15,00	42	5,56	79	26,11
6	-14,44	43	6,11	80	26,67
7	-13,89	44	6,67	81	27,22
8	-13,33	45	7,22	82	27,78
9	-12,78	46	7,78	83	28,33
10	-12,22	47	8,33	84	28,89
11	-11,67	48	8,89	85	29,44
12	-11,11	49	9,44	86	30,00
13	-10,56	50	10,00	87	30,56
14	-10,00	51	10,56	88	31,11
15	-9,44	52	11,11	89	31,67
16	-8,89	53	11,67	90	32,22
17	-8,33	54	12,22	91	32,78
18	-7,78	55	12,78	92	33,33
19	-7,22	56	13,33	93	33,89
20	-6,67	57	13,89	94	34,44
21	-6,11	58	14,44	95	35,00
22	-5,56	59	15,00	96	35,56
23	-5,00	60	15,56	97	36,11
24	-4,44	61	16,11	98	36,67
25	-3,89	62	16,67	99	37,22
26	-3,33	63	17,22	100	37,78
27	-2,78	64	17,78	101	38,33
28	-2,22	65	18,33	102	38,89
29	-1,67	66	18,89	103	39,44
30	-1,11	67	19,44	104	40,00
31	-0,56	68	20,00	105	40,56
32	0,00	69	20,56	106	41,11
				107	41,66
				108	42,22
				109	42,78
				110	43,33
				111	43,89
				112	44,44
				113	45,00
				114	45,56
				115	46,11
				116	46,67
				117	47,22
				118	47,78
				119	48,33
				120	48,89
				121	49,44
				122	50,00
				131	55,00
				140	60,00

