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THE PUBLISHER'S ADDRESS.

THE PUBLISHER has for the fourth time, the pleasure to present the **PUBLIC** with his yearly Volume of the "**MADRAS NEW ALMANAC**."

On this occasion it has been completed with unusual care and attention; and without borrowing from any of its predecessors. He has this year been enabled, through the assistance of numerous contributors—to whom, he takes this opportunity of very respectfully tendering his most sincere and grateful acknowledgments—to lay before his **SUBSCRIBERS** and **PATRONS** a digest of new, useful and valuable matter, calculated to enlarge the boundaries of popular knowledge, by increasing the stores of information, here placed within its reach on subjects of very general interest.

The **PUBLISHER** particularly invites the attention of his readers to the first article in the division of the work designated, '**COMPANION TO THE ALMANAC**.' It consists of an alphabetical list of all places to be found in Maps of India, with the Latitude and Longitude of each, designed to facilitate the use of these Maps. By consulting the list, the relative positions of whatever places may become the subject of enquiry will immediately be discovered; and to complete its usefulness, a well executed, correct and highly finished Map of Hindoostan is attached.

The *original communications* in the '**COMPANION**,' on the Geography, History and Statistics of Travancore, Rannad, Poodoocottah etcetera, or sixth Class of Native States under the Madras Presidency:—that is, such as obtain protection from, with right on the part of the British Government to control their internal affairs—are from the able pens of Lieutenant Horsley of the Engineers; J. Kellie, Esq. of the Medical Establishment; and Lieut. Newbold, A. D. C. to General Wilson: to whom—and to the gentlemen who have favored the Publisher with tables on the altitudes of the Mountains of India, and of routes to the

Neilgherries for Bombay Travellers—collectively and individually, the Publisher feels deeply obliged, and grateful for these valuable Contributions: he likewise begs permission to return his respectful acknowledgments for the 'Gardeners' Calendar' which has contributed in no small degree to add to the value, usefulness and popularity of the Madras New Almanac.

Our present relations with the Court of Umerapoora are viewed with considerable interest by the Civil, Military and Mercantile Communities. The Publisher therefore deemed it consonant with the design of his Almanac to introduce a chapter, treating on the Burman Empire; a correct knowledge of which has not heretofore been generally available; this article is accompanied by a Map compiled from the latest and best Authorities.

The information comprised in the Directory has been obtained from the most respectable sources: that relating to Bengal and Agra from the Publisher's Correspondent at Calcutta: the European Department, which was prepared expressly for this volume was received by the last Overland.

The Publisher again desires to reiterate his most grateful and especial thanks to his kind Contributors for their invaluable aid, and to the Public in general for the favorable reception his former volumes met with;—and, having spared no exertion to render his Almanac deserving of permanent popularity, he humbly trusts that it will participate in the favor conferred upon its predecessors, and which, he confidently anticipates, its own merits will be found sufficient to justify.

J. B. PHAROAH.

CONTENTS.

	Page.		Page.
Admiral. The Queen's Ministers	237	Calculating-Tables, Wages &c.	67
Do. Queen's Council	237	Canara, Malabar and the Carnatic	339
Do. Remarkable places	252	Cart and Cooly hire	21
Absentee Allowances	13	Casualties	258
Do. Rules	LIV	Casualties without the year	416
Acts of Parliament	CXXII	Cataracts	361
Account of Barmah	169	Do. Indian	144
Accountant Genl's Office	390	Catalogue of the Jovian Cycle	222
Advocates	411	Cathedral, length of	257
Agency Houses	376	Cathedral, Roman Catholic	410
Do. Rates of	458	Ceded Districts	341 to 328
Agents at Home and Abroad	373	Centre Division of the Army	427
Do. at Madras	479	Central mountains	370
Do. East Indian, to London	376	Do. Government	323
Agra Collectors	361	Chamber of Commerce	CXIII
Allowances, Table for Calculating	67	Chaplain, Rules for	131
Alphabetical List of the names of		China Government	426
all places in the Map of India	79	Chronology Literary	181
Altitude of Mountains	251, 361	Chronological Systems, India	214
Amens, Suez	422	Church Establishments	325
Annas and Pice, Table for reducing		Do. of England	433
into Decimal parts	71	Do. of Scotland	440
Apothecaries	449	Circumference of Lakes	351
2d. do.	449	Civil List	399
Armenian Church	440	Do. Service Regulation	4
Army Agents for passengers to and		Do. Servants without employ	426
from India	376	Do. do. suspended	426
Assay, produce of Gold	72	Do. do. on Furlough to Eng-	
Do. Bullion	72	land	413
Assessment Department	437	Do. do. who have retired on	
Assistant Surgeons	442	Annuaire	417
Attorneys, Solicitors and notaries	433	Do. do. Quitting India	49
Average passages	66	Do. Fund	18
Baughy Conveyance	CXII	Do. Department	399
Bank, Government	399	Charges, what each country pays to	
Bells, Weight of European	259	support the	267
Bengal Collectors	360	Climates Table, of	259
Birman Empire, account of	169	Clive's Debt, Lord	CXXVI
Board of Control	372	Collectors and Magistrates	415
Do. Revenue	390	Collectors and Assistant Sub	415
Do. Marine	399, 450	Collectors of Bengal and Agra	360
Do. Commissioners	372	College, East India	377
Best Regulations	CV	Colonies, Settlers in the	182
Bombay Government	395	Commandants of Divisions	126
Do. Supreme Court	390	Commission, Indian Law	365
Do. Church Establishment	396	Comparative European mortality	261
Bombay routes from to the Neil-		Do. Scale Thermometers	270
gherries		Complexion of the Human Race	280
Binding Regulations	CXIX	Counters Court	449
Bores Length of	255	Cooly and Cart hire	21
British Colonies, European	379	Coorg	350
Do. American	383	Criminal Members of	399
Do. African	384	Do. Supreme	399
Do. Asiatic	384	Court, Supreme	399
Do. India	385	Do. of Requests for the recovery	
Do. the Theogony	430	of small Debts	434
Do. the Carriage, hire	21	Do. of Fidelity and Stole A-	
Do. the Mountains	252	davit	432
European Regulations	CXIX	Do. for the relief of Insolvent	
Cabinet Ministers	371	Debtors	432

The pages of the Appendix are numbered with numerical figures.

Principal Articles of the Almanac for 1840	Page	Principal Articles of the Almanac for 1840	Page
Queen, the	37	Spiral Height of	257
Ministers Abroad	378	Staff Personal of the Governor	285
Copper	375	Steam Parrels	331
Military Fund	1801	Supreme Government	335
Race, Size of the Human	261	Council	395
Complexion of the Human Race	269	Surgeon's District at the Presidency	415
Rainfall	301	Table of Duration of Moonlight	50
Rules of Agency	458	do. Climate	259
do. Gold and Silver	455	do. Showing the Expectation of Life	260
do. Cattle and Cart, &c.	33	do. Dominical Letters	59
Recruiting Officers	374	do. Average passages	63
Remarkable places abroad	252	do. for Calculating Income	65
Residents at Native Courts	396	Wages, Expenses, &c.	67
Right Honorable the Board of Commissioners for the Affairs of India	372	do. Daily pay	67
Rivers, Length of	255	do. for reducing Annas and pice into Decimal parts	74
Roads from Bombay to the Neighbourhoods	171	do. of Mountains	361
Rules for Chattris	181	Thermometers, comparative Scales of	270
Salt	351	Theragony, Hindu	228
Savings Bank	630	do. Buddha	230
Scales of Thermometer	214	Towers, height of	259
Schedules of Postages	334	Travancore	333
Secular diary of 19th Century	60	Travellers, Overland hire to	331
Secretary to Government	395	Trade List	481
Seigniorage	74	Table of Routes from Bombay to the Neighbourhoods	252
Settlers in the Colonies	133	Volcanoes, or Burning Mountains	252
Ship Postages	334	Wages, Table of	65
Showers of Dust	261	Waghorn's Agency	331
Signals for Ships	452	Waterfall	253
Sixth Class Native States	273	Weights and Measures, Money, &c.	77
Size of the Human Race	261	Weight of the principal European	259
Some account of the Local Geography and Statistical of the Cochin Districts	314	Belis	259
Myore	323	Western provinces Supreme Government	335
Canara	339	What each country pays towards Government	339
Malabar	339	What each country pays to support their Clergy	360
Carnatic	339	Wills, Law of	436
Nizam's Dominions	349		
Goorg	359		
Southern Malabar Country	352		
Special Proxy	35		

GARDENERS' CALENDAR.

INTRODUCTORY REMARKS.

We can scarcely imagine a more unsatisfactory task to enter upon than that of attempting to supply a Calendar of Gardening for India, owing to the novelty of the thing, and the almost total want of local Horticultural records, interposing a variety of difficulties which must be surmounted before we can almost advance a step, and continue, more or less, to impede our progress nearly to the end. We shall briefly notice some of these by way of preface, partly as an apology for the imperfections of our own, but principally, in the hope of inducing practical Horticulturists to lend their aid, in enabling us, to bring the future annual editions of these notes or memoranda nearer and nearer to perfection, by contributing such practical information as they may consider suitable to supply our, no doubt, numerous deficiencies in this first issue of forming a Gardener's Calendar for Madras; which, we are most anxious to impress on the minds of our readers, we are so far from considering a finished work, that we look upon it as a mere nucleus or foundation, on which many must build before the edifice can be completed.

In stating the difficulties therefore which beset our path in this first attempt, we may begin by reminding our readers, that it is the business of Almanac compilers to endeavour to please every one, whereas in this department, having no local records to which we can turn with the certainty of finding in the accumulated experience of ages whatever may be required to enable us to give an epitome of all that is necessary for such a work, we fear we shall not be able to please any one. If we endeavour to compile from European records, the very first step we take leads into almost inextricable confusion, for there, the Gardener's Calendar commences in January, a season when but little beyond preparation for future operations can be attempted, whereas to us, January is about the conclusion of our active season; a period, after which little can be done on account of the approaching hot season of the year. Hence, if we begin with it, we should be constrained, contrary to the plan we now pursue, of introducing our Calendar with a Preface, to dive at once in *medias res*, and ultimately leave it like a ring without either beginning or end. For these weighty reasons we propose adopting the spirit, while we depart from the letter of European calendars, and commence ours, as they do theirs, with the season of preparation, as being equivalent to the European winter; gradually advance through the season of action; and rest from our labours during the dog-days, when further application to out-door-work becomes disagreeable; or even liable to injure the health. In this way we hope to conquer our first difficulty. The next is not so easily overcome. The seasons differ in different parts of the country, while we write for the climate of Madras alone. On this point we must solicit those of our up-country readers who adopt our rules as their Horticultural guide, to exert their ingenuity to adjust them to their respective localities, and communicate the result for record in future editions, for the advantage of their successors; and lastly comes, what to us is the greatest difficulty of all, we are ourselves but indifferent practical gardeners, having, in the course of our rather prolonged sojourn in India, had but few opportunities of following the bent of our inclinations by engaging freely in that delightful pursuit. This lack of knowledge, combined with the want of written records, already adverted to, from which to compile, give us but too good reason to fear that many of those who consult

this portion of our annual will find numerous occasions on which to convict us of ignorance, and even to throw aside our directions as the production of mere pretenders and theorists, accusations to which, on so many occasions, we must plead guilty, but trust we will not be denied a pause for hearing when it is borne in mind, that practice is the basis of sound theory, and that until practice is reduced to theory it is mere empiricism, which may perhaps, be successfully repeated so long as circumstances are the same, but cannot explain or guard against the sources of failure, or be modified by the empirical practitioner to meet unforeseen contingencies and altered circumstances. On these grounds and under the firm conviction that mere practical details regarding sowing and planting can never materially advance our knowledge of gardening, we this year, as the most acceptable present we can make to our Horticultural supporters, introduce our Calendar with a treatise "on the first principles of Horticulture" drawn up by Dr. Lindley, Secretary to the Horticultural Society of London: one of our most scientific Horticulturists and best writers on all matters appertaining to vegetable Physiology as applied to the establishment of Horticulture on scientific principles, and who, we are happy to observe, has it in contemplation to publish a complete treatise on Horticulture. Judging from his high qualifications for the task he has imposed upon himself, we doubt not it will prove one of the best works extant on the subject.

Our Calendar we begin, as formerly, with July, that being the month, most nearly equivalent in Indian Horticulture, to January in Europe. On the present occasion it has been carefully revised and several additions made which we hope will be found useful in better adapting to supply the objects for which it was originally drawn up.

P. S.—The English seed distributed by the Agricultural and Horticultural Society of India this year were accompanied by the following extract from Lieut. Munro's report on the state of Agriculture and Horticulture in Mysore. "I have derived great benefit from the use of the hotbed, as I scarcely ever fail in raising seeds from England, which in former times seldom vegetated." This information is too valuable to be omitted in our present issue but at the same time we feel it quite incumbent on us to warn the experimenter with the hotbed, that while he is giving bottom heat he must carefully exclude the rays of the sun, on the simple principle, (well known in practice but not equally so in theory) that, exposing seed for several hours to a heat exceeding 112° destroys their power of vegetation, and hence, that, as exposure to the sun (the heat from which is rapidly absorbed by the soil,) speedily raises the heat of the hotbed far above the point at which it destroys the vitality of the seed, certain disappointment will ensue unless that precaution is taken. The rule, therefore, of shading seed when first sown cannot be too strongly insisted on, for the same reason, that in Europe early seed beds are sheltered from frost, excessive heat and cold being equally injurious to germinating seed.

Having added this important item to our Calendar, we can send forth our little bark to make its annual voyage, ourselves greatly rejoicing to learn that none of all those who have reposed confidence in our judgment, and adopted our directions as their horticultural guide, have been disappointed in their favourable opinion.

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 organised 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, &c. 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 at each end; or rows of cylindrical cells, 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 aerial 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 a 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* (I.); *Stem* (II.); *Leaf-buds* (IV.); *Leaves* (V.); *Flowers* (VI.); *Seeds* (VII.); *Fruit* (VIII.); and *Seed* (IX.).
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 (III.); and of pith in Exogenous plants.
29. Therefore, such underground bodies as those called Tubers (61.) in the Potato; Bulbs (36.) in the Onion; and solid Bulbs or Corms (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 spongiole, as in an uninjured state is essential to the removal of a plant from one place to another.
34. A *Spongiole* consists of very young vascular tissue (12), surrounded by very young cellular substance. (3.)

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 (28), and mineral or vegetable poisons, will produce 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 unhealthy nature, as they will still continue to absorb, they cannot but 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 must be so much greater than can be replaced by the injured roots, that the whole system will be supplied at first before the new spongioles can form.
43. This is the key to Transplantation, (XX.)
44. As roots are destitute of leaf-buds (IV.), and as leaf-buds are essential to the multiplication of an individual (68), 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 still poisonous soils are so seldom noted 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 injurious 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 spongioles (31.) on its surface, bearing leaves with leaf-buds in their axillæ, and producing flowers and fruit.
59. The points where leaves are borne are called *Nodes*; the spaces between the leaves are called *Internodes*.
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 its vigour.
61. Some stems are developed under-ground, such as the Tubers of the Potato and the Corms 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*; as, Oak.
64. Or by the addition of new matter to their inside; when they are *Endogenous*; as, 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 *Alburnum* 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 *Silver Grains*.
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 warp 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 for cautiously.

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 *orient*. (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 expend 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 *Scissels*.
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

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

148. 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.

149. Consequently, by buds an accidental variety may be made permanent, if the plant that sports be of a firm woody nature. (84.)

150. 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.

151. 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.

152. 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.

153. 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. (81.)

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

155. 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* (182.), and *Discoid Compound Flowers*. (184.)

156. Although no certainties 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.

157. In *Isosandrous* and *Polyandrous* plants either the stamens or the pistils 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.

158. It is therefore in such plants that double flowers are to be principally expected.

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

160. Double flowers are therefore best to be expected in plants with fewest stamens.

161. Whenever the component parts of a flower adhere by their edges, as in monosyllabic cases, monosyllabic corollas, and monosyllabic, or dis-, or poly-androus stamens, the tendency to an unnatural multiplication of parts seems checked.

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

163. *Proliferous flowers* are those in which parts that usually have all their axillary buds dormant, or scarcely develop such buds; as in the *Ham* and *Chickens* Daisy, in which the bracts of the involucre form other Daisy-heads in their axils; or, as in certain roses, in which the carpentary leaves develop leaflets in their axils, 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.

164. *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*.

165. 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. SEXES.

166. The sexes consist of two or more whorls of transformed leaves, of which the outer are called *Stamens* (182.), and the inner *pistillum*. (191.)

167. 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.

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

169. 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 upon the stigma (191.); or exposing it to the action of wind, or such other disturbing causes as may liberate it from its case.

170. The pollen consists of exceedingly minute hollow balls, or cases, resembling myriads of moving particles, which are the fertilising principle of the stamens.

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

172. The ovules are the rudiments of seeds.

173. If the fertilising powder of the pollen comes in contact with the stigma, the ovules to the cells of the pistillum are vivified, and become seeds.

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

175. The phenomenon of vivification takes place in consequence of the descent of a portion of the moving particles (169.) of the pollen into the ovules, where such particles form the rudiment of future plants.

176. In wild plants a stigma is usually veiled upon only by the pollen of the stamens, which is long to it.

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

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

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

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

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

182. They have little power of perpetuating themselves by seeds; but they may, if woody, be perpetuated by cuttings (112), buds (244), scions (235), &c.

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

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

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

186. Hybrid plants must not be confounded with such as are sports, in consequence of their origin being between two varieties of the same species, and not two species of the same genus.

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

188. This is, probably, connected with constitutional debility. (162.)

VIII.

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

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

191. 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*.

192. 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 branched branch. (153.)

193. 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.

194. 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. (84.)

195. 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.

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

197. 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.

198. The office of feeding such fruit is performed by young branches, which transmit nutriment to it through the bark. (63.)

199. 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.

200. 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.

201. 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.

202. 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.

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

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

205. 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.

206. For this reason, 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.

207. 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.

208. We find that nature has betaken 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.

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

210. The ripening of fruit is the conversion of acid and other substances into sugar. 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 Peas, Cherries, &c.

235. Hence acidity may be corrected by exposure to light; and excessive sweetness, & 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 necessarily 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 (204), or may be the means of improving something else.

240. It is very unnecessary such considerations as the foregoing that the rules of fruiting 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 is the seed, will be in all essential particulars like its parent.

245. Unless its nature has been changed by hybridism. (204.)

246. But although it will certainly, under ordinary circumstances, re-produce 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 cultivation, 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 to, as really happens, to resemble the variety from which it springs, more than any other variety of the 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 be a great measure, have the perfect properties of the parent variety.

253. If a series of successive 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 Tulips, 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 contaminated, in proportion to the want of care that has occurred, and loses its character of individuality.

255. In all varieties these seeds may be expected to preserve their individual characters most distinctly, which have been the least nourished (240); i.e. embryo, &c., those which should be selected in preference for raising new plants, from which seeds to be sown.

256. When seeds are first ripened, they embrace a mass of cellular substance, containing starch, fixed oil, &c., or other solid matter in incrustation; and in this state it will remain until fitting circumstances occur to set 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, &c. and undergoes certain chemical changes; its vital powers become as it were excited for the purpose of finding light, and of decomposing its carbonic acid (273); it partakes with its accumulated oxygen, and is drawn 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 (274) 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 mullage 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 (265.)

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 (273), 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 impede 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 precocious.

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. Impeded 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 the (XII.) Light (XII.), and Temperature.

XI. AIR AND LIGHT.

277. When an embryo plant (242.) is formed within its integuments, it is usually colourless, &c.; 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 day-time 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 soil or 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, and 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 part 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 assimilates by light and air. Thus, also, if Peaches are grown in wooden houses, at a dis-

tance 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.

357. 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.

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

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

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

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

362. 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, where buds, if too rapidly excited, might exhaust their only reservoir of sap, the stem, before new roots were formed to repair such loss.

363. As plants derive an essential part of their food from the air (286.) 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.

364. The proportion of opaque matter to the roof of a glass-house constructed of wood varies from 1-34 to 1-7th,—that of an iron-house does not exceed 1-23d.

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

366. 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 plane roof with glass perpendicular sides the worst adapted to the purposes of the cultivator.

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

368. Poisonous gases in very minute quantities act upon vegetation with great energy. A ten-thousandth part of sulphurous acid gas is quickly fatal to the life of plants; and hence the danger of fumes 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.

369. 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.

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

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

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

373. If, then, things 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.

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

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

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

377. 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.

378. 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.

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

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

XIII. CUTTINGS.

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

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

383. A cutting consists of an internodium, or a part of one, with its nodes (29.) and leaf-bud.

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

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

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

387. 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 (319), 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 parent 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 *Danias* and other herbaceous plants will strike root freely when cuttings are very young; and *Heaths*, *Azaleas*, and other hard wooded plants, only when the wood has just begun to harden.

329. The former has, 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 resist 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 depletion 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 *peru 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. SCIENS.

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

336. Sciens are of two sorts, sciens properly so called, and buds. (354.)

337. Whatever is true of cuttings is true also of sciens; 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 exclu-

sively 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 single 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. An adhesion of only an imperfect nature takes place when the scion and stock are, to a certain degree, dissimilar in constitution, so will an 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 downward by the trunk 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 orcharding is the same with reference to grafting that layering (324.) 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 exsanguis, 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 organic, as evergreen, 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 exhaustive 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 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, before the benefit that might be derived from them is lost to the agriculturist, 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 palm-leaf 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 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

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 tuber 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, or 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 sowing 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 a 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.

Peas and Beans. 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 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 as advanced 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 transplants the earlier sown ones: Carrots, Turnips, Cauliflowers, Broccoli, Cabbages, Knolkole, 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 effect 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 goot-teeing 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 operations 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 remarkable 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 seasons 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 southerly 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 promise 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 has 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 practised in Europe; here 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 show 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 Knolks may be similarly treated. The latter has always shown a remarkable aptness 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 successively 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 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 that 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 result 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.

Quantity of Rain fallen at Madras, during the year 1839.

Quantity of Rain.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Inches.....	5	0	0	1	1	2	4	6	12	0	22	0	57
Cents.....	32	0	0	55	50	35	20	62	61	81	54	0	90

THE FOLLOWING DIRECTIONS FOR THE CULTIVATION
OF THE MAURITIUS SUGAR CANE, WERE PREPARED
AND CIRCULATED BY THE GENERAL COMMITTEE
OF THE AGRICULTURAL SOCIETY.

As the most favourable season for planting the Sugar Cane has arrived, and as the Mauritius Cane in the Agri-Horticultural Society's Garden are now cutting for distribution, though much too young for Sugar making, the General Committee have deemed it desirable to furnish those receiving them with such instructions for its culture as their past, though as yet too limited, experience enable them to give. These are more especially intended for those who contemplate establishing this kind of cultivation for the first time. For those in whose Districts it has long been carried on, our instructions can scarcely be wanted, as there does not appear to be any peculiarity in the management of this sort, unless perhaps, that of its requiring a richer soil, but much less water, than is usually considered necessary for the Country Cane. It may be well to premise that in the Horticultural Garden the object has been to grow Cane for rapid propagation, not for making Sugar, hence they have usually been cut sooner than would have been judicious had the latter been our object, namely in 7 or 8 months, in place of 10 or 12 or even 14, which seems necessary to mature the juices sufficiently to admit of their giving the most profitable returns to the Sugar boiler. It is further necessary to state at the outset that the soil of the Garden is naturally poor, and has never, so far as the Committee are aware, been under crops requiring a deep and rich soil, our instructions therefore apply rather to such soils than to the deep and rich ones which have been long under cultivation, and may appear to some too expensive. That however can be easily adjusted to the locality in which it is intended to grow the plant, bearing in mind that it is better to give too much than too little of both manure and labour, since these have a tendency to improve the stock, as well as the quality and quantity of juice, and ultimately saves expense, by enabling the soil with a little assistance, to yield 2 or even 3 crops from one planting.

In the preparation of the soil in the Garden we first dig it over to the depth of two feet, carefully removing, as much as possible, all weeds, especially the roots of the knot grass, a most troublesome one, the ground is next richly manured (covered to the depth of about 6 or 8 inches,) and immediately dug over again to as great a depth as at first, the object being thoroughly to incorporate the soil with manure. The nearly total failure of our first bed, after cutting the first crop (owing solely it is presumed to the poverty of the soil, as fresh manuring has recovered the ration crop to a considerable extent,) pointed out the necessity of adopting this course. The ground is next trenched to the depth of from 10 to 12 inches; the trenches are lined with compost, composed of about equal parts of old well rotted manure and soil, or still better perhaps, for field practice, with unrotted manure, of any procurable kind, covered with a few inches of earth; and lastly, flooded with water. They are then ready for the reception of the cuttings. The trenches are about 4 feet apart, each cutting should have at least 3 joints, and may be either stuck into the ground in a sloping direction, or merely laid flat in the trench and pressed into the soft muddy bottom until on a level with the surface; should the weather prove hot and dry, they may be shaded slightly for a day or two and receive a fresh supply of water on the third day, which may be repeated according to the state of the weather, but

in rainy weather no such precaution is required. In the course of a few days the plants begin to shoot, and in about a month will have attained the height of several inches, when they require to be earthed up a little, and in about another month the trenches are filled up and the ground levelled. From this time no care is required beyond an occasional hoeing, one of the most useful operations in husbandry, to remove weeds and loosen the soil about the roots. As the Canes approach maturity, the lower leaves begin to brown and drop off, at this time they ought to be freed from all these decayed leaves, which should at once be dug into the ground and will thus have the double advantage of fresh manuring the soil and allowing a freer circulation of air through the plantation, now become so dense as to render this a very useful measure. But these are not the only advantages derived from their removal, the decaying leaves retain moisture about the joints, causing them to throw out roots and begin to shoot, which invariably injures the Canes and lessens the quantity and deteriorates the quality of the juice, both of which are prevented by this simple operation.

In the West Indies "trashing" as this cleaning is called, is considered of the first importance towards ensuring the thorough ripening of the crop, and as the Canes there, are not considered fit for cutting until they are 12 or 14 months old, without this precaution, to prevent them growing in stalk, half their crops would usually be lost from that cause and the attacks of insects, to which the decayed leaves afford shelter. For these reasons, besides depriving the lower part of the stems of a useless incumbrance, trashing is attended with many advantages and the trash itself, if not dug into the soil as above recommended, may be piled in layers and mixed with lime or ashes and layers of earth and will form an excellent manure with which to dress the roots after the crop is cut. Some West India Planters object to trashing as depriving the Canes of a protection from the scorching heat of the sun. So far as our experience extends there is little to fear from that cause, as the thick canopy, formed by the top leaves affords ample shade to the naked Canes below. This therefore can scarcely be admitted as an objection, unless perhaps the crop is so thin as not to be shaded by the remaining leaves and then the necessity for trashing is not so pressing, as there can be no want of ventilation, but unquestionably, judging from the experience we have had in the Garden, this is a most beneficial operation, and one which is regularly and carefully performed, every loose leaf being removed, but none that continues to adhere and contribute to the health of the plant.

The following extract from the kind of manuscript that ought to be preferred, is from a very able and scientific paper on the culture of the Sugar Cane in Jamaica, and will it is hoped, prove useful here. The Author, after urging in strong terms the necessity for manure in the cultivation of this plant, and pointing out, that owing to absolute neglect of it by some planters, the returns from their estates had fallen from 400 to 500 lbs per annum, proceeds—

"I need scarcely say, that, although the practice followed is the reverse, manure ought in this, as in all the other departments of agriculture, to be used in a fresh state. It is true that when it is employed in a decomposed state, the effects it produces are more apparent during the first year. After that, these disappear, leaving the soil in its former impoverished condition; requiring to make adequate returns, a repetition of the application every succeeding year. Recent manure, on the contrary, is not limited in its benefits; the result of its application continuing to be discernible for a number of years. Nature herself, indeed, teaches us the advantages of this latter practice. When fermentation or putrefaction goes on above ground, gaseous effluvia, equally noxious as offensive, force us to bury them beneath the surface—there these very operations become salutary—the decomposing mass, by gradual changes, is converted into forms of beauty and usefulness; the foetid gas is rendered a constituent of the aroma of the flower, and what otherwise would have proved injurious to life, becomes nourishment to animals and to man. In a climate like this, the necessity of employing manure in an early stage is particularly urgent, the heat hurrying on the process of decomposition and soon dissipating the gaseous matters, whilst the heavy rains wash away all that is soluble, or might be of benefit to the soil."

In proof of the correctness of the opinion that fresh manure is the best, it may be mentioned that 2 beds on the same piece of ground were planted with Sugar Cane at the same time in the Society's garden, the bottom of the trenches of the one, being first lined with a layer of trash cleaned from another bed of Cane then in course of cutting, the supply ran short when about half of the ground had been gone over. The ground so manured has produced a rich crop, the equal under has proved, but little better than a failure, and the little we shall have from this manure, attributable to very liberal manuring at a less favourable period.

The following extract is from a letter of Lieutenant Kirke, published in the 6th Volume of the Transactions of the Bengal Agricultural Society, suggesting a speedy method of propagating the Cane, and will form an appropriate conclusion to these brief and hurried remarks, but which it is hoped may form a basis, for many useful communications to the Society on the culture of this valuable plant.

"I have also succeeded in an experiment with the Otahite Cane, which will, I hope, cause its rapid increase. It is very simple, and as follows: The moment the rains have fairly set in, take cuttings from the old ratoon and plant them in the usual way; these spring up immediately, and will bear five or six canes by December, fit for seed, the root once being established no danger from white ants is likely to occur. I first planted fifty slips in this way on the 15th June, and all except one are now (9th September) like old plants. On the 30th of the month, I tried 200, and all except 3 are growing famously. I have continued experiment throughout the rains with equal success, and feel certain that if a person is possessed of one acre of Cane he may easily have 100 acres under cultivation by the end of the year, the ratoon once established I imagine the plantation would last from 15 to 20 years if put at proper distances in the first instance. It is quite evident that the white ant, which is apparently the grand enemy, goes down deep into the earth when the rains commence, and that from the constant moisture the young plant grows much more rapidly than in February and March the regular planting season."

On this extract one or two remarks suggest themselves. Encouraged, partly, by the success of Mr. Kirke's experiment supported by one in the garden, partly, to avoid the nightly ravages of Jackals on our small plantation, but principally, instigated by the approaching favourable season of the year for planting, we were induced to cut our Cane before they had attained perfect maturity. The Committee, though they anticipate neither loss nor injury from this measure, yet wish to guard cultivators against adopting this example as a rule, since it would lead to the establishment of a practice, which, they conceive, must prove most injurious. It is an established law of nature, both animal and vegetable, that the more perfect and vigorous the parent, so in like manner will be the offspring; hence the constant practice of breeding from the finest and best stock, and of selecting the best seed for sowing, (these, certainly, always yielding more profitable returns than those of an inferior quality. On the same principle, the Committee beg to state it as their unqualified opinion, that, in the cultivation of the Sugar Cane the same rule holds good and ought always to be acted upon; and recommend that, in place of refuse canes and top cuttings only being used for planting, the best of the field should invariably be selected for this purpose, and green, half-ripened ones and top cuttings altogether rejected, as only fit for manure, since propagating from bad stock has a constant tendency to deteriorate the stock, while the contrary practice has an equal tendency to raise its quality, improve the variety, and give infinitely more profitable returns than if, from ill-judged economy, bad or not thoroughly ripened ones only, were used as seed cane. Another passage that calls for remark is that where Mr. Kirke says "I imagine the plantation would last from 15 to 20 years if put at proper distances in the first instance." That such is possible is most certain, for it is known to have happened in very favourable soils, but that it is most improbable is equally certain, since it is rare indeed, that such success met with; in fact the Sugar Cane very rapidly exhausts, for the soil on which it is grown, and unless the soil be kept well in heart by frequent hoeing, and liberal manuring after each crop, the chances are, that it will not produce above one crop of ratoon, and that very inferior indeed to the previous planted crop.

I have the honour to be,
Sir,
Your obedient Servant,

* So much importance do the Committee attach to the quality of the seed, that they would strongly recommend persons, intending to prosecute, on a considerable scale, this branch of Agriculture, to raise their seed cane on a plot of ground set apart for that express purpose. A few hundred square yards of surface, well prepared, would produce Canes enough to plant a large field. Such a plot might, at a small cost, be so thoroughly dug, and, and so richly manured, as to ensure the produce being of the very best quality, and if the method, here recommended, be systematically pursued there is little reason to doubt, that the present stock, excellent as it is, will yet improve among us, in place of annually being lost with evictions, becoming deteriorated, and requiring frequent removal from the original source.

ECLIPSES OF THE SUN AND MOON.

In the year 1840 there will be two ECLIPSES of the SUN, and two of the MOON.

I.—A Partial Eclipse of the Moon, February 17th, visible at Madras.

ELEMENTS OF THE ECLIPSE.

1. Meantime of Full Moon, February 17th. 7h.	14.6m. P. M.
2. Moon's horizontal Parallax.....	0 57 36
3. Sun's Semidiameter.....	0 16 18
4. Moon's Semidiameter.....	0 15 43
5. Semidiameter of the Earth's Shadow.....	0 41 28
6. Semidiameter of the Penumbra.....	0 32 1
7. Moon's Latitude. North descending.....	0 46 41
8. Angle of the Moon's visible path with the Ecliptic.....	5 35 0
9. Moon's true horary motion from the Sun..	0 30 59

PARTICULARS OF THE ECLIPSE.

First contact with Penumbra.....	15.54.8m.	P. M. Mean time at Madras.
First contact with dark shadow.....	17 3	
Middle of the Eclipse.....	7 23 4	
East contact with dark shadow.....	8 29 6	
East contact with Penumbra.....	9 32 0	

Entire duration = 4 hours 57.2 minutes.

Duration from first, till last contact with dark Shadow = 2 hours 12.3 minutes.

Magnitude (Moon's diameter being 1) = 0.36 on the Southern limb.

This Eclipse becomes visible from longitude 80° W. and disappears in longitude 27° E.

26 B

I.—An annular Eclipse of the Sun, March 3d, (4 A. M.) visible as a total Eclipse at Madras.

ELEMENTS OF THE ECLIPSE.

1. Mean time of New Moon, March 3d...	21h.	26.7m.	
	(4th.	9h.	26.7m. A. M.)
2. Semi-diameter of the Earth's disc.....	0	58	9
3. Sun's distance from the nearest Solstice, viz. ♄ Capricorn.....	73	54	43
4. Sun's declination, South.....	6	20	2
5. Moon's latitude, North ascending.....	0	39	53
6. Moon's true horary motion from the Sun..	0	31	38
7. Angle of the Moon's visible path with the Ecliptic.....	5	35	0
8. Sun's Semidiameter.....	0	16	14
9. Moon's Semidiameter.....	0	15	51
10. Semidiameter of the Penumbra.....	0	32	5

PARTICULARS OF THE ECLIPSE.

Beginning 3d 19h	5.0m.	(4th 7h.	5.0m. A. M.)	} Mean-Time at Madras.
Middle.... 3d 20	21.0	(4th 8	21.0	
End..... 3d 21	47.5	(4th 9	47.5	
Duration=2 hours, 42.5 minutes.				
Magnitude (Sun's diameter being 1.) = 0.89 on the Northern limb.				

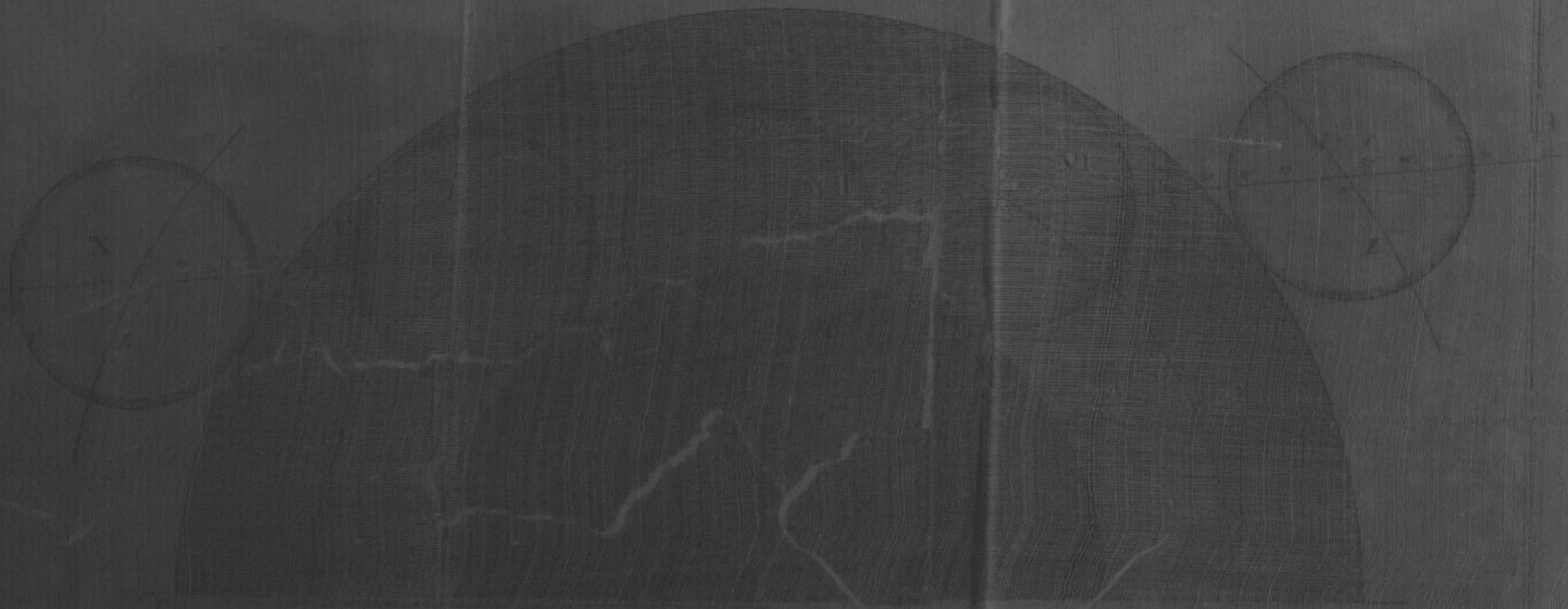
This Eclipse is generally visible between the longitudes 71° and 166° E. and between the Latitudes 2° S. and 54° N.; except, therefore, in the western parts of Asia, it may be seen all over that continent, in several of the Eastern Islands, and part of the Indian and North Pacific Ocean.

It will appear annular in the middle parts of China and in Eastern Asia.

III.—A partial Eclipse of the Moon, August 12th, invisible at Madras.

IV.—A total Eclipse of the Sun, August 26th, invisible at Madras.

*Geometrical Projection of a Partial Eclipse of the Moon
visible at Madras on the 17th February 1840, between 4th and 10th P.M.*



Explanation of the Projection.—(Lunar Eclipse.)

- A B* Scale of 60 minutes of a degree.
- C D E* Part of the Ecliptic.
- F G* Axis of the northern part of the Ecliptic.
- H I K* Moon's centre at the time of her entering into and leaving the dark shadow.
- E* Moon's centre at the time of her entering into and leaving the Penumbra.
- M* Northern half of the Earth's dark shadow.
- N* Penumbra.
- O P* Northern half of the axis of the Moon's orbit.
- Q R* Line in which the true time of opposition of the Sun and Moon falls.
- S T* Path of the Moon's centre.
- U* Moon's centre at the middle of the Eclipse.
- V* Moon's centre at the Tabular time of her being full.
- W* Moon's centre at the instant of ecliptical opposition.
- a f* The Moon at her entering into the Penumbra.
- b g* The Moon at her entering into the dark shadow.
- c U* The Moon at the middle of the Eclipse.
- d h* The Moon at her leaving the dark shadow.
- e i* The Moon at her leaving the Penumbra.

PRINCIPAL ARTICLES
OF THE
ALMANAC FOR 1840, LEAP YEAR.

CHRONOLOGICAL CYCLES.

GOLDEN NUMBER.....	17	DOMINICAL LETTERS.....	E and D
EPOCH.....	26	ROMAN INDICTION.....	13
SOLAR CYCLE.....	1	JULIAN PERIOD.....	6553

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

Epiphany.....	Jan.	6	Restoration of K. Charles	
Septuagesima Sunday.....	Feb.	16	II.....	May 29
Quinquagesima or Shrove			Pentecost—with Sunday.....	June 7
Sunday.....	Mar.	1	Trinity Sunday	June 14
St. David.....	Mar.	1	Corpus Christi.....	June 18
Ash-Wednesday.....	Mar.	4	Accession of Q. Victoria.....	June 20
Quadragesima Sunday in			Proclamation.....	June 21
Lent.....	Mar.	8	St. John Bapt. Midsummer	
St. Patrick.....	Mar.	17	day.....	June 24
Annunciation—Lady Day.....	Mar.	25	Birth of Dowager Queen	
Palm-Sunday.....	Apr.	12	Adelaide.....	Aug. 13
Good-Friday.....	Apr.	17	St. Michael—Michaelmas	
Easter Sunday.....	Apr.	19	Day.....	Sept. 29
St. George.....	Apr.	23	Gunpowder Plot.....	Nov. 5
Low Sunday.....	Apr.	26	1st Sunday in Advent.....	Nov. 29
Rogation Sunday.....	May	24	St. Andrew.....	Nov. 30
Birth of Q. Victoria.....	May	24	St. Thomas.....	Dec. 21
Ascension day, holy Thurs-			Christmas-day.....	Dec. 25
day.....	May	28		

HOLIDAYS OBSERVED AT THE GOVERNMENT BANK AND
GENERAL TREASURY.

New Year's Day.	Ascension-Day.	Poodlyar Chouthec.
Christmas-day.	Pongool Feast.	Auycootha Poojay.
Ash-Wednesday.	Auvaneyavuttum.	Moocooty Yacaudasee.
Good-Friday.		

NATIVE FESTIVALS.

Pongool Feast.....	Jan. 12, 13	Stree Permatoor Chattoo-	
Tye Aumavasy.....	Feb. 3	mory.....	May 6
Maha Sivaratri.....	Mar. 2	Radhotsavum at Conjeve-	
Radhotsavum at Trivatoor.....	Mar. 14	ram	May 20
Holy Feast.....	Mar. 18	Audy Pandagy.....	Aug. 13
Chundrasum Vachirady		Vinaika Chaturthi.....	Aug. 31
Oogady.....	Apr. 3	Mahalia Aumavasi.....	Sept. 23
Shrirama Navami.....	Apr. 10	Maharnavami, Saraswati	
Hindoo New Year.....	Apr. 11	Pooja.....	Oct. 5
Radhotsavum at Triplicane.....	Apr. 23	Vija Dasami.....	Oct. 6
		Depavali Feast.....	Oct. 24

TERM DAYS.

1st Term commences,	Feb. 1	1st Term concludes,	Feb. 22
2d do. do.	Mar. 21	2d do. do.	Apr. 9
3d do. do.	July 18	3d do. do.	Aug. 7
4th do. do.	Sept. 12	4th do. do.	Oct. 2

JANUARY

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

January	5	Isaiah	1	.....	60	.....	Luke 5 to v. 33
"	12	1st Sun. after Epi.	15	.....	19	.....	"
"	19	2d "	21	.....	17	.....	"
"	26	3d "	26	.....	23	.....	"

PROPER LESSONS, EVENING.

Isaiah	42	.....	John 2 to v. 12
"	46	.....	Romans
"	53	.....	1st Cor.
"	56	.....	"

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.					
Wed. 1	Circumnavigation.—Union of Ireland with G. B. 1801.	D. H. M. 2 9 49 ♀ with ☿ 6 28 N.					
Thur. 2	Calcutta retaken from Sarajad-Dera 1757.	2 16 29 ♀ with ☿ 7 29 N.					
Fri. 3	"	5 14 30 ♀ with ☿ 1 24 46 S.					
Sat. 4	"	6 22 10 ♀ with ☿ 1 4 N.					
Sun. 5	"	8 13 41 ♀ grt. elong. 23 19 W.					
Mon. 6	ERISYANT.—Pondicherry taken 1761.	8 15 38 ♀ greatest Hel. lat N.					
Tues. 7	"	8 16 49 ♀ in perihelion					
Wed. 8	"	9 7 38 ♀ with ☿ 1 27 S.					
Thur. 9	"	10 2 2 ♀ with ☿ 1 2 N.					
Fri. 10	Cape of Good Hope captured 1806.	11 5 21 ♀ in perihelion					
Sat. 11	British entered the Andaman country.	13 15 21 ♀ with ☿ 5 52 N.					
Sun. 12	First Sunday after Epiphany.	15 17 21 ♀ with ☿					
Mon. 13	"	19 16 40 ♀ in ☿					
Tues. 14	"	22 7 29 ♀ with ☿ 0 52 N.					
Wed. 15	"	23 10 41 ♀ in ☿					
Thur. 16	"	27 8 46 ♀ with ☿ 6 21 N.					
Fri. 17	Shantpoore taken 1836.	29 20 13 ♀ in Aphelion					
Sat. 18	Second Sunday after Epiphany.	29 22 52 ♀ with ☿ 6 23 N.					
Mon. 19	"	30 15 49 ♀ with ☿ 6 50 N.					
MERIDIAN PASSAGE AT MADRAS MEAN TIME.							
Days	☿	♀	♂	♂	♂	♂	
Jan. 20	1 22 29	20 48	2 46	20	0 22 15	4 17	
Tues. 21	6 22 10	20 52	2 1	19 44	21 58	3 58	
Wed. 22	11 22 28	20 56	1 56	19 27	21 40	3 59	
Thur. 23	16 22 36	21 0	1 53	19 10	21 28	3 21	
Fri. 24	21 22 46	21 4	1 48	18 53	21 5	3 1	
Sat. 25	25 22 58	21 10	1 44	18 35	20 48	5 43	
ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.			Satellites.				Mean Time.
Days	I.	II.	III.	IV.	V.	VI.	
Jan. 25	13 15	31	12	Im.			
Feb. 26	20 17	24	40	Im.			
Mar. 27	20 13	46	32	Im.			
Apr. 28	12 10	14	30	Im.			
May 29	30 12	52	38	Im.			

JANUARY XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31	
Barom.—In.	30.115	30.110	30.090	
Thermometer	75.3	75.5	75.0	
Maximum.	86.0			
Minimum.	68.0			
Rain—Inches.	0.55	0.33	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 free 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 4.00 p. m.; the coldest at 4.00 a. m.

PHASES OF THE MOON.

	D. H. M. S.
☉ NEW MOON.....	5 2 41 3 A. M.
☾ FIRST QUARTER.....	12 1 18 6 P. M.
☾ FULL MOON.....	19 6 54 8 A. M.
☾ LAST QUARTER.....	26 6 55 1 P. M.
☾ PERIGEE.....	16 1 21 1 P. M.
☾ APOGEE.....	28 8 21 1 A. M.

SUN'S

MOON'S

Days	Right Ascension.	Declination.	Equation.	Hours.	Meridi- an.	Sets.	Semi- di- ameter.	Age.	Hours.	Meridi- an.	Sets.	Semi- di- ameter.
At m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	Morn.	Morn.	Evening.	h. m. s.	h. m. s.
1	13 43 29.81	8 35 5 5.8	3 20 35.6	27 12	3 30 5 31	16 17 35.4	8 14	0 0 0	3 46 14 45			
2	13 47 35.4	8 30 0 16.0	3 58 36.6	27 12	3 59 5 16	17 37.4	4 5	0 59 0	3 35 14 48			
3	13 52 19.90	8 24 59.7	4 27 34.6	28 12	4 27 5 42	19 17 28.4	4 58	10 42 0	4 23 14 53			
4	13 56 41.3	8 19 18.0	4 55 13.6	28 12	4 55 5 43	15 17 23.4	5 51	11 35 0	5 20 14 49			
5	14 1 8.36	8 13 2.0	5 23 51.6	28 12	5 23 5 43	16 17 17.0	6 48	9 27 6	6 15 15 6			
6	14 5 28.37	8 7 23.1	5 52 77.6	28 12	5 50 5 44	16 17 1.0	7 30	1 19 0	7 19 15 13			
7	14 9 55.63	8 0 29.17	6 16 37.6	29 12	6 16 5 44	16 17 2.0	8 15	2 8 0	8 4 15 21			
8	14 14 18.40	7 53 21.45	6 43 10.6	29 12	6 43 5 45	16 17 3.0	8 55	2 55 0	8 59 15 29			
9	14 18 40.64	7 46 15.1	7 8 10.6	29 12	7 8 5 45	16 17 4.0	9 35	3 40 3	9 45 15 37			
10	14 23 5.22	7 39 5.21	7 33 15.6	29 12	7 33 5 46	16 17 5.0	10 15	4 25 2	10 37 15 46			
11	14 27 28.12	7 32 30.2	7 57 25.6	30 12	7 57 5 46	16 17 6.0	10 53	5 11 1	11 29 15 54			
12	14 31 43.92	7 25 13.13	8 21 52.6	30 12	8 22 5 47	16 17 7.0	11 35	5 59 2	Morn. 16 3			
13	14 36 3.81	7 17 34.7	8 45 31.6	30 12	8 45 5 47	16 17 8.0	12 0	6 51 0	0 23 16 10			
14	14 40 49.4	7 10 41.8	9 7 28.6	31 12	9 7 5 48	16 17 9.0	1 11	7 47 4	1 23 16 16			
15	14 44 41.61	7 3 55.2	9 29 24.6	31 12	9 29 5 48	16 17 10.0	2 7	8 48 5	2 33 16 21			
16	14 48 50.31	6 57 5.37	9 50 36.6	31 12	9 50 5 49	16 17 11.0	3 9	9 52 8	3 29 16 21			
17	14 53 14.17	6 50 35.0	10 11 22.6	31 12	10 11 5 49	16 17 12.0	4 14	10 37 5	4 37 16 39			
18	14 57 35.20	6 42 32.9	10 31 8.6	32 12	10 31 5 49	16 17 13.0	5 20	11 39 2	5 40 16 14			
19	15 1 48.97	6 34 40.45	10 50 24.6	32 12	10 50 5 50	16 17 14.0	6 23	Morn.	6 28 16 5			
20	15 6 4.1	6 26 11.8	11 8 6.6	32 12	11 8 5 50	16 17 15.0	7 21	0 56 3	7 29 15 53			
21	15 10 19.20	6 17 5.21	11 26 32.6	33 12	11 26 5 50	16 17 16.0	8 15	1 47 9	8 15 15 40			
22	15 14 21.81	6 8 5.31	11 43 25.6	33 12	11 43 5 51	16 17 17.0	9 8	2 35 3	9 33 15 37			
23	15 18 44.38	6 0 5.37	12 0 41.6	33 12	12 0 5 51	16 17 18.0	9 50	3 13 3	9 52 15 15			
24	15 23 56.58	5 52 5.36	12 18 34.6	33 12	12 18 5 52	16 17 19.0	10 42	4 1 2	10 8 15 4			
25	15 28 57.81	5 44 5.35	12 36 28.6	33 12	12 36 5 52	16 17 20.0	11 29	4 42 6	10 44 14 55			
26	15 33 31.25	5 36 5.34	12 54 22.6	33 12	12 54 5 53	16 17 21.0	12 16	5 34 6	11 21 14 49			
27	15 38 27.00	5 28 5.33	13 12 16.6	33 12	13 12 5 53	16 17 22.0	1 0	6 24 3	11 29 14 46			
28	15 43 26.77	5 20 5.32	13 30 10.6	33 12	13 30 5 54	16 17 23.0	1 50	7 14 3	12 2 14 48			
29	15 48 30.84	5 12 5.31	13 48 4.6	33 12	13 48 5 54	16 17 24.0	2 48	8 3 2	2 15 14 53			
30	15 53 39.11	5 4 5.30	14 6 38.6	33 12	14 6 5 55	16 17 25.0	3 41	9 20 2	3 11 14 0			
31	15 58 51.45	4 56 5.29	14 24 32.6	33 12	14 24 5 55	16 17 26.0						

30 FEBRUARY.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

Feb. 3	4th after Epiph. Isaiah 27.	Mark 2
9	5th " " 29	9
15	Septuagesima Gen. 1	16
23	1st Sun. after Sep. Deut. 3	Luke 6

PROPER LESSONS, EVENING.

Isaiah 28	1st Cor. 14
63	24
Gen. 2	24
Deut. 4	Gal. 6

Day of the Week.	REMARKABLE DATE.	ASTRONOMICAL PHENOMENA.
Sat. 1	Supreme Court 1st Term commences.	D. H. M. N. 1 23 46 ☾ ☽ with ☾ 1 55 N.
Sun. 2	Fourth Sunday after Epiphany, PURIFICATION OF THE B. V. MARY.	2 0 56 ☾ ☽ with ☾ 26 55 N.
Mon. 3		3 0 14 ☾ ☽ with ☾ 1 1 S.
Tues. 4		4 16 8 ☾ ☽ with ☾ 1 41 S.
Wed. 5	Tippoo defeated by Lord Cornwallis, 1782	5 11 31 ☾ ☽ with ☾ 2 0 S.
Thur. 6		6 20 57 ☾ ☽ with ☾ 2 0 S.
Fri. 7		7 16 54 ☾ ☽ with ☾ 0 9 N.
Sat. 8	Warren Hastings resigns, 1786.	8 19 7 8 ☾ ☽ with ☾ 0 9 N.
Sun. 9	Fifth Sunday after Epiphany.	9 23 20 51 ☾ ☽ with ☾ 6 33 N.
Mon. 10		10 24 3 3 ☾ ☽ in sup. ☽
Tues. 11		11 26 11 0 ☾ ☽ with ☾ 5 36 N.
Wed. 12		12 29 20 22 ☾ ☽ with ☾ 3 14 N.
Thur. 13		13 29 20 54 ☾ ☽ with ☾ 0 39 S.

MERIDIAN PASSAGE AT MADRAS, MEAN TIME.

Days	☾	☽	☾	☽	☾	☽
Sat. 15						
Sun. 16	Septuagesima Sunday.	1 23.13	21.16	1.38	18.14	20.26 2.20
Mon. 17		6 23.27	21.22	1.33	17.56	20. 9.22
Tues. 18	Martin Luther died 1546.	11 23.41	21.28	1.28	17.38	19.50 1.43
Wed. 19	Peace with the Birman Empire, 1826.	16 23.56	21.04	1.23	17.20	19.32 4.24
Thur. 20		21 0. 7	21.40	1.18	17. 1	19.14 1.5
Fri. 21		26 0.23	21.45	1.12	16.42	18.56 0.47

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
Sat. 22	Supreme Court, 1st Term concludes.
Sun. 23	First Sunday after Septuagesima Sunday.
Mon. 24	St. Matthias, Duke of Cambridge born 1874.
Tues. 25	
Wed. 26	Bonaparte escaped from Elba, 1815.
Thur. 27	Victory of the Duke of Wellington over Marshal Soult, 1814.
Fri. 28	
Sat. 29	

28 31 FEBRUARY XXIX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 29	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.
Barom.—In.	30.085	30.084	30.070	The hottest time of the day is at 04.40 a. m.; the coldest at 54.0 a. m.
Thermometer	76.8	77.8	78.5	
Maximum.	87.3			
Minimum.	68.0			
Rain—Inches.	0.03	0.00	0.01	

PHASES OF THE MOON.

	D. H. M. S.
● NEW MOON.....	3 7 19 9 P. M.
☾ FIRST QUARTER.....	10 9 25 4 P. M.
☾ FULL MOON.....	17 7 14 4 P. M.
☾ LAST QUARTER.....	25 4 11 6 P. M.
☾ PERIGEE.....	12 10 21 1 A. M.
☾ APOGEE.....	25 5 21 1 A. M.

SUN'S

MOON'S

Days.	Right Ascension.	Declination.	Equation.	Rises.	Meridian.	Sets.	Semi-diameter.	Age.	Rises.	Meridian.	Sets.	Semi-diameter.
	h. m. s.	° ' "	m. s.	h. m. s.	h. m. s.	h. m. s.	" "		Morn.	Morn.	Evening.	" "
1	20 50 4.18	17 20 2.6	18 49 72 6 32	12 13 50	5 56	16 15 27 6	4 33	10 19 2	4 5	15 7		
2	21 0 9.0	17 3 2.5	13 57 96 6 31	12 13 58	5 56	16 15 28 6	5 22	11 11 5	5 0	15 16		
3	21 4 12.99	16 45 44.4	14 6 38 9 21 12 14	5 57 18 15 0	6 50	16 15 29 6	6 50	12 2 0	5 50	15 25		
4	21 8 16.15	16 28 3.0	14 11 93 6 31	12 14 12	5 57 18 15 0	6 50	7 33	1 37 4	7 41	15 42		
5	21 12 18.48	16 10 16.3	14 17 67 6 31	12 14 18	5 57 18 15 0	6 50	8 13	2 23 3	8 23	15 49		
6	21 16 19.57	15 52 7.1	14 22 68 6 31	12 14 23	5 57 18 15 0	6 50	8 53	3 3 4	9 25	15 55		
7	21 20 20.65	15 33 41.6	14 28 76 6 30	12 14 27	5 58 18 15 0	6 50	9 30	3 57 0	10 10	16 0		
8	21 24 20.48	15 15 2.3	14 30 84 6 30	12 14 30	5 58 18 15 0	6 50	10 19	4 47 3	11 15	16 4		
9	21 28 19.51	14 56 8.4	14 32 30 6 30	12 14 32	5 59 16 14 5	6 50	11 7	5 41 4	12 20	16 8		
10	21 32 17.73	14 36 51.7	14 34 34 16 5 30	12 14 34	5 59 16 14 5	6 50	12 0	6 39 7	1 15	16 8		
11	21 36 15.15	14 17 25.4	14 35 0 16 30	12 14 35	5 59 16 14 5	6 50	12 58	7 41 2	1 29	16 9		
12	21 40 11.76	13 57 35.2	14 35 6 16 30	12 14 36	5 59 16 14 5	6 50	1 0	8 44 1	2 24	16 7		
13	21 44 7.58	13 37 51.1	14 34 34 16 30	12 14 36	5 59 16 14 5	6 50	2 4	9 45 3	3 28	16 4		
14	21 48 2.63	13 17 44.7	14 32 82 6 29	12 14 36	5 59 16 14 5	6 50	4 7	10 43 1	4 26	15 59		
15	21 51 56.92	12 57 34.7	14 30 53 6 29	12 14 36	5 59 16 14 5	6 50	5 8	11 36 2	5 12	15 52		
16	21 55 50.49	12 36 58.5	14 27 54 6 28	12 14 36	5 59 16 14 5	6 50	6 2	12 29 3	6 0	15 43		
17	21 59 43.27	12 16 8.0	14 23 50 6 28	12 14 36	5 59 16 14 5	6 50	6 53	0 25 1	6 46	15 33		
18	22 3 35.34	11 55 11.19	14 19 33 6 28	12 14 36	5 59 16 14 5	6 50	7 43	1 10 4	7 27	15 22		
19	22 7 26.71	11 34 4.7	14 14 17 6 27	12 14 36	5 59 16 14 5	6 50	8 32	1 53 7	8 17	15 13		
20	22 11 17.40	11 12 46.5	14 8 37 6 27	12 14 36	5 59 16 14 5	6 50	9 19	2 30 8	8 40	15 3		
21	22 15 7.43	10 51 17.7	14 2 25 6 26	12 14 36	5 59 16 14 5	6 50	10 7	3 13 0	9 17	14 55		
22	22 18 56.74	10 29 38.9	14 3 34 6 26	12 14 36	5 59 16 14 5	6 50	10 56	4 1 4	9 35	14 50		
23	22 22 45.56	10 7 50.2	14 3 46 6 25	12 14 36	5 59 16 14 5	6 50	11 48	4 46 4	10 36	14 47		
24	22 26 33.72	9 45 58.2	14 3 58 6 25	12 14 36	5 59 16 14 5	6 50	12 39	5 32 9	11 20	14 47		
25	22 30 21.27	9 23 45.2	14 3 58 6 24	12 14 36	5 59 16 14 5	6 50	1 36	6 25 6	12 0	14 47		
26	22 34 8.24	9 1 25.7	14 3 58 6 24	12 14 36	5 59 16 14 5	6 50	2 36	7 18 9	12 0	14 47		
27	22 37 54.65	8 39 6.0	14 3 58 6 23	12 14 36	5 59 16 14 5	6 50	3 36	8 10 6	1 0	14 47		
28	22 41 40.51	8 16 34.7	14 3 58 6 23	12 14 36	5 59 16 14 5	6 50	4 36	9 0 8	1 53	15 3		
29	22 45 23.85	7 53 55.39	14 3 58 6 23	12 14 36	5 59 16 14 5	6 50	5 36	9 50 3	2 47	15 13		

MARCH

SUNDAY LESSONS.

PROPER LESSONS, MORNING.			PROPER LESSONS, EVENING.		
March 1	Quinquagesima, Gen.	2 to v. 20	Luke 12	Gen. 12	Eph. 6
" 8	1st Sun. in Lent, " "	19 to v. 20	" 19	" 32	Col. 3
" 15	2d " " " "	" "	" 27	" 34	2 Thes. 1
" 22	3d " " " "	" "	" 33	" 42	1 Tim. 6
" 29	4th " " " "	" "	" 43	" 45	Phil.

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.						
		D.	H.	M.				
Sun. 1	Quinquagesima or Shrove Sunday, St. David, Tutor of School of Wales.	4	11	40	☾	eclipsed visible at Madras.		
Mon. 2	Rev. John Wesley died 1791.	4	15	25	☾	☾ with ☾ 2 38 S.		
Tues. 3		4	17	18	☾	☾ in ☾		
Wed. 4	ASH-WEDNESDAY.	5	1	26	☾	☾ with ☾ 3 4 S.		
Thur. 5		6	13	52	☾	☾ with ☾		
Fri. 6	Peace of Saragapata 1722.	9	6	24	☾	☾ in ☾		
Sat. 7	Scotland united to England 1707.	9	17	21	☾	☾ with ☾ 0 49 N.		
Sun. 8	First Sunday in Lent, or Quadragesima.	11	15	3	☾	☾ with ☾		
Mon. 9		13	19	52	☾	☾ in perihelion.		
Tues. 10		20	6	2	☾	☾ ent. ☾ spring commences.		
Wed. 11		20	13	40	☾	☾ gret. elong 15 31 E.		
Thur. 12		22	4	13	☾	☾ with ☾ 6 33 N.		
Fri. 13	End of Nepal War 1816.	24	3	49	☾	☾ greatest bel. lat. N.		
Sat. 14	Admiral Byng, shot 1757.	24	20	48	☾	☾ with ☾ 6 32 N.		
Sun. 15	Second Sunday in Lent, John the Baptist.	28	12	27	☾	☾ stationary		
Mon. 16		30	23	48	☾	☾ stationary		
Tues. 17	St. Patrick, Tutor of School of Ireland.	31	13	41	☾	☾ with ☾ 1 47 S.		
Wed. 18		31	13	47	☾	☾ with ☾ 2 1 S.		
Thur. 19								
Fri. 20	Supreme Court, 2d Term commences.							
Sat. 21	Third Sunday in Lent.							
Sun. 22								
Mon. 23								
Tues. 24								
Wed. 25	Annunciation of the B. V. Mary—Quinquagesima.							
Thur. 26								
Fri. 27	Defeat of Tippon by Genl. Harris 1799.							
Sat. 28								
Sun. 29	Fourth Sunday in Lent, Capitation of 1769.							
Mon. 30								
Tues. 31								

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	☾	☾	☾	☾	☾	☾
1	0.35	21.50	1.8	16.27	18.41	0.32
2	0.50	21.55	1.3	16.7	18.32	0.14
3	1.1	22.0	0.57	15.47	18.3	23.51
4	1.11	22.4	0.51	15.26	17.44	23.33
5	2.1	22.22	8.046	15.5	17.23	23.14
6	20.1	22.12	0.40	14.45	17.5	22.55
SOLSTICES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.						
Satellites.	Mean Time.					
	D.	H.	M.	S.		
I.	8	12	10	33	Im.	
	15	14	4	7	Im.	
	22	15	57	44	Im.	
	24	10	26	6	Im.	
II.	31	12	19	48	Im.	
	9	12	37	2	Im.	
	16	15	10	8	Im.	
III.	13	11	48	5	Em.	
	20	13	39	48	Im.	
	20	15	48	9	Em.	

MARCH XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31
Barom.—In.	30.342	30.015	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 alongshore 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 6 1/2 p. m. ; the coldest at 5 1/2 a. m.

PHASES OF THE MOON.

	D.	H.	M.	S.	
☾ NEW MOON.....	4	9	26	5	A. M.
☾ FIRST QUARTER.....	11	4	29	2	A. M.
☾ FULL MOON.....	18	9	52	3	A. M.
☾ LAST QUARTER.....	26	0	2	9	P. M.
☾ PERIGEE.....	8	6	21	0	A. M.
☾ APOGEE.....	24	0	21	0	A. M.

Days.	SUN'S						MOON'S					
	Right Ascension.	Declination.	Equation.	Rise.	Meridian.	Sets.	Age.	Rises.	Meridian.	Sets.	Semidiameter.	
1	23 49 10.60	S 7 21 10.1	1 35 24.6	22 12 30.6	4 16	9 26 9	Morn.	Morn.	Evening.			
2	23 52 53.0	7 8 17.9	1 34 10.6	22 12 34.6	4 16	9 27 9	4 43	10 41 4	3 37 15 36			
3	23 56 38.82	6 45 19.7	1 32 11.39	20 12 11.6	4 16	9 28 9	5 38	11 29 3	5 30 15 47			
4	23 0 22.18	6 22 16.3	1 31 58.24	20 11 58.8	4 16	9 29 9	6 39	12 19 4	6 23 15 57			
5	23 4 5.8	5 59 7.2	1 31 44.63	19 11 45.0	4 16	9 30 9	7 40	1 3 6	7 18 16 4			
6	23 7 47.54	5 35 53.9	1 31 30.58	19 11 31.6	4 16	9 31 9	8 41	1 53 0	8 13 16 10			
7	23 11 29.57	5 12 43.0	1 31 16.19	18 11 18.6	4 16	9 32 9	9 42	2 42 8	9 16 16 19			
8	23 15 14.21	4 49 19.7	1 31 1.22	18 11 1.6	4 16	9 33 9	10 43	3 33 6	10 8 16 19			
9	23 18 59.45	4 25 46.8	1 30 46.36	17 10 46.6	4 16	9 34 9	11 44	4 24 3	11 12 16 19			
10	23 22 33.33	4 0 17.7	1 30 30.33	16 10 30.3	4 16	9 35 9	12 45	5 15 2	12 16 16 19			
11	23 26 13.87	3 38 49.9	1 30 14.35	15 10 14.6	4 16	9 36 9	13 46	6 06 3	13 16 16 19			
12	23 29 54.6	3 15 11.5	1 29 58.3	14 10 14.6	4 16	9 37 9	14 47	6 57 5	14 16 16 19			
13	23 33 33.95	2 51 34.5	1 29 41.40	13 10 14.6	4 16	9 38 9	15 48	7 48 4	15 16 16 19			
14	23 37 13.35	2 27 56.0	1 29 24.43	12 10 14.6	4 16	9 39 9	16 49	8 39 6	16 16 16 19			
15	23 40 52.90	2 4 11.2	1 29 7.32	11 10 14.6	4 16	9 40 9	17 50	9 30 8	17 16 16 19			
16	23 44 32.0	1 40 35.5	1 28 49.91	10 10 14.6	4 16	9 41 9	18 51	10 21 9	18 16 16 19			
17	23 48 10.89	1 16 54.2	1 28 32.6	9 10 14.6	4 16	9 42 9	19 52	11 12 10	19 16 16 19			
18	23 51 49.87	0 53 18.7	1 28 15.3	8 10 14.6	4 16	9 43 9	20 53	12 03 11	20 16 16 19			
19	23 55 28.8	0 29 31.2	1 27 58.44	7 10 14.6	4 16	9 44 9	21 54	12 54 12	21 16 16 19			
20	23 59 6.44	0 5 30.0	1 27 41.1	6 10 14.6	4 16	9 45 9	22 55	13 45 13	22 16 16 19			
21	0 2 44.68	N 0 17 46.4	1 27 23.8	5 10 14.6	4 16	9 46 9	23 56	14 36 14	23 16 16 19			
22	0 6 22.83	0 44 30.9	1 27 6.1	4 10 14.6	4 16	9 47 9	24 57	15 27 15	24 16 16 19			
23	0 10 0.90	1 5 8.2	1 26 48.5	3 10 14.6	4 16	9 48 9	25 58	16 18 16	25 16 16 19			
24	0 13 38.92	1 28 44.9	1 26 31.2	2 10 14.6	4 16	9 49 9	26 59	17 09 17	26 16 16 19			
25	0 17 16.91	1 52 19.9	1 26 13.9	1 10 14.6	4 16	9 50 9	27 60	18 00 18	27 16 16 19			
26	0 20 54.93	2 15 52.2	1 25 56.6	0 10 14.6	4 16	9 51 9	28 61	18 51 18	28 16 16 19			
27	0 24 32.65	2 39 31.7	1 25 39.3	0 10 14.6	4 16	9 52 9	29 62	19 42 19	29 16 16 19			
28	0 28 10.63	3 2 48.7	1 25 22.0	0 10 14.6	4 16	9 53 9	30 63	20 33 20	30 16 16 19			
29	0 31 48.69	3 26 11.1	1 25 4.7	0 10 14.6	4 16	9 54 9	31 64	21 24 21	31 16 16 19			
30	0 35 26.87	3 49 30.3	1 24 47.4	0 10 14.6	4 16	9 55 9	32 65	22 15 22	32 16 16 19			
31	0 39 5.0 N	4 12 45.3	1 24 30.1	0 10 14.6	4 16	9 56 9	33 66	23 06 23	33 16 16 19			

34 APRIL.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.				PROPER LESSONS, EVENING.			
April 5	5th Sunday in Lent...	Exd.	3.....Acts....2	Exd.	5. Heb.....7		
" 12	Palm-Sunday.....	1st Sam. 27	9	1st Sam. 28.	James.....1		
" 19	Easter Sunday.....	Exd.	12.....Romans 6	Exd.	14. Acts. to v. 22		
" 26	1st Sunday after Easter. Num.	16.....	Acts. 23	Num.	22. 1st John....2		

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.					
		D. H. M.					
Wed. 1	Danish Fleet, defeated off Copenhagen (1801).	2 3 10	♂	with ♀	3 56 N.		
Thur. 2		2 22 48	♂	with ♀	0 34 S.		
Fri. 3	Death of Shakespeare, 1616.	3 0 51	♂	with ♀	4 30 S.		
Sat. 4		6 0 26	♂	with ♀	0 40 S.		
Sun. 5	Fifth Sunday in Lent.	7 10 9		stationary			
Mon. 6		7 15 36		ining ♂			
Tues. 7		7 20 29		in Aphelion			
Wed. 8		10 9 21	♂	with ♀			
Thur. 9	Supreme Court, 2d Term concludes.	16 16 5		in ♀			
Fri. 10	Abdication of Napoleon 1814.	17 14 2	♂	with ♀			
Sat. 11	Warren Hastings impeached 1776.	18 6 42	♂	with ♀	6 26 N.		
Sun. 12	PALM-SUNDAY.	20 0 39		stationary			
Mon. 13	Roman Catholic Bill signed 1829.	21 3 23	♂	with ♀	6 25 N.		
Tues. 14		26 16 1	♂	with ♀	0 37 S.		
Wed. 15		26 19 29		in Aphelion			
Thur. 16		24 4 24	♂	with ♀	2 18 S.		
Fri. 17		30 2 2	♂	with ♀	6 36 S.		
Sat. 18		30 5 54	♂	with ♀	5 37 S.		
Sun. 19		30 13 47	♂	greatest hel. lat.	S.		

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	♂	♀	♂	♀	♂	♀
1	0.37	22.16	0.35	14.20	16.42	22.33
6	0.7	22.10	0.28	13.58	16.22	22.14
11	23.30	22.32	0.22	13.37	16.2	21.56
16	23.2	22.35	0.16	13.15	15.42	21.37
21	22.42	22.37	0.11	12.53	15.22	21.18
26	22.29	22.30	0.5	12.31	15.1	20.59

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.		Mean Time.		D. H. M. S.	
I.					
Thur. 23	St. George—Tutelar Saint of England.	7	14	13	34 Em.
Fri. 24	St. Mark—Duchess of Gloucester born 1776.	9	8	42	5 Im.
Sat. 25		14	16	7	26 Im.
Sun. 26	First Sunday after Easter, Low-Sunday.	16	10	35	58 Im.
Mon. 27		23	12	29	56 Im.
Tues. 28		25	6	58	23 Im.
Wed. 29		30	14	24	0 Im.
Thur. 30		3	9	33	37 Im.
II.					
1		10	15	7	22 Im.
2		17	14	41	40 Im.
3		24	17	13	34 Im.
4		28	6	32	42 Im.
III.					
5		26	9	28	37 Im.

30 35 APRIL XXX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 30
Barom.—In.	29.975	29.960	29.938
Thermometer	82.7	83.7	84.7
Maximum.	91.7		
Minimum.	75.4		
Rain—Inches.	0.06	0.08	0.22

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 44.50m. a. m.

PHASES OF THE MOON.

	D. H. M. S.
● NEW MOON.....	2 8 41 9 P. M.
☾ FIRST QUARTER.....	9 11 42 9 A. M.
☾ FULL MOON.....	17 1 16 3 A. M.
☾ LAST QUARTER.....	25 5 8 1 A. M.
☾ PERIGEE.....	4 7 2 10 P. M.
☾ APOGEE.....	20 3 2 10 P. M.

SUN'S

MOON'S

Days.	Right Ascension.	Declination.	Equa. Lon.	Lat.	Meridi-an.	Sets.	Semi-diameter.	Age.	Rises.	Meridi-an.	Sets.	Semi-diameter.
	A. M. S.	° "	M. S.	A. M. S.	M. S.	A. M. S.	" "	Morn.	Morn.	Evening		" "
1	0 43 43.27	N 4 35 5.7	3 57 17.6	0 13	3 57 9	8 16	0 28 3	4 40 16.38	0	5 57 18.18		6 15 2
2	0 46 21.68	4 39 1.2	3 39 6.5	32 13	3 39 8	9 15	0 29 3	5 23 11.40	9	5 57 18.18		6 15 24
3	0 50 0.19	5 29 1.3	3 21 9.3	58 13	3 21 6	9 16	0 29 9	6 25 31.6	6	5 56 16.24		6 15 27
4	0 53 38.87	5 44 55.8	3 3 38.5	58 19	3 3 6	9 15 59	1 9	6 56 1.25	2	7 56 15.27		
5	0 57 17.70	6 7 44.2	3 45 63.5	58 13	3 45 6	9 15 59	2 9	7 45 2.94	3	9 2 23.25		
6	1 0 56.74	6 30 28.1	2 38 28.5	57 13	2 38 6	9 15 59	3 9	8 44 3.25	1 10	8 15 21		
7	1 4 35.94	6 53 1.3	2 10 81.5	56 12	2 11 6	9 15 59	4 9	9 43 4.39	9	11 44 15.13		
8	1 8 15.35	7 15 29.4	1 53 79.5	55 12	1 54 6	9 15 58	5 9	10 31 5.33	6	12 47 15.4		
9	1 11 35.0	7 37 50.0	1 36 83.5	55 12	1 37 6	9 15 58	6 9	11 30 5.32	0	15 15.24		
10	1 15 34.88	8 0 2.7	1 24 13.5	54 12	1 24 6	9 15 58	7 9	12 30 5.32	1	12 15.44		
11	1 19 15.1	8 22 7.3	1 3 30.5	53 12	1 4 6	9 15 58	8 9	1 48 5.16	0	2 1 15.35		
12	1 22 55.41	8 44 3.5	0 47 72.5	52 12	0 48 6	9 15 57	9 9	2 41 9.2	4	3 44 15.26		
13	1 26 36.10	9 5 39.9	0 31 92.5	52 12	0 32 6	10 15 57	10 9	3 30 9.45	5	3 35 15.17		
14	1 30 17.10	9 27 39.3	0 16 40.5	51 12	0 16 6	10 15 57	11 9	4 15 10.27	6	4 0 15.10		
15	1 33 58.43	9 48 57.8	0 1 22.5	50 13	0 1 16	10 15 56	12 9	5 3 11.5	7	4 37 15.3		
16	1 37 40.12	10 10 16.8	0 23 40.5	50 11	0 23 6	10 15 56	13 9	5 53 11.34	5	5 48 11.54		
17	1 41 22.17	10 31 25.8	0 28 5.5	49 11	0 28 6	10 15 56	14 9	6 43 12.04	5	6 49 14.51		
18	1 45 4.60	10 39 24.5	0 42 14.5	49 11	0 42 6	11 15 56	15 9	7 31 0.35	3	8 28 14.47		
19	1 48 47.41	11 15 12.5	0 55 31.5	48 11	0 55 6	11 15 55	16 9	8 24 1.21	2	9 41 14.54		
20	1 52 30.71	11 38 49.0	1 9 17.5	48 11	0 58 6	11 15 55	17 9	9 15 2.9	4	7 54 14.14		
21	1 56 14.38	11 54 15.5	1 21 49.5	47 11	1 58 6	11 15 55	18 9	10 8 3.52	3	8 47 14.43		
22	1 59 58.54	12 14 29.6	1 34 31.5	47 11	1 58 6	11 15 54	19 9	10 50 3.50	6	9 38 14.5		
23	2 3 43.17	12 34 72.0	1 46 17.5	46 11	2 56 6	11 15 54	20 9	11 43 4.42	0	9 28 14.58		
24	2 7 28.18	12 54 23.2	1 57 50.5	45 11	2 56 6	11 15 54	21 9	12 30 5.33	1	10 13 15.24		
25	2 11 13.75	13 13 39.9	2 9 30.5	44 11	2 56 6	11 15 54	22 9	1 22 5.31	4	11 0 13 15.13		
26	2 14 59.89	13 33 24.6	2 15 92.5	44 11	2 57 6	11 15 54	23 9	1 15 7.8	7	1 5 15.24		
27	2 18 45.51	13 53 36.1	2 26 81.5	43 11	2 57 6	11 15 54	24 9	1 53 7.85	0	1 27 15.21		
28	2 22 31.65	14 11 23.9	2 38 19.5	43 11	2 57 6	11 15 54	25 9	2 35 8.49	9	2 47 15.27		
29	2 26 17.31	14 30 17.8	2 47 9.5	43 11	2 57 6	11 15 54	26 9	3 14 9.27	9	3 42 15.53		
30	2 30 3.52	14 48 47.4	2 59 33.5	42 11	2 57 6	11 15 54	27 9	3 57 19.17	0	4 47 15.21		

MAY.

PROPER LESSONS, MORNING.

SUNDAY LESSONS.

PROPER LESSONS, EVENING.

May 3	3d Sunday after Easter....	Num. 23 & 24....	Matt. 1st	Num. 25.....	Romans 2
" 10	3d "	Deut. 4	" 8	Deut. 5.....	" 9
" 17	4th "	" 6	" 15	" 7.....	" 16
" 24	Rogation	" 8	" 22	" 9.....	1st Cor. 7
" 31	Sunday after Ascension....	" 12	Mark 1	" 14.....	" 14

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Fri. 1	Abolition of Slave Trade, 1807—St. (Philip and St. James).	D. H. M. 1 21 4 5 6 with 7 5 5 S.
Sat. 2	Invention, finding of the Cross.	4 2 4 2 6 with 7 5 5 S.
Sun. 3	Second Sunday after Easter.	4 8 21 6 6 with 7 5 5 S.
Mon. 4	Seringapatam taken, and Tipoo killed, (1799).	5 12 31 6 6 stationary
Tues. 5	Buonaparte died at St. Helena, 1821.	5 12 31 6 6 gret. elong. 26 18 W.
Wed. 6	St. John.	11 16 28 6 6 in 2
Thur. 7		15 6 24 2 6 with 7 6 20 N.
Fri. 8		17 6 21 6 6 greatest hel. lat. S.
Sat. 9		18 18 7 6 6 with 7 6 14 N.
Sun. 10	Third Sunday after Easter.	25 15 6 1 6 with 7 6 39 S.
Mon. 11		27 6 19 6 6 with 7 6 29 S.
Tues. 12		28 5 21 6 6 stationary
Wed. 13		30 4 54 6 6 with 7 6 15 S.
Thur. 14		30 15 24 6 6 with 7 6 4 S.
Fri. 15	First battle of Seringapatam 1791.	
Sat. 16		
Sun. 17	Fourth Sunday after Easter.	
Mon. 18	Buonaparte declared Emperor of the French 1804.	
Tues. 19		
Wed. 20		
Thur. 21		
Fri. 22		
Sat. 23		
Sun. 24	Ascension Sunday—Birth of Queen Victoria.	
Mon. 25		
Tues. 26		
Wed. 27	Habeas Corpus Act passed 1769.	
Thur. 28	Ascension Day, or Holy Thursday.	
Fri. 29	Restoration of King Charles II.	
Sat. 30		
Sun. 31	Sunday after Ascension Day.	

MERIDIAN PASSAGE AT MADRAS MEAN TIME

Days	h	m	s	h	m	s
1	22	22	23	33	23	59
2	22	20	22	36	23	58
3	22	22	22	40	23	58
4	22	22	22	44	23	58
5	22	27	22	48	23	58
6	22	27	22	52	23	58
7	22	27	22	56	23	58
8	22	27	22	60	23	58
9	22	27	22	64	23	58
10	22	27	22	68	23	58
11	22	27	22	72	23	58
12	22	27	22	76	23	58
13	22	27	22	80	23	58
14	22	27	22	84	23	58
15	22	27	22	88	23	58
16	22	27	22	92	23	58
17	22	27	22	96	23	58
18	22	27	22	100	23	58
19	22	27	22	104	23	58
20	22	27	22	108	23	58
21	22	27	22	112	23	58
22	22	27	22	116	23	58
23	22	27	22	120	23	58
24	22	27	22	124	23	58
25	22	27	22	128	23	58
26	22	27	22	132	23	58
27	22	27	22	136	23	58
28	22	27	22	140	23	58
29	22	27	22	144	23	58
30	22	27	22	148	23	58
31	22	27	22	152	23	58

ECLIPSE OF JUPITER'S SATELLITES VISIBLE AT MADRAS

Satellites. Mean Time.

Satellites.	Mean Time.	D. H. M. S.
I.	2 5 52 29 Im.	
II.	9 12 54 7 Em.	
III.	11 7 22 42 Em.	
IV.	16 14 48 21 Em.	
V.	18 9 16 57 Em.	
VI.	27 11 11 18 Em.	
VII.	5 11 24 17 Im.	
VIII.	12 13 50 17 Em.	
IX.	19 16 54 43 Em.	
X.	30 8 26 12 Em.	
XI.	2 13 27 13 Im.	
XII.	31 7 26 40 Em.	

MAY XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31
Barom.—In	29.995	29.897	29.643
Thermometer	85.9	86.5	87.7
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 varying to every point of the compass; about the 16th, 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 sixteen days of clear weather, eight of flying 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 11 A. 23 m. a. m.; the coldest at 4 A. 20 m. a. m.

PHASES OF THE MOON.

	D. H. M. S.
● NEW MOON.....	2 5 27 0 A. M.
☾ FIRST QUARTER.....	8 8 11 3 P. M.
○ FULL MOON.....	16 4 51 4 P. M.
☾ LAST QUARTER.....	24 6 45 0 P. M.
● NEW MOON.....	31 0 36 0 P. M.
☾ PERIGEE.....	8 1 21 0 A. M.
☾ APOGEE.....	17 11 21 0 P. M.
☾ PERIGEE.....	31 0 21 0 P. M.

SUN'S

MOON'S.

Days	Right Ascension.	Declination.	Equation.	Bliss.	Meridian.	Sets.	Semi-diameter.	Age.	Rises.	Meridian.	Sets.	Semidiameter.
1	2 33 38.40	15 7 2.4	3 3.19	5 42 11	36 57 6	12 14 52	28 9	4 44	11 9 7	5 39 16 34	6 41 18 38	
2	2 37 47.49	15 25 2.4	3 10 42	5 43 11	36 50 6	12 15 32	28 9	5 33	10 7 1	6 41 18 38		
3	2 41 37.53	15 42 47.2	3 17 11	5 41 11	36 43 6	12 15 52	1 5	5 59	9 2 2	7 49 16 37		
4	2 45 27.52	16 0 16.4	3 23 55	5 41 11	36 37 6	12 15 52	2 5	7 31	2 14 7	8 59 16 32		
5	2 49 18.57	16 17 29.6	3 28 54	5 41 11	36 31 6	12 15 51	3 5	8 35	3 20 4	10 5 16 23		
6	2 53 10.36	16 34 26.6	3 33 54	5 40 11	36 26 6	12 15 51	4 5	9 41	4 23 11	11 5 16 11		
7	2 57 2.41	16 51 7.0	3 38 46	5 40 11	36 22 6	12 15 51	5 5	10 46	5 21 11	12 5 15 57		
8	3 0 55.0	17 7 30.6	3 43 40	5 39 11	36 18 6	12 15 51	6 5	11 43	6 18 4	13 5 15 44		
9	3 4 44.15	17 23 36.8	3 48 35	5 38 11	36 14 6	12 15 51	7 5	12 40	7 1 0	14 5 15 32		
10	3 8 41.86	17 39 35.6	3 53 35	5 38 11	36 10 6	12 15 50	8 5	1 38	7 49 3	1 33 15 20		
11	3 12 38.11	17 55 37.3	3 58 35	5 38 11	36 6 6	12 15 50	9 5	2 16	8 27 2	2 2 15 10		
12	3 16 30.93	18 10 40.4	3 53 35	5 38 11	36 2 6	12 15 50	10 5	3 4	9 8 4	3 35 15 2		
13	3 20 26.31	18 25 5.8	3 53 35	5 38 11	36 0 6	12 15 50	11 5	3 51	9 50 8	3 13 14 53		
14	3 24 22.96	18 39 41.5	3 54 35	5 37 11	36 0 6	12 15 50	12 5	4 36	10 33 1	3 49 14 50		
15	3 28 18.77	18 53 32.0	3 54 35	5 37 11	36 0 6	12 15 50	13 5	5 27	11 18 4	4 28 14 46		
16	3 32 15.86	19 7 37.3	3 54 35	5 37 11	36 0 6	12 15 50	14 5	6 18	12 0 5	5 14 14 43		
17	3 36 13.51	19 21 36.2	3 54 35	5 36 11	36 0 6	12 15 50	15 5	7 10	0 8 5	5 58 14 42		
18	3 40 11.73	19 35 36.7	3 54 35	5 36 11	36 0 6	12 15 50	16 5	8 0 6	1 54 7	6 40 14 43		
19	3 44 10.56	19 49 35.1	3 54 35	5 36 11	36 0 6	12 15 50	17 5	8 51	2 45 8	7 20 14 43		
20	3 48 9.86	20 0 34.9	3 54 35	5 36 11	36 0 6	12 15 50	18 5	9 40	3 37 1	8 3 14 43		
21	3 52 8.70	20 12 34.1	3 54 35	5 36 11	36 0 6	12 15 50	19 5	10 25	4 28 1	9 14 14 43		
22	3 56 10.6	20 24 32.7	3 54 35	5 36 11	36 0 6	12 15 50	20 5	11 8	5 16 4	10 14 14 43		
23	4 0 11.21	20 36 30.5	3 54 35	5 36 11	36 0 6	12 15 50	21 5	11 49	6 3 3	11 14 14 43		
24	4 4 12.78	20 47 47.2	3 54 35	5 36 11	36 0 6	12 15 50	22 5	12 39	6 53 8	12 14 14 43		
25	4 8 14.83	20 58 42.2	3 54 35	5 36 11	36 0 6	12 15 50	23 5	1 30	7 42 8	1 14 14 43		
26	4 12 17.42	21 9 10.2	3 54 35	5 36 11	36 0 6	12 15 50	24 5	2 18	8 30 8	2 14 14 43		
27	4 16 20.33	21 19 38.1	3 54 35	5 36 11	36 0 6	12 15 50	25 5	3 7	9 18 8	3 14 14 43		
28	4 20 23.19	21 29 17.2	3 54 35	5 36 11	36 0 6	12 15 50	26 5	4 0	10 6 8	4 14 14 43		
29	4 24 26.19	21 38 43.4	3 54 35	5 36 11	36 0 6	12 15 50	27 5	4 37	10 48 8	5 14 14 43		
30	4 28 28.32	21 47 50.3	3 54 35	5 36 11	36 0 6	12 15 50	28 5	5 10	11 30 8	6 14 14 43		
31	4 32 37.71	21 56 12.5	3 54 35	5 36 11	36 0 6	12 15 50	29 5	5 41	12 12 8	7 14 14 43		

JUNE

SUNDAY LESSONS.

PROPER LESSONS, MORNING.				PROPER LESSONS, EVENING.			
June 1	Whit-Sunday...	Deut. 15 to v. 18...	Acts 10 to v. 34	Isaiah 11.	Acts 13 to v. 31		
" 14	Trinity	Gen. 1	Mat.	Gen. 18.	1st John		
" 21	1st Sun. after Trin.	Josh. 10	Luke	Josh. 23.	Gal.		
" 28	2d "	Judges 1	"	Judges 5.	Eph.		

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Mon. 1		D. H. M. 4 6 59 8 2 with 5 0 26 S.
Tues. 2	2,000 voted to Dr. JECNER, for [his discovery of Vaccination 1802.]	5 5 40 8 in 9 9 0 32 2 8 with 9 19 8 8 in perihelion
Wed. 3	Leopold elected King of Belgium, 1831.	10 14 42 8 in sup. 6 10 23 38 H 11 6 57 2 6 with 6 19 N.
Thurs. 4		14 9 18 2 6 with 6 19 N.
Fri. 5		15 20 37 2 6 with 0 46 N.
Sat. 6		20 3 6 8 greatest hel. lat. N.
Sun. 7	Pentecost, or Whit-Sunday, Reform [bill signed 1831.]	21 3 9 6 enters summer comes.
Mon. 8		21 22 53 H 23 9 17 2 6 with 2 59 S.
Tues. 9		25 1 21 H stationary
Wed. 10		25 5 21 8 in perihelion
Thurs. 11	St. BARNABAS.	25 20 31 2 in 9 28 8 7 8 6 with 4 10 S.
Fri. 12		28 19 9 2 6 with 4 14 S.
Sat. 13		30 18 22 2 6 with 0 49 S.
Sun. 14	TRINITY SUNDAY.	
Mon. 15		
Tues. 16		
Wed. 17		
Thurs. 18	CONVOY CRUISE, Battle of Waterloo [1815.]	1 23.13 22.58 23.27 9.52 12.30 18.42
Fri. 19		6 23.40 23. 3 23.22 9.31 12. 9.18.22
Sat. 20	Accession of Queen Victoria.	11 0. 223. 9 23.17 9.10 11.48 18. 3
Sun. 21	First Sunday after Trinity, Prince-Vic. [Paris proclaimed Queen 1807.]	16 0.30 23.16 23.13 8.49 11.27 17.44
Mon. 22		21 0.56 23.12 23. 8.8.28 11. 5 17.24
Tues. 23		26 1.17 23.20 23. 3.8. 8 10.44 17.4
Wed. 24	Midsummer-day, St. JOHN the BAPTIST.	
Thurs. 25		
Fri. 26		
Sat. 27		
Sun. 28	Second Sunday after Trinity, Queen Victoria crowned 1838.	
Mon. 29	St. PETER.	
Tues. 30		

MERIDIAN PASSAGE AT MADRAS NEAR TIME.

Days	7	9	8	7	6	5	4
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1	23.13	22.58	23.27	9.52	12.30	18.42
2	23.40	23. 3	23.22	9.31	12. 9.18.22	
3	11 0. 223.	9 23.17	9.10	11.48	18. 3	
4	16 0.30	23.16	23.13	8.49	11.27	17.44
5	21 0.56	23.12	23. 8.8.28	11. 5	17.24	
6	26 1.17	23.20	23. 3.8. 8	10.44	17.4	

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
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D. H. M. S.	
I	1 13 5 44 Em.
	3 7 34 19 Em.
	8 15 0 14 Em.
	10 9 28 50 Em.
	17 11 23 26 Em.
	26 7 46 47 Em.
II.	6 11 4 10 Em.
	13 18 4 24 Em.
III.	7 9 19 32 Im.
	7 11 25 5 Em.
	14 13 15 47 Im.

JUNE XXX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 30
Barom.—In.	92.844	29.600	29.870
Thermometer.	78.5	88.4	87.3
Maximum.	98.2		
Minimum.	73.4		
Rain.—Inches.	0.34	0.42	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 4 a. m.

PHASES OF THE MOON

	D. H. M. S.
1 FIRST QUARTER.....	7 6 37 9 A. M.
2 FULL MOON.....	15 8 10 1 A. M.
3 LAST QUARTER.....	23 4 52 1 A. M.
4 NEW MOON.....	29 7 19 6 P. M.
5 PERIGEE.....	14 4 21 0 A. M.
6 APOGEE.....	28 9 21 0 P. M.

SUN'S

MOON'S

MOON'S												
	Right Ascension.	Declination.	Equa- tion.	Phase.	Meridi- an.	Set.	Semi- diameter.	Age.	Rises.	Meridi- an.	Set.	Semi- diameter.
	<i>h. m. s.</i>	<i>° ' "</i>	<i>m. s. "</i>	<i>A.M. P.M.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>' "</i>		<i>Morn. Evng.</i>	<i>Morn. Evng.</i>	<i>h. m. s.</i>	<i>' "</i>
1	4 36 43.5	N 22 4 52.2	-3 31 56.5	35	11 57 28.6	10 15 47	1 8	1	6 15 6 59.8	7 45 10 40		
2	4 40 48.89	22 12 48.2	-3 32 64.5	35	11 57 37.6	19 15 46	2 2	2	6 24 6 59.8	7 45 10 40		
3	4 44 55.7	22 20 31.7	-3 12 5 5 35	11 57 47.6	19 15 46	3 2	3	6 31 8 5	7 45 10 40			
4	4 49 1.99	22 27 31.3	-3 3 10 5 36	11 57 57.6	20 15 46	4 2	4	6 38 4 49	10 38 16 3			
5	4 53 8.44	22 34 17.4	-1 52 82 5 39	11 58 7.6	20 15 46	5 2	5	6 45 4 55.8	11 21 15 3			
6	4 57 15.62	22 40 39.4	-1 42 22 5 36	11 58 18.6	20 15 46	6 2	6	6 52 5 42.3	11 21 15 3	Morn.	15 33	
7	5 1 22.8	22 46 39.3	-1 31 34 5 36	11 58 29.6	21 15 46	7 2	7	6 59 4 25.7	0 1 15 20			
8	5 5 30.81	22 52 12.9	-1 18 18 5 36	11 58 40.6	21 15 46	8 2	8	7 6 4 39.1	0 39 15 8			
9	5 9 38.81	22 57 23.4	-1 4 85 5 36	11 58 41.6	21 15 46	9 2	9	7 13 4 29.2	1 13 14 59			
10	5 13 47.8	23 2 9.6	-0 57 21 5 36	11 59 3.6	22 15 46	10 2	10	7 20 4 20.2	1 51 14 52			
11	5 17 55.42	23 6 31.5	-0 43 37 5 36	11 59 15.6	22 15 46	11 2	11	7 27 4 10.3	2 28 14 47			
12	5 22 4.5	23 10 39.0	-0 33 33 5 36	11 59 27.6	23 15 46	12 2	12	7 34 4 0.3	3 8 14 44			
13	5 26 12.88	23 14 1.2	-0 21 11 5 36	11 59 39.6	23 15 46	13 2	13	7 41 3 51.4	3 50 14 42			
14	5 30 21.86	23 17 10.8	-0 8 72 5 36	11 59 51.6	23 15 46	14 2	14	7 48 3 42.5	4 35 14 42			
15	5 34 30.81	23 19 35.0	-0 3 82 5 36	12 0 3.6	24 15 46	15 2	15	7 55 3 33.6	5 30 14 44			
16	5 38 40.20	23 22 14.5	-0 16 46 5 36	12 0 16.6	24 15 46	16 2	16	8 0 3 24.7	6 18 14 47			
17	5 42 49.32	23 24 9.4	-0 29 15 5 36	12 0 29.6	24 15 46	17 2	17	8 7 3 15.1	7 10 14 52			
18	5 46 58.56	23 26 39.5	-0 41 9 5 36	12 0 42.6	24 15 46	18 2	18	8 14 3 6.2	8 3 14 58			
19	5 51 8.46	23 28 44.8	-0 54 87 5 36	12 0 55.6	25 15 46	19 2	19	8 21 2 57.3	8 54 15 5			
20	5 55 17.97	23 30 45.4	-1 7 81 5 36	12 1 8.6	25 15 46	20 2	20	8 28 2 48.4	9 44 15 24			
21	5 59 27.51	23 32 41.2	-1 20 75 5 36	12 1 21.6	25 15 46	21 2	21	8 35 2 39.5	10 24 15 25			
22	6 3 37.4	23 34 36.9	-1 33 70 5 36	12 1 34.6	25 15 46	22 2	22	8 42 2 30.6	11 25 15 27			
23	6 7 46.56	23 36 32.7	-1 46 64 5 36	12 1 47.6	25 15 46	23 2	23	8 49 2 21.7	12 26 15 29			
24	6 11 56.1	23 38 28.5	-1 59 58 5 36	12 1 60.6	25 15 46	24 2	24	8 56 2 12.8	1 13 15 30	Morn.	15 30	
25	6 16 5.42	23 40 24.3	-2 12 52 5 36	12 1 73.6	25 15 46	25 2	25	9 03 2 3.9	2 14 15 32			
26	6 20 14.69	23 42 20.1	-2 24 46 5 36	12 1 86.6	25 15 46	26 2	26	9 10 2 55.0	3 15 15 34			
27	6 24 23.83	23 44 15.9	-2 37 40 5 36	12 1 99.6	25 15 46	27 2	27	9 17 2 46.1	4 16 15 36			
28	6 28 32.97	23 46 11.7	-2 50 34 5 36	12 2 12.6	25 15 46	28 2	28	9 24 2 37.2	5 17 15 38			
29	6 32 42.10	23 48 7.5	-3 3 28 5 36	12 2 25.6	25 15 46	29 2	29	9 31 2 28.3	6 18 15 40			
30	6 36 51.24	23 50 3.3	-3 14 22 5 36	12 2 38.6	25 15 46	30 2	30	9 38 2 19.4	7 19 15 42			

JULY.

SUNDAY LESSONS.

PROPER LESSONS MORNING.

PROPER LESSONS EVENING.

July 5	3d Sunday after Trinity.	1st Samuel	9. Luke 17	1st James	8. Col. 1
" 12	4th	" 1st	" 15. 24	1st "	15. 1st Thm. 4
" 19	5th	" 1st	" 15. John 7	1st "	17. 1st Tim. 4
" 26	6th	" 1st	" 15. 14	2d "	19. Titus 1

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Wed. 1		1 6 41 ☉ in apogee
Thur. 2	Visitation of B. V. Mary.	3 14 57 ☿ stationary
Fri. 3		6 5 31 ♀ stationary
Sat. 4	United States declaration of Independence 1776	8 11 35 ♀ with ☿ 6 21 N.
Sun. 5	3rd Sunday after Trinity.	11 12 9 ☿ with ☿ 6 23 N.
Mon. 6		13 16 21 ☿ in ☿
Tues. 7		16 23 19 ☿ with ☿
Wed. 8		17 21 35 ☿ great elong. 25. 52 E.
Thur. 9		19 4 10 ☿ with ☿ 3 10 N.
Fri. 10		23 18 46 ☿ in aphelion
Sat. 11		24 20 37 ☿ in sup. ☿ ☉
Sun. 12	4th Sunday after Trinity.	24 23 31 ☿ with ☿ 7 47 S.
Mon. 13		26 23 51 ☿ with ☿ 3 0 S.
Tues. 14		28 16 19 ☿ with ☿ 0 46 S.
Wed. 15		28 22 30 ☿ with ☿
Thur. 16		29 3 21 ☿ in perihelion
Fri. 17		30 4 42 ☿ with ☿ 3 30 S.
Sat. 18		31 2 22 ☿ stationary
Sun. 19		
Mon. 20		
Tues. 21		
Wed. 22		
Thur. 23		
Fri. 24		
Sat. 25		
Sun. 26		
Mon. 27		
Tues. 28		
Wed. 29		
Thur. 30		
Fri. 31		

MERIDIAN PASSAGE AT MADRAS. MEAN TIME.

Days	☿	♀	♂	♂	♂	♂
1	1.34	23.35	22.58	7.48	10.23	16.45
6	1.46	23.45	22.53	7.28	10.3	16.25
11	1.52	23.50	22.48	7.8	10.41	16.5
16	1.54	23.57	22.43	8.49	10.20	15.45
21	1.51	23.58	22.38	9.30	9.15	15.25
26	1.41	23.58	22.33	10.12	8.30	15.5

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
I.	D. H. M. S.
	3 9 41 28 Em.
	10 11 36 11 Em.
	19 7 39 34 Em.
	26 9 54 19 Em.
II.	1 8 11 34 Em.
	8 8 29 53 Im.
	8 10 48 39 Em.
	15 11 6 47 Im.
III.	13 7 30 42 Em.
	20 9 13 50 Im.
	20 11 19 31 Em.

JULY XXXI DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 31	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 flying 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. The hottest time of the day is at 2d. 20m. p. m.; the coldest at 4h. 0m. a. m.
Barom.—In	29.833	29.836	29.865	
Thermometer	85.2	84.1	83.6	
Maximum.	95.2			
Minimum.	73.5			
Rain.—Inches.	0.00	1.21	1.52	

PHASES OF THE MOON.

D. H. M. S.

☾ FIRST QUARTER.....	6 7 24 6 P. M.
☾ FULL MOON.....	14 10 51 6 P. M.
☾ LAST QUARTER.....	22 0 7 0 P. M.
☾ NEW MOON.....	29 2 49 3 P. M.
☾ APOGEE.....	11 10 21 0 P. M.
☾ PERIGEE.....	27 3 21 0 A. M.

SUN'S

MOON'S.

Days	Right Ascension.	Declination.	Equation.	Rise.	Meridian.	Sets.	Semi-diameter.	Age.	Rises.	Meridian.	Sets.	Semi-diameter.
1	h. m. s.	° ' "	m. s. A. m.	h. m. s. A. m.	h. m. s. A. m.	h. m. s. P. m.	" "	Morn.	Evening.	Evening.	" "	" "
1	6 40 58.72	N 23 7 37.4	+3 36.1	5 40 12	3 36 4 35 45	1 9	7 15	1 49	8	35 16 20		
2	6 45 6.86	23 3 32.1	3 37.56	5 40 12	3 38 16 15 45	2 9	8 16	3 44	8	9 14 16	8	
3	6 49 14.69	22 58 42.7	3 48.89	5 40 12	3 49 57 15 45	3 9	9 19	3 34	9	56 15 31		
4	6 53 22.24	22 53 39.0	3 59.75	5 40 12	4 0 47 15 45	4 9	10 5	4 29	9	10 35 15 36		
5	6 57 29.43	22 48 11.7	4 10.35	5 40 12	4 10 47 15 45	5 9	10 56	5 3	11	12 15 21		
6	7 1 36.27	22 42 29.4	4 20.60	5 40 12	4 21 16 15 45	6 9	11 43	5 46	11	15 15 2		
7	7 5 42.72	22 36 5.6	4 30.84	5 40 12	4 30 47 15 45	7 9	12 31	6 28	12	18 15 3		
8	7 9 48.81	22 29 27.3	4 40.2	5 40 12	4 40 16 15 45	8 9	1 26	7 12	1	21 15 31		
9	7 13 54.45	22 22 25.8	4 49.10	5 40 12	4 49 16 15 45	9 9	2 9	7 58	2	24 15 46		
10	7 17 59.72	22 15 1.1	4 57.75	5 40 12	4 58 16 15 45	10 9	3 1	8 45	3	27 15 44		
11	7 22 4.53	22 7 13.6	5 5.40	5 40 12	5 0 16 15 45	11 9	3 52	9 36	4	30 15 40		
12	7 26 5.47	21 59 3.5	5 13.75	5 40 12	5 14 16 15 45	12 9	4 43	10 28	5	33 15 45		
13	7 30 12.76	21 50 39.5	5 21.6	5 40 12	5 21 16 15 45	13 9	5 34	11 19	6	36 15 48		
14	7 34 16.17	21 41 35.3	5 27.48	5 40 12	5 27 16 15 45	14 9	6 20	12 10	7	39 15 52		
15	7 38 19.8	21 32 17.9	5 34.23	5 40 12	5 34 16 15 45	15 9	7 6	13 2	8	42 15 55		
16	7 42 21.50	21 23 38.5	5 40.6	5 40 12	5 40 16 15 45	16 9	7 47	13 58	9	45 15 58		
17	7 46 23.40	21 13 37.3	5 45.40	5 40 12	5 45 16 15 45	17 9	8 29	14 44	10	48 15 59		
18	7 50 24.80	21 2 14.5	5 50.22	5 40 12	5 50 16 15 45	18 9	9 6	15 29	11	51 15 59		
19	7 54 25.68	20 51 30.3	5 54.51	5 40 12	5 55 16 15 45	19 9	9 45	16 13	12	54 15 59		
20	7 58 26.6	20 44 25.0	5 58.23	5 40 12	5 58 16 15 45	20 9	10 24	16 57	13	57 15 59		
21	8 2 25.48	20 36 58.7	6 1.59	5 40 12	6 2 16 15 45	21 9	11 4	17 41	14	60 15 59		
22	8 6 25.15	20 27 11.4	6 4.30	5 40 12	6 6 16 15 45	22 9	11 49	18 29	15	63 15 59		
23	8 10 23.37	20 15 4.0	6 6.45	5 40 12	6 6 16 15 45	23 9	12 26	19 16	16	66 15 59		
24	8 14 22.4	19 52 36.4	6 8.5	5 40 12	6 8 16 15 45	24 9	1 41	17 8	17	69 15 59		
25	8 18 19.65	19 39 48.6	6 8.5	5 40 12	6 9 16 15 45	25 9	1 58	18 3	18	72 15 59		
26	8 22 16.58	19 26 41.1	6 9.56	5 40 12	6 10 16 15 45	26 9	2 45	18 34	19	75 15 59		
27	8 26 13.13	19 13 14.2	6 9.45	5 40 12	6 11 16 15 45	27 9	3 46	19 29	20	78 15 59		
28	8 30 9.88	18 59 28.2	6 8.74	5 40 12	6 12 16 15 45	28 9	4 55	20 21	21	81 15 59		
29	8 34 4.23	18 45 25.4	6 7.44	5 40 12	6 13 16 15 45	29 9	5 57	20 29	22	84 15 59		
30	8 38 38.77	18 31 0.0	6 5.53	5 40 12	6 14 16 15 45	30 9	6 56	21 22	23	87 15 59		
31	8 42 32.91	18 16 18.4	6 3.25	5 40 12	6 15 16 15 45	31 9	7 53	22 10	24	90 15 59		

SEPTEMBER.

SUNDAY LESSONS.

PROPER LESSONS MORNING.

September 6 15th Sunday after Trinity, 2d Kings 10... Matth. 7	2d Kings 18, Rom. 7
" 13 12th " " " 19... " 14	2d. " 53... 14
" 20 14th " " " Jerem. 9... " 31	Jerem. 32, 1st Cor. 5
" 27 15th " " " 35... " 28	" 65... " 13

PROPER LESSONS EVENING.

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Tues. 1	GILES.	D. H. M.
Wed. 2		1 4 58 ♀ in ♍
Thur. 3		1 11 58 ♀ with ☿ 6 19 N.
Fri. 4		4 1 15 ♀ with ☿ 6 20 N.
Sat. 5		5 14 57 ☿ stationary
Sun. 6	Twelfth Sunday after Trinity.	5 18 24 ♀ in perihelion
Mon. 7	Warsaw captured by the Russians 1831.	7 18 6 ♀ ☿ at ☿
Tues. 8	Nativity of B. V. MARY.	10 20 21 H ☿ to ☿
Wed. 9		11 14 9 H ☿ with ☿ 3 2 S.
Thur. 10		16 2 23 ♀ greatest hel. lat. N.
Fri. 11		22 5 49 ☿ ☿ with ☿ 0 31 N.
Sat. 12	Supreme Court, 5th Term commences.	22 17 14 ☿ enters ♏ autumn comes.
Sun. 13	Thirteenth Sunday after Trinity.	25 14 2 ☿ ☿ with ☿ 4 57 N.
Mon. 14	HOLY CROSS.	26 14 37 ♀ in sup. ☿ ☿
Tues. 15	The Indian Press freed, 1835.	27 2 47 ♀ ☿ with ☿ 5 28 N.
Wed. 16		29 5 16 ♀ ☿ with ☿ 6 10 N.
Thur. 17	LANBERT.	30 13 41 ♀ ☿ to ☿

MERIDIAN PASSAGE AT MADRAS - MEAN TIME.

Days	♈	♉	♊	♋	♌	♍
1	22 51	0 41	21 49	4 2	0 12	12 35
2	22 59	0 44	21 49	3 49	5 53	12 1
3	23 12	0 47	21 35	3 28	5 35	11 54
4	23 27	0 49	21 28	3 12	5 16	11 34
5	23 41	0 53	21 21	2 56	4 57	11 13
6	23 54	0 56	21 13	2 40	4 39	10 53

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satellites.	Mean Time.
	D. H. M. S.
I.	8 8 25 7 Em.
	19 6 42 54 Em.
	26 8 37 23 Em.
II.	3 7 47 59 Em.
III.	1 9 8 9 Im.

SEPTEMBER XXX DAYS.

REMARKS ON THE WEATHER.

	1 to 10	10 to 20	20 to 30	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 accompanied with thunder three times only. The sea breeze set in about 2 or 3 p. m. and blew still 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 1/2 p. m., the coldest at 4 1/2 a. m.
Barom.—In.	29.847	29.903	29.139	
Thermometer	84.5	83.4	83.2	
Maximum.	89.9			
Minimum.	72.3			
Rain—Inches.	1.40	2.25	1.65	

PHASES OF THE MOON.

	D. H. M. S.
1 FIRST QUARTER.....	4 3 58 8 A. M.
2 FULL MOON.....	12 1 8 7 A. M.
3 LAST QUARTER.....	18 10 52 8 P. M.
4 NEW MOON.....	25 11 48 0 P. M.
5 APOGEE.....	4 7 21 0 P. M.
6 PERIGEE.....	17 1 21 0 P. M.

Days.	SUN'S						MOON'S					
	Right.	Declination.	Equa-	Rises.	Meridi-	Sets.	Nemi- diameters.	Age.	Rises.	Meridi-	Sets.	Scandla meter.
	Ascension.		tion.		an.					an.		
	<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>''</i>		<i>Morn. Evng.</i>	<i>Evng.</i>	<i>Morn.</i>	
1	10 42 58 36	N 15 45.4	-0 10 16 5	11 59 30 6	9 15 52 5	9 15 52 5	2	9 48	3 46 0	9 44 14 39		
2	10 40 49 16	7 53 53.5	0 28 9 5	11 59 31 6	9 15 53 6	9 15 53 6	2	10 40	4 23 4	10 21 14 53		
3	10 49 3 47	7 53 52.0	0 48 13 5	11 59 12 6	9 15 54 7	9 15 54 7	2	11 7	5 32 7	11 9 14 48		
4	10 52 14 55	7 53 45.1	1 7 04 5	11 58 52 6	9 15 54 6	9 15 54 6	2	E. 9 48	6 13 3	11 56 14 48		
5	10 56 17 38	6 47 30.5	1 27 20 5	11 58 33 6	9 15 54 6	9 15 54 6	2	1 39	7 4 8	Morning 13 47		
6	10 59 53 97	6 25 10.1	1 47 14 5	11 58 13 6	9 15 54 10	9 15 54 10	2	2 9	7 55 5	0 50 14 31		
7	11 1 30 35	6 2 44 0	2 7 21 5	11 57 53 6	9 15 53 6	9 15 53 6	2	2 58	9 45 8	4 43 14 57		
8	11 7 8 51	5 40 10.2	2 27 56 5	11 57 32 6	9 15 53 6	9 15 53 6	2	3 43	1 34 1	2 34 15 6		
9	11 10 42 39	5 17 31.8	3 48 13 5	11 57 12 6	9 15 53 6	9 15 53 6	2	4 23	15 30 7	3 55 15 15		
10	11 14 18 32	4 54 47.2	4 48 13 5	11 56 51 5	9 15 53 6	9 15 53 6	2	5 0 11	3 8 8	4 19 15 35		
11	11 17 34 0	4 31 54.8	5 29 59 5	11 56 30 5	9 15 53 6	9 15 53 6	2	5 43	11 59 9	5 9 15 35		
12	11 21 29 56	4 9 3.2	6 50 51 5	11 56 9 5	9 15 53 6	9 15 53 6	2	6 29	Morn.	5 59 15 45		
13	11 25 5 4	3 45 57.1	8 11 53 5	11 55 48 6	9 15 53 6	9 15 53 6	2	7 4	6 39 4	8 58 15 54		
14	11 28 40 45	3 23 4.9	9 38 51 5	11 55 27 6	9 15 53 6	9 15 53 6	2	7 46	1 33 5	7 44 18 9		
15	11 32 16 80	2 59 58.4	10 58 51 5	11 55 6 6	9 15 53 6	9 15 53 6	2	8 54	3 13 4	8 30 30 5		
16	11 35 51 17	2 32 49.8	12 14 52 5	11 55 45 6	9 15 53 6	9 15 53 6	2	9 26	3 7 3	9 40 16 8		
17	11 39 26 52	2 12 36.0	1 36 7 5	11 55 24 6	9 15 53 6	9 15 53 6	2	10 39	4 5 1	10 43 18 8		
18	11 43 1 88	1 50 20.3	2 37 19 5	11 55 3 6	9 15 53 6	9 15 53 6	2	11 48	5 0 0	11 42 16 8		
19	11 46 37 39	1 27 9.1	3 38 38 5	11 54 42 6	9 15 53 6	9 15 53 6	2	Morn.	6 8 6	E. 9 39 38		
20	11 50 12 79	1 4 41.7	4 39 59 5	11 54 19 6	9 15 53 6	9 15 53 6	2	0 25	7 2 9	1 21 16 3		
21	11 53 48 54	0 40 19.4	5 40 51 5	11 53 58 6	9 15 53 6	9 15 53 6	2	1 30	8 2 3	2 46 15 59		
22	11 57 24 1	0 16 56.0	6 41 51 5	11 53 37 6	9 15 53 6	9 15 53 6	2	2 31	9 2 4	2 35 17 54		
23	11 59 56 29.5	0 6 29.4	7 42 51 5	11 53 16 6	9 15 53 6	9 15 53 6	2	3 34	2 52 5	4 20 15 47		
24	12 4 45 71	0 29 55.0	8 43 51 5	11 52 55 6	9 15 53 6	9 15 53 6	2	4 38	10 39 6	4 27 15 40		
25	12 8 11 29	0 53 10.9	9 44 51 5	11 52 34 6	9 15 53 6	9 15 53 6	2	5 14	11 24 6	5 36 15 31		
26	12 11 48 2	1 16 47.8	10 45 51 5	11 52 13 6	9 15 53 6	9 15 53 6	2	6 4	12 8 7	6 13 22 22		
27	12 15 24 48	1 40 12.9	11 46 51 5	11 51 52 6	9 15 53 6	9 15 53 6	2	6 54	0 53 0	6 55 15 12		
28	12 19 1 12	2 2 37.9	12 47 51 5	11 51 31 6	9 15 53 6	9 15 53 6	2	7 44	1 38 9	7 32 15 15		
29	12 22 37 59	2 27 1.8	13 48 51 5	11 51 10 6	9 15 53 6	9 15 53 6	2	8 34	3 25 5	8 10 16 56		
30	12 26 15 12	2 50 38.0	14 49 51 5	11 50 49 6	9 15 53 6	9 15 53 6	2	9 27	3 14 28	9 1 14 14		

NOVEMBER

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

PROPER LESSONS, EVENING.

November 1	26th Sunday after Trinity.....	Isaiah 2.....	Micha. 6.....
" 8	21st ".....	Isaiah 2.....	Proverbs 1.....
" 15	22nd ".....	Isaiah 2.....	Proverbs 1.....
" 22	23rd ".....	Isaiah 2.....	Proverbs 1.....
" 29	1st Sunday in Advent.....	Isaiah 1.....	Isaiah 2.....

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
SUN. 1	Trinity Sunday after Trinity—ALL SAINTS.	D. H. M.
MON. 2	ALL SOULS.	
TUES. 3	Princess Sophia born 1777.	5 6 7 H ☉ with ☾ 3 5 S.
WED. 4		9 4 50 ☉ greatest hel. lat. S.
THUR. 5	Gun Powder Plot.	12 4 4 ☉ greatest along 22 31 E.
FRI. 6		12 23 21 ☉ greatest hel. lat. N.
SAT. 7		13 18 34 ☉ ☽ with ☿ 2 23 S.
		18 9 37 ☉ ☽ with ☿ 4 43 N.
		18 13 11 ☉ in aphelion
SUN. 8	Twenty-first Sunday after Trinity—[Princess Augusta born 1768.]	21 9 55 ☽ ☽ with ☉
MON. 9		22 2 36 ☽ stationary
TUES. 10	Luther born 1483.	23 18 10 ☽ ☽ with ☿ 5 45 N.
WED. 11		25 12 6 ☽ ☽ with ☿ 5 25 N.
THUR. 12		25 17 21 ☽ stationary
FRI. 13		26 17 17 ☉ ☽ with ☿ 1 51 N.
SAT. 14		28 4 11 ☉ in ☉

MERIDIAN PASSAGE AT MADRAS MEAN TIME.

Days	☉	☽	♂	♀	♂	♀
1	1. 3	1.29	20.14	0.48	2.29	8.37
2	0. 1.11	1.35	20. 5	0.33	2.12	8. 7
3	1. 1.18	1.42	19.56	0.17	1.55	7.48
4	1. 1.16	1.50	19.47	23.59	1.37	7.23
5	2. 1. 0.	1.58	19.38	23.44	1.20	7. 8
6	2. 0.41	2. 4	19.29	23.28	1. 3	6.48

ECLIPSES OF JUPITER'S SATELLITES VISIBLE AT MADRAS.

Satel. Mean Time.

D. H. M. S.

The Eclipses of the Satellites of Jupiter are not visible this month Jupiter being too near to the sun.

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	79.7	78.8	78.2
Maximum.	87.0		
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 10. 20 a. m.; the coldest is at 5. 40 a. m.

PHASES OF THE MOON.

	D. H. M. S.
☾ FIRST QUARTER.....	2 6 25 1 P. M.
☾ FULL MOON.....	9 11 12 7 P. M.
☾ LAST QUARTER.....	16 2 14 7 P. M.
☾ NEW MOON.....	24 7 32 9 A. M.
☾ PERIGEE.....	11 10 21 0 P. M.
☾ APOGEE.....	27 2 21 0 A. M.

SUN'S

MOON'S

Days.	Right. Ascension.	Declination.	Equation.	Time.	Meridian.	Sets.	Semi-diameter.	Age.	Rises.	Meridian.	Sets.	Semi-diameter.
A. M. S.	O. "	M. S.	A. M. S.	A. M. S.	A. M. S.	A. M. S.	"	"	Morn.	Evening.	Evening.	"
1 14 20 2.58	8 14 29 18.8	15 16 18.5	5 58	11 43 41.5	30 16	9 7 11	11 38	5 17 4	5 17 4	11 59 14 57		
2 14 30 5.35	14 48 25.7	16 16 9.8	5 58	11 43 43.5	30 16	9 8 1	0 51	6 48 8	Morn. 15 7			
3 14 34 1.90	15 7 17.0	16 16 9.8	5 59	11 43 44.5	29 16	9 10 1	1 29	7 32 8	0 47 13 30			
4 14 37 39.26	15 35 55.2	16 16 18.5	5 59	11 43 45.5	28 16	19 11 1	2 8	8 17 0	1 39 13 34			
5 14 41 37.41	15 44 17.2	16 14 16.5	5 59	11 43 45.5	28 16	10 12 1	3 47	9 2 3	2 26 13 42			
6 14 45 56.39	16 2 23.4	16 12 14.6	5 59	11 43 45.5	28 16	10 13 1	3 50	9 50 5	3 17 16 4			
7 14 49 56.19	16 20 13.5	16 8 9.5	5 59	11 43 45.5	28 16	10 13 1						
8 14 53 56.82	16 37 47.1	16 4 87.6	5 59	11 43 45.5	28 16	10 14 1	4 14	10 42 6	4 10 16 17			
9 14 57 58.29	16 55 8.8	15 59 92.6	5 59	11 44 0.5	27 16	10 15 1	5 5	11 39 7	5 12 16 27			
10 15 2 0.62	17 12 3.4	15 54 20.6	5 59	11 44 6.5	27 16	11 16 1	6 2	Morn. 6 15 16 38				
11 15 6 3.81	17 28 45.1	15 47 58.6	5 59	11 44 12.5	27 16	11 17 1	7 4	0 41 6	7 22 16 35			
12 15 10 7.85	17 45 9.0	15 40 11.6	5 59	11 44 20.5	27 16	11 18 1	8 10	1 47 1	8 30 16 34			
13 15 14 12.76	18 1 14.4	15 31 78.6	5 59	11 44 28.5	26 16	11 19 1	9 13	2 52 9	9 36 16 34			
14 15 18 18.53	18 17 0.4	15 22 59.6	5 59	11 44 37.5	26 16	12 20 1	10 29	3 55 1	10 36 13 44			
15 15 22 25.18	18 32 28.4	15 13 54.6	5 59	11 44 46.5	25 16	12 21 1	11 18	4 53 6	11 29 16 3			
16 15 26 32.18	18 47 36.4	15 4 63.6	5 59	11 44 55.5	25 16	12 22 1	Morn. 5 46 4	5 46 4	11 16 16 3			
17 15 30 41.2	19 2 31.3	14 49 91.6	5 59	11 45 5.5	25 16	12 23 1	0 14	6 34 7	0 36 15 28			
18 15 34 50.23	19 16 51.7	14 42 30.6	5 59	11 45 15.5	25 16	12 24 1	1 8	7 19 9	1 34 15 27			
19 15 39 0.29	19 30 58.4	14 33 83.6	5 59	11 45 25.5	24 16	13 25 1	1 53	8 3 3	2 11 15 17			
20 15 43 9.18	19 44 43.9	14 23 53.6	5 59	11 45 35.5	24 16	13 26 1	2 44	8 46 3	2 48 15 8			
21 15 47 22.90	19 58 7.8	13 54 43.6	5 59	11 45 45.5	23 16	13 27 1	3 33	9 29 9	3 27 15 1			
22 15 51 35.44	20 11 9.5	13 38 45.6	5 59	11 45 55.5	23 16	13 28 1	4 21	10 15 0	4 9 15 75			
23 15 55 48.79	20 23 40.6	13 31 07.6	5 59	11 46 5.5	23 16	13 29 1	5 13	11 2 3	4 51 14 50			
24 16 0 2.94	20 36 6.4	13 4 13.6	5 59	11 46 15.5	23 16	13 30 1	6 2	11 51 5	5 37 14 46			
25 16 4 17.85	20 48 0.4	12 45 83.6	5 59	11 47 14.5	23 16	14 1 1	6 56	E. 0 42 1	6 28 14 43			
26 16 8 33.32	20 59 31.2	12 35 22.6	5 59	11 47 34.5	23 16	14 2 1	7 47	1 33 2	7 19 14 31			
27 16 12 48.91	21 10 37.9	12 25 12.6	5 59	11 47 54.5	23 16	14 3 1	8 37	2 23 5	8 9 14 48			
28 16 17 7.0	21 21 30.9	12 15 57.6	5 59	11 48 13.5	23 16	14 4 1	9 22	3 12 4	9 1 14 43			
29 16 21 21.78	21 31 39.5	12 5 21.6	5 59	11 48 33.5	23 16	14 5 1	10 6	3 57 9	9 56 14 48			
30 16 25 43.25	21 41 33.5	11 55 6.6	5 59	11 48 53.5	23 16	14 6 1	10 45	4 43 6	10 40 14 53			

DECEMBER.

SUNDAY LESSONS.

PROPER LESSONS, MORNING.

PROPER LESSONS, EVENING.

December 6	31 Sunday in Advent.....	Isiah 5.....	Acts 7 to 30.....	Isiah 34.....	Matthews 12
13	31	Isiah 5.....	Acts 7 to 30.....	Isiah 34.....	Matthews 12
20	4th	Isiah 5.....	Acts 7 to 30.....	Isiah 34.....	Matthews 12
27	1st Sunday after Christmas ..	Isiah 5.....	Acts 7 to 30.....	Isiah 34.....	Matthews 12

Day of the Week.	REMARKABLE DAYS.	ASTRONOMICAL PHENOMENA.
Tues. 1		D. H. M. 2 0 26 in inf 3 30 S.
Wed. 2	Manila surrendered in 1810.	2 14 53 in perihelion 3 30 S.
Thur. 3	Abolition of the Slave, 1833.	5 18 31 in perihelion 0 11 N.
Fri. 4		8 4 16 in perihelion 2 3 N.
Sat. 5		9 1 50 in perihelion 2 2 N.
Sun. 6	Second Sunday in Advent—NICHOLAS.	10 5 21 in aphelion S.
Mon. 7		11 6 22 greatest hel. lat. S.
Tues. 8	Conc. of the R. V. M. at Hongkong 1824.	11 18 14 stationary N.
Wed. 9	Milton born 1608.	13 1 42 greatest hel. lat. N.
Thur. 10		15 16 49 in aphelion 6 22 N.
Fri. 11		17 3 30 in aphelion 1 47 N.
Sat. 12	Lally commences the siege of Madras 1759.	20 2 41 in aphelion 23 15 S.
Sun. 13	Third Sunday in Advent.	21 0 26 great, elong. 21 50 W.
Mon. 14		21 10 34 enter V's winter, comms.
Tues. 15		21 11 58 in aphelion 5 37 N.
Wed. 16		21 16 50 in aphelion 6 53 N.
Thur. 17		23 0 33 in aphelion 5 22 N.
Fri. 18		23 5 26 in aphelion 1 34 S.
Sat. 19		23 16 15 in aphelion 6 5 S.
Sun. 20	Fourth Sunday in Advent.	29 22 57 in aphelion 3 37 S.
Mon. 21	St. THOMAS.	
Tues. 22		
Wed. 23		
Thur. 24	Peace between England and the U. S. 1804.	
Fri. 25	CHRISTMAS-DAY.	
Sat. 26	St. STEPHEN.	
Sun. 27	Fifth Sunday after Christmas—St. JOHN.	
Mon. 28	INNOCENTS-DAY.	
Tues. 29		
Wed. 30		
Thur. 31	St. SILVASTER.	

The Satellites are not visible until the 16th day of 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	30.085	30.107
Thermometer	77.3	76.1	75.7
Maximum.	84.0		
Minimum.	65.8		
Rain.—Inches	3.33	1.60	0.58

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 4h. 50m. p.m.; the coldest at 2h. 50m. a.m.

PHASES OF THE MOON.

	D.	H.	M.	S.
First Quarter.....	2	0	39	2
Full Moon.....	10	9	37	7
Last Quarter.....	16	2	24	9
New Moon.....	24	2	45	6
First Quarter 1st Jan. 1841	1	4	11	3
Perigee.....	9	3	21	0
Apogee.....	24	3	21	0

SUN'S

Right Ascension.	Declination.	Equi- dist.	Long.	Meridi- an.	Sets.	Semi- diameter.	Age.	Rises.	Meridi- an.	Sets.	Semi- diameter.
8. 39. 4.	10. 11. 5.4	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
1. 13. 39. 3. 58	2. 21. 51. 5.4	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
2. 36. 34. 27. 58	3. 23. 0. 1. 10	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
3. 16. 38. 42. 59	4. 23. 8. 41. 4	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
4. 16. 43. 3. 15	5. 23. 16. 56. 8	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
5. 16. 47. 24. 58	6. 23. 24. 43. 3	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
6. 16. 51. 46. 74	7. 23. 32. 3. 6	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
7. 16. 56. 9. 0	8. 23. 39. 57. 4	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
8. 17. 0. 31. 36	9. 23. 45. 24. 6	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
9. 17. 4. 55. 39	10. 23. 51. 24. 9	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
10. 17. 9. 19. 24	11. 23. 56. 56. 2	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
11. 17. 13. 43. 51	12. 23. 59. 4. 4	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
12. 17. 18. 8. 16	13. 23. 6. 43. 3	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
13. 17. 23. 33. 15	14. 23. 10. 54. 5	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
14. 17. 28. 58. 44	15. 23. 17. 43. 6	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
15. 17. 34. 24. 11	16. 23. 24. 32. 7	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
16. 17. 40. 49. 39	17. 23. 31. 21. 8	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
17. 17. 47. 15. 14	18. 23. 38. 10. 9	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
18. 17. 54. 40. 44	19. 23. 45. 0. 10	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
19. 17. 59. 8. 94	20. 23. 52. 9. 11	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
20. 17. 53. 35. 56	21. 23. 59. 18. 12	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
21. 17. 58. 2. 34	22. 23. 57. 27. 13	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
22. 18. 2. 29. 6	23. 23. 56. 36. 14	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
23. 18. 6. 55. 85	24. 23. 54. 45. 15	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
24. 18. 11. 23. 66	25. 23. 53. 54. 16	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
25. 18. 15. 48. 38	26. 23. 52. 63. 17	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
26. 18. 20. 10. 57	27. 23. 51. 72. 18	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
27. 18. 24. 42. 44	28. 23. 50. 81. 19	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
28. 18. 29. 8. 78	29. 23. 49. 90. 20	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
29. 18. 33. 34. 87	30. 23. 48. 99. 21	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
30. 18. 38. 0. 94	31. 23. 47. 108. 22	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
31. 18. 42. 25. 13	32. 23. 46. 117. 23	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27
32. 18. 46. 51. 34	33. 23. 45. 126. 24	104112	6. 11. 11. 49	19. 5. 27	16. 15. 7.4	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27	11. 25. 5. 27

ENGLISH, MAHOMEDAN, AND HINDOO MONTHS.

ENGLISH.	MAHOMEDAN.	HINDOO.
January.....	Zilchadeh.....	Margali or Dhancas.
February.....	Zilhedge.....	Tye or Makarum.
March.....	Mahorum.....	Mausee or Khambyum.
April.....	Suffer.....	Pungooni or Meemum.
May.....	Robelavel Rubbeesane.....	Chitteri or Masbun.
June.....	Jamadelovel.....	Vrasee or Vrishabhnam.
July.....	Jamadesany.....	Annee or Medhnam.
August.....	Rajub.....	Andi or Katakum.
September.....	Shaben.....	Auvani or Cimbum.
October.....	Ramzan.....	Purtasy or Kania.
November.....	Shaval.....	Arpisi or Talam.
December.....		Kastika or Vrichikum.

The Year 5801 of the Jewish Era commences August 29, 1841—The year 1256 of the Mahomedan Era commences March 5, 1840—The month of Abstinence observed by the Turks commences October 27, 1840.

THE PLANETS AND ASTRONOMICAL SYMBOLS AND ABBREVIATIONS.

☉ The Sun.	♂ Mars.	♄ Ceres.
☾ The Moon.	♃ Jupiter.	♅ Pallas.
☿ Mercury.	♄ Saturn.	♆ Juno.
♀ Venus.	♁ The Georgian or Uranus.	♇ Vesta.
♁ The Earth.		

☊ The Moon's or any other Planet's Ascending Node.

☋ The Descending Node.

☌ Conjunction, or Planets situated in the same longitudes.

☍ Quadrature, or Planets situated in longitudes differing 90° from each other.

☎ Opposition, or Planets situated in opposite longitudes, or differing 180° from each other.

N North. S. South.				
° Degrees.	0.	♈ Aries.....	♋ Cancer.....	♏ Libra.....
' Minutes of Arc.	I.	♉ Taurus.....	♌ Leo.....	♐ Scorpio.....
" Second of Arc.	II.	♊ Gemini.....	♍ Virgo.....	♑ Sagittarius.....
h Hours.	III.	♋ Cancer.....	♎ Aquarius.....	♒ Capricornus.....
m Minutes of time.	IV.	♌ Leo.....	♏ Libra.....	
s Seconds of time.	V.	♍ Virgo.....	♐ Scorpio.....	

MAHOMEDAN AND HINDOO ERAS.

CORRESPONDING WITH THE YEAR 1840.

Corresponding with the Hindoo Era Vichramjit 1897 and 1898, whereof the Maroo 1898th year will commence on the 3d of April, and the Guzeratt Deccan and Concan 1898th year will commence on the 26th October, and Salisabana 1762 and 1763, whereof the 1763d year will commence on the 3d April and in the Carnatic, Telinga and the Malabar Colva year 1015-16 whereof the 1016th year will commence on the 14th September, on the Malabar Coast. With the Pursee Era of Yezderez, 1209-10, whereof the Saharoyee 1210th year will commence on the 29th August, and the Churengur, 1210th year will commence on the 31st July, and the Hegiree 1255-56, whereof the 1256th year will commence on the 6th March and with the Fudly year 1249-50 year will commence on the 14th July and the year 5501 of the Jewish Era will commence on the 29th August Ramadan, (month of abstinence observed by the Turks) will commence on the 27th October 1840, and Bengallee Ballolsan Era 1246-47, on the 11th April 1247 in the Bengal Provinces.

MAHOMEDAN FESTIVALS.

ENGLISH.	MAHOMEDAN.	HOLY DAYS, FESTIVALS, &c.
1840		
Feb. 15	Zilhedge	10 Buckreed. This is held in commemoration of Abraham offering up the ram, instead of his son Isaac.
March 6	Mahorumi	1 Mohorumi. This Festival of Hussain and Hussein lasts 10 days. This month is also the commencement of the 1256th year of the Hegira.
April 4	Suffer 1st to 29	29 Teerath Tarek.
	Suffer	25 Arbeezy charshumba.
May 4	Rubelavel 1st to 12	12 Barawati. The conjectured date of Mahommed's decease.
June 2	Rubbeesane 1st to 11	11 Gudvee.
	Do.	29 Birth day of his Highness the Nabob of the Carnatic.
July 31	Jamadelavel	41 Birth day of His Highness Prince Assem Jah Bahadur Naib-i-Mookhtar.
Sept. 24	Rajjul	27 Eed Rajjul.
Oct. 11	Shaben	14 Shab-i-Saati.
	Ramzan 1st to 29	29 The solemn season of Fasting begins.
Nov. 28	Shaval	1 Eed Ramzan. The Mahomedan feast that follows the month's fasting.

HINDOO FESTIVALS.

ENGLISH.	HINDOO.	HOLY DAYS, FESTIVALS, &c.
1840		
Jan. 5	Margali.	23 Pooahia Sootum.
8		26 Doorra ganapativratum.
9		27 Gurbarootoo Neveryety.
10		28 Condassami Ootcharatubam.
11		29 Bhoghee pundaga.
12	Tye.	1 Ootterayana puniakallara, pungali. Nast.
13		2 Dantree Gouri vratum maut pungali.
14		3 Savitri Gouri vratum.
16		5 Condassami Rudhubavem.
18		7 Tye ponum.
28		17 Jaya Lutchini vratum.
29		18 Trilekha Gouri vratum.
30		19 Ryatanamovady.
Feb. 3		23 Tye Amavasya. Mahodaya puranikalum.
4		24 Maghasootum, Radhotavum at Trivaboor.
5		25 Kilasa Gouri vratum.
6		26 Kund Gouri vratum.
8		28 Vasanta Panchmes.
10		30 Vagavata Munvadi, Radha supa.
13	Mand.	3 Radha Yakadasi.
14		4 Radhotavum at Trivaboor.
15		5 Moosuluan Bakriet pundaga.
16		6 Mahagulsava at Trivaboor.
17		7 Bharataa poorami, chindra gasham.
Mar. 2		21 Maha sivaratni vratum.
3		22 Dityani Yোগadi.
5		24 Phangicootum.
13	Punguni.	1 Radhotavum at Canjeverum and Milapoor.
17		6 Kumadhamam, Punguni Yotum.
18		7 Holy Fook.
26		15 Seetadev vratum.
Apr. 2		22 Punguni Amavasya.
3		23 Ougde feast chandrasuravacke-raramlum.
5		25 Subhaga Gouri vratum.
7		27 Kalpadi.
8		28 Sunlana septami.
10		30 Shritana Navami.
11	Chittri.	1 Hindoo New Years day, Vishooppooniacolum.
14		4 Madana Trayodashi.
16		6 Chetra pournami, Rouchie manvadi.
19		9 Garudohavum at Triplicane.
22		12 Matsya Jayanti.
23		13 Radhotavum at Triplicane.
30		20 Varaha Jayanti.
May 1		21 Chittri Amavasya.
2		22 Visakhsootum.
4		24 Aicha Trilla, Balarama Jayanti, Tratoyogadi.
6		26 Stree permatore chatoomoray.
8		28 Gungotputty.
14	Vissi.	3 Narasimha Jayanti, beginning festival at Canjeverum.
16		5 Garudohavum at Canjeverum.
20		9 Radhotavum at Canjeverum.
28		17 Dattatraya Jayanti.
30		19 Vishala Amavasya.
June 1		21 Jasta sootum.
2		22 Kaladi Gouri vratum.
5		25 Aarania Gouri vratum.
9		29 Pampalura Dasami.
13	Audi.	3 Narasimha garudohavum at Triplicane.
14		4 Rouchie Manvadi.
17		6 Narasimha Radhotavum at Triplicane.
25		14 Kathala Yakadasi.
26		15 Koonma Jayanti.
29		18 Aani Amavasya.
30		19 Anubhasootum.
July 3		22 Aumrita Lutchini Vratum.
4		23 Samee Gouri vratum.
9		28 Cheshcha Munvadi.
10		29 Shaina Yakadasi.
12		31 Jayapavali vratum.
13		Dravida Dushasayasa puranikalum.
14	Audi.	1 Vira Pourami Holamam.
22		9 Diermaravania Manvadi.
23		10 Audi Amavasya.
29		16 Sravasa Sootum.

HINDOO FESTIVALS.

ENGLISH.	HINDOO.	HOLY DAYS, FESTIVALS, &c.
1840		
July 31	Audi.	18 Jais Gouri vratum, Audiparum, Shooteckoodoota Na-chur chatoomoray.
Aug. 1		19 Nagachaturthi.
2		20 Garuda Poochami.
7		25 Varaluchini vratum.
12		30 Aslavasa Gopakurma.
13		31 Tajar Gopakurma, Audy pundagay.
14	Auvani.	1 Eateckalum.
19		6 Krishna Austani.
21		8 Shritayanti.
22		9 Jooendi Oochavum.
26		13 Auvani Amavasya.
28		15 Maha Luchini vratum, Bhadradasutum.
29		16 Kalaka Jayanti.
30		17 Dharasa Manvadi, Haritaka Gouri vratum, shodasa Gouri vratum, Samopekuma.
31		18 Vinacka chatoomoray.
Sept. 1		19 Kaeshi Poochami vratum.
3		21 Aumeta Bharana septami.
4		22 Jaisa Austani.
5		23 Auvani Moolam.
7		25 Parivartana Yakadasi.
8		26 Vamasa Jayanti.
10		28 Aumeta vratum.
11		29 Gomamahawara vratum, Ootara Gaurivratum.
12	Purtassy.	30 Mahalla Putehand begins.
13		1 Broham Gouri vratum.
14		2 Maha Bharani.
15		3 Sooria Sawvurnika Munvadi, Madhyu Austni.
18		6 Mahavetapatum, Aayavavine.
19		7 Vativahia pitruddhi.
22		10 Kalyogadi, Gajabehayi.
23		11 Shastrihata pitruddhi.
24		12 Mahalla Amavasya, Gajah Gouri vratum.
25		13 Navatol or Dasara feast begins Ausvrijusatum.
26		14 Prithivilla.
27		15 Feast begins at Tripati.
28		16 Laksh Gouri vratum.
30		18 Saraswati feast begins.
Oct. 3		20 Saraswati Poojah, Audahpooja.
7		24 Vijia dasani.
8		25 Tooloseri vratum.
11		28 Godisulassi.
13		30 Mahopourami.
14		31 Chundricaya Gouri vratum.
15	Arpise.	1 Narakachutudum bathing at night.
16		2 Dipavali feast, Amavasya.
17		3 Kalara Gouri vratum.
18		4 Vrishabha vratum, Kartikasootum.
19		5 Trilochares Gouri vratum.
20		6 Nagachaturthi.
21		7 Skandisauri.
Nov. 1		8 Kulpadi.
2		9 Gostaventhoni.
3		10 Koola Yোগadi.
4		11 Ootina Yakadasi.
5		12 Ootina Divala, Savampooa Munvadi.
6		13 Anabhibhakum, Duchasavernikamuvadi, Kartika Gouri vratum.
7		14 Kartika Amavasya.
8		15 Margashirshubham.
9		16 Tintini Gouri vratum.
10		17 Varachatroorthi.
11		18 Badari Gouri vratum, feast begins at Trigunalay.
12		19 Simpadavasi, Milapoor.
13		20 Metrasupami.
14		21 Kalabhiravi Austani.
15		22 Kaitika Dhepuz, Hanoomajayanti.
16		23 Sivalala Dhepuz, Pashana chatoodate.
17		24 Parakoorama Jayanti.
18		25 Margali Amavasya.
19		26 Poochavum.
20		27 Feast begins at Streerungum.
21		28 Dooroosannapate vratum.
22		29 Feast begins at Chudagbarum.
23		30 Dooroova Austani.
24		31

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							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

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... as midnight.

English.	Fully.	Audoo.	Salva- ganah.	Names of the Tamil Years being a Cycle of 60 years.	English.	Fully.	Audoo.	Salva- ganah.
1747	1157	923	1669	Prabavah	1807	1217	983	1729
1748	1158	924	1670	Vabavah	1808	1218	984	1730
1749	1159	925	1671	Sooklah	1809	1219	985	1731
1750	1160	926	1672	Premodootah	1810	1220	986	1732
1751	1161	927	1673	Prajoputhe	1811	1221	987	1733
1752	1162	928	1674	Angersa	1812	1222	988	1734
1753	1163	929	1675	Sreemooka	1813	1223	989	1735
1754	1164	930	1676	Bavah	1814	1224	990	1736
1755	1165	931	1677	Uvah	1815	1225	991	1737
1756	1166	932	1678	Dhantoo	1816	1226	992	1738
1757	1167	933	1679	Swawrah	1817	1227	993	1739
1758	1168	934	1680	Vegodantah	1818	1228	994	1740
1759	1169	935	1681	Premadhee	1819	1229	995	1741
1760	1170	936	1682	Veikramah	1820	1230	996	1742
1761	1171	937	1683	Vishoo	1821	1231	997	1743
1762	1172	938	1684	Chitrabano	1822	1232	998	1744
1763	1173	939	1685	Soobano	1823	1233	999	1745
1764	1174	940	1686	Taranah	1824	1234	1000	1746
1765	1175	941	1687	Paurtevah	1825	1235	1001	1747
1766	1176	942	1688	Viah	1826	1236	1002	1748
1767	1177	943	1689	Liravajetoo	1827	1237	1003	1749
1768	1178	944	1690	Survadaree	1828	1238	1004	1750
1769	1179	945	1691	Verodhee	1829	1239	1005	1751
1770	1180	946	1692	Vickvootee	1830	1240	1006	1752
1771	1181	947	1693	Carah	1831	1241	1007	1753
1772	1182	948	1694	Nandanah	1832	1242	1008	1754
1773	1183	949	1695	Vejan	1833	1243	1009	1755
1774	1184	950	1696	Jia	1834	1244	1010	1756
1775	1185	951	1697	Mummasa	1835	1245	1011	1757
1776	1186	952	1698	Doomhookes	1836	1246	1012	1758
1777	1187	953	1699	Avelumbee	1837	1247	1013	1759
1778	1188	954	1700	Velumbee	1838	1248	1014	1760
1779	1189	955	1701	Vekavaree	1839	1249	1015	1761
1780	1190	956	1702	Shavaree	1840	1250	1016	1762
1781	1191	957	1703	Pejavah	1841	1251	1017	1763
1782	1192	958	1704	Soobacrootoo	1842	1252	1018	1764
1783	1193	959	1705	Lokacrootoo	1843	1253	1019	1765
1784	1194	960	1706	Croothoo	1844	1254	1020	1766
1785	1195	961	1707	Vavavasee	1845	1255	1021	1767
1786	1196	962	1708	Parabava	1846	1256	1022	1768
1787	1197	963	1709	Palavunga	1847	1257	1023	1769
1788	1198	964	1710	Veelakah	1848	1258	1024	1770
1789	1199	965	1711	Soommita	1849	1259	1025	1771
1790	1200	966	1712	Landaravah	1850	1260	1026	1772
1791	1201	967	1713	Verodakrootoo	1851	1261	1027	1773
1792	1202	968	1714	Paradauppee	1852	1262	1028	1774
1793	1203	969	1715	Premadeecha	1853	1263	1029	1775
1794	1204	970	1716	Annada	1854	1264	1030	1776
1795	1205	971	1717	Brashtaa	1855	1265	1031	1777
1796	1206	972	1718	Nalah	1856	1266	1032	1778
1797	1207	973	1719	Pingalah	1857	1267	1033	1779
1798	1208	974	1720	Cavayuktee	1858	1268	1034	1780
1799	1209	975	1721	Siddartee	1859	1269	1035	1781
1800	1210	976	1722	Roudree	1860	1270	1036	1782
1801	1211	977	1723	Doommatee	1861	1271	1037	1783
1802	1212	978	1724	Doondoohee	1862	1272	1038	1784
1803	1213	979	1725	Roodrogaatee	1863	1273	1039	1785
1804	1214	980	1726	Buckaachee	1864	1274	1040	1786
1805	1215	981	1727	Crodatanah	1865	1275	1041	1787
1806	1216	982	1728	Uchia	1866	1276	1042	1788

SHEWING, 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 aile of October, 1582, or that can occur in any future times.

	A G	C B	E D	G F	E A	D C	F E
	F. E. D. A. G. F. C. E. A. E. D. C. G. F. E. A. G. D. C. E.						
1584	88	92	96				
1612	16	20	24	28	32	36	40
40	44	48	52	56	60	64	68
88	72	76	80	84	88	92	96
1704	12	16	20	24	28	32	36
36	40	44	48	52	56	60	64
64	68	72	76	80	84	88	92
92	96						
1804	8	12	16	20	24	28	32
32	36	40	44	48	52	56	60
60	64	68	72	76	80	84	88
88	92	96					
1904	8	12	16	20	24	28	32
32	36	40	44	48	52	56	60
60	64	68	72	76	80	84	88
88	92	96					
2000							

The letters for the first, second, and third years after every bissextile, are the three single letters stated under the double letters, in the same column with the bissextile they immediately follow. For example, as the Dominical Letters for 1580 were A, B, so the Dominical Letter for 1601 was C, for 1602, F, and for 1603, A. So for 1796 the Dominical will be C, B; consequently 1797, 1798, and 1799, must have A, G, and F; and the letter for 1800, (which is to be accounted a common year,) will be G; therefore 1801, 1802, and 1803, must have the subsequent letters, D, E, and F; 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 1808 is G, opposite January under that column shows the day of the week, viz. Monday. For February, Thursday, and so on.

TABLE No. III.

TABLE No. IV.

TABLE No. VI.

Expense, Income, or Wages, from 1 to 16 Company's Rupees per Month
for a month of 31 Days, showing the amount per Day.

Days.	1	2	3	4	5	6	7	8	9	10	12	16	Days.
1	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	1
2	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	2
3	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	3
4	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	4
5	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	5
6	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	6
7	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	7
8	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	8
9	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	9
10	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	10
12	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	12
16	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	P. 0.00	A. 0.00	16

TABLE No. VII.

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 1 2	0 1 1	0 1 1	0 1 1
3	0 1 9	0 1 8	0 1 7	0 1 7
4	0 2 3	0 2 2	0 2 2	0 2 1
5	0 2 8	0 2 7	0 2 6	0 2 5
6	0 3 4	0 3 3	0 3 2	0 3 1
7	0 4 0	0 3 10	0 3 9	0 3 8
8	0 4 7	0 4 5	0 4 4	0 4 3
9	0 5 3	0 5 2	0 5 1	0 5 0
10	0 5 9	0 5 8	0 5 7	0 5 6
11	0 6 3	0 6 1	0 6 10	0 6 9
12	0 6 10	0 6 7	0 6 6	0 6 5
13	0 7 6	0 7 2	0 7 11	0 7 10
14	0 8 0	0 7 9	0 7 6	0 7 5
15	0 8 7	0 8 3	0 8 0	0 7 9
16	0 9 2	0 8 10	0 8 6	0 8 3
17	0 9 9	0 9 5	0 9 1	0 8 9
18	0 10 3	0 9 11	0 9 7	0 9 3
19	0 10 10	0 10 6	0 10 2	0 9 10
20	0 11 5	0 11 0	0 10 8	0 10 4
21	0 12 0	0 11 7	0 11 2	0 10 10
22	0 12 7	0 12 2	0 11 9	0 11 4
23	0 13 2	0 12 8	0 12 3	0 11 10
24	0 13 9	0 13 3	0 12 10	0 12 5
25	0 14 3	0 13 10	0 13 4	0 12 11
26	0 14 10	0 14 4	0 13 10	0 13 6
27	0 15 5	0 14 11	0 14 5	0 13 11
28	1 0 0	0 15 5	0 14 11	0 14 5
29	1 0 7	1 0 0	0 15 6	0 15 0
30	1 1 2	1 0 7	1 0 0	0 15 6
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 8	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 6	1 5 8

TABLE No. VIII.

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 8 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 1 7	2 0 6
64	2 4 7	2 3 4	2 2 2	2 1 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

TABLE No. IX.

Table of Daily Pay or Allowance.

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 8	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 6 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 6	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 13 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	200 0 0	193 8 9
7000	250 0 0	241 8 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 5 2
10,000	357 2 3	344 12 3	333 5 4	322 9 3

MADRAS MONEY, WEIGHTS AND MEASURES.

PROCLAMATION.

The Honorable the Governor General in Council has resolved, that the Device of the New Rupee, Double Rupee, Half Rupee, and Quarter Rupee, to be issued from the Mints of India, from and after the 1st September, 1835, in conformity with Act XVI. of the same year, shall be as follows:

On the Obverse, the Head of His Majesty William the Fourth, with the words,
WILLIAM IIII. KING.

On the Reverse, the denomination of the Coin in English and Persian in the centre, encircled by a laurel wreath; and around the margin the words,
EAST INDIA COMPANY, 1835.

The new Coin shall be struck on the edge, with a serrated or upright milling.
For the information of the public, an engraving of the Device adapted for the Rupee, is herewith annexed.

OVERSE

REVERSE.



The Rupee shall measure in diameter one and two-tenths of an inch, or one-tenth of a foot. The diameter of the Double Rupee shall be one inch and a half; that of the Half Rupee, or Eight Annas piece shall be ninety-five hundredths of an inch; and that of the Quarter Rupee, or Four Annas piece shall be three quarters of an inch. These measures being severally the relative proportions to the Rupee provided in the Act aforesaid.

The Weight, Standard fineness and value of the New (or Company's) Rupee as defined in the Act, are:

Weight, 180 grains Troy, or one tola.

Standard quality, eleven-twelfths Silver, one-twelfth Alloy.

Value, equal to the Madras, Bombay, Furukhabad, and Benar Rupee; and to fifteen-sixteenths of the Calcutta Bicca Rupee.

The weights of the other Silver Coins, viz. the Double, Half, and Quarter Rupees to bear a due proportion thereto.*

12 Pice	as 1 Anna.
16 Annas	as 1 Rupee.
32 Rupees	exchange in account for 1 Pagoda.

WEIGHTS.

16 Pagodas weight	= 1 Polhun = 14 oz.
40 Polhuns	= 1 Vis = 3 lbs. 3 oz.
8 Vis	= 1 Maund = 40 lbs.
20 Maunds	= 1 Candy = 300 lbs.

* On the 27th August 1835, an Act was passed authorizing the Coinage and issuing of any Silver Coins of a value represented in even Annas or sixteenths of a Rupee.

Accounts were kept in Madras in Star Pagodas, Panams and Cash, viz.:

50 Cash to 1 Panam.

3 43, 44 or 45 Panams, 1 Star Pagoda.

Government, the Banks and all the Houses of Agency kept their Accounts at 43 Panams the Star Pagoda. The Shops and Bazaar at 44 or 45.

The Star Pagoda exchanged in the Bazaar for about 45 Panams, but it fluctuated according to circumstances.

The coins in circulation were the Star Pagoda, the Arcot Rupee, 2 1/2 Star Pagoda; it exchanged in the Bazaar for 12 Panams or 24 Cash.

There was also a copper coin sent out from Europe of 20, 10, 5 and 1 Cash value, the latter being worth 8 1/2 to 10 about the ninth part of a farthing.

This Currency was altered in January 1835 by a Proclamation, which constituted the Silver Rupee the standard coin, since superseded by Act XVII. of 1835.

GRAIN OR DRY MEASURE.

1 Measure, or Paddy.	1 Measure, or Paddy.
8 Olincks make	1 Marcal.
8 Measures	1 Marcal.
400 Marcalis	1 Garce, wt. 2256 1/2 lbs.

A palm of channam is 5 Marcalis.—Milk, Oil, Cheese, &c. are sold by the grain measure containing 8 olincks, 20 olincks are equal to 1 English gallon.

LAND MEASURE.

Land is usually measured with Gunter's Chain of 100 Links, or with a rod of 10 feet, and reduced to Cawnies, Grounds and Square feet, agreeably to the following Table.

60 Feet long and 40 feet broad, make one Ground or Mauncie, containing 2,400 square feet.

24 Grounds or Mauncies; make one Cawnie equal to 57,600 Square feet.

The Indian Cawnie is in proportion to the English Acre as 1 to 1,523 1/2 or as 121 is to 160. To reduce Indian Cawnies to English Acres, multiply the given number of Cawnies by 160, and divide the product by 121, the quotient will give the number of Acres, and the remainder be the fractional part of an Acre,—or multiply the Cawnies by 1,323 1/2, and the product, (taking off 4 places to the right hand) will be the same, and the figures so cut off are the decimal part of an Acre.

840 Acres = 1 Square mile.

The Coid in Cloth Measure is 18 inches, but the English yard of 26 inches is generally used.

MADRAS MINT.

The Madras Mint was abolished in 1835 by an order of the Government of India. In the year 1837, a Bullion Office was established under the orders of the same authority.

The following are the regulations by which Gold and Silver are now purchased by the Assay Master, at the Bullion Office.

Fort St. George, June 20, 1837.

The following Rules for the Bullion Office, in modification of those bearing date the 6th instant, are published for general information.

1. Sealed Tenders of Gold and Silver, specifying the weight and description of the Bullion tendered, will be received daily, Sundays and holidays excepted, from 10 till 4 o'clock, at the Bullion Office at the Mint; the Tenders to be addressed to the Assay Master in charge of the Bullion Depot.

2. The Bullion so tendered shall be delivered by the owner or his representative to the Assay Master personally, who will weigh it in the presence of such party, and grant a receipt for the same according to the annexed Form No. 1. The Bullion shall then be melted, cast into bars or ingots, and have stamped thereon consecutive numbers in the presence of the owner or his representative, in the joint custody of whom and of the Assay Master it shall be kept in a box with two different locks and keys, each party keeping a separate key, until it shall have been assayed.

3. The Bullion having been melted, and numbered as aforesaid, the Assay Master shall also cut numbers from it in the presence of the owner or his representative, and proceed to assay the numbers with all convenient dispatch. After assay, the Bullion shall be again weighed by the Assay Master in the presence of the owner or his representative, its value shall then be brought to the public credit by the Assay Master, who will grant, in lieu of the receipt before given, a Bullion Certificate according to the annexed Form No. 2; deducting therefrom the standard value of the Bullion two per cent. seigniorage.

Form No. 1.
No. ——— Received from (A. B.) of ——— of Gold, (or the ——— of Silver) Bullion Gross Weight, tendered for sale this day at the Bullion Office.
Fort St. George;
Bullion Depot;
1837.

C. D.
Assay Master.

Form No. 2.
Gold (or Silver) Bullion Certificate.

No. 1.
Gross Weight lbs. ——— oz. ——— Sec.
Standard Weight lbs. ——— oz. ——— Sec.
Company's Rupees 000 0 0

I hereby certify that (A. B.) has delivered into the Bullion Depot (three) Bars of Gold (or Silver) Bullion, numbered 1, 2, 3, and three, weighing Gross Weight lbs. ——— oz. ——— Sec. or Standard Weight lbs. ——— oz. ——— Sec. and that the value thereof, after deducting two per cent. seigniorage, amounts to Company's Rupees ———.

Fort St. George;
Bullion Depot;
1837.

C. D.
Assay Master.

This Certificate will, if not discharged at the expiration of thirty days after its date, bear interest at the rate of four per cent. per annum from the date of its presentation at the Accountant General's Office, where it must be taken to be passed for payment when due, or certified for interest.

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	2 0 Br	100 000	1636 265	100	1 0 wo	87 239	1427 350
"	2 33 Br	99 740	1632 905	"	1 0 wo	86 979	1421 200
"	2 34 Br	99 479	1627 843	"	1 0 wo	86 719	1419 030
"	2 35 Br	99 219	1623 585	"	1 1 wo	86 458	1414 370
"	2 36 Br	98 958	1619 310	"	1 1 wo	86 198	1410 310
"	2 37 Br	98 698	1615 050	"	1 1 wo	85 937	1406 250
"	2 38 Br	98 437	1610 790	"	1 1 wo	85 677	1402 190
"	2 39 Br	98 177	1606 530	"	1 2 wo	85 416	1397 730
"	2 40 Br	97 917	1602 270	"	1 2 wo	85 156	1393 470
"	2 41 Br	97 656	1598 010	"	1 2 wo	84 896	1389 210
"	2 42 Br	97 396	1593 750	"	1 2 wo	84 635	1384 950
"	2 43 Br	97 135	1589 490	"	1 3 wo	84 375	1380 690
"	2 44 Br	96 875	1585 230	"	1 3 wo	84 115	1376 430
"	2 45 Br	96 615	1580 970	"	1 3 wo	83 854	1372 170
"	2 46 Br	96 354	1576 710	"	1 3 wo	83 594	1367 910
"	2 47 Br	96 094	1572 450	"	2 0 wo	83 333	1363 650
"	2 48 Br	95 833	1568 190	"	2 0 wo	83 073	1359 390
"	2 49 Br	95 573	1563 930	"	2 0 wo	82 812	1355 130
"	2 50 Br	95 313	1559 670	"	2 0 wo	82 552	1350 870
"	2 51 Br	95 052	1555 410	"	2 1 wo	82 291	1346 610
"	2 52 Br	94 792	1551 150	"	2 1 wo	82 031	1342 350
"	2 53 Br	94 531	1546 890	"	2 1 wo	81 770	1338 090
"	2 54 Br	94 271	1542 630	"	2 1 wo	81 510	1333 830
"	2 55 Br	94 010	1538 370	"	2 2 wo	81 250	1329 570
"	2 56 Br	93 750	1534 110	"	2 2 wo	80 990	1325 310
"	2 57 Br	93 489	1529 850	"	2 2 wo	80 729	1321 050
"	2 58 Br	93 229	1525 590	"	2 2 wo	80 469	1316 790
"	2 59 Br	92 969	1521 330	"	2 3 wo	80 208	1312 530
"	2 60 Br	92 708	1517 070	"	2 3 wo	79 948	1308 270
"	2 61 Br	92 448	1512 810	"	2 3 wo	79 687	1304 010
"	2 62 Br	92 187	1508 550	"	2 3 wo	79 427	1300 750
"	2 63 Br	91 927	1504 290	"	3 0 wo	79 166	1296 490
"	2 64 Br	91 667	1500 030	"	3 0 wo	78 905	1292 230
"	2 65 Br	91 407	1495 770	"	3 0 wo	78 645	1287 970
"	2 66 Br	91 146	1491 510	"	3 0 wo	78 385	1283 710
"	2 67 Br	90 886	1487 250	"	3 1 wo	78 125	1279 450
"	2 68 Br	90 625	1482 990	"	3 1 wo	77 864	1275 190
"	2 69 Br	90 365	1478 730	"	3 1 wo	77 604	1270 930
"	2 70 Br	90 104	1474 470	"	3 1 wo	77 344	1266 670
"	2 71 Br	89 844	1470 210	"	3 2 wo	77 083	1262 410
"	2 72 Br	89 583	1465 950	"	3 2 wo	76 823	1258 150
"	2 73 Br	89 323	1461 690	"	3 2 wo	76 562	1253 890
"	2 74 Br	89 062	1457 430	"	3 2 wo	76 302	1249 630
"	2 75 Br	88 802	1453 170	"	3 3 wo	76 041	1245 370
"	2 76 Br	88 541	1448 910	"	3 3 wo	75 781	1241 110
"	2 77 Br	88 281	1444 650	"	3 3 wo	75 521	1236 850
"	2 78 Br	88 021	1440 390	"	3 3 wo	75 260	1232 590
"	2 79 Br	87 760	1436 130	"	4 0 wo	75 000	1228 330
"	2 80 Br	87 500	1431 870	"			

Money, Weights and Measures.

The following is the Assay produce of one hundred Company's Rupees weight of Silver Bullion according to the finenesses specified in the following Table.

Weight of Bullion in Tola or New Weight	Assay Report	Touch, or fine Silver in 100 parts	Produce in Purukhah, Madras or Bombay Rupees	Weight of Bullion in Tola or New Weight	Assay Report	Touch, or fine Silver in 100 parts	Produce in Purukhah, Madras or Bombay Rupees
100	20 Dwts Br	100 000	109 091	100	5 Dwts wo	89 583	97 727
"	19 " Br	99 792	108 864	"	5 " wo	89 375	97 500
"	18 " Br	99 583	108 636	"	6 " wo	89 167	97 273
"	17 " Br	99 375	108 409	"	6 " wo	88 958	97 045
"	16 " Br	99 167	108 182	"	7 " wo	88 750	96 818
"	15 " Br	98 958	107 955	"	7 " wo	88 542	96 591
"	14 " Br	98 750	107 727	"	8 " wo	88 333	96 364
"	13 " Br	98 542	107 500	"	8 " wo	88 125	96 136
"	12 " Br	98 333	107 273	"	9 " wo	87 917	95 909
"	11 " Br	98 125	107 045	"	9 " wo	87 708	95 682
"	10 " Br	97 917	106 818	"	10 " wo	87 500	95 455
"	9 " Br	97 708	106 591	"	10 " wo	87 292	95 227
"	8 " Br	97 500	106 364	"	11 " wo	87 084	95 000
"	7 " Br	97 292	106 136	"	11 " wo	86 875	94 773
"	6 " Br	97 083	105 909	"	12 " wo	86 667	94 545
"	5 " Br	96 875	105 682	"	12 " wo	86 458	94 318
"	4 " Br	96 667	105 455	"	13 " wo	86 250	94 091
"	3 " Br	96 458	105 227	"	13 " wo	86 042	93 864
"	2 " Br	96 250	105 000	"	14 " wo	85 834	93 636
"	1 " Br	96 042	104 773	"	14 " wo	85 625	93 409
"	0 " Br	95 833	104 545	"	15 " wo	85 417	93 182
"	0 " Br	95 625	104 318	"	15 " wo	85 208	92 955
"	0 " Br	95 417	104 091	"	16 " wo	85 000	92 727
"	0 " Br	95 208	103 864	"	16 " wo	84 792	92 500
"	0 " Br	95 000	103 636	"	17 " wo	84 583	92 273
"	0 " Br	94 792	103 409	"	17 " wo	84 375	92 045
"	0 " Br	94 583	103 182	"	18 " wo	84 167	91 818
"	0 " Br	94 375	102 955	"	18 " wo	83 958	91 591
"	0 " Br	94 167	102 727	"	19 " wo	83 750	91 364
"	0 " Br	93 958	102 500	"	19 " wo	83 542	91 136
"	0 " Br	93 750	102 273	"	20 " wo	83 333	90 909
"	0 " Br	93 542	102 045	"	20 " wo	83 125	90 682
"	0 " Br	93 333	101 818	"	21 " wo	82 917	90 455
"	0 " Br	93 125	101 591	"	21 " wo	82 708	90 227
"	0 " Br	92 917	101 364	"	22 " wo	82 500	90 000
"	0 " Br	92 708	101 136	"	22 " wo	82 292	89 773
"	0 " Br	92 500	100 909	"	23 " wo	82 084	89 545
"	0 " Br	92 292	100 682	"	23 " wo	81 875	89 318
"	0 " Br	92 083	100 455	"	24 " wo	81 667	89 091
"	0 " Br	91 875	100 227	"	24 " wo	81 458	88 864
"	0 " Br	91 667	100 000	"	25 " wo	81 250	88 636
"	0 " Br	91 458	99 773	"	25 " wo	81 042	88 409
"	0 " Br	91 250	99 545	"	26 " wo	80 834	88 182
"	0 " Br	91 042	99 318	"	26 " wo	80 625	87 955
"	0 " Br	90 833	99 091	"	27 " wo	80 417	87 727
"	0 " Br	90 625	98 864	"	27 " wo	80 208	87 500
"	0 " Br	90 417	98 636	"	28 " wo	80 000	87 273
"	0 " Br	90 208	98 409	"	28 " wo	79 792	87 045
"	0 " Br	90 000	98 182	"	29 " wo	79 583	86 818
"	0 " Br	89 792	97 955	"	29 " wo	79 375	86 591
"	0 " Br			"	30 " wo	79 167	86 364

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 33½ 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.

TABLE No. IX.

The following is a very convenient Table for converting Annas and Pice into decimal parts of a rupee.

For reducing Annas and Pice into decimal parts of a Rupee.

1 anas = 0.0625.

Annas	0	1	2	3	4	5	6	7	8	9	10	Pice
0	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	1
1	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	2
2	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	3
3	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	4
4	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	5
5	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	6
6	.3750	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	7
7	.4375	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	8
8	.5000	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	9
9	.5625	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	10
10	.6250	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	11
11	.6875	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	12
12	.7500	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	13
13	.8125	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	14
14	.8750	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	15
15	.9375	.0000	.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	16

TABLE No. X.

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 Furruckabad, Sugar, Sonat, Madras, or Bombay rupees (or 100 tolas) or Bengal standard silver, (1½th alloy) in shillings, and the consequent rate of exchange.

London price of silver per troy ounce.		100 Furruckabad, Madras or Bombay rupees will produce.	Exchange per Fd. rupee.		Remarks.
s.	d.	shillings.	s.	d.	
at 5	6	204.000	2	0.5	Intrinsic par of coins.
5	5	201.293	2	0.15	{ (2s. 0.04d.) Calcutta
5	4	198.196	1	11.8	{ mint price of silver.
5	3	195.099	1	11.5	{ (1s. 11.5d.) commer-
5	2	192.002	1	11.1	{ cial par of exchange.
5	1	188.095	1	10.7	{ (1s. 11.04d.) London
5	0	185.809	1	10.3	{ mint price of silver.
4	11	182.712	1	10.0	{ (5s. 2d.)
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	8.44	
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 .832	4 .333	16 .066	6 .020
9 .750	3 .250	14 .058	5 .012
8 .666	2 .166	12 .051	4 .008
7 .583	1 .083	10 .041	3 .004

1 ounce troy = 2.667 tolas, or 2 tolas 8 masha.

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.	48.511 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.	41.073 do.	2560 do.	31.111 do.

TABLE No. XI.

The following is the scale of measures in use at Madras:

Cub. Inches.

- 1 olock, = 11,719.
 8 olocks, = 1 puddy, = 93,752.
 8 puddies, = 1 marcal, = 750 = 27 lb. 2 oz. 2 dr. water.
 5 marcal, = 1 parah, = 3750.
 400 parah, = 1 garce, = 300000.

For the instant conversion of Bengal, Madras, and Bombay mounds.

Bengal Muns.	Madras mounds.	Bombay mounds.	Madras mounds.	Bengal muns.	Bombay mounds.	Bengal muns.
1000	3291.328	2586.575	1000	303.829	1000	310.278
100	329.133	258.677	100	30.382	100	31.038
90	296.219	232.402	90	27.344	90	30.933
80	263.315	205.101	80	24.306	80	27.222
70	230.401	205.716	70	21.268	70	23.819
60	197.487	178.228	60	18.230	60	20.416
50	164.571	146.938	50	15.191	50	17.014
40	131.656	117.352	40	12.153	40	13.612
30	98.724	88.154	30	9.114	30	10.209
20	65.828	58.773	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, 20	2.469	2.203	seers, 20	0.228	seers, 20	0.235
20	1.446	1.469	20	0.152	20	0.170
10	0.723	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 Tulas per seer, &c.	Value of mark, &c. in Mace and decimals.
MADRAS.	Pagoda weight=52.36 grs.	lb. oz. dr.	Tulas.	Mups.
	Mound, of 40 seers or pds.	25 0 0	0.292	.....
	or 8 vis Candy, or 30 mds.	300 0 0	24.304	0.3038
	Garce, for grain=12.5 mds.	320 0 0	...	6.0764
	Puddy, oil me.=8 olocks, or 9375 cub. in.	...	...	3.8888
	Parah, for chunam=3 mer.	3750 cub. in.	...	...
	Mangela, for penda=3 grs.	...	...	...
	18 Md. chaws=53 Rom. chs.	...	...	...

Agreeing to the Act of Uniformity, which took effect 1st January, 1826.*

The term Measure is the most comprehensive of the two, and it is distinguished into six kinds, viz. —

1. Length.
2. Surface.
3. Solidity, or Capacity.
4. Force, or Gravity, or what is commonly called Weight.
5. Angles.
6. Time.

The several denominations of these Measures have reference to certain standards, which are entirely arbitrary, and consequently vary among different nations. — In this Kingdom

The standard of { Length is a Yard
 { Surface " a Square Yard, the $\frac{1}{4}$ of an Acre
 { Solidity " a Cubic Yard
 { Capacity " a Gallon
 { Weight " a Pound

The standards of Angular Measure, and of Time, are the same in all European, and most other, countries.

1. MEASURE OF LENGTH.

12 Inches = 1 Foot
 3 Feet = 1 Yard
 5 1/2 Yards = 1 Rod, or Pole
 40 Poles = 1 Furlong
 8 Furlongs = 1 Mile
 60 1/4 Miles = 1 Degree of a Great Circle of the Earth.

An Inch is the smallest lineal measure to which a name is given, but subdivisions are used for many purposes. Among mechanics the Inch is commonly divided into eighths. By the officers of the revenue, and by scientific persons, it is divided into tenths, hundredths, &c. Formerly it was made to consist of 12 parts, called lines, but these have properly fallen into disuse.

Particular Measures of Length.

A Nail = 2 1/4 Inches
 Quarter = 4 Inches
 Yard = 4 Quarters
 Ell = 5 Quarters
 Hand = 4 Inches, used for the height of horses.
 Fathom = 6 Feet, used in measuring depths.
 Link = 7 Inches, 92 used in Land Measure, to facilitate computation of the content, 10 square chains being equal to an Acre.
 Chain = 100 Links

2. MEASURE OF SURFACE.

14 1/2 Square Inches = 1 Square Foot
 9 Square Feet = 1 Square Yard
 30 1/2 Square Yards = 1 Perch or Rod
 40 Perches = 1 Rod
 4 Rods, or 160 Perches = 1 Acre
 640 Acres = 1 Square Mile.

3. MEASURES OF SOLIDITY AND CAPACITY.

DIVISION I.—SOLIDITY.

1728 Cubic Inches = 1 Cubic Foot
 27 Cubic Feet = 1 Cubic Yard

DIVISION II.

Imperial Measure of CAPACITY for all liquids, and for all dry goods, except such as are comprised in the third Division.

4 Gills = 1 Pint = 32 cubic inches, nearly
 2 Pints = 1 Quart = 64
 4 Quarts = 1 Gallon = 256
 2 Gallons = 1 Peck = 512
 8 Gallons = 1 Bushel = 218 1/2
 8 Bushels = 1 Quarter = 1748 1/2
 5 Quarters = 1 Load = 8743 1/2

The four last denominations are used for dry goods only. For liquids several denominations have been heretofore adopted, viz. — For Beer, the Firkin of 9 gallons, the Kilderkin of 18, the Barrel of 36, the Hogshead of 54, and the Butt of 108 gallons. These will probably continue to be used in practice. For Wine and Spirits, there are, the Anker, Tunnet, Tierce, Hogshead, Puncheon, Pipe, Butt, and Tun; but these may be considered rather as the names of the casks in which such commodities are imported, than as expressing any definite number of gallons. It is the practice to gauge all such vessels, and to charge them according to their actual content.
 Flour is sold nominally, by measure, but actually by weight, reckoned at 7 lb. Avoirdupois to a Gallon.

* In the Commission to the Almanac for 1823 was given a scientific Analysis of the Imperial Weights and Measures. In the British Almanac for 1829, are given the comparative Tables. The present article is a popular explanation of the Standards now in use.

DIVISION III.

Imperial Measure of CAPACITY, for coals, grain, lime, fish, potatoes, fruit, and other goods, commonly sold by *heaped measure* :—

2 Gallons	=	1 Ketch	=	704 cubic inches, nearly
8 Gallons	=	1 Bushel	=	22184
3 Bushels	=	1 Sack	=	66, 37ths, 64ths, &c., nearly
12 Sacks	=	1 Chaldron	=	380

The goods are to be heaped up in the form of a cone, 10's height above the rim of the measure of at least $\frac{1}{2}$ of its depth. The outside diameter of Measures used for heaped goods are to be at least double the depth, consequently not less than the following dimensions :—

Bushel	194 inches	Gallon	33 inches
Half-Bushel	154 —	Half-Gallon	27 —
Peck	124 —		

The Imperial Measures, described in the second and third Divisions, were established by Act 5, Geo. IV. C. 74. Before that time there were four different measures of capacity used in England :—1. For wine, spirits, cider, oils, milk, &c. : this was one-sixth less than the Imperial Measure. —2. For malt liquor, this was one-fifty-ninth part greater than the Imperial Measure. —3. For corn, and all other dry goods not heaped, this was one-thirty-third part less than the Imperial Measure. —4. For coals, which did not differ sensibly from the Imperial Measure.

The Imperial Gallon contains exactly 10 lbs. Avoirdupois of pure water; consequently the pint will hold $1\frac{1}{4}$ lb., and the bushel 80 lbs.

4. MEASURE OF WEIGHT.

DIVISION I.—Avoirdupois Weight.

27 $\frac{1}{4}$ Grains	=	1 Dram	=	27 $\frac{1}{4}$ grains
16 Drams	=	1 Ounce	=	437 $\frac{1}{2}$ —
16 Ounces	=	1 Pound (lb.)	=	7000 —
28 Pounds	=	1 Quarter qr.	=	196,000 —
4 Quarters	=	1 Hundred Weight, cwt.		
20 Hundred Weight	=	1 Ton		

This weight is used in almost all commercial transactions, and in the common dealings of life.

Particular weights belonging to this Division :—

8 Pounds	=	1 Stone			
14 Pounds	=	1 Stone	=	0 0 14	used for Meat.
2 Stones	=	1 cwt.	=	0 1 0	
64 Tals	=	1 Weir	=	1 2 1	Dard in the Wool
3 Ways	=	1 Sack	=	2 1 0	Trade.
12 Sacks	=	1 Last	=	39 0 0	

DIVISION II.—Troy Weight.

24 Grains	=	1 Pennyweight	=	34 Grains
20 Pennyweights	=	1 Ounce	=	480 —
12 Ounces	=	1 Pound	=	5760 —

These are the denominations of Troy Weight which need for weighing gold, silver, and precious stones, (except diamonds). But Troy Weight is also used by Apothecaries in compounding medicines, and by them the ounce is divided into 8 drams, and the dram into 3 scruples, so that the latter is equal to 24 grains.

For scientific purposes the grain only is used, and sets of weights are constructed in decimal progression, from 10,000 grains downwards to $1\frac{1}{10000}$ th of a grain.

My calculation of the number of grains in the Avoirdupois and Troy pound and ounce is incorrect, I find that the Troy pound is less than the Avoirdupois in the proportion of 11 to 17 nearly, and the Troy ounce is greater than the Avoirdupois, in the proportion of 17 to 23 nearly.

Thecarat, used for weighing diamonds, is $\frac{1}{4}$ of a grain. The term, however, when used to express the fineness of gold, has a different meaning only. Every mass of alloyed gold is supposed to be divided into 24 equal parts: thus the standard for coin is 21 carats fine, that is, it consists of 21 parts of pure gold, and 3 parts of alloy. What is called the new standard, used for watch-cases, &c. is 18 carats fine.

4. ANGULAR MEASURE.

OR, DIVISIONS OF THE CIRCLE.

60 Seconds	=	1 Minute	90 Degrees	=	1 Quadrant
60 Minutes	=	1 Degree	360 Degrees, or	=	1 Circumference.
30 Degrees	=	1 Sign	12 Signs	=	1 Circle.

Formerly, the subdivisions were carried on by sextiles; thus, the second was divided into 60 thirds, the third into 60 fourths, &c. At present, the second is more generally divided decimally into 10ths, 100ths, &c. The degree is frequently so divided.

THE Companion to the Almanac;

OR YEAR-BOOK

OF GENERAL INFORMATION;

FOR

1840.

CONTAINING,

INFORMATION CONNECTED WITH THE CALENDAR,

AND GENERAL INFORMATION ON SUBJECTS OF

STATISTICS, GEOGRAPHY, CHRONOLOGY, &c.

ALPHABETICAL LIST
OF THE NAMES OF ALL PLACES
IN THE
MAPS OF INDIA,
DESIGNED TO FACILITATE THE USE OF THOSE MAPS.

Places.	Long.	Lat.	Places.	Long.	Lat.
Adampur	75 44	14 53	Agawilly	73 10	23 25
Adarshabad	81 57	20 0	Aggrile	80 0	24 25
Adampur	83 20	22 38	Aggrany	84 11	25 17
Adampur	81 30	25 53	Aggrany	88 20	25 28
Adampur	87 33	32 28	Aggrany	73 18	18 20
Adampur	74 0	20 20	Aggrany	73 47	26 20
Adampur	66 39	20 30	Aggrany	73 51	13 20
Adampur	73 37	20 30	Aggrany	73 30	21 54
Adampur	82 38	18 47	Aggrany	73 2	27 11
Adampur	76 40	19 15	Aggrany	74 00	16 8
Adampur	72 55	18 5	Aggrany	70 14	13 40
Adampur	81 38	26 20	Aggrany	70 24	24 15
Adampur	79 35	12 26	Aggrany	72 23	29 08
Adampur	79 32	24 50	Aggrany	79 7	24 43
Adampur	77 0	9 7	Aggrany	81 2	24 27
Adampur	78 13	24 36	Aggrany	81 40	28 4
Adampur	79 34	24 17	Aggrany	74 0	13 51
Adampur	88 33	23 35	Aggrany	72 0	27 0
Adampur	83 20	17 32	Aggrany	80 15	27 25
Adampur	79 35	21 39	Aggrany	72 0	23 20
Adampur	72 30	22 4	Aggrany	71 00	19 8
Adampur	78 15	12 6	Aggrany	72 00	30 40
Adampur	93 30	24 14	Aggrany	72 00	22 11
Adampur	90 20	22 02	Aggrany	74 00	25 10
Adampur	92 30	21 12	Aggrany	72 0	22 8
Adampur	80 45	17 32	Aggrany	70 00	27 00
Adampur	89 11	22 31	Aggrany	77 0	19 00
Adampur	76 34	18 41	Aggrany	78 00	9 18
Adampur	81 29	22 12	Aggrany	87 00	25 8
Adampur	82 30	23 10	Aggrany	78 0	18 37
Adampur	72 0	23 8	Aggrany	76 34	22 31
Adampur	77 28	27 6	Aggrany	70 19	22 20
Adampur	70 50	23 12	Aggrany	70 57	27 23
Adampur	79 38	23 49	Aggrany	77 25	12 8
Adampur	75 20	26 19	Aggrany	79 15	27 8
Adampur	75 27	17 44	Aggrany	74 00	25 23
Adampur	81 15	22 0	Aggrany	87 22	25 2
Adampur	70 0	14 0	Aggrany	84 0	24 50
Adampur	70 30	20 37	Aggrany	87 30	24 47
Adampur	80 7	21 30	Aggrany	70 43	21 5
Adampur	77 7	20 1	Aggrany	78 42	28 25
Adampur	79 30	10 21	Aggrany	79 00	28 20
Adampur	77 30	16 0	Aggrany	82 38	26 27
Adampur	93 40	20 0	Aggrany	79 0	26 6
Adampur	92 4	21 52	Aggrany	87 0	27 11
Adampur	82 38	26 0	Aggrany	79 32	23 20
Adampur	91 0	24 17	Aggrany	77 0	21 7
Adampur	86 21	21 11	Aggrany	74 10	21 20
Adampur	73 32	19 7			

Places.	Long.	Lat.	Places.	Long.	Lat.
Akolah	77 0	20 30	Ambagane	80 39	6 5
Akoodpoor	77 29	28 30	Ambareepooram	83 5	17 35
Akora, or Acora	73 17	34 1	Ambetta	77 18	30 30
Akownah	71 34	27 30	Ambetha	79 53	27 0
Akrannee	74 30	21 45	Ambetha	79 10	22 30
Ak Roobat	67 41	34 43	Ambetha	76 30	18 51
Ak Serni	68 9	34 30	Ambetha	80 48	21 11
Alamania	43 13	18 37	Ambetha	80 26	23 41
Alanchang	87 23	27 44	Ambetha	79 23	21 6
Alanta	59 4	10 32	Ambetha	78 47	12 51
Alator	80 13	12 30	Ambetha	81 45	20 8
Alawille	89 29	9 30	Ambetha	78 12	28 14
Alchany	81 57	25 34	Ambetha	82 2	21 30
Alce	94 50	30 3	Ambetha	81 43	20 47
Alce Boghan	70 51	24 6	Ambetha	71 56	30 25
Al Muejid	71 29	24 4	Ambetha	76 1	30 30
Alipoor	70 15	18 21	Ambetha	80 28	21 25
Alipoota	82 37	8 50	Ambetha	76 32	10 28
Alipora	70 20	25 11	Ambetha	81 15	20 49
Alley	85 40	30 45	Ambetha	87 11	24 24
Allesanthum	78 20	11 10	Ambetha	80 11	25 9
Alapacombay	78 30	15 50	Ambetha	81 50	18 30
Alayutta	78 30	11 12	Ambetha	81 0	22 40
Alahat	81 45	25 25	Ambetha	84 41	20 41
Alahapoor	77 48	26 20	Ambetha	80 16	22 50
Alahapoor	74 39	18 24	Ambetha	77 50	16 32
Alahapoor	73 19	16 23	Ambetha	88 0	22 5
Alahapoor	77 32	12 8	Ambetha	79 8	12 44
Alahapoor	78 12	15 24	Ambetha	78 25	16 50
Alahapoor	77 39	22 1	Ambetha	80 0	25 30
Alahapoor	77 14	17 06	Ambetha	77 57	20 30
Alce	74 30	32 8	Ambetha	77 53	24 30
Alleyman	70 39	20 17	Ambetha	84 30	26 45
Allegum	70 32	20 22	Ambetha	82 30	27 31
Allegum	87 51	25 19	Ambetha	87 20	27 31
Allegum, or Bellow	84 34	26 11	Ambetha	77 1	14 9
Alipoor	80 11	22 32	Ambetha	78 18	22 50
Alipoor	74 50	15 30	Ambetha	78 25	28 30
Alipoor	76 28	12 40	Ambetha	77 19	14 30
Alipoor	76 41	22 45	Ambetha	79 20	28 30
Alipoor	70 14	18 35	Ambetha	76 14	23 50
Alipoor	84 50	27 3	Ambetha	81 9	24 50
Alipoor	76 0	16 30	Ambetha	77 40	24 50
Alipoor	71 40	11 6	Ambetha	81 12	24 10
Alipoor	85 52	22 15	Ambetha	84 50	22 15
Alipoor	82 12	22 25	Ambetha	84 50	21 17
Alipoor	81 52	22 25	Ambetha	77 40	16 37
Alipoor	77 32	17 24	Ambetha	78 10	14 28
Alipoor	71 35	20 30	Ambetha	78 23	14 48
Alipoor	73 8	17 14	Ambetha	80 33	26 30
Alipoor	80 25	24 21	Ambetha	78 37	9 50
Alipoor	73 15	28 31	Ambetha	101 12	18 24
Alipoor	87 23	22 31	Ambetha	86 9	21 11
Alipoor	84 26	24 52	Ambetha	87 20	22 31
Alipoor	78 27	29 35	Ambetha	78 48	17 43
Alipoor	80 40	28 40	Ambetha	80 31	17 30
Alipoor	80 30	22 54	Ambetha	79 38	14 8
Alipoor	81 30	19 21	Ambetha	75 40	14 5
Alipoor	79 58	27 31	Ambetha	77 40	14 5
Alipoor	88 37	6 23	Ambetha	77 40	14 5
Alipoor	78 0	8 26	Ambetha	76 32	14 35
Alipoor	76 41	17 35	Ambetha	78 10	14 28
Alipoor	79 2	17 20	Ambetha	79 12	15 30
Alipoor	81 45	16 23	Ambetha	77 40	11 32
Alipoor	74 17	27 21	Ambetha	78 31	18 32
Alipoor	80 31	22 20	Ambetha	78 18	43 34
Alipoor	82 0	22 2	Ambetha	75 18	24 31
Alipoor	82 4	16 27	Ambetha	81 38	24 31
Alipoor	74 50	20 20	Ambetha	80 9	23 45
Alipoor	81 28	21 25	Ambetha	79 27	11 31
Alipoor	79 47	27 16	Ambetha	77 23	19 25
Alipoor	80 26	27 20	Ambetha	78 31	28 11
Alipoor	81 50	26 38	Ambetha	88 2	23 53
Alipoor	85 44	26 45	Ambetha	77 29	18 22

Places.	Long.	Lat.	Places.	Long.	Lat.
Anglee	82 38	25 32	Argan	70 6	23 45
Anglo	74 40	23 50	Argan	75 16	18 35
Anglo	80 45	26 47	Argan	74 2	21 25
Anglo	75 54	16 56	Argan	76 53	10 35
Anglo	81 30	29 40	Argan	82 45	28 16
Anglo	75 2	14 8	Argan	81 15	24 17
Anglo	77 48	12 41	Argan	79 54	11 56
Anglo	76 25	10 10	Argan	82 31	20 23
Anglo	70 18	23 4	Argan	80 8	5 30
Anglo	74 13	14 44	Argan	77 5	16 55
Anglo	76 50	8 40	Argan	77 22	12 50
Anglo	76 32	10 4	Argan	80 11	14 6
Anglo	83 8	17 39	Argan	72 52	21 21
Anglo	74 8	19 30	Argan	77 58	20 8
Anglo	78 10	22 40	Argan	80 9	13 19
Anglo	80 10	21 47	Argan	79 31	12 12
Anglo	78 28	10 9	Argan	74 50	23 54
Anglo	80 8	19 41	Argan	78 38	9 45
Anglo	74 38	19 11	Argan	77 30	21 26
Anglo	79 47	14 47	Argan	74 32	17 12
Anglo	78 17	14 50	Argan	73 10	9 25
Anglo	77 45	13 18	Argan	73 0	20 37
Anglo	76 54	10 38	Argan	77 2	11 37
Anglo	78 31	9 47	Argan	76 54	9 46
Anglo	79 12	13 8	Argan	84 40	25 25
Anglo	79 18	14 12	Argan	75 51	13 4
Anglo	75 18	14 5	Argan	78 6	16 11
Anglo	72 22	17 25	Argan	77 12	21 5
Anglo	75 16	14 23	Argan	79 18	10 50
Anglo	75 42	23 30	Argan	81 40	16 40
Anglo	77 57	2 59	Argan	87 53	23 27
Anglo	73 18	23 8	Argan	79 40	26 7
Anglo	85 19	23 8	Argan	87 24	26 0
Anglo	71 30	23 34	Argan	79 10	11 10
Anglo	73 33	21 13	Argan	76 4	27 19
Anglo	75 40	16 16	Argan	86 23	24 16
Anglo	81 41	23 4	Argan	78 42	17 6
Anglo	73 34	22 9	Argan	88 43	21 50
Anglo	78 20	25 22	Argan	76 2	17 81
Anglo	75 58	24 18	Argan	75 13	26 28
Anglo	78 27	11 45	Argan	71 43	25 18
Anglo	79 4	9 23	Argan	70 8	14 40
Anglo	76 48	15 0	Argan	71 10	35 8
Anglo	73 20	17 8	Argan	82 12	18 20
Anglo	78 8	26 8	Argan	86 21	26 47
Anglo	70 17	21 14	Argan	91 34	24 40
Anglo	80 22	25 12	Argan	84 39	25 16
Anglo	74 6	15 48	Argan	78 22	20 38
Anglo	71 40	23 27	Argan	76 15	19 24
Anglo	79 29	19 56	Argan	78 50	20 24
Anglo	79 10	28 17	Argan	78 51	18 48
Anglo	82 14	26 10	Argan	73 23	17 50
Anglo	81 26	6 51	Argan	73 41	18 25
Anglo	93 38	24 43	Argan	73 19	18 45
Anglo	91 49	24 21	Argan	80 51	17 50
Anglo	86 41	26 11	Argan	84 48	19 35
Anglo	79 18	11 28	Argan	80 20	29 45
Anglo	79 2	13 17	Argan	88 26	24 26
Anglo	75 5	21 24	Argan	87 3	24 7
Anglo	74 12	16 0	Argan	86 16	23 24
Anglo	81 50	25 22	Argan	87 19	24 30
Anglo	80 15	22 27	Argan	76 34	24 30
Anglo	83 13	18 30	Argan	77 50	25 15
Anglo	77 30	23 58	Argan	88 14	20 26
Anglo	78 18	14 7	Argan	78 30	21 37
Anglo	75 0	27 12	Argan	75 32	23 48
Anglo	79 20	13 55	Argan	77 23	20 11
Anglo	79 48	13 14	Argan	78 11	22 17
Anglo	76 7	13 46	Argan	73 3	19 45
Anglo	89 15	13 8	Argan	76 54	17 30
Anglo	80 4	15 40	Argan	80 21	26 51
Anglo	76 8	11 14	Argan	78 31	28 11
Anglo	79 43	21 37	Argan	88 2	23 53
Anglo	79 27	20 14	Argan	78 25	20 40

Places.	Long.	Lat.	Places.	Long.	Lat.
Bandah	80 19	25 30	Barf	76 50	23 43
Bandawe	74 39	23 2	Barf	83 48	20 29
Bander (Lia)	80 19	7 30	Barfara	85 10	34 40
Bandiegaum	79 57	25 43	Barfinghy	85 21	30 48
Bandipur	77 19	19 48	Barfavan	77 39	25 52
Bandogur	81 9	27 33	Barfong	79 14	24 26
Bandowlee	81 9	23 45	Barfong	80 0	25 15
Bandpoor	78 23	34 43	Barfong	67 51	30 50
Bandreil	78 30	26 58	Barfong	75 50	22 53
Bandy	85 30	20 8	Barfong	87 18	24 27
Banne	97 40	28 31	Barfong	78 10	25 20
Banga	92 27	24 50	Barfong	100 1	26 29
Bangaberry	86 30	25 54	Barfong	77 0	29 4
Bangali	89 4	28 45	Barfong	73 8	21 47
Bangalore	77 23	12 38	Barfong	76 29	27 54
Bangdany	88 38	24 30	Barfong	76 49	25 21
Bangher	77 57	28 1	Barfong	76 54	23 47
Banghaya	81 18	28 47	Barfong	76 0	23 42
Banghi	83 36	24 40	Barfong	76 23	27 4
Bangra	78 33	27 20	Barfong	78 50	22 43
Bangson	74 0	27 20	Barfong	76 10	22 31
Bangtola	83 48	28 20	Barfong	84 49	18 53
Bangwarra	72 38	27 27	Barfong	78 52	25 12
Banbant	87 30	24 10	Barfong	86 2	31 5
Banlaksetay	82 22	26 50	Barfong	73 31	31 16
Banloda	80 30	24 50	Barfong	76 0	17 20
Banke	85 31	22 55	Barfong	86 1	20 37
Bankok	101 3	13 43	Barfong	76 35	33 8
Bankarra	88 30	22 22	Barfong	74 31	13 11
Bankyr	85 20	20 18	Barfong	78 11	23 4
Banley Honoor	75 31	12 32	Barfong	77 53	27 3
Banluchung	81 35	26 30	Barfong	77 34	26 42
Banladig	49 10	24 31	Barfong	74 0	22 42
Banlagong	88 0	24 49	Barfong	88 32	33 32
Banngong	71 64	21 26	Barfong	83 53	35 40
Banpoora	77 9	31 9	Barfong	76 30	37 29
Bansa	81 20	34 34	Barfong	76 38	19 38
Bansce	78 34	39 16	Barfong	75 45	18 15
Bansy	82 38	37 7	Barfong	73 51	33 9
Bansgot	84 45	36 21	Barfong	77 9	30 35
Bans	77 35	30 2	Barfong	87 7	36 13
Banspoora	81 9	37 21	Barfong	87 16	31 12
Banswarra	74 14	38 32	Barfong	87 59	35 11
Banteen	82 52	18 32	Barfong	73 28	31 1
Bapow	66 56	38 35	Barfong	85 50	33 12
Bapuldody	77 40	10 45	Barfong	85 51	33 45
Bar	85 85	25 27	Barfong	83 40	36 14
Barabully	89 42	33 36	Barfong	73 09	21 28
Barachuck	84 45	16 45	Barfong	80 44	17 14
Baradee	86 35	22 57	Barfong	76 10	29 9
Baragurhee	85 8	47 2	Barfong	85 28	14 37
Barah	82 46	35 21	Barfong	74 27	28 22
Baralla	89 8	23 11	Barfong	85 33	25 55
Baralla	87 13	25 20	Barfong	77 49	24 51
Barally	88 17	25 12	Barfong	78 17	33 17
Baranery	80 40	25 35	Barfong	71 7	34 11
Baranoola	75 9	34 43	Barfong	82 40	26 7
Barampoor	84 22	24 48	Barfong	76 11	14 40
Baran	88 30	28 40	Barfong	73 2	21 40
Baranoh	78 16	25 28	Barfong	76 8	26 48
Barathar	84 0	28 37	Barfong	72 52	19 30
Barbero	76 11	27 35	Barfong	78 0	25 30
Barbary	80 6	6 30	Barfong	85 32	26 32
Barbhoy	66 57	29 2	Barfong	81 16	7 57
Barbony	86 9	25 26	Barfong	88 3	22 3
Barcor	74 28	13 28	Barfong	75 53	14 13
Bardeah	72 36	24 13	Barfong	78 25	13 2
Bardeah	72 21	24 11	Barfong	74 38	23 52
Bardeah	72 21	24 11	Barfong	88 28	23 52
Bardeah	72 21	24 11	Barfong	79 30	22 5
Bardeah	72 21	24 11	Barfong	74 48	38 14
Bardeah	72 21	24 11	Barfong	75 53	11 11
Bardeah	72 21	24 11	Barfong	73 59	15 15

Places.	Long.	Lat.	Places.	Long.	Lat.
Batoowalah	75 11	30 9	Bazar	72 39	34 4
Battagumana	81 39	6 59	Bazar	70 30	32 20
Battar	87 58	23 14	Bazar	68 21	25 38
Battarah	89 16	25 0	Bazdebpoor	87 42	21 51
Battarah	87 45	23 7	Bazdebpoor	87 53	22 59
Battanka	73 21	31 51	Bazpoor	79 7	29 8
Battenda	81 49	4 42	Bazar Ahwed Khan	71 0	33 0
Battily	83 53	13 50	Bazar Barkeera	77 23	33 37
Battolash	84 59	28 23	Beakala	76 18	16 50
Battore	78 0	19 5	Beangam	71 55	33 7
Battora	78 23	23 48	Beana	77 15	26 57
Batturpara	89 59	24 2	Beana	74 44	15 33
Bauchully	75 54	13 40	Beba Ghaut	92 2	26 22
Baul	74 13	14 48	Becaa	89 20	24 30
Baulpoor	75 19	21 0	Beechoowarra	73 40	23 46
Baudraje	71 31	25 9	Beechnall	85 58	21 2
Baugly	76 0	14 51	Beeconah	80 42	22 35
Baugwutty	74 48	13 11	Beeconah	67 35	32 42
Baugur	77 6	25 25	Beeconah	81 18	17 16
Baugput	77 16	25 53	Beeconah	79 52	22 2
Bauglee	76 36	22 39	Beeconah	74 55	18 53
Bauglora	77 57	12 50	Beeconah	78 22	20 44
Baugwara	75 37	22 20	Beeconah	75 5	13 50
Baugwara	81 13	22 20	Beeconah	73 8	15 37
Baugwara	77 41	18 52	Beeconah	90 4	22 32
Baugwara	76 29	13 2	Beeconah	67 15	24 51
Baugwara	76 15	13 43	Beeconah	67 30	22 25
Baugwara	75 48	14 14	Beeconah	77 42	22 52
Baugwara	71 3	24 36	Beeconah	78 3	13 16
Baugwara	75 0	20 3	Beeconah	77 34	17 55
Baugwara	79 2	14 26	Beeconah	75 17	25 4
Baugwara	78 23	14 50	Beeconah	75 28	29 27
Baugwara	76 50	20 43	Beeconah	74 10	30 32
Baugwara	73 7	22 42	Beeconah	75 48	16 50
Baugwara	73 35	25 13	Beeconah	74 07	24 53
Baugwara	71 31	25 52	Beeconah	72 49	33 37
Baugwara	70 45	22 40	Beeconah	76 33	15 19
Baugwara	75 40	22 40	Beeconah	78 9	20 23
Baugwara	89 15	23 33	Beeconah	91 25	24 5
Baugwara	73 18	17 43	Beeconah	86 30	18 53
Baugwara	67 50	34 30	Beeconah	75 30	25 13
Baugwara	74 26	21 16	Beeconah	71 45	21 14
Baugwara	74 14	19 20	Beeconah	73 40	29 42
Baugwara	84 27	18 31	Beeconah	76 39	27 59
Baugwara	74 38	15 35	Beeconah	77 0	23 30
Baugwara	71 13	34 59	Beeconah	70 53	21 26
Baugwara	76 41	19 44	Beeconah	73 20	23 44
Baugwara	73 43	33 20	Beeconah	86 30	23 31
Baugwara	74 0	37 47	Beeconah	73 28	21 51
Baugwara	73 21	22 54	Beeconah	70 23	21 26
Baugwara	73 50	24 20	Beeconah	86 45	22 30
Baugwara	73 31	20 30	Beeconah	85 25	25 22
Baugwara	74 24	18 18	Beeconah	85 10	25 22
Baugwara	79 54	16 35	Beeconah	84 38	22 41
Baugwara	80 32	15 57	Beeconah	73 8	25 7
Baugwara	74 1	27 41	Beeconah	73 21	29 40
Baugwara	72 50	27 2	Beeconah	75 30	16 45
Baugwara	72 0	25 30	Beeconah	75 30	28 34
Baugwara	74 6	22 30	Beeconah	74 11	26 2
Baugwara	86 56	23 5	Beeconah	86 35	22 51
Baugwara	69 49	34 9	Beeconah	87 31	21 41
Baugwara	72 24	22 39	Beeconah	76 33	18 15
Baugwara	74 58	14 9	Beeconah	81 30	21 18
Baugwara	76 58	18 2	Beeconah	76 39	21 45
Baugwara	77 11	20 2	Beeconah	78 52	22 14
Baugwara	77 40	30 51	Beeconah	74 3	24 13
Baugwara	74 54	14 29	Beeconah	72 32	23 10
Baugwara	77 50	23 46	Beeconah	77 32	23 42
Baugwara	69 42	21 38	Beeconah	86 5	19 54
Baugwara	85 0	10 31	Beeconah	72 37	24 30
Baugwara	77 40	13 3	Beeconah	74 52	27 48
Baugwara	73 38	13 32	Beeconah	73 9	18 30
Baugwara	82 43	23 37	Beeconah	73 23	24 30
Baugwara	75 53	11 11	Beeconah	72 20	25 45
Baugwara	73 59	15 15	Beeconah	72 36	27 17

LIST OF NAMES AND GEOGRAPHICAL POSITIONS

Places.	Long.	Lat.	Places.	Long.	Lat.
Bigh	85 14	24 18	Bisant	85 33	26 19
Bihul	78 19	27 45	Biswah	80 54	27 27
Bijaygar	79 17	26 27	Biswant	77 19	19 18
Bilipore	80 31	24 49	Bitch	70 10	26 33
Bilipore	76 6	30 48	Bittoce	70 14	26 33
Biljeepoor	77 59	24 34	Boad	84 9	30 31
Bilroae	76 11	22 46	Boadong	87 54	34 7
Bilwarra	78 20	27 56	Boads	79 5	17 59
Bikancer	79 16	25 43	Boadygoopa	77 0	15 28
Bikeekake Syn	78 30	18 14	Boara	79 40	24 32
Biknoor	73 30	23 25	Boarecond	74 50	29 00
Bikree	74 30	23 19	Boargam	77 23	20 15
Bilawerpoor	92 18	23 57	Boarkla	77 0	21 18
Bilcherry	80 56	23 57	Boarkla	74 41	20 0
Bildee	74 53	23 52	Boarkla	83 30	18 15
Bilharah	77 29	27 50	Boarkla	85 10	26 1
Bilwetwe	80 20	25 43	Boarkla	85 32	18 29
Bilker	81 50	16 18	Boarkla	84 4	18 54
Bilakall	79 40	21 5	Boarkla	85 37	14 43
Bilawul	85 10	11 50	Boarkla	77 56	18 40
Bilote	73 22	22 12	Boarkla	79 58	22 32
Bilipoor	86 11	22 48	Boarkla	83 37	18 15
Bilipura	85 11	22 48	Boarkla	87 10	27 3
Bilseagar	80 22	25 0	Boarkla	97 59	23 34
Bilthree	78 21	23 26	Boarkla	76 4	20 57
Bilwarnee	76 6	24 33	Boarkla	77 26	10 0
Bilwarre	74 18	33 4	Boarkla	78 40	27 27
Bilwar	82 33	17 32	Boarkla	76 43	12 47
Bilwipatnam	76 33	24 33	Boarkla	79 43	26 15
Bilwasega	74 32	27 40	Boarkla	69 40	22 1
Bilwawar	80 19	26 3	Boarkla	84 13	27 4
Bilwikee	69 48	22 55	Boarkla	91 31	23 19
Bilwih	88 15	25 45	Boarkla	89 4	26 6
Bilwile	81 40	23 45	Boarkla	84 14	26 55
Bilwipilly	80 7	15 12	Boarkla	87 8	25 11
Bilwipah	80 12	25 21	Boarkla	87 59	24 28
Bilwipah	86 16	26 6	Boarkla	77 10	15 25
Bilwipah	83 40	30 32	Boarkla	78 10	29 48
Bilwipah	76 20	17 30	Boarkla	89 28	25 11
Bilwipah	77 24	29 4	Boarkla	88 25	24 57
Bilwipah	82 27	22 20	Boarkla	83 15	22 7
Bilwipah	74 58	33 49	Boarkla	73 36	28 53
Bilwipah	77 1	14 34	Boarkla	73 53	30 38
Bilwipah	78 20	23 0	Boarkla	79 30	23 27
Bilwipah	74 18	27 32	Boarkla	79 1	22 28
Bilwipah	77 40	18 18	Boarkla	87 3	22 23
Bilwipah	87 1	24 33	Boarkla	75 55	15 41
Bilwipah	76 35	27 24	Boarkla	90 42	24 41
Bilwipah	80 31	23 30	Boarkla	90 15	16 39
Bilwipah	75 3	23 41	Boarkla	70 0	15 42
Bilwipah	74 42	19 23	Boarkla	79 34	24 31
Bilwipah	78 38	23 49	Boarkla	71 54	22 11
Bilwipah	84 35	27 23	Boarkla	68 25	31 22
Bilwipah	83 33	27 13	Boarkla	78 53	34 17
Bilwipah	77 41	23 12	Boarkla	85 27	20 43
Bilwipah	79 32	30 15	Boarkla	78 47	25 15
Bilwipah	82 30	27 30	Boarkla	80 8	23 21
Bilwipah	81 19	24 39	Boarkla	72 55	15 28
Bilwipah	83 52	24 11	Boarkla	82 35	15 43
Bilwipah	86 37	24 30	Boarkla	83 19	24 17
Bilwipah	80 33	26 28	Boarkla	82 11	25 10
Bilwipah	84 30	25 40	Boarkla	74 11	21 10
Bilwipah	84 31	26 10	Boarkla	84 10	25 18
Bilwipah	80 30	25 28	Boarkla	91 24	24 53
Bilwipah	74 26	21 11	Boarkla	80 30	24 4
Bilwipah	78 54	23 11	Boarkla	81 31	18 31
Bilwipah	82 35	27 4	Boarkla	84 56	26 15
Bilwipah	83 40	27 4	Boarkla	80 39	26 30
Bilwipah	79 52	28 1	Boarkla	80 33	25 37
Bilwipah	87 21	33	Boarkla	94 30	20 05
			Boarkla	88 0	22 7

Places.	Long.	Lat.	Places.	Long.	Lat.
Bongceer	79 50	17 31	Booree	78 59	29 48
Bongong	89 40	23 20		78 35	19 59
Bongong	90 50	26 29		74 50	21 32
Bongong	84 10	25 28		72 53	20 6
Bongong	80 20	25 55		85 40	22 21
Bongong	87 10	22 57	Boregaon	74 13	17 36
Bongong	75 3	30 11	Boregaon	79 32	21 10
Bongong	81 45	20 19		78 43	19 29
Bongong	74 28	21 58		75 29	21 38
Bongong	76 11	22 59	Boregong	75 53	18 25
Bongong	80 5	22 10	Borekeree	75 33	23 51
Bongong	79 10	25 6	Borekeree	75 22	20 15
Bongong	98 4	24 26	Borekeree	70 30	21 30
Bongong	78 12	13 55	Borekeree	75 5	23 34
Bongong	74 59	27 7	Borekeree	74 58	17 29
Bongong	77 21	14 44	Borekeree	75 39	21 5
Bongong	75 29	13 38	Borekeree	73 45	19 2
Bongong	75 23	13 27	Borekeree	77 22	21 47
Bongong	76 31	23 40	Borekeree	76 41	19 11
Bongong	77 31	14 12	Borekeree	84 59	26 43
Bongong	74 3	23 24	Borekeree	88 55	22 26
Bongong	71 20	24 12	Borekeree	81 28	27 9
Bongong	77 43	14 43	Borekeree	79 3	27 0
Bongong	74 48	29 17	Borekeree	74 32	21 42
Bongong	75 33	29 56	Borekeree	83 54	21 4
Bongong	75 40	20 20	Borekeree	85 18	25 3
Bongong	77 18	22 45	Borekeree	90 9	26 2
Bongong	79 7	27 15	Borekeree	85 34	25 29
Bongong	75 29	30 57	Borekeree	84 19	22 51
Bongong	80 53	20 14	Borekeree	83 28	27 28
Bongong	81 41	19 36	Borekeree	85 19	24 41
Bongong	77 2	14 39	Borekeree	78 32	19 5
Bongong	78 25	15 28	Borekeree	82 2	20 20
Bongong	79 40	20 18	Borekeree	88 54	24 35
Bongong	73 40	23 0	Borekeree	90 55	23 47
Bongong	75 12	24 18	Borekeree	89 32	25 31
Bongong	78 7	13 35	Borekeree	89 28	24 56
Bongong	82 50	21 10	Borekeree	89 30	24 34
Bongong	77 20	30 9	Borekeree	86 6	20 15
Bongong	83 52	18 25	Borekeree	87 17	25 28
Bongong	78 15	18 16	Borekeree	73 0	31 28
Bongong	76 0	18 40	Borekeree	86 7	26 17
Bongong	77 29	29 17	Borekeree	72 37	25 59
Bongong	76 21	20 35	Borekeree	85 3	17 28
Bongong	80 52	24 52	Borekeree	84 25	24 6
Bongong	71 29	21 15	Borekeree	84 25	25 51
Bongong	75 31	21 0	Borekeree	69 23	22 10
Bongong	73 49	26 28	Borekeree	70 19	22 2
Bongong	76 5	28 18	Borekeree	78 9	24 12
Bongong	78 0	32 22	Borekeree	74 51	24 45
Bongong	89 40	23 30	Borekeree	77 44	24 18
Bongong	89 40	23 0	Borekeree	86 30	24 20
Bongong	88 55	26 27	Borekeree	80 43	27 17
Bongong	69 22	34 9	Borekeree	87 12	24 30
Bongong	71 58	33 40	Borekeree	87 14	25 58
Bongong	75 30	31 10	Borekeree	80 31	25 9
Bongong	76 44	17 17	Borekeree	89 3	22 40
Bongong	77 38	17 28	Borekeree	88 32	23 3
Bongong	76 31	15 50	Borekeree	73 8	21 18
Bongong	79 40	25 29	Borekeree	87 44	30 6
Bongong	85 22	23 8	Borekeree	77 9	14 40
Bongong	79 33	25 21	Borekeree	79 24	13 35
Bongong	77 50	22 20	Borekeree	79 55	15 0
Bongong	80 6	23 30	Borekeree	77 21	8 36
Bongong	89 42	25 59	Borekeree	89 7	32 24
Bongong	81 13	17 4	Borekeree	89 20	32 42
Bongong	74 50	25 0	Borekeree	80 35	24 0
Bongong	76 39	24 11	Borekeree	81 28	22 11
Bongong	77 40	25 6	Borekeree	100 7	21 27
Bongong	75 17	23 35	Borekeree	85 40	24 48
Bongong	80 8	19 38	Borekeree	76 19	31 24
Bongong	79 30	24 20	Borekeree	76 38	17 32

Places.	Long.	Lat.	Places.	Long.	Lat.
Bubotree	86 19	24 5	Bubadpoor	76 50	27 48
Buccordec	87 21	25 16	Bubot	76 53	28 34
Buchapata	85 51	18 16	Bubadpoor	71 28	20 21
Buchan	85 34	22 8	Bubad	80 18	27 14
Buchover	89 24	22 8	Bubad	78 67	28 59
Buchoudy	82 59	26 52	Buboly	75 48	16 30
Buchra	82 59	26 52	Bubowala	71 48	26 29
Buchrah	87 25	24 49	Bubwa	78 4	28 57
Buchwah	89 54	24 21	Bubwa	82 31	25 56
Buchwaria	71 14	24 28	Bubwara	82 19	28 1
	70 13	24 24	Bubwara	78 31	25 19
Buchwaria	91 8	24 22	Bubwara	76 30	24 19
Buchwaria	71 42	24 1	Bubwara	76 36	12 55
Budaha	75 37	24 35	Bubwara	78 8	25 24
Budayona	79 8	25 3	Bubwara	81 38	28 4
Budha	73 54	16 28	Bubwara	76 22	28 18
Budhampoor	75 7	14 41	Bubwara	76 33	28 27
Budhampoor	99 31	21 22	Bubwara	70 29	33 6
Budhampoor	89 8	25 41	Bubwara	80 54	31
Budhampoor	89 8	25 41	Bubwara	82 54	47
Budhampoor	88 58	25 5	Bubwara	74 59	40 8
Budhampoor	81 1	27 11	Bubwara	79 35	33 17
Budhampoor	70 10	23 51	Budhampoor	79 0	24 16
Budhampoor	85 31	21 2	Budhampoor	70 51	23 40
Budhampoor	87 30	22 55	Budhampoor	72 40	25 2
Budhampoor	80 50	24 19	Budhampoor	78 40	30 28
Budhampoor	77 38	24 59	Budhampoor	81 3	33 57
Budhampoor	88 19	22 30	Budhampoor	76 4	31 14
Budhampoor	79 21	28 39	Budhampoor	84 0	27 39
Budhampoor	86 39	29 29	Budhampoor	77 80	34 7
Budhampoor	81 12	27 14	Budhampoor	86 31	34 31
Budhampoor	79 30	26 9	Budhampoor	86 31	34 31
Budhampoor	86 35	24 38	Budhampoor	79 10	12 18
Budhampoor	88 77	26 39	Budhampoor	76 40	14 16
Budhampoor	77 29	25 7	Budhampoor	73 17	12 57
Budhampoor	87 25	25 59	Budhampoor	78 15	14 34
Budhampoor	75 47	15 35	Budhampoor	80 19	23 48
Budhampoor	75 18	22 40	Budhampoor	82 52	34 31
Budhampoor	73 18	34 45	Budhampoor	75 50	31 15
Budhampoor	71 50	35 48	Budhampoor	72 53	18 42
Budhampoor	80 2	15 31	Budhampoor	79 56	17 31
Budhampoor	84 21	25 22	Budhampoor	72 50	20 55
Budhampoor	80 48	25 35	Budhampoor	83 53	26 25
Budhampoor	88 26	25 16	Budhampoor	74 10	18 56
Budhampoor	74 12	28 2	Budhampoor	77 39	28 18
Budhampoor	80 16	24 10	Budhampoor	87 44	29 50
Budhampoor	89 0	24 45	Budhampoor	69 57	24 15
Budhampoor	79 9	14 35	Budhampoor	80 20	25 35
Budhampoor	83 43	24 50	Budhampoor	76 7	23 55
Budhampoor	81 51	25 32	Budhampoor	78 40	27 50
Budhampoor	90 1	24 33	Budhampoor	87 3	21 30
Budhampoor	82 33	24 30	Budhampoor	86 34	22 41
Budhampoor	82 33	24 30	Budhampoor	81 59	28 16
Budhampoor	73 33	24 45	Budhampoor	89 40	28 15
Budhampoor	78 39	22 30	Budhampoor	73 2	20 40
Budhampoor	82 35	24 30	Budhampoor	87 51	25 39
Budhampoor	86 21	25 45	Budhampoor	74 29	29 43
Budhampoor	83 39	25 34	Budhampoor	76 24	15 56
Budhampoor	85 54	24 30	Budhampoor	82 39	24 41
Budhampoor	84 41	21 1	Budhampoor	76 3	15 45
Budhampoor	85 41	24 30	Budhampoor	82 43	34 45
Budhampoor	89 39	24 34	Budhampoor	72 3	17 0
Budhampoor	83 28	27 19	Budhampoor	73 21	31 0
Budhampoor	74 4	22 40	Budhampoor	71 19	24 23
Budhampoor	73 54	25 5	Budhampoor	85 38	25 41
Budhampoor	85 35	25 35	Budhampoor	83 3	23 37
Budhampoor	85 35	25 35	Budhampoor	73 10	26 8
Budhampoor	78 17	26 12	Budhampoor	77 44	31 15
Budhampoor	71 13	16 13	Budhampoor	77 44	31 15
Budhampoor	77 33	24 14	Budhampoor	78 43	26 0
Budhampoor	71 13	29 8	Budhampoor	81 28	27 40
Budhampoor	75 39	28 42			

Places.	Long.	Lat.	Places.	Long.	Lat.
Bunawar	79 47	23 45	Bardola	72 50	22 7
Bunayta	75 39	25 17	Bardola	71 0	27 15
Bunbung	92 50	24 56	Bardola	71 4	23 40
Buncho	77 53	25 15	Bardola	76 45	25 41
Bunda	78 45	25 1	Bardola	78 20	25 11
	73 11	22 21	Bardola	81 40	27 38
Bundagan	85 22	22 37	Bardola	87 54	23 14
Bundara	79 53	28 40	Bardola	79 35	25 8
Bundarra	79 37	30 40	Bardola	82 8	28 24
Bundarra	81 13	27 42	Bardola	77 31	26 8
Bundarra	75 45	17 39	Bardola	74 28	25 49
Bundarra	72 46	21 55	Bardola	81 27	27 4
Bundarra	83 41	25 18	Bardola	80 21	25 33
Bundarra	86 45	21 41	Bardola	85 38	26 6
Bundarra	72 53	19 5	Bardola	82 38	27 28
Bundarra	82 48	26 40	Bardola	75 30	29 42
Bundarra	89 59	33 8	Bardola	81 10	22 25
Bundarra	84 21	33 49	Bardola	86 42	31 56
Bundarra	80 20	24 24	Bardola	87 2	24 26
Bundarra	81 34	27 25	Bardola	82 57	27 19
Bundarra	71 40	23 48	Bardola	76 5	30 55
Bundarra	78 35	15 34	Bardola	84 3	28 6
Bundarra	75 19	13 35	Bardola	73 1	25 8
Bundarra	76 42	11 38	Bardola	72 8	24 46
Bundarra	80 19	27 50	Bardola	75 49	22 28
Bundarra	87 32	21 40	Bardola	77 49	11 39
Bundarra	74 57	12 44	Bardola	77 1	13 55
Bundarra	82 54	27 34	Bardola	82 36	24 6
Bundarra	75 22	13 7	Bardola	83 50	26 33
Bundarra	70 21	32 50	Bardola	77 3	11 34
Bundarra	72 15	28 11	Bardola	83 28	23 40
Bundarra	86 15	27 28	Bardola	82 2	20 55
Bundarra	73 14	34 3	Bardola	81 25	25 10
Bundarra	73 40	25 40	Bardola	88 30	24 5
Bundarra	84 53	22 59	Bardola	82 19	26 1
Bundarra	77 21	14 2	Bardola	82 35	25 13
Bundarra	78 31	24 4	Bardola	76 48	25 38
Bundarra	80 42	21 24	Bardola	77 17	25 30
Bundarra	83 39	26 58	Bardola	91 0	25 24
Bundarra	76 25	18 3	Bardola	77 18	25 2
Bundarra	76 40	24 26	Bardola	77 22	23 22
Bundarra	74 7	23 45	Bardola	80 25	25 8
Bundarra	82 18	25 42	Bardola	80 11	30 48
Bundarra	79 2	24 35	Bardola	86 0	24 13
Bundarra	76 57	24 4	Bardola	76 33	13 67
Bundarra	74 41	26 30	Bardola	87 33	24 50
Bundarra	74 7	26 16	Bardola	76 11	14 12
Bundarra	89 38	24 19	Bardola	86 49	23 45
Bundarra	75 34	27 30	Bardola	85 56	24 15
Bundarra	76 57	13 10	Bardola	85 50	21 33
Bundarra	76 42	20 32	Bardola	87 10	25 57
Bundarra	76 34	28 33	Bardola	83 17	27 17
Bundarra	82 43	27 37	Bardola	83 25	25 42
Bundarra	82 55	22 25	Bardola	76 17	14 28
Bundarra	74 30	28 21	Bardola	77 35	29 11
Bundarra	86 2	22 56	Bardola	72 48	23 50
Bundarra	84 41	22 7	Bardola	77 48	24 56
Bundarra	86 7	20 38	Bardola	77 51	27 40
Bundarra	88 22	26 28	Bardola	82 8	27 7
Bundarra	80 54	27 56	Bardola	82 30	25 56
Bundarra	76 22	23 18	Bardola	86 42	21 59
Bundarra	79 22	23 58	Bardola	74 9	21 14
Bundarra	76 19	28 30	Bardola	80 48	24 7
Bundarra	70 51	33 37	Bardola	78 50	22 57
Bundarra	86 39	29 56	Bardola	74 30	24 25
Bundarra	82 57	28 4	Bardola	76 6	29 19
Bundarra	82 21	25 9	Bardola	86 21	25 4
Bundarra	89 39	22 57	Bardola	89 19	25 9
Bundarra	89 1	26 15	Bardola	84 30	19 14
Bundarra	88 41	26 35	Bardola	83 27	27 5
Bundarra	88 22	25 62	Bardola	80 28	23 34
Bundarra	74 53	29 10	Bardola	86 51	29 53
Bundarra	74 31	18 38	Bardola	71 2	24 14

Places.	Long.	Lat.	Places.	Long.	Lat.
Chistipoor	81 53	27 4	Choranda	78 30	22 3
Chitlong	86 5	27 41	Chota Odhena	78 7	30 37
Chitambully	86 52	13 10	Chota Oumter	77 37	30 7
Chitracotam	88 24	18 38	Chota Orampod	79 33	14 5
Chitrya	86 50	27 31	Chota Sadree	71 45	24 33
Chitragotta	79 33	13 18	Chotakha	92 10	34 43
Chital	79 12	17 14	Chotacogur	84 47	19 8
Chitapett	79 26	12 38	Chotepoor	81 52	37 9
Chitavali	79 23	14 13	Choudapokry	88 49	31 6
Chitl Droog	78 20	11 14	Choudra	70 28	31 44
Chittercot	80 57	23 18	Chougona	81 31	32 31
Chitturpoor	82 20	23 35	Chouky	66 41	31 31
Chittur	79 11	13 14	Choukappa	86 49	30 38
Chittore Gur	74 47	24 35	Chouli	72 0	18 33
Chitra	86 40	24 10	Choultry	79 53	13 43
Chitrypoliam	76 40	10 37		79 48	14 33
Chitragal	80 5	29 40		78 10	9 20
Chougarrydroog	77 10	13 54	Choundra	84 56	20 36
Chobaurce	70 41	23 23	Chouga	74 2	31 30
Chobika Seray	81 7	20 50	Choua	81 25	25 2
Chobsey	81 30	20 35	Choi lady	87 14	24 11
Chockpury	84 53	23 7	Choussa	80 59	25 30
Choclagur	86 20	23 32	Chouppoor	78 9	17 49
Chocunda	86 40	27 3	Chouhour	73 5	23 35
Chocysala	86 38	25 7	Choutra	73 10	23 8
Chocant	85 6	20 40	Chowah	78 35	25 4
Chocanda Colom	89 33	9 0	Chowlate	80 35	27 56
Choging	80 30	25 4	Chowcundy	80 35	27 56
	89 12	24 32	Chower	80 35	27 56
Chohorah	82 51	20 28	Chowhaut	74 7	10 35
Chokr	82 5	24 48	Chowly	78 30	22 18
	71 10	20 16	Chowpara	83 5	32 0
Chokeano	78 81	23 47	Chowregar	79 0	32 48
Chokce	71 57	30 39	Chowrie	79 7	34 1
	81 39	28 24	Chowinkly	90 31	30 37
	70 5	11 58	Chowtara	71 11	25 32
	71 31	10 5	Chowtashy	82 7	35 16
	74 18	15 21	Chowpalli	87 40	36 36
	65 53	33 10	Choyla	75 31	15 4
	76 52	31 37	Chuch Nering Shakt	72 11	30 30
Chokey	76 42	10 58	Chuckerala	71 5	32 53
Chokkut	78 10	28 9	Chuckendow	85 22	24 15
Chokka Boogoor	77 23	10 19	Chuckunay	80 47	25 0
Chokampatty	77 29	9 10	Chucktand	73 43	32 35
Choky	73 48	19 17	Chuckwah	89 48	25 4
Chokyal	85 54	24 41	Chudawala	71 38	33 7
Cholacaram	80 15	13 12	Chuganashairy	76 3	9 28
Chole	70 9	25 23	Chukhwal	72 0	33 4
Chomuh	77 52	27 31	Chukhwal	71 5	32 53
Chongi	78 40	24 31	Chukhwal	71 5	32 53
Chonahagunee	73 11	23 30	Chukhwal	71 5	32 53
Cholia	80 0	23 7	Chukhwal	71 5	32 53
Cholika	73 31	32 38	Chukhwal	71 5	32 53
Cholona	80 12	24 37	Chukhwal	71 5	32 53
Choumpa	72 22	27 10	Chukhwal	71 5	32 53
Choumlaitra	78 53	23 15	Chukhwal	71 5	32 53
Choupparree	73 10	23 53	Chukhwal	71 5	32 53
Chouren	78 32	23 30	Chukhwal	71 5	32 53
Chour Burroda	73 34	23 7	Chukhwal	71 5	32 53
Chouree	75 51	15 41	Chukhwal	71 5	32 53
Choureea	80 5	23 32	Chukhwal	71 5	32 53
Chouree Ghall Pass	84 36	27 28	Chukhwal	71 5	32 53
Chouree	75 4	28 20	Chukhwal	71 5	32 53
Choureea	71 38	23 32	Chukhwal	71 5	32 53
Choureeaur	70 31	21 2	Chukhwal	71 5	32 53
Chopalla	74 14	21 8	Chukhwal	71 5	32 53
Chopper	85 40	25 30	Chukhwal	71 5	32 53
Chopra	76 24	21 30	Chukhwal	71 5	32 53
Chupra	87 40	26 28	Chukhwal	71 5	32 53
Chupria	79 4	22 31	Chukhwal	71 5	32 53
Churakoty	82 39	29 57	Chukhwal	71 5	32 53
Chur	85 40	25 35	Chukhwal	71 5	32 53
Churnoor	76 30	11 55	Chukhwal	71 5	32 53

Places.	Long.	Lat.	Places.	Long.	Lat.
Chunargur	89 49	25 6	Coshkero	80 3	23 5
Chunda	72 8	31 57	Coshkorbally	88 13	22 13
Chundaul	82 24	23 30	Cosily	74 18	21 28
Chundagaul	77 1	12 23	Cosland	75 6	12 27
Chundacooroo	79 40	15 48	Coslungce	89 27	25 10
Chundanakaira	75 50	14 0	Coslabaddy	84 47	19 54
Chundapoor	77 35	18 6	Coslandah	82 30	17 0
Chundaul	82 4	18 43	Cosher	86 42	22 9
Chundee	77 45	28 28	Cosherah	81 52	26 40
Chundepoor	81 38	22 0	Coshimed	89 0	25 58
Chunderbam	87 55	23 49	Cosin	76 17	9 59
Chunder Budunee	78 35	30 18	Cosuria	79 49	16 8
Chundera	82 4	24 19	Cosuriah	83 55	18 8
Chundergerry	75 5	22 28	Cosaganoor	76 3	16 30
Chundergerry	75 5	22 28	Cosagony	76 50	11 43
Chundergooty Droog	75 3	14 37	Cosalybaddy	84 50	20 0
Chundergur	73 49	17 57	Cosinulla	77 41	9 38
Chunderpoor	83 14	21 44	Cosoor	80 12	14 35
Chunderover	74 78	14 24		79 26	13 58
Chunditulla	88 19	22 44	Cadyronda	77 50	13 50
Chundly	75 54	25 40	Coellie	73 37	28 34
Chundoor	73 54	23 36	Coelane	81 47	6 28
Chundool	72 49	23 36	Corty	85 39	25 50
Chundpoor	77 38	28 38	Coggal	89 30	25 0
Chundra Kote	69 10	30 41	Coggaranoora	80 22	22 48
Chundurra	69 57	24 48	Coghal	74 25	16 40
Chundwah	76 27	23 2	Cogreet	84 1	20 54
Chundwara	78 21	21 50	Cogregot	89 11	22 24
Chungamah	78 21	27 7	Cohari	80 27	24 50
Chungamashairy	75 25	9 30	Cohaut	71 42	33 43
Chungorum	80 5	12 45	Cohar	82 39	23 45
Chunyan	68 27	29 36	Coidar	79 11	11 30
Chunypetta	85 50	21 41	Coilonda	77 51	16 58
Chunupet	79 40	19 5	Coille	85 41	36 25
Chuokhumpoo	85 16	36 21	Coimbatore	77 1	11 0
Chuokhumpoo	85 16	36 21	Coje	73 6	19 40
Chuokhumpoo	85 16	36 21	Cojeng	86 31	20 10
Chuokhumpoo	85 16	36 21	Cojata	86 35	24 25
Chuokhumpoo	85 16	36 21	Cojutlee	78 25	13 57
Chuokhumpoo	85 16	36 21	Cojalal	77 11	12 10
Chuokhumpoo	85 16	36 21	Cojalolly	72 31	13 11
Chuokhumpoo	85 16	36 21	Colapan	83 27	18 41
Chuokhumpoo	85 16	36 21	Colar	78 13	13 9
Chuokhumpoo	85 16	36 21	Colator	80 3	12 35
Chuokhumpoo	85 16	36 21		78 53	10 35
Chuokhumpoo	85 16	36 21	Colenapoor	85 0	26 35
Chuokhumpoo	85 16	36 21	Colenaput	86 36	32 50
Chuokhumpoo	85 16	36 21	Colica	90 40	32 18
Chuokhumpoo	85 16	36 21	Colona	87 39	24 28
Chuokhumpoo	85 16	36 21	Colona	87 18	35 15
Chuokhumpoo	85 16	36 21	Colinank Droog	77 13	12 34
Chuokhumpoo	85 16	36 21	Colinda	81 20	32 56
Chuokhumpoo	85 16	36 21	Coligon	84 44	36 43
Chuokhumpoo	85 16	36 21	Colipara	87 23	21 28
Chuokhumpoo	85 16	36 21	Colipoor	89 26	22 51
Chuokhumpoo	85 16	36 21	Colloer, or Wallaseena	74 52	13 53
Chuokhumpoo	85 16	36 21	Colma	80 43	33 11
Chuokhumpoo	85 16	36 21	Coloor	80 5	16 42
Chuokhumpoo	85 16	36 21	Colpurao	88 25	22 30
Chuokhumpoo	85 16	36 21	Colsharpoor	80 20	32 43
Chuokhumpoo	85 16	36 21	Colta Shambully	77 53	11 50
Chuokhumpoo	85 16	36 21	Colter	73 16	17 39
Chuokhumpoo	85 16	36 21	Colui	79 29	23 13
Chuokhumpoo	85 16	36 21	Colombo	79 37	6 0
Chuokhumpoo	85 16	36 21	Colen	81 19	19 19
Chuokhumpoo	85 16	36 21	Colusa	83 44	18 25
Chuokhumpoo	85 16	36 21	Coluttoo	77 50	11 35
Chuokhumpoo	85 16	36 21	Comadee	78 30	14 34
Chuokhumpoo	85 16	36 21	Comargony	89 42	23 24
Chuokhumpoo	85 16	36 21	Comaulputty	78 21	11 53
Chuokhumpoo	85 16	36 21	Comarawandy	78 32	10 21
Chuokhumpoo	85 16	36 21	Combacum	79 35	10 51

Places.	Long.	Lat.	Places.	Long.	Lat.
Comebay	77 23	9 51	Coomboor	75 32	14 44
Comershad	87 30	24 12	Coondapoor	74 45	13 38
Comersally Gaut	81 8	22 47	Coondour	68 58	31 31
Comercolly	89 20	23 51	Coondota	73 54	17 32
Comerlee	89 23	24 4	Coondogooly	78 47	18 8
Comerpoor	88 32	24 24	Coontah	86 37	21 45
	83 09	25 24		86 14	22 13
Comillab, or Tippe- rah	91 16	23 28	Coonygol	85 12	22 30
Comilpoor	89 13	24 0		77 7	13 2
Comilapoor	87 12	22 1	Coopah	74 26	15 0
Cominab	83 5	20 19	Coorah	76 40	20 48
Cominapoor	87 53	23 11	Cooravary	82 40	24 40
Comil	79 53	14 55	Coorgwar	84 45	21 45
Complah	80 15	23 21	Coornakleppilly	77 14	14 29
Comraja	73 11	21 29	Coornah	79 40	15 51
Comsaula	77 28	10 7	Coornoutpally	79 13	14 35
Comsore	76 6	13 28	Coornulian	87 13	23 9
Comswage	90 34	24 18	Coornoor	80 2	27 25
Comsore	88 03	22 6	Coornoor	77 49	26 46
Cochoonpoor	80 9	22 10	Coorbut	81 47	24 27
Conchote	88 5	23 15	Coorly	78 16	14 17
Condagamarla	78 3	24 5	Coornundoor	77 14	11 26
Condagaw	82 32	20 27	Coornoolcottah	73 35	15 27
Condamoor	79 57	13 8	Coorpoor	80 24	26 0
Condapilly	80 35	16 40		77 22	25 32
Condapilly	80 10	21 9	Coorwah	80 28	25 58
Condarir	80 29	12 21	Coortee	74 21	17 30
Condascoora	86 34	23 17	Coortyrene	81 40	16 21
Conderpee Droog	77 7	24 18	Coorumbapallam	77 42	11 27
Condash	74 14	19 12	Coorung	86 44	24 7
Condrapilly	81 43	17 51	Coorwe	76 44	10 40
Condratta	85 2	25 32	Coombary	88 38	23 50
Conerycolta	88 32	25 10	Coombah	85 50	25 9
Conerycolta	79 37	10 31	Coombah	87 5	23 28
Conerycolta	79 37	10 31	Coombah	78 15	14 10
Conerycolta	79 37	10 31	Coombah	81 21	20 23
Conerycolta	79 37	10 31	Coombah	76 39	10 45
Conerycolta	79 37	10 31	Coombah	29 27	11 36
Conerycolta	79 37	10 31	Coombah	27 45	11 41
Conerycolta	79 37	10 31	Coombah	83 18	23 5
Conerycolta	79 37	10 31	Coombah	76 10	10 44
Conerycolta	79 37	10 31	Coombah	77 28	20 14
Conerycolta	79 37	10 31	Coombah	86 56	23 13
Conerycolta	79 37	10 31	Coombah	74 33	19 35
Conerycolta	79 37	10 31	Coombah	83 16	19 47
Conerycolta	79 37	10 31	Coombah	75 32	13 43
Conerycolta	79 37	10 31	Coombah	77 5	13 43
Conerycolta	79 37	10 31	Coombah	77 26	11 23
Conerycolta	79 37	10 31	Coombah	85 4	20 0
Conerycolta	79 37	10 31	Coombah	76 10	13 23
Conerycolta	79 37	10 31	Coombah	69 41	34 42
Conerycolta	79 37	10 31	Coombah	82 56	24 32
Conerycolta	79 37	10 31	Coombah	74 32	19 48
Conerycolta	79 37	10 31	Coombah	90 38	23 51
Conerycolta	79 37	10 31	Coombah	81 36	23 58
Conerycolta	79 37	10 31	Coombah	76 36	26 37
Conerycolta	79 37	10 31	Coombah	78 21	27 54
Conerycolta	79 37	10 31	Coombah	82 18	16 50
Conerycolta	79 37	10 31	Coombah	79 58	13 39
Conerycolta	79 37	10 31	Coombah	73 54	16 20
Conerycolta	79 37	10 31	Coombah	84 8	18 57
Conerycolta	79 37	10 31	Coombah	87 10	32 44
Conerycolta	79 37	10 31	Coombah	77 19	18 23
Conerycolta	79 37	10 31	Coombah	80 7	13 2
Conerycolta	79 37	10 31	Coombah	80 36	21 28
Conerycolta	79 37	10 31	Coombah	84 3	18 13
Conerycolta	79 37	10 31	Coombah	72 32	23 43
Conerycolta	79 37	10 31	Coombah	74 33	21 15
Conerycolta	79 37	10 31	Coombah	87 10	23 58
Conerycolta	79 37	10 31	Coombah	88 43	24 57
Conerycolta	79 37	10 31	Coombah	73 25	20 50
Conerycolta	79 37	10 31	Coombah	85 0	16 20
Conerycolta	79 37	10 31	Coombah	92 40	24 57

Places.	Long.	Lat.	Places.	Long.	Lat.
Cassalong	92 21	22 46	Croolapanalencour	77 43	9 44
Cassaree	87 14	22 10	Cuballaparah	89 31	26 50
Cassang	74 44	13 46	Cubbinahat	73 6	13 25
Cassidya	91 25	22 53	Cubnyocatra	78 40	12 50
Cassimabad	82 41	25 47	Cubani Droog	77 22	12 32
Cassimbazar	88 26	24 9	Cuehar	79 4	23 24
Cassomaba	74 41	21 1	Cuddaha	76 55	13 15
Cassoor	75 4	14 58		73 33	12 31
Cotah	87 27	23 42	Cuddabagaul	76 12	12 55
Cotahohum	82 47	17 30	Cuddaball	76 16	15 6
Cotahshwar	74 45	13 37	Cuddapahmattum	78 42	13 7
Cotapar	82 38	18 49	Cuddawoor	78 15	10 36
Cotapully	77 54	15 35	Cuddoor	76 4	13 34
Cotaparamba	75 38	13 48	Cuddree	78 15	14 8
Cotasingah	84 33	20 34	Cudhar	86 51	24 20
Coteary	75 50	11 40	Cudjeree	88 4	21 55
Coteia	77 51	25 24	Cudjow	83 50	24 53
Cotenawlasher	87 46	24 1	Cudwah	87 49	25 37
Cotenara	84 50	12 22	Cupneer	76 42	23 49
Coteoor	75 55	11 49	Cuckolam	77 25	8 15
Cotincoor	79 98	17 10	Culainay	81 21	16 50
Cotnoor	78 9	13 10	Culavee, or Rally	78 30	15 17
Coteor	79 22	14 28	Culcudda	78 32	19 51
Cotowly	86 53	24 53	Cullagode	76 58	14 35
Cotrudge	74 0	13 27	Cullamuddy	77 41	14 35
Cotta Cotta	77 58	15 23	Cullapoham	77 41	10 48
Cotta Cotta Droog	77 4	14 14	Cullottah	79 11	10 32
Cottah	89 10	26 15	Cullu Droog	75 53	13 40
Cottaley	76 34	17 46	Culleiseer	74 42	14 45
Cottapad	79 11	14 28	Culligode	76 45	12 5
Cottapollam	80 57	15 52	Culliamuttum	78 55	11 42
Cottoor	77 14	14 5	Culliel	77 22	8 26
	76 18	14 5	Cullisotia	79 11	15 49
Cottoryne	87 30	24 22	Cullor	81 41	18 11
Cotubah	84 10	24 37		76 43	13 13
Coty	81 50	17 10	Culpaudy	74 48	18 18
Coucher	83 53	25 23	Culumbassur	79 50	20 46
Coolanpore	81 0	25 9	Cullyearry	75 48	16 6
Coolapany	73 51	21 25	Culna	88 23	23 13
Cooly Droog	75 5	13 44		88 23	23 13
Couralee	84 28	25 12	Culpee	88 20	22 8
Courta	85 19	25 0	Culputty Angary	76 11	11 38
Cousypoor	83 41	26 11	Culsey	87 43	23 25
Covaspour	84 40	12 45	Cultree	85 40	25 6
Covelog	80 26	8 50	Culumbhoor	79 18	12 40
Covil	78 5	12 54	Culvai	79 30	14 31
Covrepank	79 34	16 20	Cumalunge	83 18	25 30
Cowack	86 11	24 51	Cumarya	90 50	23 38
Cowah Gaur	85 58	18 49	Cumbadoor	77 18	14 22
Cowahendah	82 15	12 5	Cumbagoodie	78 49	13 31
Cowahully	77 21	12 5	Cumbam	77 21	9 41
Cowara	90 14	24 50	Cumdo	96 41	18 21
Cowaddy	90 50	23 25	Cummeda	81 10	18 2
Cowishar	81 10	30 7	Cummamett	80 11	17 15
Cowkparah	85 23	22 58	Cummilpillee	79 13	18 53
Cowl, or Cowl	78 11	27 53	Cummilcoor	79 10	14 37
Cowla	74 58	17 1	Cummum	79 11	15 34
Cowlampett	78 11	17 35	Cumerally	85 25	23 31
Cowlapoor	81 5	19 2	Cumtana	77 49	17 52
	80 11	19 11	Cumtee	77 6	18 40
	74 40	17 0	Cunchinell Droog	75 39	13 13
Cowlarum	81 8	16 20	Cunchoghye	68 13	30 50
Cowparah	76 22	16 46	Cuncutta	76 34	13 22
Cowrah	84 30	24 18	Cundecoor	79 57	15 15
Cowth	81 8	26 48	Cuscaba	80 7	25 26
Cowtalla	75 59	18 23	Cundaloor	74 54	13 29
Cowtore	75 59	18 23	Cundapully	85 23	26 6
Cox's Bazar	92 3	22 28	Cundgarw	83 43	19 28
Coyah	80 15	37 25		82 57	10 35
Coyelhoodah	81 9	19 53	Cundi	86 31	25 38
Copoor	82 9	37 39	Cundkeor	78 10	13 48
Copra	87 28	35 17	Cundoor	78 52	13 34
Cranganore	76 16	10 13	Cundur	83 20	19 7
			Cundyara	90 57	24 39

Places.	Long.	Lat.	Places.	Long.	Lat.
Cundakira	78 39	13 31	Dadar	68 3	28 58
Cuncoug	88 41	25 33	Dadela Deenpunah	71 7	28 37
Cunjeoor	85 00	24 34	Dagole	80 26	25 45
Cunneacul	77 8	14 48	Dagon	99 39	19 51
Cunneapully	77 38	14 39	Dagonpoor	73 10	28 40
Cunneambully	77 4	14 38	Dagunlah	82 19	24 45
Cunnaoor	78 35	12 7	Dahle	78 26	27 37
Cunnaoor	78 38	13 7	Dahree	84 41	24 17
Cunnaoor	78 1	13 2	Dahoor	77 57	18 34
Cunpoor	81 8	22 48	Daha Deenpunah	70 51	30 35
Cunpoor	81 4	14 32	Dahes	76 45	34 7
Cunpoor	87 21	24 51	Dahagulluk	78 5	14 40
Cunpoor	85 27	24 48	Dahado	74 19	27 44
Cunpoor	84 10	13 49	Dahai	74 35	31 56
Cunpoor	83 2	24 3	Daka	79 39	29 32
Cunpoor	83 32	24 58	Dakua	78 48	28 6
Cunpoor	83 35	18 40	Daka	74 3	25 4
Cunpoor	83 44	19 29	Dakun	74 33	31 49
Cunpoor	84 21	35 55	Dakun	101 29	29 29
Cunpoor	78 10	13 22	Dakun	87 32	24 20
Cunpoor	82 20	34 30	Dakun	87 11	24 8
Cunpoor	87 38	23 37	Dakun	90 43	28 6
Cunpoor	84 10	25 55	Dakun	84 45	27 1
Cunpoor	89 07	21 20	Dakun	95 50	16 33
Cunpoor	78 49	14 43	Dakun	77 34	17 5
Cunpoor	87 20	22 21	Dakun	73 54	30 25
Cunpoor	86 28	29 8	Dakun	80 11	7 0
Cunpoor	77 50	14 5	Dakun	80 33	7 31
Cunpoor	83 15	19 20	Dakun	86 9	20 40
Cunpoor	73 28	21 18	Dakun	78 0	18 25
Cunpoor	74 58	19 27	Dakun	86 34	22 34
Cunpoor	74 19	18 45	Dakun	83 16	30 29
Cunpoor	86 3	24 25	Dakun	80 4	31 16
Cunpoor	74 6	21 43	Dakun	86 51	23 37
Cunpoor	88 30	25 7	Dakun	88 39	23 25
Cunpoor	87 30	21 0	Dakun	78 51	32 48
Cunpoor	89 31	25 7	Dakun	88 47	27 16
Cunpoor	77 21	16 32	Dakun	77 57	30 29
Cunpoor	86 31	27 44	Dakun	75 37	21 53
Cunpoor	86 19	24 7	Dakun	75 12	22 42
Cunpoor	82 43	25 40	Dakun	80 33	18 3
Cunpoor	86 48	25 40	Dakun	83 0	24 47
Cunpoor	73 12	24 32	Dakun	77 6	11 28
Cunpoor	89 11	19 43	Dakun	75 38	14 30
Cunpoor	77 48	19 53	Dakun	84 15	18 29
Cunpoor	80 11	35 43	Dakun	74 42	15 15
Cunpoor	82 49	25 14	Dakun	84 8	24 54
Cunpoor	80 33	23 38	Dakun	40 43	29 4
Cunpoor	84 10	26 2	Dakun	69 0	23 32
Cunpoor	78 21	13 21	Dakun	77 53	19 34
Cunpoor	79 1	19 42	Dakun	73 50	19 38
Cunpoor	79 49	24 5	Dakun	77 10	19 10
Cunpoor	77 40	18 56	Dakun	78 17	28 11
Cunpoor	88 43	24 48	Dakun	88 19	25 10
Cunpoor	87 38	23 40	Dakun	73 50	19 34
Cunpoor	87 18	25 31	Dakun	87 18	22 0
Cunpoor	88 11	23 34	Dakun	71 46	33 38
Cunpoor	78 11	27 34	Dakun	80 48	23 30
Cunpoor	79 58	21 9	Dakun	71 49	23 32
Cunpoor	75 40	23 41	Dakun	82 40	25 50
Cunpoor	73 14	17 47	Dakun	71 30	31 34
Cunpoor	76 44	24 30	Dakun	71 31	30 45
Cunpoor	89 29	24 30	Dakun	99 29	14 52
Cunpoor	85 15	23 42	Dakun	78 15	19 12
Cunpoor	73 57	26 26	Dakun	79 35	10 45
Cunpoor	72 4	16 30	Dakun	69 39	34 32
Cunpoor	73 15	13 39	Dakun	75 5	18 10
Cunpoor	73 15	26 27	Dakun	80 17	17 22
Cunpoor	73 19	28 41	Dakun	88 25	27 0

Places.	Long.	Lat.	Places.	Long.	Lat.
Darlapalem	83 32	17 45	Deeg	77 24	27 30
Darnapeoram	79 24	17 40	Deeghu	76 41	28 46
Darnachou	81 53	28 33	Deekhor	75 19	24 34
Darnoodar	82 8	28 20	Deekwar	74 4	24 34
Darjee	76 45	15 16	Deema Gaut	87 19	25 30
Daroor	76 9	18 52	Deenagur	75 43	27 3
Darowly	78 56	27 39	Deendwana	74 52	27 19
Darra	87 8	24 44	Deepgonia	78 36	15 23
Darzanagur	78 9	22 19	Deepree	77 39	23 9
Darzanpour	87 40	25 43	Deer	71 11	35 4
Darokur	80 19	24 38	Deera Jallah	72 40	21 44
Darwar	75 5	15 29	Deergunge	88 12	25 51
Darydee	86 19	24 10	Deesa	96 30	16 59
Daseopata	84 19	18 20	Deetpoor	72 4	24 9
Dastipilly	78 18	18 50	Deewecote	90 31	24 27
Dassapilly	78 43	18 29	Deewah	71 37	26 50
Dassagong	73 27	14 54	Deewah	73 4	18 8
Dassagong	79 40	18 2	Deewah	75 0	17 36
Dassagong	77 13	14 25	Deewah	78 11	23 34
Dassagong	81 50	14 27	Deewah	86 33	24 2
Dassagong	76 41	26 19	Deewah	78 48	23 8
Dassagong	76 2	29 57	Deewah	86 53	27 11
Dassagong	75 40	23 41	Deewah	79 0	23 37
Dassagong	76 27	15 38	Deewah	72 49	23 13
Dassagong	73 48	24 8	Deewah	73 58	19 33
Dassagong	74 47	25 41	Deewah	74 0	13 4
Dassagong	76 31	23 4	Deewah	73 48	30 56
Dassagong	89 26	23 10	Deewah	80 13	7 40
Dassagong	89 11	25 23	Deewah	84 20	25 1
Dassagong	78 8	20 23	Deewah	73 53	23 10
Dassagong	73 6	25 41	Deewah	86 30	22 36
Dassagong	73 22	29 47	Deewah	87 9	29 48
Dassagong	70 52	29 27	Deewah	86 41	33 13
Dassagong	71 41	31 38	Deewah	86 29	33 31
Dassagong	76 7	22 42	Deewah	86 23	32 35
Dassagong	87 49	22 43	Deewah	86 23	32 35
Dassagong	71 33	25 6	Deewah	86 23	32 35
Dassagong	89 50	23 3	Deewah	86 23	32 35
Dassagong	73 12	21 13	Deewah	86 23	32 35
Dassagong	72 37	22 22	Deewah	86 23	32 35
Dassagong	75 50	27 11	Deewah	86 23	32 35
Dassagong	72 48	27 11	Deewah	86 23	32 35
Dassagong	72 18	24 18	Deewah	86 23	32 35
Dassagong	76 31	24 24	Deewah	86 23	32 35
Dassagong	70 43	24 19	Deewah	86 23	32 35
Dassagong	73 35	21 33	Deewah	86 23	32 35
Dassagong	72 44	25 7	Deewah	86 23	32 35
Dassagong	78 0	23 47	Deewah	86 23	32 35
Dassagong	77 18	24 29	Deewah	86 23	32 35
Dassagong	76 51	13 33	Deewah	86 23	32 35
Dassagong	78 3	12 51	Deewah	86 23	32 35
Dassagong	74 48	14 38	Deewah	86 23	32 35
Dassagong	75 48	16 9	Deewah	86 23	32 35
Dassagong	77 37	15 33	Deewah	86 23	32 35
Dassagong	77 30	15 37	Deewah	86 23	32 35
Dassagong	81 10	25 48	Deewah	86 23	32 35
Dassagong	83 49	23 52	Deewah	86 23	32 35
Dassagong	91 29	24 41	Deewah	86 23	32 35
Dassagong	80 26	20 6	Deewah	86 23	32 35
Dassagong	77 39	21 6	Deewah	86 23	32 35
Dassagong	74 7	21 21	Deewah	86 23	32 35
Dassagong	78 42	21 52	Deewah	86 23	32 35
Dassagong	82 10	17 52	Deewah	86 23	32 35
Dassagong	85 41	22 28	Deewah	86 23	32 35
Dassagong	86 41	22 28	Deewah	86 23	32 35
Dassagong	87 4	22 49	Deewah	86 23	32 35
Dassagong	79 22	25 45	Deewah	86 23	32 35
Dassagong	68 57	31 14	Deewah	86 23	32 35
Dassagong	75 57	31 48	Deewah	86 23	32 35
Dassagong	69 30	25 3	Deewah	86 23	32 35
Dassagong	73 7	23 0	Deewah	86 23	32 35
Dassagong	73 7	23 0	Deewah	86 23	32 35

Places.	Long.	Lat.	Places.	Long.	Lat.
Deorath	85 25	28 28	Dhaba	76 14	18 37
Deorice	80 12	21 3	Dhabah	76 49	21 0
Deorath	80 10	24 19	Dhabary	74 37	39 38
Deorath	78 48	23 10	Dhakhornee	77 54	24 46
Deosur	76 8	28 45	Dhamarkah	70 29	23 11
Deouly	86 19	19 54	Dhamanagar	86 27	20 35
Deoury	84 10	24 55	Dhamapoor	78 30	29 19
Deqah	77 10	23 8	Dhamapattagar	85 38	20 20
Degree	76 27	25 40	Dhan	81 2	25 16
Dera	82 15	26 14	Dhanpur	72 30	28 18
Dera	73 14	34 24	Dhanpuri	85 15	20 56
Dera Fattih Khana	79 50	31 15	Dhanpuri	79 32	19 50
Dera Ghazee Khan	71 0	29 33	Dhar	77 17	31 17
Dera Ismail Khan	71 5	31 32	Dhar	75 22	32 32
Dera Ismail Khan	72 30	31 31	Dhar	73 2	34 39
Dere	71 29	34 56	Dhar	74 4	35 38
Dere	80 20	32 39	Dhar	81 27	33 41
Dere	88 4	26 13	Dhar	79 23	38 48
Dere	81 25	30 53	Dhar	72 2	41 48
Dere	80 24	30 54	Dhar	78 40	32 22
Dere	80 8	27 48	Dhar	73 9	31 12
Dere	77 0	28 51	Dhar	71 39	22 21
Dere	78 23	28 30	Dhar	70 22	21 45
Dere	87 10	22 39	Dhar	85 3	28 6
Dere	82 42	27 53	Dhar	74 42	21 57
Dere	81 17	25 33	Dhar	85 32	29 41
Dere	85 30	24 39	Dhar	81 18	21 32
Dere	68 59	32 18	Dhar	94 0	25 42
Dere	79 18	19 4	Dhar	79 3	25 50
Dere	84 50	25 37	Dhar	74 20	21 22
Dere	82 8	33 25	Dhar	77 45	24 43
Dere	79 34	18 27	Dhar	70 5	26 56
Dere	75 13	20 43	Dhar	74 41	21 51
Dere	81 31	28 17	Dhar	74 42	21 9
Dere	73 4	31 6	Dhar	85 30	28 15
Dere	87 0	23 29	Dhar	75 50	24 11
Dere	73 50	9 29	Dhar	86 51	27 19
Dere	73 54	11 23	Dhar	76 6	30 14
Dere	80 0	27 51	Dhar	75 10	23 46
Dere	79 38	19 18	Dhar	76 5	18 27
Dere	80 30	34 45	Dhar	72 29	22 18
Dere	84 59	24 10	Dhar	85 36	27 35
Dere	89 47	25 12	Dhar	71 38	25 29
Dere	88 30	26 8	Dhar	73 36	21 29
Dere	84 30	24 26	Dhar	75 43	28 54
Dere	76 45	16 27	Dhar	72 37	25 45
Dere	75 9	23 0	Dhar	77 52	26 40
Dere	84 36	27 31	Dhar	72 59	32 55
Dere	71 48	34 4	Dhar	77 56	15 25
Dere	78 54	26 7	Dhar	74 8	32 28
Dere	74 20	35 21	Dhar	75 50	21 30
Dere	73 54	25 29	Dhar	74 31	32 40
Dere	70 22	16 22	Dhar	74 59	21 0
Dere	81 22	19 7	Dhar	79 49	22 43
Dere	80 40	24 55	Dhar	78 44	14 31
Dere	75 32	19 51	Dhar	79 50	29 26
Dere	70 30	22 4	Dhar	74 6	20 33
Dere	70 11	24 11	Dhar	83 30	28 2
Dere	80 32	20 8	Dhar	70 4	25 25
Dere	79 8	23 31	Dhar	79 45	21 41
Dere	76 37	34 0	Dhar	71 39	25 14
Dere	81 49	32 42	Dhar	77 4	19 22
Dere	74 49	31 27	Dhar	78 29	27 32
Dere	77 01	19 37	Dhar	81 15	21 19
Dere	81 43	25 25	Dhar	79 32	28 45
Dere	80 3	7 35	Dhar	82 8	28 50
Dere	75 15	19 47	Dhar	81 25	29 38
Dere	81 28	7 30	Dhar	73 28	34 27
Dere	75 35	22 51	Dhar	85 12	24 18
Dere	75 31	26 13	Dhar	77 1	21 35
Dere	72 39	26 50	Dhar	72 30	23 31
Dere	74 39	18 54	Dhar	72 0	24 33

Places.	Long.	Lat.	Places.	Long.	Lat.
Dhanpuri	79 19	23 18	Dhanpuri	82 0	21 19
Dhanpuri	75 49	18 0	Dhanpuri	80 41	23 26
Dhanpuri	78 42	20 51	Dhanpuri	78 0	22 54
Dhanpuri	78 24	19 59	Dhanpuri	83 17	20 30
Dhanpuri	82 39	27 4	Dhanpuri	89 20	28 15
Dhanpuri	79 0	25 5	Dhanpuri	77 35	13 14
Dhanpuri	82 41	28 21	Dhanpuri	80 12	6 10
Dhanpuri	83 5	28 41	Dhanpuri	77 58	9 58
Dhanpuri	75 28	27 10	Dhanpuri	78 58	13 40
Dhanpuri	73 21	20 38	Dhanpuri	75 49	14 18
Dhanpuri	73 4	19 30	Dhanpuri	74 7	32 1
Dhanpuri	75 16	30 37	Dhanpuri	69 3	35 0
Dhanpuri	75 4	31 28	Dhanpuri	73 55	25 59
Dhanpuri	75 31	31 47	Dhanpuri	88 50	24 15
Dhanpuri	73 47	19 3	Dhanpuri	80 35	20 6
Dhanpuri	80 33	20 5	Dhanpuri	78 5	15 45
Dhanpuri	80 33	21 31	Dhanpuri	80 36	23 12
Dhanpuri	80 0	23 39	Dhanpuri	75 40	25 20
Dhanpuri	81 30	24 59	Dhanpuri	74 12	23 7
Dhanpuri	77 13	25 29	Dhanpuri	78 50	24 52
Dhanpuri	76 27	11 29	Dhanpuri	68 11	26 35
Dhanpuri	86 41	24 10	Dhanpuri	74 59	26 14
Dhanpuri	86 31	21 20	Dhanpuri	77 50	26 4
Dhanpuri	87 28	25 11	Dhanpuri	74 39	23 56
Dhanpuri	80 45	26 20	Dhanpuri	85 3	23 45
Dhanpuri	85 35	26 39	Dhanpuri	80 28	25 30
Dhanpuri	75 50	26 23	Dhanpuri	84 56	23 6
Dhanpuri	77 29	15 44	Dhanpuri	89 23	30 31
Dhanpuri	73 18	15 13	Dhanpuri	73 39	19 36
Dhanpuri	71 43	21 47	Dhanpuri	85 58	27 30
Dhanpuri	88 44	27 29	Dhanpuri	76 20	24 26
Dhanpuri	88 32	23 16	Dhanpuri	94 14	26 50
Dhanpuri	87 42	23 25	Dhanpuri	86 40	23 24
Dhanpuri	75 32	23 35	Dhanpuri	86 38	23 35
Dhanpuri	79 19	25 54	Dhanpuri	78 46	28 43
Dhanpuri	78 40	25 8	Dhanpuri	76 28	16 38
Dhanpuri	81 58	25 17	Dhanpuri	80 42	26 20
Dhanpuri	75 18	20 10	Dhanpuri	83 11	24 10
Dhanpuri	71 12	29 31	Dhanpuri	86 53	22 32
Dhanpuri	80 45	5 59	Dhanpuri	86 58	20 50
Dhanpuri	80 34	7 5	Dhanpuri	85 33	23 44
Dhanpuri	71 42	33 57	Dhanpuri	80 29	26 42
Dhanpuri	76 8	30 0	Dhanpuri	69 0	23 14
Dhanpuri	76 0	21 49	Dhanpuri	69 30	31 50
Dhanpuri	78 37	32 33	Dhanpuri	88 39	25 11
Dhanpuri	77 34	23 33	Dhanpuri	76 35	24 37
Dhanpuri	75 28	24 37	Dhanpuri	72 50	21 9
Dhanpuri	88 17	26 50	Dhanpuri	72 3	29 50
Dhanpuri	85 50	25 30	Dhanpuri	84 48	25 22
Dhanpuri	88 41	25 18	Dhanpuri	75 34	19 13
Dhanpuri	73 55	20 10	Dhanpuri	77 32	17 29
Dhanpuri	81 32	22 24	Dhanpuri	80 22	26 15
Dhanpuri	72 21	31 9	Dhanpuri	85 30	24 25
Dhanpuri	91 20	26 10	Dhanpuri	76 45	20 12
Dhanpuri	91 20	26 8	Dhanpuri	72 22	14 28
Dhanpuri	78 12	27 18	Dhanpuri	73 30	22 9
Dhanpuri	78 28	28 35	Dhanpuri	75 31	23 27
Dhanpuri	78 48	14 13	Dhanpuri	80 37	25 26
Dhanpuri	77 15	15 6	Dhanpuri	78 50	23 48
Dhanpuri	87 3	22 37	Dhanpuri	81 31	26 49
Dhanpuri	88 42	24 32	Dhanpuri	74 12	21 25
Dhanpuri	80 31	29 4	Dhanpuri	80 4	24 43
Dhanpuri	88 30	24 6	Dhanpuri	73 25	33 32
Dhanpuri	81 24	27 38	Dhanpuri	78 36	21 44
Dhanpuri	79 45	15 46	Dhanpuri	76 23	28 30
Dhanpuri	83 5	26 37	Dhanpuri	76 53	13 27
Dhanpuri	71 15	20 45	Dhanpuri	77 30	15 28
Dhanpuri	85 58	22 37	Dhanpuri	78 58	18 0
Dhanpuri	81 0	15 55	Dhanpuri	80 15	15 47
Dhanpuri	78 4	21 13	Dhanpuri	75 24	21 35
Dhanpuri	69 59	24 17	Dhanpuri	74 4	22 50
Dhanpuri	67 38	23 10	Dhanpuri	77 51	29 24

Places.	Long.	Lat.	Places.	Long.	Lat.
Doodhi	75 35	18 14	Durganga	75 21	32 10
Doodhodi	74 43	18 27	Durgar	83 38	19 33
Doodhpatee	72 44	34 55	Durgap	74 8	30 18
Doodha	75 30	34 18	Durgapur	81 23	35 18
Doodkah	71 49	23 30	Durgah	87 13	33 4
Dooda	73 4	28 11	Durganagar	84 23	33 6
Doodra	78 41	21 8		80 14	35 57
Doodware	76 30	21 57	Durgapur	83 23	19 32
Doodwas	76 39	23 1	Durgypoor	83 29	19 34
Doo-murry	77 54	14 41	Durgwar	83 59	34 34
Doo-gampully	78 25	14 55	Durgaroo	77 30	38 53
Doo-garree	75 30	25 40	Durgietpore	71 5	31 50
Doo-gaur	73 10	19 28	Durga	70 36	32 59
Doo-ga	91 7	45 2	Durgam	74 5	33 7
Doo-hanpoor	73 30	38 22	Durgapur	83 3	36 39
Doo-janu	78 41	38 41	Durgarah	80 59	38 0
Dookarah	78 35	37 47	Durgash	83 51	36 22
Dookaberry	78 47	34 42	Durgas	69 35	32 55
Dookamow	81 10	37 35	Durgah	86 50	34 30
Doodya	80 56	34 30	Durgatana	86 25	34 6
Doolhari	79 30	34 1	Durgah	86 53	33 25
Doolonghe	Ular		Durgah	87 20	34 35
Dool	92 50	35 40	Durgah	75 30	31 5
Doolthara	77 39	35 34	Durgah	21 13	32 13
Doolumpoor	86 24	34 37	Durgah	71 57	30 33
Doolwood	74 30	31 30	Durgah	73 10	34 19
Doom	91 34	33 54	Durgah	75 22	35 35
Doomchanna	85 52	34 39	Durgah	80 55	34 3
Doomka	87 18	34 17	Durgah	77 1	32 35
Doompo	80 10	31 0	Durgah	74 30	35 38
Doomra	79 54	35 4	Durgah	71 8	35 18
Doomree	78 55	37 33	Durgah	82 1	31 37
Doomrekere	76 33	35 17	Durgah	82 22	35 37
Dooma Gnee	79 35	39 45	Durgah	84 50	35 30
Doomatra	78 48	36 2	Durgah	81 49	34 53
Doomda	78 11	19 58	Durgah	91 5	34 32
Doomdall	78 39	17 38	Durgah	70 24	31 58
Doomdaskela	80 31	26 14	Durgah	69 29	39 45
Doomdo	80 35	25 0	Durgah	92 25	31 54
Doomdra	75 39	34 30	Durgah	76 57	19 40
Doomdra	76 57	34 34	Durgah	67 55	36 31
Doomdaut	85 51	35 31	Durgah	90 58	33 1
Doomdanghar	79 4	28 48	Durgah	67 27	38 47
Doomra	74 21	25 15	Durgah	78 26	17 4
Doomrana	75 4	29 2	Durgah	73 38	32 9
Doomrakah	70 55	29 11	Durgah	87 40	35 32
Doomrapoor	72 0	31 18	Durgah	86 31	36 40
Doomr	71 34	22 35	Durgah	81 49	34 36
Doomr	70 37	15 35	Durgah	73 6	32 19
Doomr	70 35	14 35	Durgah	73 41	35 36
Doomr	77 16	30 25	Durgah	68 50	36 31
Doomr	77 50	33 7	Durgah	86 37	36 38
Doomr	80 12	13 50	Durgah	84 11	35 39
Doomr	81 50	35 10	Durgah	78 15	35 39
Doomr	80 33	31 30	Durgah	30 38	32 31
Doomr	81 6	31 8	Durgah	83 11	36 0
Doomr	84 28	30 43	Durgah	88 5	35 30
Doomr	92 32	29 33	Durgah	91 37	34 50
Doomr	82 41	31 30	Durgah	87 15	35 37
Doomr	82 35	30 37	Durgah	75 41	35 40
Doomr	78 40	33 14	Durgah	71 32	35 5
Doomr	69 33	31 40	Durgah	71 52	33 43
Doomr	74 39	31 12	Durgah	72 11	33 31
Doomr	76 30	30 4	Durgah	82 16	34 59
Doomr	72 34	28 40	Durgah	84 26	33 40
Doomr	87 22	30 17	Durgah	85 59	37 32
Doomr	76 15	23 38	Durgah	82 52	36 14
Doomr	87 43	32 12	Durgah	79 20	36 6
Doomr	74 0	32 42	Durgah	88 3	32 37
Doomr	77 51	27 18	Durgah	70 53	30 32
Doomr	79 11	25 54	Durgah	68 58	34 48
Doomr	76 55	34 5	Durgah	76 44	34 49
Doomr	85 40	36 29	Durgah	73 12	16 14
Doomr			Durgah	87 3	29 15

Places.	Long.	Lat.	Places.	Long.	Lat.
Dool	76 45	17 40	Dunnore	85 40	26 12
Dool	81 34	37 38	Dunshaleh	75 10	23 0
Dool	75 31	31 16	Dunsolee	73 28	21 32
Dool	80 11	28 16	Dunstrope	75 6	25 43
Dool	89 33	28 53	Dunwa	87 9	24 30
Dool	91 49	34 6	Dunyanara	87 33	24 34
Dool	81 9	28 40	Dunyanara	79 27	28 51
Dool	90 37	29 33	Dunyanara	73 44	32 42
Dool	81 30	25 44	Dunyanara	71 57	28 49
Dool	89 3	29 18	Dunyanara	68 23	32 40
Dool	91 8	29 10	Dunyanara	87 18	34 10
Dool	88 8	31 10	Dunyanara	89 35	37 33
Dool	92 4	26 0	Dunyanara	73 14	34 28
Dool	75 45	31 20	Dunyanara	70 54	30 47
Dool	75 3	31 55	Dunyanara	90 49	35 10
Dool	75 41	31 6	Dunyanara	75 2	18 34
Dool	81 47	37 46	Dunyanara	80 50	25 0
Dool	85 32	25 40	Dunyanara	89 27	34 15
Dool	76 32	28 41	Dunyanara	89 35	34 50
Dool	86 01	28 19	Dunyanara	75 50	22 12
Dool	86 13	22 12	Dunyanara	87 19	25 0
Dool	87 38	21 50	Dunyanara	84 34	20 0
Dool	86 9	25 29	Dunyanara	87 52	29 58
Dool	83 29	25 2	Dunyanara	87 45	25 49
Dool	88 21	23 38	Dunyanara	78 33	28 37
Dool	89 20	25 40	Dunyanara	81 9	28 9
Dool	88 33	25 23	Dunyanara	77 49	14 25
Dool	87 38	25 54	Dunyanara	82 10	22 10
Dool	88 37	27 11	Dunyanara	88 57	25 19
Dool	85 38	27 28	Dunyanara	84 9	25 5
Dool	85 54	27 11	Dunyanara	85 0	20 40
Dool	81 45	21 40	Dunyanara	69 39	27 38
Dool	76 58	15 21	Dunyanara	68 41	35 18
Dool	80 3	24 5	Dunyanara	71 43	32 54
Dool	85 33	24 58	Dunyanara	77 21	30 58
Dool	75 50	15 19	Dunyanara	76 20	29 56
Dool	84 39	24 30	Dunyanara	72 32	34 5
Dool	85 22	24 51	Dunyanara	74 0	34 37
Dool	75 41	32 29	Dunyanara	76 15	34 18
Dool	85 16	24 30	Dunyanara	71 21	21 58
Dool	85 22	26 19	Dunyanara	80 55	25 28
Dool	85 45	26 11	Dunyanara	70 50	21 57
Dool	88 40	25 30	Dunyanara	71 18	31 53
Dool	86 30	24 45	Dunyanara	70 8	30 19
Dool	85 6	25 45	Dunyanara	75 0	21 18
Dool	90 13	23 54	Dunyanara	78 50	27 56
Dool	84 8	25 32	Dunyanara	80 38	24 5
Dool	87 13	26 21	Dunyanara	81 57	21 27
Dool	84 23	24 10	Dunyanara	78 25	25 40
Dool	76 27	15 9	Dunyanara	75 52	28 39
Dool	90 25	23 26	Dunyanara	84 45	25 51
Dool	77 34	38 25	Dunyanara	88 48	26 43
Dool	73 4	18 18	Dunyanara	88 2	35 47
Dool	76 55	13 16	Dunyanara	89 0	33 23
Dool	76 31	39 6	Dunyanara	79 46	16 40
Dool	73 50	32 55	Dunyanara	76 29	20 51
Dool	81 56	26 17	Dunyanara	74 35	20 21
Dool	73 10	22 24	Dunyanara	77 9	20 51
Dool	75 15	23 12	Dunyanara	85 3	25 38
Dool	86 13	35 17	Dunyanara	87 36	24 9
Dool	82 38	32 38	Dunyanara	70 58	18 44
Dool	75 54	33 15	Dunyanara	74 30	20 52
Dool	79 22	31 32	Dunyanara	74 31	21 10
Dool	78 8	15 49	Dunyanara	92 13	21 35
Dool	84 59	13 37	Dunyanara	76 10	18 20
Dool	84 12	15 13	Dunyanara	85 38	23 9
Dool	80 18	10 15	Dunyanara	76 34	11 43
Dool	84 52	16 58	Dunyanara	76 37	13 15
Dool	81 30	15 15	Dunyanara	74 17	20 5
Dool	86 28	28 13	Dunyanara	84 3	25 59
Dool	79 42	15 14	Dunyanara	80 47	34 29
Dool	74 11	14 27	Dunyanara	76 4	17 35
Dool	89 39	14 40	Dunyanara	90 5	24 57

Places.	Long.	Lat.	Places.	Long.	Lat.
Betacola	89 11	25 3	Betacola	89 11	25 3
Betacola	89 29	25 0	Betacola	89 29	25 0
Betacola	78 1	23 50	Betacola	78 1	23 50
Betacola	78 53	17 14	Betacola	78 53	17 14
Betacola	79 41	10 25	Betacola	79 41	10 25
Betacola	75 8	14 8	Betacola	75 8	14 8
Betacola	91 37	22 54	Betacola	91 37	22 54
Betacola	81 43	24 47	Betacola	81 43	24 47
Betacola	78 29	21 25	Betacola	78 29	21 25
Betacola	78 0	23 48	Betacola	78 0	23 48
Betacola	77 55	24 50	Betacola	77 55	24 50
Betacola	76 25	24 30	Betacola	76 25	24 30
Betacola	91 19	24 30	Betacola	91 19	24 30
Betacola	75 2	28 32	Betacola	75 2	28 32
Betacola	77 11	16 45	Betacola	77 11	16 45
Betacola	70 6	18 31	Betacola	70 6	18 31
Betacola	101 3	15 28	Betacola	101 3	15 28
Betacola	77 42	17 45	Betacola	77 42	17 45
Betacola	81 8	25 38	Betacola	81 8	25 38
Betacola	78 4	26 44	Betacola	78 4	26 44
Betacola	78 53	21 51	Betacola	78 53	21 51
Betacola	80 27	24 49	Betacola	80 27	24 49
Betacola	79 49	25 37	Betacola	79 49	25 37
Betacola	84 37	27 32	Betacola	84 37	27 32
Betacola	78 11	22 0	Betacola	78 11	22 0
Betacola	78 57	25 53	Betacola	78 57	25 53
Betacola	87 16	25 38	Betacola	87 16	25 38
Betacola	86 9	24 55	Betacola	86 9	24 55
Betacola	84 21	11 34	Betacola	84 21	11 34
Betacola	83 59	24 7	Betacola	83 59	24 7
Betacola	79 24	11 10	Betacola	79 24	11 10
Betacola	83 59	24 18	Betacola	83 59	24 18
Betacola	77 24	21 14	Betacola	77 24	21 14
Betacola	81 9	16 31	Betacola	81 9	16 31
Betacola	75 10	20 2	Betacola	75 10	20 2
Betacola	81 27	27 31	Betacola	81 27	27 31
Betacola	75 56	11 23	Betacola	75 56	11 23
Betacola	81 4	26 31	Betacola	81 4	26 31
Betacola	94 51	19 39	Betacola	94 51	19 39
Betacola	77 55	26 32	Betacola	77 55	26 32
Betacola	77 53	29 56	Betacola	77 53	29 56
Betacola	74 12	22 9	Betacola	74 12	22 9
Betacola	80 42	25 38	Betacola	80 42	25 38
Betacola	80 21	18 30	Betacola	80 21	18 30
Betacola	88 14	24 59	Betacola	88 14	24 59
Betacola	68 52	25 01	Betacola	68 52	25 01
Betacola	77 57	11 34	Betacola	77 57	11 34
Betacola	72 25	21 42	Betacola	72 25	21 42
Betacola	68 30	28 51	Betacola	68 30	28 51
Betacola	79 4	12 25	Betacola	79 4	12 25
Betacola	78 51	27 39	Betacola	78 51	27 39
Betacola	77 48	11 16	Betacola	77 48	11 16
Betacola	75 56	12 30	Betacola	75 56	12 30
Betacola	88 12	20 40	Betacola	88 12	20 40
Betacola	75 59	24 2	Betacola	75 59	24 2
Betacola	79 23	24 31	Betacola	79 23	24 31
Betacola	74 12	21 15	Betacola	74 12	21 15
Betacola	79 39	26 17	Betacola	79 39	26 17
Betacola	72 49	22 16	Betacola	72 49	22 16
Betacola	73 25	15 43	Betacola	73 25	15 43
Betacola	78 41	27 34	Betacola	78 41	27 34
Betacola	78 59	27 34	Betacola	78 59	27 34
Betacola	85 46	21 3	Betacola	85 46	21 3
Betacola	78 51	23 33	Betacola	78 51	23 33
Betacola	80 51	24 4	Betacola	80 51	24 4
Betacola	85 7	24 10	Betacola	85 7	24 10
Betacola	78 6	23 30	Betacola	78 6	23 30
Betacola	78 10	24 12	Betacola	78 10	24 12
Betacola	79 57	24 14	Betacola	79 57	24 14
Betacola	80 24	18 42	Betacola	80 24	18 42
Betacola	79 39	19 16	Betacola	79 39	19 16
Betacola	80 46	7 38	Betacola	80 46	7 38

Places.	Long.	Lat.	Places.	Long.	Lat.
Falten	74 33	18 3	Falten	74 33	18 3
Falten	84 15	25 22	Falten	84 15	25 22
Falten	86 25	25 18	Falten	86 25	25 18
Falten	76 3	29 37	Falten	76 3	29 37
Falten	83 19	26 53	Falten	83 19	26 53
Falten	77 25	28 25	Falten	77 25	28 25
Falten	72 25	30 37	Falten	72 25	30 37
Falten	74 49	30 40	Falten	74 49	30 40
Falten	74 42	30 2	Falten	74 42	30 2
Falten	79 38	28 13	Falten	79 38	28 13
Falten	73 2	33 10	Falten	73 2	33 10
Falten	89 55	23 33	Falten	89 55	23 33
Falten	87 55	24 50	Falten	87 55	24 50
Falten	80 15	21 39	Falten	80 15	21 39
Falten	84 59	27 4	Falten	84 59	27 4
Falten	78 28	27 57	Falten	78 28	27 57
Falten	76 54	28 23	Falten	76 54	28 23
Falten	73 49	33 34	Falten	73 49	33 34
Falten	73 8	31 23	Falten	73 8	31 23
Falten	70 30	24 5	Falten	70 30	24 5
Falten	74 19	29 31	Falten	74 19	29 31
Falten	73 15	29 20	Falten	73 15	29 20
Falten	73 11	30 51	Falten	73 11	30 51
Falten	86 45	24 35	Falten	86 45	24 35
Falten	75 25	29 30	Falten	75 25	29 30
Falten	76 58	24 47	Falten	76 58	24 47
Falten	75 46	23 1	Falten	75 46	23 1
Falten	79 30	27 25	Falten	79 30	27 25
Falten	80 44	25 57	Falten	80 44	25 57
Falten	79 59	26 07	Falten	79 59	26 07
Falten	77 45	27 6	Falten	77 45	27 6
Falten	75 11	27 50	Falten	75 11	27 50
Falten	73 11	30 18	Falten	73 11	30 18
Falten	76 48	27 56	Falten	76 48	27 56
Falten	76 6	20 53	Falten	76 6	20 53
Falten	85 28	26 42	Falten	85 28	26 42
Falten	84 58	26 3	Falten	84 58	26 3
Falten	90 25	23 39	Falten	90 25	23 39
Falten	76 52	22 28	Falten	76 52	22 28
Falten	78 25	22 39	Falten	78 25	22 39
Falten	85 18	25 30	Falten	85 18	25 30
Falten	85 4	25 35	Falten	85 4	25 35
Falten	85 22	25 30	Falten	85 22	25 30
Falten	82 3	25 48	Falten	82 3	25 48
Falten	87 3	25 19	Falten	87 3	25 19
Falten	74 25	14 34	Falten	74 25	14 34
Falten	88 28	26 40	Falten	88 28	26 40
Falten	74 30	25 17	Falten	74 30	25 17
Falten	77 53	15 14	Falten	77 53	15 14
Falten	87 8	22 5	Falten	87 8	22 5
Falten	76 37	24 24	Falten	76 37	24 24
Falten	77 21	27 14	Falten	77 21	27 14
Falten	83 34	28 25	Falten	83 34	28 25
Falten	77 4	11 24	Falten	77 4	11 24
Falten	71 4	34 37	Falten	71 4	34 37
Falten	76 15	24 38	Falten	76 15	24 38
Falten	77 22	11 45	Falten	77 22	11 45
Falten	67 55	34 47	Falten	67 55	34 47
Falten	85 41	28 47	Falten	85 41	28 47
Falten	84 13	27 39	Falten	84 13	27 39
Falten	77 50	8 54	Falten	77 50	8 54
Falten	74 22	21 29	Falten	74 22	21 29
Falten	77 17	11 47	Falten	77 17	11 47
Falten	74 44	14 14	Falten	74 44	14 14
Falten	78 0	28 12	Falten	78 0	28 12
Falten	83 20	27 47	Falten	83 20	27 47
Falten	80 34	27 47	Falten	80 34	27 47
Falten	79 30	21 48	Falten	79 30	21 48
Falten	81 30	6 30	Falten	81 30	6 30
Falten	83 8	28 19	Falten	83 8	28 19
Falten	75 12	19 53	Falten	75 12	19 53
Falten	80 18	5 20	Falten	80 18	5 20
Falten	89 0	24 38	Falten	89 0	24 38

Places.	Long.	Lat.	Places.	Long.	Lat.
Ghazee	72 31	24 2	Gedria	73 50	22 30
Ghazipoor	83 33	25 35	Gedulpur	78 27	24 3
Gheekur	75 12	23 27	Gegary	83 29	25 25
Ghendy	83 27	23 25	Geghara	75 58	21 53
Gherady	73 24	17 17	Geghri	72 38	21 42
Gherah	73 24	16 31	Geghura	91 11	21 33
Gherce	81 25	21 44	Gegnow	81 32	25 19
Gherowd	74 55	21 40	Gegolanga	88 22	21 51
Gherree	71 2	23 28	Gegong	87 40	23 13
Ghiddore	85 13	24 53	Gegoolpully	79 24	15 15
Ghigla	76 36	23 8	Gegoolunda	73 34	24 42
Ghirdah	90 5	25 1	Gegol	76 52	24 35
Ghirgaon	89 19	30 2	Gegol	80 53	20 16
Ghiring	83 53	27 44	Gegol	76 42	20 9
Ghizneekhal	70 54	23 28	Gegol	79 31	25 42
Gined	71 19	22 30	Gegol	83 23	25 9
Ghol	75 21	30 33	Gegol	90 30	23 38
Ghoondam	68 5	32 7	Gegol	79 7	24 31
Ghoondoo Woonce	66 49	30 52	Gegol	78 21	22 27
Ghoorband	68 31	34 41	Gegol	74 58	16 17
Ghoosalee	77 6	27 39	Gegol	88 10	24 3
Ghorah	80 5	25 11	Gegol	85 43	23 33
Ghose	82 6	27 13	Gegol	89 48	24 31
Ghousar	71 27	29 34	Gegol	91 59	24 51
Ghuasipoor	84 25	25 52	Gegol	79 46	13 55
Ghuekree	71 0	32 21	Gegol	85 48	25 43
Ghunakary	77 14	16 48	Gegol	85 35	20 43
Ghunacora	73 25	25 16	Gegol	82 31	17 58
Ghunapoor	78 5	15 34	Gegol	79 9	17 40
Ghar	78 28	17 4	Gegol	85 5	20 7
Gharajah	74 3	26 38	Gegol	78 28	17 22
Gharahpur	71 5	25 8	Gegol	80 59	15 42
Gharung (Fort)	94 43	16 57	Gegol	77 6	25 46
Gharebeen	72 41	23 59	Gegol	88 20	24 45
Ghutch	65 54	28 27	Gegol	75 59	25 35
Ghurnee	66 55	23 10	Gegol	88 32	25 48
Ghybee	68 3	27 1	Gegol	80 48	7 11
Ghyhutta	89 34	24 19	Gegol	87 2	24 10
Ghyrbad	73 53	24 11	Gegol	81 14	7 13
Giddapoor	78 30	15 22	Gegol	84 52	18 59
Gierga	85 21	22 30	Gegol	75 58	25 15
Gierg	85 5	24 47	Gegol	77 6	14 58
Gildong	79 51	20 40	Gegol	78 53	16 34
Gillemlle	80 36	6 44	Gegol	80 54	7 54
Gingeah	89 2	22 23	Gegol	75 30	22 57
Gingee	79 28	13 17	Gegol	77 23	24 32
Girdexan Gaut	73 42	20 20	Gegol	76 43	24 0
Girhar	79 12	20 42	Gegol	80 22	17 33
Girionle	80 10	7 0	Gegol	87 25	25 33
Giroul	78 48	27 12	Gegol	82 55	25 8
Gittany	88 45	24 15	Gegol	77 40	15 45
Gittankim	96 46	19 33	Gegol	78 42	11 29
Gittangpur	95 32	21 22	Gegol	74 40	21 30
Gittangra	95 58	29 31	Gegol	83 40	27 41
Gittangue	97 12	20 33	Gegol	80 58	17 15
Gita	72 55	15 30	Gegol	77 1	29 8
Gitaker	73 19	21 23	Gegol	85 13	25 0
Gitalam	88 57	23 27	Gegol	75 43	13 7
Gitalak	74 2	16 43	Gegol	74 38	22 0
Gitalara	90 40	25 9	Gegol	77 0	13 20
Gitar	77 11	15 30	Gegol	82 18	14 0
Gitarh Hussakeet	74 31	20 42	Gegol	75 8	16 4
Gitar	89 24	23 10	Gegol	69 23	22 46
Giteudil	75 16	18 23	Gegol	78 50	22 17
Giteoor	77 13	16 19	Gegol	68 50	25 20
Gobria	77 44	23 14	Gegol	76 40	11 50
Godagary	88 24	24 20	Gegol	76 10	15 13
Godar	86 51	21 20	Gegol	73 33	14 23
Godayellagalla Droog	78 30	14 7	Gegol	81 10	20 10
Godhal	75 27	16 23	Gegol	84 20	18 42
Godra	75 23	21 45	Gegol	77 10	13 30
Gogol	73 41	22 48	Gegol	81 4	16 28
Gogol	74 8	22 30	Gegol	74 8	22 30

Places.	Long.	Lat.	Places.	Long.	Lat.
Gogra	83 49	26 57	Goorsbya	87 31	23 40
Gograh	70 30	23 53	Gooramonda	78 12	13 45
Gogur Bandy	71 5	21 40	Gooral	70 32	31 33
Gogurong	77 10	23 53	Gooral	81 31	23 49
Gogurkeire	76 5	23 53	Gooral	79 41	18 35
Gogurur Gur	79 8	22 57	Gooral	79 41	14 30
Gogurur Gajkhat	74 7	22 57	Gooral	79 41	14 30
Golana	76 22	23 27	Gooral	79 41	14 30
Golapollam	78 53	13 36	Gooral	79 41	14 30
Golbye	83 33	19 53	Gooral	79 41	14 30
Golcherree	83 33	19 53	Gooral	79 41	14 30
Goldekoala	83 43	20 27	Gooral	79 41	14 30
Goldeerug	77 8	13 24	Gooral	79 41	14 30
Goldeum	87 30	23 29	Gooral	79 41	14 30
Goldeug	77 23	14 28	Gooral	79 41	14 30
Goldeum	77 6	23 49	Gooral	79 41	14 30
Goldeum	66 28	29 50	Gooral	79 41	14 30
Goldeum Carez	77 31	23 37	Gooral	79 41	14 30
Goldeum	69 17	31 33	Gooral	79 41	14 30
Goldeum	83 30	24 25	Gooral	79 41	14 30
Goldeum	83 44	18 45	Gooral	79 41	14 30
Goldeum	77 20	15 10	Gooral	79 41	14 30
Goldeum	79 11	25 6	Gooral	79 41	14 30
Goldeum	78 45	19 47	Gooral	79 41	14 30
Goldeum	79 18	21 42	Gooral	79 41	14 30
Goldeum	77 20	16 55	Gooral	79 41	14 30
Goldeum	81 54	20 7	Gooral	79 41	14 30
Goldeum	84 36	19 37	Gooral	79 41	14 30
Goldeum	77 29	24 40	Gooral	79 41	14 30
Goldeum	81 51	27 8	Gooral	79 41	14 30
Goldeum	73 59	29 7	Gooral	79 41	14 30
Goldeum	74 50	28 51	Gooral	79 41	14 30
Goldeum	81 15	25 47	Gooral	79 41	14 30
Goldeum	76 17	20 54	Gooral	79 41	14 30
Goldeum	71 53	24 59	Gooral	79 41	14 30
Goldeum	66 41	20 55	Gooral	79 41	14 30
Goldeum	73 13	25 36	Gooral	79 41	14 30
Goldeum	76 45	11 49	Gooral	79 41	14 30
Goldeum	78 54	13 49	Gooral	79 41	14 30
Goldeum	77 43	20 35	Gooral	79 41	14 30
Goldeum	77 14	29 45	Gooral	79 41	14 30
Goldeum	76 31	19 34	Gooral	79 41	14 30
Goldeum	75 23	30 43	Gooral	79 41	14 30
Goldeum	73 29	28 25	Gooral	79 41	14 30
Goldeum	72 24	17 32	Gooral	79 41	14 30
Goldeum	76 9	19 18	Gooral	79 41	14 30
Goldeum	73 45	22 49	Gooral	79 41	14 30
Goldeum	73 36	21 25	Gooral	79 41	14 30
Goldeum	71 40	22 50	Gooral	79 41	14 30
Goldeum	81 15	27 51	Gooral	79 41	14 30
Goldeum	75 41	28 31	Gooral	79 41	14 30
Goldeum	81 31	27 27	Gooral	79 41	14 30
Goldeum	79 1	25 4	Gooral	79 41	14 30
Goldeum	78 2	20 0	Gooral	79 41	14 30
Goldeum	80 27	21 24	Gooral	79 41	14 30
Goldeum	75 30	21 37	Gooral	79 41	14 30
Goldeum	70 45	28 25	Gooral	79 41	14 30
Goldeum	68 50	28 35	Gooral	79 41	14 30
Goldeum	76 5	12 10	Gooral	79 41	14 30
Goldeum	75 15	21 20	Gooral	79 41	14 30
Goldeum	81 32	24 17	Gooral	79 41	14 30
Goldeum	75 30	29 36	Gooral	79 41	14 30
Goldeum	79 0	12 57	Gooral	79 41	14 30
Goldeum	76 10	14 36	Gooral	79 41	14 30
Goldeum	66 44	27 39	Gooral	79 41	14 30
Goldeum	83 43	24 8	Gooral	79 41	14 30
Goldeum	77 27	19 33	Gooral	79 41	14 30
Goldeum	70 43	28 24	Gooral	79 41	14 30
Goldeum	74 59	12 57	Gooral	79 41	14 30
Goldeum	81 45	21 48	Gooral	79 41	14 30
Goldeum	79 10	25 38	Gooral	79 41	14 30

Places.	Long.	Lat.	Places.	Long.	Lat.
Goturkav	71 34	23 36	Gunder	72 51	21 57
Goturkavully	72 15	14 12	Gundachottah	72 7	10 35
Gour (Ruins)	88 11	24 55	Gundava	73 0	17 29
Gurdee	86 34	25 1	Gundawa	73 4	20 50
Gurhakoea	81 30	22 1	Gundawer	74 21	18 58
Gurramoodrum	76 48	18 34	Gundawetty	82 35	23 15
Gurupora	81 39	26 5	Gundawilly	76 21	13 9
Gurur	79 17	27 36	Gundawurum	85 32	18 56
Gururamperry	74 45	24 11	Gundawulla	77 51	18 57
Gururand	82 3	22 38	Gundawur	79 53	24 25
Gururid	79 43	22 34	Gundawur	79 57	14 10
Gururipoor	87 3	21 50	Gundawur	89 51	21 11
	87 43	21 21	Gundawur	87 12	20 46
	86 12	21 4	Gundawur	78 22	14 40
	85 2	21 14	Gundawur	78 33	28 5
	83 27	20 16	Gundawur	81 5	20 55
Gururipoor	79 49	27 32	Gundawur	81 0	23 17
Gururipoor	82 50	24 37	Gundawur	78 54	14 29
Gurur	84 28	24 45	Gundawur	77 15	12 17
Gurur	84 38	25 21	Gundawur	77 37	14 6
Gurur	72 51	27 17	Gundawur	78 31	27 50
Gurur	74 61	24 37	Gundawur	77 11	29 19
Gurur	80 21	24 18	Gundawur	77 53	13 23
Gurur	80 9	23 18	Gundawur	73 12	26 20
Gurur	71 8	21 38	Gundawur	80 10	25 50
Gurur	78 47	25 6	Gundawur	76 0	22 18
Gurur	80 30	27 36	Gundawur	75 32	22 58
Gurur	80 32	22 31	Gundawur	80 55	24 21
Gurur	75 47	22 44	Gundawur	78 50	20 21
Gurur	72 25	27 31	Gurur	76 29	19 21
Gurur	86 24	23 49	Gurur	86 17	20 45
Gurur	70 17	19 56	Gurur	85 14	20 31
Gurur	70 20	31 2	Gurur	84 4	23 48
Gurur	70 49	26 50	Gurur	80 14	23 45
Gurur	70 5	14 11	Gurur	80 28	29 1
Gurur	72 8	23 10	Gurur	85 1	20 30
Gurur	82 39	20 0	Gurur	76 29	12 51
Gurur	87 35	24 32	Gurur	79 3	13 38
Gurur	79 25	15 50	Gurur	79 22	28 47
Gurur	71 4	25 28	Gurur	76 0	19 33
Gurur	71 52	21 35	Gurur	85 50	24 40
Gurur	71 8	24 12	Gurur	80 8	26 41
Gurur	76 49	25 12	Gurur	80 32	17 21
Gurur	83 47	23 32	Gurur	78 5	30 50
Gurur	84 38	25 46	Gurur	82 45	19 19
Gurur	76 4	15 47	Gurur	79 13	16 10
Gurur	74 24	37 8	Gurur	80 30	39 41
Gurur	84 39	25 12	Gurur	82 3	37 42
Gurur	77 39	29 57	Gurur	76 32	34 15
Gurur	79 11	34 4	Gurur	89 41	34 19
Gurur	80 35	23 15	Gurur	76 18	11 29
Gurur	84 51	22 14	Gurur	80 8	23 7
Gurur	80 11	25 30	Gurur	85 30	24 0
Gurur	74 30	24 1	Gurur	87 29	51 39
Gurur	73 41	31 4	Gurur	87 25	32 11
Gurur	75 31	16 25	Gurur	73 49	34 7
Gurur	74 13	25 1	Gurur	87 20	31 32
Gurur	78 24	16 16	Gurur	87 53	45 47
Gurur	80 38	25 31	Gurur	86 32	35 41
Gurur	83 0	25 15	Gurur	78 12	25 29
Gurur	68 0	21 14	Gurur	77 18	25 38
Gurur	84 41	25 2	Gurur	71 5	28 0
Gurur	76 22	25 2	Gurur	80 19	25 50
Gurur	74 44	16 12	Gurur	79 52	26 6
Gurur	89 19	25 14	Gurur	78 10	28 28
Gurur	73 18	21 4	Gurur	68 43	25 15
Gurur	82 0	21 22	Gurur	80 19	22 54
Gurur	78 9	16 08	Gurur	85 15	21 19
Gurur	82 30	19 41	Gurur	79 27	23 4
Gurur	71 31	24 17	Gurur	73 17	24 6
Gurur	74 43	26 10			
Gurur	70 14	24 3			

Places.	Long.	Lat.	Places.	Long.	Lat.
Gurur	91 20	22 52	Hanumunda	79 37	17 59
Gurur	77 23	23 50	Hanulakara	75 58	13 8
Gurur	77 12	34 37	Hanulakara	82 10	25 20
Gurur	71 35	25 14	Hanulakara	80 51	6 51
Gurur	84 22	25 31	Hanulakara	89 7	1 59
Gurur	79 12	24 45	Hanulakara	87 35	33 43
Gurur	69 45	23 10	Hanulakara	75 67	29 6
Gurur	73 28	21 14	Hanulakara	73 0	31 49
Gurur	74 2	23 31	Hanulakara	84 57	19 34
Gurur	85 44	20 2	Hanulakara	75 51	24 45
Gurur	86 23	21 31	Hanulakara	86 45	26 27
Gurur	69 45	27 37	Hanulakara	78 43	14 7
Gurur	82 57	34 7	Hanulakara	77 17	17 14
Gurur	73 49	31 54	Hanulakara	84 42	27 28
Gurur	77 42	36 38	Hanulakara	81 3	26 34
Gurur	75 43	34 21	Hanulakara	80 19	26 10
Gurur	75 43	45 29	Hanulakara	80 36	26 10
Gurur	76 9	26 1	Hanulakara	83 17	34 30
Gurur	90 57	26 6	Hanulakara	87 29	20 20
Gurur	91 3	23 57	Hanulakara	85 19	27 19
Gurur	91 21	24 50	Hanulakara	77 17	18 18
Gurur	84 4	26 9	Hanulakara	76 17	13 16
Gurur	69 29	22 10	Hanulakara	84 58	26 16
Gurur	76 43	14 20	Hanulakara	74 49	18 18
Gurur	77 38	16 9	Hanulakara	73 25	32 30
Gurur	76 23	13 40	Hanulakara	84 19	25 5
Gurur	75 54	23 25	Hanulakara	86 41	21 52
Gurur	75 50	24 38	Hanulakara	88 55	24 1
Gurur	89 21	25 30	Hanulakara	76 22	12 41
Gurur	91 48	26 9	Hanulakara	77 31	12 41
Gurur	67 37	30 19	Hanulakara	82 28	26 48
Gurur	76 4	26 17	Hanulakara	80 30	26 48
Gurur	88 23	23 35	Hanulakara	75 29	13 1
Gurur	89 0	34 46	Hanulakara	81 23	37 56
Gurur	68 44	32 16	Hanulakara	91 50	29 37
Gurur	72 6	24 59	Hanulakara	80 4	29 26
Gurur	83 48	22 40	Hanulakara	88 33	24 34
Gurur	77 58	33 31	Hanulakara	91 54	22 45
Gurur	79 31	31 34	Hanulakara	80 48	24 46
Gurur	89 35	36 50	Hanulakara	81 40	16 44
Gurur	79 48	19 15	Hanulakara	86 49	27 58
Gurur	73 34	24 36	Hanulakara	78 29	31 30
Gurur	102 17	30 56	Hanulakara	78 9	37 37
Gurur	89 23	35 23	Hanulakara	80 16	31 44
Gurur	80 28	33 54	Hanulakara	85 28	33 9
Gurur	76 0	14 22	Hanulakara	85 28	36 41
Gurur	76 8	33 22	Hanulakara	92 5	32 0
Gurur	86 0	25 30	Hanulakara	75 47	22 48
Gurur	76 50	13 31	Hanulakara	75 53	13 45
Gurur	86 50	32 40	Hanulakara	75 20	43 45
Gurur	86 52	24 58	Hanulakara	77 15	13 20
Gurur	81 13	27 47	Hanulakara	73 21	13 20
Gurur	70 42	28 41	Hanulakara	77 3	21 56
Gurur	75 0	25 7	Hanulakara	74 15	28 44
Gurur	85 17	25 41	Hanulakara	77 50	28 44
Gurur	81 42	28 25	Hanulakara	75 42	22 30
Gurur	80 59	33 35	Hanulakara	89 55	35 31
Gurur	80 55	33 17	Hanulakara	81 9	23 54
Hakur	80 0	33 28	Hanulakara	88 59	25 9
Hakur	86 14	32 40	Hanulakara	71 24	23 30
Hakur	88 13	25 21	Hanulakara	90 30	26 0
Hakur	80 54	6 57	Hanulakara	75 48	34 40
Hakur	74 20	14 30	Hanulakara	79 15	27 40
Hakur	81 42	20 32	Hanulakara	80 25	34 0
Hakur	76 3	13 14	Hanulakara	91 3	32 56
Hakur	69 2	20 38	Hanulakara	88 50	34 14
Hakur	77 0	18 25	Hanulakara	92 8	22 30
Hakur	77 32	12 17	Hanulakara	89 58	24 52
Hakur	77 11	15 53	Hanulakara	75 43	14 22
Hakur	69 4	6 52	Hanulakara	75 7	15 0
Hakur	76 38	16 38	Hanulakara	77 6	13 10
Hakur	81 32	7 0	Hanulakara	75 3	13 28
Hakur	84 42	28 24	Hanulakara	77 57	13 13
Hakur	82 32	45 23			

Places.	Long.	Lat.	Places.	Long.	Lat.
Koodra	76 30	26 10	Kooroo	82 7	22 37
Koodrager	79 7	26 10	Koorothanee	77 55	19 57
Koodroowooti	76 16	15 38	Koorovallapoor	79 33	11 14
Koodthaua	78 6	8 31	Koorpora	86 30	21 6
Koodugu	76 16	17 16	Kootsee	80 52	27 6
Koodu	76 7	17 34	Kootta	80 41	27 19
Koogga	72 20	33 17	Kootta	86 40	24 6
Koogja	74 2	32 25	Koortalay	78 39	10 58
Koogya	85 30	23 47	Koortukier	77 18	20 43
Koogurwala	74 11	32 7	Koortecooma	77 44	9 13
Koogur Gorney	78 30	9 43	Koortva	86 20	20 23
Koohchung	78 11	33 15	Koortwe	78 4	24 13
Koohazee	84 51	27 9	Koortye	78 24	24 8
Koohmar	75 15	24 29	Koosul	75 30	15 24
Koohnee	74 54	22 17	Koosh	73 13	32 41
Koohsutra	70 27	21 5	Kooshab	73 38	32 2
Koohygo	89 38	33 18	Kooshan	68 50	22 31
Koohar Dooler	92 32	26 39	Kooshier	72 5	33 40
Koohlee	75 43	22 55	Kooshelgur	60 42	16 12
Koohgurah	82 31	19 59	Kooshpary	60 12	38 13
Kooh---	89 0	20 0	Kooteva	79 43	34 4
Koohlah	77 39	24 39	Koother	77 39	33 44
Koohlah	74 46	27 13	Kootoor	79 18	18 38
Koohloketra	84 23	22 41	Kooty	84 29	24 22
Koohlynga	85 8	22 18	Koowalaw	80 10	17 30
Koohmair	74 59	26 1	Kowa	81 21	27 50
Koohmano	76 31	30 49	Kopane	78 39	22 42
Koohmarree	81 47	22 31	Koppash	48 48	24 22
Koohmalmeer	83 19	27 13	Koppash	81 49	16 31
Koohmar	73 31	25 9	Koppes	71 48	24 34
Koohmar	71 2	24 21	Kora	79 12	20 28
Koohma	83 47	23 17	Korabur	78 51	25 36
Koohma	84 37	24 11	Korah	74 3	24 28
Koohma	76 32	24 9	Korah	80 16	26 6
Koohma	89 10	24 59	Korah	79 44	31 9
Koohma	75 18	18 18	Korah	80 4	24 53
Koohma	75 30	15 17	Korah	82 49	23 57
Koohma	71 34	21 21	Korah	75 41	11 30
Koohma	82 9	16 46	Korah	84 43	23 18
Koohma	77 8	29 41	Korah	79 39	25 58
Koohma	71 42	41 51	Korah	101 49	14 39
Koohma	81 24	24 58	Korah	70 38	21 4
Koohma	79 6	26 6	Korah	76 8	22 30
Koohma	71 30	22 16	Korah	86 11	20 57
Koohma	84 2	25 10	Korah	77 8	15 20
Koohma	84 12	24 31	Korah	71 26	23 43
Koohma	75 36	11 45	Korah	73 35	25 30
Koohma	84 36	41 13	Korah	75 53	29 57
Koohma	84 31	20 19	Korah	73 43	26 10
Koohma	77 6	39 42	Korah	89 40	25 58
Koohma	77 47	9 25	Korah	80 26	6 30
Koohma	80 66	30 18	Korah	81 11	20 17
Koohma	73 10	30 11	Korah	71 54	25 21
Koohma	72 0	31 9	Korah	75 36	11 41
Koohma	77 30	30 21	Korah	78 55	15 50
Koohma	82 4	24 2	Korah	80 30	27 26
Koohma	78 30	34 42	Korah	80 30	27 10
Koohma	86 33	30 53	Korah	74 30	21 30
Koohma	82 10	27 7	Korah	73 1	15 48
Koohma	74 39	36 31	Korah	73 8	32 47
Koohma	74 42	17 18	Korah	74 33	22 1
Koohma	80 30	26 0	Korah	75 23	31 51
Koohma	79 43	27 42	Korah	74 14	25 18
Koohma	78 54	15 21	Korah	77 18	15 52
Koohma	77 32	26 30	Korah	80 8	6 20
Koohma	74 53	31 10	Korah	83 40	27 13
Koohma	80 25	18 25	Korah	77 59	15 31
Koohma	74 41	15 34	Korah	92 3	22 25
Koohma	77 44	26 17	Korah	84 52	19 40
Koohma	76 48	18 40	Korah	85 0	30 40
Koohma	80 19	24 44	Korah	98 31	31 38
Koohma	90 34	24 25	Korah	76 17	27 44

Places.	Long.	Lat.	Places.	Long.	Lat.
Kot Chutta	70 54	29 38	Koyaman Coilla	79 24	13 54
Kot Chutta	70 49	38 3	Koyar	77 48	17 30
Kot Chutta	70 52	39 30	Kozak	66 43	31 8
Kota	78 54	26 18	Kozak	72 50	34 9
Kota	72 51	34 13	Kuba	69 0	28 0
Kota Kellangwa-	77 37	9 35	Kuburi Keesh	75 3	27 8
Kotagawa	81 31	6 16	Kuchawa	77 48	24 31
Kotagawa	75 40	11 36	Kuchawal	76 39	24 0
Kotagawa	80 40	18 4	Kuchawal	80 15	27 10
Kotagawa	81 46	23 54	Kuchawal	74 38	27 23
Kotagawa	75 53	25 16	Kuchawal	78 23	17 26
Kotagawa	77 28	15 43	Kuchawal	74 9	18 11
Kotagawa	79 54	18 8	Kuchawal	77 38	8 52
Kotagawa	81 51	19 26	Kuchawal	77 47	8 9
Kotagawa	77 4	10 43	Kuchawal	72 14	22 26
Kotagawa	73 51	24 58	Kuchawal	69 39	24 19
Kotagawa	69 7	23 9	Kuchawal	78 34	9 15
Kotagawa	77 40	19 42	Kuchawal	75 29	19 31
Kotagawa	81 5	25 34	Kuchawal	77 32	29 56
Kotagawa	73 38	23 27	Kuchawal	78 0	25 0
Kotagawa	73 30	23 40	Kuchawal	79 50	26 0
Kotagawa	71 26	31 50	Kuchawal	87 58	31 42
Kotagawa	73 44	33 11	Kuchawal	74 7	23 5
Kotagawa	72 30	31 35	Kuchawal	73 53	22 28
Kotagawa	71 40	30 28	Kuchawal	75 5	18 14
Kotagawa	81 16	38 10	Kuchawal	80 56	24 31
Kotagawa	81 7	41 28	Kuchawal	77 48	21 15
Kotagawa	77 48	17 30	Kuchawal	76 29	16 21
Kotagawa	76 58	23 5	Kuchawal	76 30	21 12
Kotagawa	77 28	31 20	Kuchawal	79 19	23 59
Kotagawa	73 58	23 16	Kuchawal	75 43	24 10
Kotagawa	68 29	23 17	Kuchawal	70 51	23 27
Kotagawa	67 51	28 10	Kuchawal	80 35	26 8
Kotagawa	67 12	29 22	Kuchawal	83 50	26 50
Kotagawa	79 17	29 24	Kuchawal	76 22	29 39
Kotagawa	78 43	23 26	Kuchawal	83 53	22 35
Kotagawa	75 55	30 31	Kuchawal	79 49	28 50
Kotagawa	78 28	27 17	Kuchawal	71 55	26 35
Kotagawa	76 37	9 38	Kuchawal	79 1	25 51
Kotagawa	74 56	30 53	Kuchawal	78 49	53 23
Kotagawa	73 35	30 30	Kuchawal	77 40	24 38
Kotagawa	72 40	30 49	Kuchawal	76 24	17 1
Kotagawa	74 54	30 35	Kuchawal	81 20	30 52
Kotagawa	81 11	21 53	Kuchawal	80 51	23 35
Kotagawa	69 31	32 4	Kuchawal	75 20	31 51
Kotagawa	78 2	30 40	Kuchawal	75 4	18 13
Kotagawa	77 27	22 48	Kuchawal	76 54	17 33
Kotagawa	77 25	22 48	Kuchawal	83 36	27 46
Kotagawa	71 30	30 11	Kuchawal	79 37	29 44
Kotagawa	71 14	21 53	Kuchawal	77 44	19 47
Kotagawa	69 23	23 6	Kuchawal	77 31	25 31
Kotagawa	75 19	22 6	Kuchawal	77 9	22 36
Kotagawa	81 0	0 0	Kuchawal	76 50	15 52
Kotagawa	80 40	8 13	Kuchawal	76 9	22 49
Kotagawa	70 58	35 21	Kuchawal	74 45	17 28
Kotagawa	81 19	25 3	Kuchawal	83 34	24 24
Kotagawa	70 13	21 38	Kuchawal	79 21	28 52
Kotagawa	75 58	10 50	Kuchawal	77 42	23 2
Kotagawa	83 6	17 19	Kuchawal	74 39	23 25
Kotagawa	74 35	15 40	Kuchawal	73 35	22 39
Kotagawa	85 22	20 6	Kuchawal	77 42	9 10
Kotagawa	76 1	23 45	Kuchawal	76 5	15 24
Kotagawa	77 7	23 14	Kuchawal	76 5	18 38
Kotagawa	79 21	17 43	Kuchawal	74 7	18 5
Kotagawa	78 56	17 32	Kuchawal	72 38	26 9
Kotagawa	73 20	23 32	Kuchawal	70 53	15 10
Kotagawa	74 10	22 8	Kuchawal	70 35	25 0
Kotagawa	70 54	22 32	Kuchawal	71 31	22 10
Kotagawa	71 1	20 26	Kuchawal	80 18	22 40
Kotagawa	77 12	15 47	Kuchawal	77 3	9 53
Kotagawa	73 47	31 59	Kuchawal	81 4	16 40

Places.	Long.	Lat.	Places.	Long.	Lat.
Kolapaud	79 2	15 7	Konykatry	77 18	16 39
Kulwar	75 40	28 58	Kunoor	69 34	31 52
Kunala	77 4	8 48	Kupatan	74 30	23 0
Kunapilly	79 34	18 42	Kupul	77 3	13 13
Kunareah	81 21	21 7	Kupapoor	75 30	18 14
Kunareca	74 8	22 47	Kupiyu	70 23	25 5
Kunba	77 53	31 55	Kuppoottalla	75 26	31 22
Kumbaspermam	78 6	10 47	Kupputra	73 7	33 0
Kumbeervala	73 13	30 31	Kupputra	77 43	13 34
Kumbrah	70 12	23 3	Kupputra	84 3	31 51
Kumbhipaud	81 12	17 36	Kupputra	81 36	33 14
Kumbur	68 31	26 47	Kurachee	67 18	24 51
Kundi	83 8	29 28	Kurakee	81 25	33 37
Kundee-Juroo	75 11	25 47	Kurakya	87 17	27 4
Kundee	74 57	26 9	Kurandee	75 48	32 36
Kundoo	72 43	22 53	Kurandee	75 34	34 35
Kundupinna	71 59	22 42	Kurandee	75 17	34 17
Kundooda	85 0	19 55	Kurandee	82 48	32 21
Kunduply	76 30	15 34	Kurandee	74 53	32 6
Kunduply-gang	94 32	28 38	Kurandee	76 0	33 45
Kunduply-gang	94 32	28 32	Kurandee	75 31	33 39
Kunur	71 31	32 50	Kurandee	77 2	33 30
Kunoor	70 50	0 2	Kurandee	75 19	33 36
Kunoor	76 20	12 30	Kurandee	75 55	33 37
Kurachahangian	83 55	28 15	Kurandee	83 10	33 48
Kurale	77 46	23 21	Kurandee	82 34	33 4
Kurale	77 42	14 37	Kurandee	77 40	34 42
Kurale	75 35	21 35	Kurandee	80 40	34 30
Kurandee	100 29	14 48	Kurandee	71 30	33 3
Kurandee	78 37	15 6	Kurandee	70 2	33 27
Kurandee	61 31	23 7	Kurandee	75 17	33 57
Kurandee	72 50	27 52	Kurandee	75 40	33 7
Kurandee	76 13	23 22	Kurandee	75 58	33 30
Kurandee	71 51	22 25	Kurandee	75 53	33 23
Kurandee	70 38	24 25	Kurandee	75 20	33 43
Kurandee	60 18	27 18	Kurandee	75 42	33 21
Kurandee	58 41	24 19	Kurandee	75 7	33 50
Kurandee	83 42	33 25	Kurandee	60 22	33 23
Kurandee	75 55	32 14	Kurandee	75 13	30 14
Kurandee	83 36	21 45	Kurandee	75 13	17 46
Kurandee	77 50	25 5	Kurandee	75 4	9 16
Kurandee	70 51	21 40	Kurandee	75 5	17 30
Kurandee	68 45	27 54	Kurandee	75 11	18 51
Kurandee	65 4	30 48	Kurandee	83 12	34 27
Kurandee	75 20	25 2	Kurandee	81 16	35 43
Kurandee	75 22	24 30	Kurandee	75 40	35 08
Kurandee	78 7	29 35	Kurandee	75 0	35 07
Kurandee	81 10	16 58	Kurandee	75 31	25 35
Kurandee	84 33	21 4	Kurandee	75 48	25 9
Kurandee	75 3	20 13	Kurandee	75 54	25 19
Kurandee	75 17	18 5	Kurandee	75 34	25 32
Kurandee	86 8	12 48	Kurandee	75 28	25 18
Kurandee	79 3	9 57	Kurandee	75 16	25 29
Kurandee	73 21	30 0	Kurandee	75 14	19 14
Kurandee	76 59	33 0	Kurandee	75 10	21 13
Kurandee	78 12	35 1	Kurandee	74 45	22 49
Kurandee	75 28	9 05	Kurandee	71 6	30 52
Kurandee	75 13	30 30	Kurandee	73 59	18 51
Kurandee	71 41	23 38	Kurandee	75 59	18 30
Kurandee	76 1	23 34	Kurandee	75 54	18 30
Kurandee	79 35	18 30	Kurandee	75 57	18 30
Kurandee	75 19	23 75	Kurandee	77 6	30 13
Kurandee	75 50	26 20	Kurandee	71 34	31 45
Kurandee	75 13	10 18	Kurandee	75 8	30 18
Kurandee	71 57	23 14	Kurandee	75 25	23 12
Kurandee	71 35	24 45	Kurandee	75 26	21 49
Kurandee	82 22	22 47	Kurandee	75 26	21 49
Kurandee	92 0	25 16	Kurandee	82 18	24 22
Kurandee	73 13	22 16	Kurandee	71 21	31 15
Kurandee	73 35	22 37	Kurandee	82 3	31 30
Kurandee	75 11	31 26	Kurandee	78 20	31 28
Kurandee	78 45	22 19			

Places.	Long.	Lat.	Places.	Long.	Lat.
Kurandee	78 8	27 41	Lahora Bunder	68 0	24 39
Kurandee	74 35	21 42	Lahore	74 12	31 35
Kurandee	72 7	35 36	Lahore	72 21	34 4
Kurandee	81 0	25 51	Lahore	72 19	31 31
Kurandee	83 25	28 20	Lahore	95 49	17 40
Kurandee	74 23	15 35	Lahore	75 10	11 50
Kurandee	74 22	31 8	Lahore	69 20	25 46
Kurandee	76 1	18 0	Lahore	71 10	32 46
Kurandee	76 57	12 26	Lahore	84 21	28 17
Kurandee	75 31	22 8	Lahore	97 30	23 7
Kurandee	73 37	18 54	Lahore	77 10	29 10
Kurandee	73 6	33 24	Lahore	76 51	10 50
Kurandee	75 0	37 0	Lahore	76 5	11 32
Kurandee	82 0	27 7	Lahore	71 4	31 19
Kurandee	72 59	33 44	Lahore	71 20	34 5
Kurandee	75 48	22 57	Lahore	83 30	25 58
Kurandee	75 10	23 50	Lahore	82 20	25 0
Kurandee	75 11	22 23	Lahore	85 13	27 48
Kurandee	78 58	24 49	Lahore	08 32	33 4
Kurandee	77 25	25 0	Lahore	68 32	28 21
Kurandee	77 8	27 22	Lahore	100 43	17 18
Kurandee	86 10	28 8	Lahore	76 28	28 51
Kurandee	78 31	25 20	Lahore	72 57	31 46
Kurandee	74 28	22 49	Lahore	60 58	22 53
Kurandee	78 29	29 34	Lahore	71 15	34 10
Kurandee	77 48	29 17	Lahore	75 9	26 52
Kurandee	85 52	30 26	Lahore	96 27	33 7
Kurandee	74 38	34 11	Lahore	81 17	30 35
Kurandee	81 9	24 54	Lahore	87 21	31 33
Kurandee	70 51	23 5	Lahore	96 39	25 59
Kurandee	79 48	21 41	Lahore	79 17	28 59
Kurandee	72 29	23 24	Lahore	85 8	17 30
Kurandee	75 31	22 58	Lahore	84 5	28 14
Kurandee	86 17	20 12	Lahore	79 45	15 5
Kurandee	79 51	23 27	Lahore	80 29	31 29
Kurandee	88 15	21 8	Lahore	86 27	37 42
Kurandee	77 30	30 29	Lahore	84 55	31 12
Kurandee	83 7	24 41	Lahore	76 43	18 33
Kurandee	89 20	26 28	Lahore	92 50	26 30
Kurandee	88 13	26 55	Lahore	91 10	25 9
Kurandee	73 59	32 22	Lahore	77 41	13 43
Kurandee	79 50	33 22	Lahore	96 50	17 30
Kurandee	75 48	11 37	Lahore	98 50	30 4
Kurandee	80 52	21 31	Lahore	98 41	28 56
Kurandee	77 12	22 23	Lahore	96 9	28 3
Kurandee	83 15	27 19	Lahore	91 8	29 31
Kurandee	68 45	26 45	Lahore	75 20	21 23
Kurandee	77 11	29 7	Lahore	75 4	28 0
Kurandee	84 22	25 8	Lahore	75 48	25 57
Kurandee	78 4	33 6	Lahore	77 8	18 19
Kurandee	78 4	13 21	Lahore	87 39	25 34
Kurandee	88 53	23 39	Lahore	92 51	24 15
Kurandee	92 50	19 52	Lahore	92 36	24 50
Kurandee	87 49	23 50	Lahore	92 15	24 50
Kurandee	87 15	23 49	Lahore	86 42	24 32
Kurandee	71 34	33 35	Lahore	76 50	32 12
Kurandee	76 13	35 28	Lahore	76 13	18 38
Kurandee	91 14	34 17	Lahore	89 19	25 12
Kurandee	79 53	33 37	Lahore	74 36	27 23
Kurandee	77 59	12 37	Lahore	83 47	21 32
Kurandee	77 8	18 7	Lahore	76 42	20 42
Kurandee	78 13	26 3	Lahore	79 21	23 7
Kurandee	83 34	28 33	Lahore	69 59	22 59
Kurandee	91 20	25 13	Lahore	71 30	24 13
Kurandee	76 1	28 35	Lahore	70 51	30 8
Kurandee	79 41	32 35	Lahore	78 54	10 54
Kurandee	94 10	29 28	Lahore	75 9	16 30
Kurandee	83 7	24 35	Lahore	70 15	22 11
Kurandee	78 59	24 12	Lahore	97 0	20 50
Kurandee	78 59	25 12	Lahore	78 23	28 50
Kurandee	79 18	25 33	Lahore	94 14	22 31
Kurandee	80 15	27 37	Lahore	83 41	24 38

Places.	Long.	Lat.	Places.	Long.	Lat.
Maircoll	78 39	17 48	Manshoke	85 34	25 27
Mairsoodhara	78 57	21 30	Mansogly	75 53	16 43
Mairnee	76 04	20 25	Mansperay	75 30	10 33
Mairay	77 40	21 34	Mansporee	75 28	10 44
Mairshalla	74 43	16 50	Mansgoody	79 27	11 45
Maisetty	85 13	34 42		79 22	10 40
Maisiy	85 9	35 35	Mans Gurr	74 22	12 11
Maiswa	75 51	28 48	Manslongdoor	79 11	18 23
Maitakeer	75 5	23 12	Manslongpoora	76 31	20 33
Maitopully	75 5	9 53	Mansoor	78 21	18 16
Majaram	77 25	18 53	Mansoor	78 6	8 31
Maje	80 28	25 24		78 4	8 30
Majowhe	81 46	21 10	Mansvnu	77 25	10 14
Majuffepour	25 25	28 7	Mansvnpully	77 40	10 22
Makand	85 15	18 40	Mansvnpolly	78 59	14 39
Makars-Droog	79 34	13 33	Mansvnpolly	82 51	18 39
Makowal	79 39	31 15	Mansvnpolly	73 16	21 46
Makrangur	75 48	17 42	Mansvnpolly	80 18	19 26
Mala	79 6	23 45	Mansvnpolly	80 54	30 11
Malagur	77 55	38 30	Mansvnpolly	77 44	19 29
Malik	80 21	33 14	Mansvnpolly	78 35	9 30
Malikheer	70 37	27 35	Mansvnpolly	77 55	28 16
Malipally	79 28	12 33	Mansvnpolly	81 51	6 55
Malipore	79 25	19 32	Mansvnpolly	74 56	17 53
Malipolly	77 9	12 33	Mansvnpolly	78 51	27 15
Malbunda	88 39	24 41	Mansvnpolly	79 27	29 39
Malberry	88 49	23 30	Mansvnpolly	76 39	26 8
Malbun, or Dharah	83 19	28 32	Mansvnpolly	74 55	18 50
Malbun	81 48	19 35	Mansvnpolly	77 47	19 33
Malben	71 44	32 30	Mansvnpolly	78 55	31 14
Malgonia	81 11	27 30	Mansvnpolly	72 53	13 32
Malhara	87 42	23 32	Mansvnpolly	69 37	27 13
Malhang	85 44	27 14	Mansvnpolly	81 33	33 49
Malhala	81 1	29 15	Mansvnpolly	71 18	21 23
Malhast	77 14	17 8	Mansvnpolly	81 49	20 43
Malke	86 8	23 6	Mansvnpolly	76 9	23 49
Malkepollhata	80 26	16 19	Mansvnpolly	78 52	19 50
Malla	73 50	14 21	Mansvnpolly	73 40	33 33
Malbacherry	79 41	18 50	Mansvnpolly	73 40	33 33
Malbagam	74 34	19 34	Mansvnpolly	73 40	33 33
Malikaree	76 30	23 34	Mansvnpolly	73 40	33 33
Malapolluz	79 32	18 8	Mansvnpolly	73 40	33 33
Malles	77 9	18 50	Mansvnpolly	73 40	33 33
Mallegong	81 25	6 40	Mansvnpolly	73 40	33 33
Malhela	76 9	11 8	Mansvnpolly	73 40	33 33
Malpeorum	71 3	22 54	Mansvnpolly	73 40	33 33
Malla	77 23	16 9	Mansvnpolly	73 40	33 33
Mallabhad	77 49	14 21	Mansvnpolly	73 40	33 33
Mallipollam	79 14	21 43	Mansvnpolly	73 40	33 33
Mallod	85 30	19 29	Mansvnpolly	73 40	33 33
Mallor	75 25	13 45	Mansvnpolly	73 40	33 33
Mallymachoolahy	77 55	13 18	Mansvnpolly	73 40	33 33
Malod	83 40	40 0	Mansvnpolly	73 40	33 33
Maloor	70 3	19 3	Mansvnpolly	73 40	33 33
Malore	78 23	10 2	Mansvnpolly	73 40	33 33
Maloud	76 0	33 30	Mansvnpolly	73 40	33 33
Maloun	85 15	37 31	Mansvnpolly	73 40	33 33
Malown	76 47	31 14	Mansvnpolly	73 40	33 33
Malpansa	80 13	32 27	Mansvnpolly	73 40	33 33
Malpore	75 29	31 21	Mansvnpolly	73 40	33 33
Malpore	77 18	31 53	Mansvnpolly	73 40	33 33
Malpore	77 4	38 4	Mansvnpolly	73 40	33 33
Malpore	89 5	15 44	Mansvnpolly	73 40	33 33
Malpore	73 34	16 3	Mansvnpolly	73 40	33 33
Malpore	81 1	27 16	Mansvnpolly	73 40	33 33
Malpore	77 3	30 14	Mansvnpolly	73 40	33 33
Malpore	84 35	18 29	Mansvnpolly	73 40	33 33
Malpore	81 14	26 30	Mansvnpolly	73 40	33 33
Malpore	80 6	19 11	Mansvnpolly	73 40	33 33
Malpore	79 29	30 47	Mansvnpolly	73 40	33 33
Malpore	77 6	31 13	Mansvnpolly	73 40	33 33

Places.	Long.	Lat.	Places.	Long.	Lat.
Mansh	75 23	30 1	Mandully	76 57	11 43
Manshalla	76 18	18 30	Mandun	82 29	22 23
Manshahat	80 59	27 21	Mandully	76 10	14 40
Manshahat	80 44	20 7	Mandully	75 52	14 0
Manshahat	80 7	8 56	Mandully	77 15	19 58
Manshahat	79 30	34 33	Mandully	79 9	15 42
Manshahat	79 36	19 12	Mandully	75 58	16 6
Manshahat	72 37	24 32	Mandully	73 48	22 14
Manshahat	74 12	17 46	Mandully	81 59	20 23
Manshahat	84 21	26 53	Mandully	86 18	25 4
Manshahat	83 38	24 11	Mandully	87 10	22 26
Manshahat	85 19	18 53	Mandully	73 41	22 20
Manshahat	75 42	17 7	Mandully	71 32	23 0
Manshahat	79 58	7 28	Mandully	73 30	23 54
Manshahat	77 20	15 25	Mandully	73 51	23 54
Manshahat	80 7	8 32	Mandully	71 49	23 2
Manshahat	83 53	26 45	Mandully	77 9	14 45
Manshahat	88 27	27 19	Mandully	79 43	14 45
Manshahat	80 2	6 55	Mandully	76 50	24 49
Manshahat	80 8	8 25	Mandully	79 31	18 45
Manshahat	81 45	28 39	Mandully	79 39	9 45
Manshahat	73 10	30 57	Mandully	78 51	9 45
Manshahat	71 55	33 5	Mandully	73 51	22 17
Manshahat	72 58	21 5	Mandully	86 41	23 4
Manshahat	88 15	21 42	Mandully	75 9	23 20
Manshahat	24 3	15 17	Mandully	75 39	22 22
Manshahat	82 56	19 45	Mandully	73 33	23 3
Manshahat	92 22	18 5	Mandully	82 18	23 22
Manshahat	78 38	27 44	Mandully	78 0	18 47
Manshahat	83 36	18 36	Mandully	73 0	19 29
Manshahat	79 28	15 43	Mandully	74 25	21 50
Manshahat	75 45	12 35	Mandully	89 36	22 50
Manshahat	75 21	11 59	Mandully	75 53	10 58
Manshahat	87 18	24 12	Mandully	73 23	22 2
Manshahat	85 50	24 20	Mandully	73 30	21 20
Manshahat	80 14	24 7	Mandully	82 33	17 39
Manshahat	78 34	9 47	Mandully	87 59	14 11
Manshahat	85 32	16 11	Mandully	71 48	21 34
Manshahat	81 51	29 20	Mandully	71 14	18 54
Manshahat	75 14	27 6	Mandully	70 21	21 11
Manshahat	78 7	11 52	Mandully	76 45	21 28
Manshahat	79 5	16 19	Mandully	73 34	18 23
Manshahat	77 59	33 50	Mandully	73 17	18 47
Manshahat	97 20	14 24	Mandully	79 48	18 54
Manshahat	76 59	16 54	Mandully	71 45	31 25
Manshahat	78 33	17 57	Mandully	77 44	8 55
Manshahat	89 59	22 45	Mandully	83 2	24 45
Manshahat	82 32	16 40	Mandully	81 10	26 39
Manshahat	92 2	21 32	Mandully	76 42	26 59
Manshahat	73 33	20 58	Mandully	75 4	24 23
Manshahat	75 53	14 33	Mandully	73 43	22 32
Manshahat	79 22	14 53	Mandully	72 48	23 37
Manshahat	85 59	25 9	Mandully	80 39	21 49
Manshahat	85 3	25 30	Mandully	73 29	26 59
Manshahat	83 20	22 45	Mandully	84 4	18 11
Manshahat	78 1	12 33	Mandully	70 40	31 40
Manshahat	81 11	16 9	Mandully	71 18	21 30
Manshahat	84 24	25 46	Mandully	88 19	22 30
Manshahat	79 29	20 34	Mandully	77 14	11 21
Manshahat	80 33	27 17	Mandully	87 3	26 7
Manshahat	92 0	22 9	Mandully	78 27	19 13
Manshahat	77 31	31 0	Mandully	76 40	9 20
Manshahat	80 17	22 10	Mandully	77 14	22 56
Manshahat	80 45	8 37	Mandully	74 53	25 30
Manshahat	85 20	24 4	Mandully	84 30	26 19
Manshahat	87 21	33 26	Mandully	81 12	20 26
Manshahat	76 19	38 35	Mandully	82 19	28 47
Manshahat	78 31	23 11	Mandully	83 0	28 44
Manshahat	81 30	7 0	Mandully	81 53	25 54
Manshahat	80 40	5 59	Mandully	84 7	20 18
Manshahat	80 57	6 4			
Manshahat	78 7	9 57			
Manshahat	78 4	24 43			

Places.	Long.	Lat.	Places.	Long.	Lat.
Odenroer	89 40	9 12	Ookes Muth	79 8	30 30
Oekande	81 58	6 39	Ookiana	75 51	29 30
Oermit	71 47	34 1	Ookurum	77 18	11 35
Oee, or Agrout	73 30	34 38	Oolandaconda	78 2	15 39
Oland	72 34	34 9	Oolfulgungu	82 27	26 28
Oland	68 54	32 17	Oolpar	72 59	21 35
Olorah	87 14	23 40	Oolwunny	76 10	19 8
Olorakree	77 30	24 12	Oolwara	76 33	26 14
Oklidooogy	79 28	29 12	Oolwitte	81 37	6 19
Omaloo	80 28	8 8	Oomagara	84 39	19 46
Omapour	89 40	25 40	Oomaloor	76 59	12 5
Omapoor	76 2	19 3	Oomatamola	73 57	16 7
Omapacanda	76 19	15 8	Oombargong	76 45	18 36
Omaloor	78 9	11 46	Oomeroote	70 1	25 10
Omaroa	82 5	24 27	Oomerkaik	77 42	19 35
Omarra	87 47	23 43	Oomrait	78 41	22 4
Omedunda	85 12	23 38	Oouranna	73 50	16 45
Omerce	80 38	24 26	Oourawutty	77 48	20 52
Omergur	78 13	27 28	Oumree	77 18	24 51
Omerpatton	81 1	24 20	Oumri	79 8	22 1
Ometta	73 9	22 24	Oumriet	73 10	22 44
Omlatta	73 50	22 10	Oumraee	79 20	30 49
Omlatta	78 12	27 14		79 18	31 9
Omlattipoor	68 3	22 37	Oumyah	72 2	32 21
Omlah	72 54	21 12	Ouna	71 19	20 33
Omlah	71 9	27 59	Ounawa	72 30	23 45
Omlree	79 50	29 50	Oonchode	76 32	22 45
Omlrow	78 21	27 22	Oonchingong	77 55	28 34
Omlurguth	86 30	25 27	Oondipoor	78 7	24 0
Omlurpoor	81 10	1 58	Oondum	77 6	16 41
Omlurpoor	72 27	23 19	Oondurgaon	72 45	23 55
Omlursh	76 0	25 35	Oondye	81 29	18 51
Omlursh	80 7	15 31	Oongoloor	77 2	15 0
Omlursh	92 1	15 50	Oongull	73 18	23 27
Omlursh	77 57	30 36	Oonje	77 20	11 44
Omlursh	74 3	31 50	Oonshuffy	83 38	24 18
Omlursh	75 7	14 25	Oonshuffy	74 11	27 30
Omlursh	77 0	12 55	Oonshuffy	74 34	27 22
Omlursh	70 19	27 36	Oonshuffy	78 10	15 38
Omlursh	73 58	13 52	Oonshuffy	78 7	15 11
Omlursh	71 19	20 5	Oonshuffy	74 34	14 30
Omlursh	73 45	21 57	Oonshuffy	75 19	12 50
Omlursh	76 7	14 34	Oonshuffy	77 20	14 37
Omlursh	70 41	11 42	Oonshuffy	82 45	25 42
Omlursh	79 22	14 52	Oonshuffy	78 29	25 23
Omlursh	100 49	15 50	Oonshuffy	78 7	29 14
Oonallipad	77 57	15 27	Oonshuffy	83 15	21 14
Oonallipad	74 43	13 21	Oonshuffy	85 0	22 28
Oonallipad	74 9	22 19	Oonshuffy	89 46	28 54
Oonallipad	77 23	14 59	Oonshuffy	85 4	19 30
Oonallipad	77 19	16 27	Oonshuffy	77 9	13 25
Oonallipad	68 23	23 5	Oonshuffy	79 54	24 24
Oonallipad	69 24	24 13	Oonshuffy	74 15	18 30
Oonallipad	69 35	28 12	Oonshuffy	75 20	22 14
Oonallipad	76 0	29 30	Oonshuffy	76 13	11 5
Oonallipad	69 27	24 32	Oonshuffy	73 9	18 54
Oonallipad	71 2	30 31	Oonshuffy	70 16	25 13
Oonallipad	77 20	19 35	Oonshuffy	77 52	13 7
Oonallipad	71 52	16 4	Oonshuffy	74 9	15 28
Oonallipad	70 54	16 25	Oonshuffy	69 39	31 30
Oonallipad	70 31	11 43	Oonshuffy	69 9	24 22
Oonallipad	70 5	33 41	Oonshuffy	75 0	15 40
Oonallipad	70 11	14 6	Oonshuffy	74 27	15 25
Oonallipad	71 18	21 40	Oonshuffy	70 7	13 22
Oonallipad	70 29	27 30	Oonshuffy	69 8	23 22
Oonallipad	70 28	31 13	Oonshuffy	77 23	15 40
Oonallipad	74 10	16 43	Oonshuffy	77 22	15 40
Oonallipad	71 11	21 40	Oonshuffy	73 11	11 49
Oonallipad	73 44	25 9	Oonshuffy	77 35	9 45
Oonallipad	75 3	16 44	Oonshuffy	78 35	12 17
Oonallipad	73 58	21 21	Oonshuffy	74 57	14 2
Oonallipad	68 18	21 12	Oonshuffy	77 30	25 55

Places.	Long.	Lat.	Places.	Long.	Lat.
Oothoor	73 20	16 30	Pagoda	88 38	32 7
Ootra Droog	77 11	12 58	Pagodas	79 8	12 6
Ootun	75 27	20 51		79 7	11 16
Ooyalwaida	78 28	15 7		78 18	17 29
Ozben	70 8	34 16	Pagur	78 8	16 1
Ozbeh	80 5	31 40	Paguleebed	92 10	41 41
Ozbeh	84 0	32 32	Pahamdenagam	80 34	7 14
Ozbeh	80 49	6 37	Paharee	81 35	25 5
Ozbeh	86 55	24 8	Paharghur	77 39	26 10
Ozbeh	73 8	21 43	Paharpoor	71 9	32 7
Ozbeh	73 10	22 39	Pahley	87 50	24 45
Ozbeh	79 27	26 38	Pahurrie	76 56	25 10
Ozbeh	69 6	30 23	Paib	73 22	19 2
Ozbeh	69 9	23 38	Paigoda	74 46	13 32
Ozbeh	80 10	22 58	Paigoda	79 6	16 38
Ozbeh	85 28	24 29	Paigoda	81 54	22 44
Ozbeh	80 42	25 25	Paindra	89 19	28 55
Ozbeh	84 43	24 48	Paindra	82 31	28 40
Ozbeh	86 53	23 5	Paindra	77 48	15 14
Ozbeh	86 9	23 54	Paindra	76 54	25 29
Ozbeh	80 45	23 45	Paindra	77 25	14 23
Ozbeh	82 31	25 18	Paindra		
Ozbeh	79 13	27 50	Paindra		
Ozbeh	87 20	23 28	Paindra		
Ozbeh	80 48	24 28	Paindra		
Ozbeh	79 30	26 6	Paindra		
Ozbeh	78 17	16 34	Paindra		
Ozbeh	79 35	26 2	Paindra		
Ozbeh	78 55	11 6	Paindra		
Ozbeh	76 51	10 45	Paindra		
Ozbeh	83 21	24 50	Paindra		
Ozbeh	80 34	23 40	Paindra		
Ozbeh	82 52	23 30	Paindra		
Ozbeh	87 51	24 58	Paindra		
Ozbeh	88 49	25 2	Paindra		
Ozbeh	82 13	23 19	Paindra		
Ozbeh	82 5	23 50	Paindra		
Ozbeh	91 29	23 20	Paindra		
Ozbeh	78 32	23 11	Paindra		
Ozbeh	68 48	34 25	Paindra		
Ozbeh	88 55	23 5	Paindra		
Ozbeh	78 45	11 58	Paindra		
Ozbeh	77 11	22 2	Paindra		
Ozbeh	78 3	16 53	Paindra		
Ozbeh	76 27	18 30	Paindra		
Ozbeh	82 23	24 43	Paindra		
Ozbeh	87 40	20 20	Paindra		
Ozbeh	77 34	13 44	Paindra		
Ozbeh	77 30	13 35	Paindra		
Ozbeh	80 11	18 23	Paindra		
Ozbeh	79 51	13 28	Paindra		
Ozbeh	73 32	21 28	Paindra		
Ozbeh	73 19	24 28	Paindra		
Ozbeh	72 12	18 14	Paindra		
Ozbeh	73 15	22 51	Paindra		
Ozbeh	68 26	26 20	Paindra		
Ozbeh	82 9	25 31	Paindra		
Ozbeh	85 49	25 37	Paindra		
Ozbeh	84 50	24 55	Paindra		
Ozbeh	73 45	24 22	Paindra		
Ozbeh	77 20	18 51	Paindra		
Ozbeh	81 17	16 16	Paindra		
Ozbeh	72 1	12 36	Paindra		
Ozbeh	73 8	21 54	Paindra		
Ozbeh	77 8	28 24	Paindra		
Ozbeh	79 53	16 31	Paindra		
Ozbeh	75 22	18 53	Paindra		
Ozbeh	77 57	22 7	Paindra		
Ozbeh	95 4	22 59	Paindra		
Ozbeh	67 5	29 18	Paindra		
Ozbeh	81 35	74 5	Paindra		
Ozbeh	84 37	21 11	Paindra		

85

Places.	Long.	Lat.	Places.	Long.	Lat.
Pampora	73 19	25 33	Pamunty	78 6	11 10
Pampur	75 38	24 36	Pamunty	77 39	10 6
Pan	101 19	27 22	Pamunty	78 4	14 31
Pana	72 31	22 24	Pamunty	78 3	20 37
Pandir	73 0	22 7	Pamunty	80 22	22 42
Pandhert Gola	73 9	11 44	Pamunty	80 7	22 41
Pandit	81 21	22 29	Pandit	75 15	21 9
Pandit	73 0	22 32	Pandit	79 57	26 40
Pandit	82 0	22 7	Pandit	77 40	12 20
Pandit	81 4	24 36	Pandit	78 38	15 16
Pandit	81 43	27 13	Pandit	82 30	17 8
Pandit	82 24	25 39	Pandit	85 18	27 29
Pandit	83 38	24 44	Pandit	73 54	19 2
Pandit	90 58	23 34	Pandit	88 31	31 20
Pandit	81 15	7 36	Pandit	87 42	36 41
Pandit	79 43	14 31	Pandit	86 32	30 10
Pandit	73 6	21 27	Pandit	75 44	11 43
Pandit	85 11	24 58	Pandit	79 19	31 21
Pandit	73 39	17 53	Pandit	88 15	45 32
Pandit	78 22	21 32	Pandit	79 33	13 4
Pandit	79 38	11 48	Pandit	78 9	33 36
Pandit	87 2	26 48	Pandit	73 48	16 23
Pandit	80 15	6 33	Pandit	85 9	25 52
Pandit	80 25	5 39	Pandit	80 47	6 52
Pandit	78 25	15 32	Pandit	84 39	39 9
Pandit	78 13	16 15	Pandit	79 21	22 11
Pandit	88 23	22 44	Pandit	78 59	16 48
Pandit	81 13	6 42	Pandit	79 1	12 18
Pandit	81 33	7 33	Pandit	81 21	6 57
Pandit	76 43	22 21	Pandit	80 48	9 42
Pandit	73 48	15 35	Pandit	79 9	20 45
Pandit	73 31	12 12	Pandit	85 35	22 45
Pandit	80 2	16 15	Pandit	79 35	22 45
Pandit	79 25	21 48	Pandit	78 0	18 49
Pandit	81 30	24 59	Pandit	76 30	29 33
Pandit	80 34	21 23	Pandit	76 33	29 30
Pandit	80 33	16 5	Pandit	87 15	33 31
Pandit	77 7	16 0	Pandit	78 28	32 24
Pandit	86 27	24 0	Pandit	83 25	29 55
Pandit	85 11	26 23	Pandit	87 36	24 22
Pandit	94 52	23 59	Pandit	81 5	29 25
Pandit	73 21	13 27	Pandit	82 18	24 6
Pandit	73 59	6 48	Pandit	82 52	25 3
Pandit	74 42	28 37	Pandit	87 49	46 31
Pandit	79 22	10 28	Pandit	89 5	26 30
Pandit	70 16	11 11	Pandit	101 9	16 22
Pandit	78 29	16 59	Pandit	90 11	19 2
Pandit	75 39	22 56	Pandit	100 58	16 39
Pandit	72 6	23 46	Pandit	87 19	26 35
Pandit	82 40	27 10	Pandit	77 52	17 38
Pandit	74 38	15 43	Pandit	78 23	26 20
Pandit	80 31	24 32	Pandit	80 11	5 54
Pandit	70 56	16 30	Pandit	87 27	21 42
Pandit	89 53	23 56	Pandit	85 9	25 35
Pandit	86 31	23 30	Pandit	83 40	25 18
Pandit	78 29	23 30	Pandit	73 31	18 50
Pandit	77 4	23 35	Pandit	77 59	18 54
Pandit	77 19	24 56	Pandit	86 20	25 21
Pandit	70 36	25 47	Pandit	85 40	23 52
Pandit	87 16	12 27	Pandit	85 34	23 44
Pandit	83 33	25 32	Pandit	78 33	23 36
Pandit	80 30	5 22	Pandit	79 52	18 34
Pandit	79 50	27 54	Pandit	85 43	17 11
Pandit	76 19	25 24	Pandit	77 54	22 33
Pandit	81 24	23 24	Pandit	75 16	23 57
Pandit	77 24	17 11	Pandit	80 51	22 1
Pandit	87 3	25 49	Pandit	85 31	25 46
Pandit	85 10	26 5	Pandit	84 49	25 53
Pandit	79 28	16 48	Pandit	88 23	25 21
Pandit	82 55	21 35	Pandit	90 28	23 48
Pandit	81 26	31 7	Pandit	87 27	33 16
Pandit	73 29	20 30	Pandit	78 43	13

Places.	Long.	Lat.	Places.	Long.	Lat.
Pandit	81 41	6 25	Pandit	73 0	23 2
Pandit	86 38	21 39	Pandit	74 34	15 28
Pandit	85 9	20 37	Pandit	77 58	9 40
Pandit	85 40	27 13	Pandit	85 2	27 46
Pandit	74 40	25 55	Pandit	85 5	24 41
Pandit	83 28	24 25	Pandit	77 21	14 9
Pandit	84 28	25 3	Pandit	72 34	25 51
Pandit	79 45	23 18	Pandit	81 20	24 30
Pandit	78 0	24 25	Pandit	73 7	19 47
Pandit	79 24	22 32	Pandit	74 13	18 51
Pandit	77 59	24 33	Pandit	97 36	24 38
Pandit	75 30	24 41	Pandit	75 26	22 53
Pandit	88 28	23 39	Pandit	97 0	20 40
Pandit	80 30	15 59	Pandit	85 7	20 23
Pandit	73 9	25 13	Pandit	95 18	21 41
Pandit	74 58	16 11	Pandit	96 7	21 45
Pandit	78 28	20 4	Pandit	85 50	21 19
Pandit	75 7	12 32	Pandit	102 1	15 15
Pandit	89 35	27 25	Pandit	83 58	28 18
Pandit	87 58	27 25	Pandit	77 39	28 38
Pandit	74 15	17 34	Pandit	89 35	27 8
Pandit	76 59	23 26	Pandit	77 49	24 27
Pandit	73 28	23 48	Pandit	70 15	16 43
Pandit	75 8	14 48	Pandit	82 12	17 6
Pandit	74 11	15 49	Pandit	79 27	18 40
Pandit	73 35	23 55	Pandit	78 39	14 0
Pandit	73 30	23 58	Pandit	75 38	34 11
Pandit	73 19	25 46	Pandit	77 30	26 0
Pandit	73 45	20 27	Pandit	94 52	18 26
Pandit	77 45	13 53	Pandit	75 32	30 3
Pandit	77 14	14 59	Pandit	78 5	13 16
Pandit	73 20	18 31	Pandit	70 31	21 13
Pandit	75 45	9 43	Pandit	71 39	24 28
Pandit	75 36	18 34	Pandit	76 26	22 19
Pandit	76 45	9 33	Pandit	81 1	28 6
Pandit	79 18	9 13	Pandit	80 16	28 23
Pandit	77 40	14 57	Pandit	89 5	34 30
Pandit	79 30	15 5	Pandit	73 30	26 30
Pandit	79 30	19 22	Pandit	77 35	20 38
Pandit	82 18	16 9	Pandit	75 55	25 3
Pandit	81 10	16 9	Pandit	73 51	25 32
Pandit	81 2	16 20	Pandit	71 27	21 49
Pandit	75 41	23 20	Pandit	76 26	23 48
Pandit	79 13	13 8	Pandit	75 9	24 20
Pandit	71 47	25 34	Pandit	75 4	24 11
Pandit	73 6	27 29	Pandit	78 36	21 50
Pandit	76 57	30 35	Pandit	76 41	21 41
Pandit	74 39	28 31	Pandit	75 59	23 46
Pandit	83 39	28 28	Pandit	75 45	26 21
Pandit	72 8	28 5	Pandit	75 30	23 29
Pandit	72 40	28 26	Pandit	76 31	25 32
Pandit	74 41	19 20	Pandit	71 30	23 27
Pandit	86 44	22 13	Pandit	75 38	19 56
Pandit	82 16	25 40	Pandit	72 29	22 27
Pandit	73 11	19 1	Pandit	80 30	28 20
Pandit	78 10	9 54	Pandit	71 36	22 27
Pandit	79 20	16 51	Pandit	67 40	24 56
Pandit	78 27	8 23	Pandit	74 32	23 48
Pandit	77 37	8 47	Pandit	76 34	19 57
Pandit	77 23	5 43	Pandit	74 17	21 0
Pandit	82 59	24 48	Pandit	76 14	26 28
Pandit	72 51	33 47	Pandit	69 10	25 23
Pandit	77 54	10 19	Pandit	68 17	24 38
Pandit	75 45	19 7	Pandit	90 45	23 58
Pandit	89 19	32 45	Pandit	80 42	27 21
Pandit	71 46	24 9	Pandit	89 23	25 57
Pandit	78 33	9 34	Pandit	76 34	9 51
Pandit	74 21	20 7	Pandit	80 5	18 37
Pandit	72 20	26 30	Pandit	79 2	13 48
Pandit	75 19	21 12	Pandit	95 30	23 50
Pandit	76 57	20 31	Pandit	96 30	17 37
Pandit	76 50	20 57	Pandit	78 50	24 41
Pandit	78 14	15 30	Pandit	78 31	26 0

Places.	Long.	Lat.	Places.	Long.	Lat.
Pelicut	78 51	24 56	Peytahn, or Pithano	81 55	28 35
Pelik ka loup	101 0	16 41	Poyteenah	80 45	37 0
Peltapoor	72 47	23 19	Pezain	101 40	16 30
Pelthan	82 44	27 57	Phaigson	74 53	19 30
Pelata	78 28	17 48	Phakeyoon	96 3	26 34
Pem	79 28	20 30	Phalabamb, or Dang	81 18	28 33
Pemburty	79 12	17 42	Phaniosh	74 0	32 31
Penchel Conda	79 31	14 14	Pharee	80 53	31 3
Pendakul	77 42	15 34	Phari, or Haridrope, 1	89 14	37 58
Pendury	80 15	27 31	or Phakili (Pase)	3	
Penn	73 19	18 43	Phatun	75 59	25 16
Pennacunda	77 40	14 5	Phaughta	74 20	18 59
Pennagra	77 58	13 5	Phedab	87 18	27 34
Pennahoor	79 18	13 17	Phemongunge	91 54	24 41
Pennacotah	82 40	17 15	Phinee	75 41	30 19
Pentilly	78 17	16 3	Phool	75 14	30 20
Penuzie	85 25	24 34	Phoolba	83 28	24 14
Penupah	76 4	26 49	Phoolmarry	75 30	20 9
Peperah	86 30	26 9	Phoopund	71 10	29 19
Peperelly	87 42	26 35	Phoree	75 39	30 13
Peputkheir	74 50	26 20	Phudal	78 14	32 31
Peputa	84 35	27 19	Phukser	74 35	30 10
Peputdee	71 44	21 47	Phulleagun	79 29	30 6
Perrary	84 44	27 10	Phureh	78 39	27 30
Perrary	86 32	23 45	Phyria	85 41	28 5
Perrara	78 5	24 9	Phalapoor	88 19	24 37
Perray, Mow, Promie,	95 0	18 45	Phur	78 7	30 13
or Yee			Pikerehuar	90 52	24 0
Perbelpoor	84 10	25 45	Pikerry	90 9	25 0
Perbelpoor	84 15	25 56	Pikerey	78 17	33 58
Perridoo	74 59	13 54	Pilibet	79 50	38 39
Perrish	83 18	26 31	Pilangooty	78 59	9 27
Perrakolum	77 17	10 9	Pimpun	75 5	18 48
Perrapen Augy	73 53	11 7	Pin Nath	79 30	29 50
Perrigota	75 23	22 14	Pindar	73 8	19 30
Perrigutun	76 9	12 30	Pindoe Dadoo Khan	73 19	32 38
Perrigutun	77 52	14 34	Pindoe Malik Gulia	73 24	33 2
Perrichutta	89 28	28 51	Pindoe Shah Moosa	73 0	31 0
Perrimbal	78 48	13 36	Pindras	83 12	22 33
Perripahum	86 7	13 17	Pindurra	69 29	23 30
Perrjore	85 59	24 38	Pingles	87 33	22 42
Perracall	73 62	12 14	Pingly	76 52	12 12
Perracaloor	77 27	11 15	Pinger	76 54	26 48
Perrae	84 21	26 20	Pingree	78 57	27 28
Perrah	84 5	26 33	Pingree	82 49	25 27
Perrangong	87 80	24 5	Pingroa	78 48	24 16
Perrangunge	90 22	24 57	Pingroa	101 15	16 10
Perrara	79 41	25 30	Pipera	82 33	24 16
Perramannell	77 42	5 12	Pipera	82 34	24 15
Perramannell	78 34	19 10	Pipera	79 19	24 43
Perrah	84 58	27 9	Pipera	82 22	24 44
Perrah, or Buzen	84 48	15 42	Pipera	81 43	24 51
Perrand	87 25	26 4	Pipera	89 25	22 58
Perranesh	89 25	24 2	Pipera	80 11	28 7
Perrayah	84 22	24 36	Piperahead	80 80	25 37
Perrayah	84 53	27 34	Pipery	87 26	31 28
Perranepoor	76 57	12 15	Pipereen	79 16	29 0
Perrah	83 19	24 30	Pipery	85 53	29 4
Perrah	82 35	24 36	Pipery	84 24	29 36
Perrahur	81 50	25 56	Pipery	84 15	13 57
Perrahur	80 6	20 56	Pipery	73 45	14 43
Perrahur	83 16	26 3	Pipery	85 7	27 37
Perrahur	87 2	23 36	Pipery	78 45	25 13
Perrahur	71 41	24 3	Pipery	80 31	25 20
Perrahur	82 52	24 30	Pipery	74 49	18 45
Perrahur	70 30	26 36	Pipery	87 34	23 6
Perrahur	75 16	23 35	Pipery	72 54	22 30
Perrahur	80 13	23 35	Pipery	79 34	18 29
Perrahur	85 59	23 40	Pipery	79 3	23 30
Perrahur	78 54	27 12	Pipery	70 39	23 4
Perrahur	82 54	13 57	Pipery	88 19	23 48
Perrahur	80 8	27 53	Pipery	77 9	23 28

Places.	Long.	Lat.	Places.	Long.	Lat.
Pooleyroo	73 3	29 8	Poolalcherroo	79 30	16 11
Po	100 22	17 57	Po	79 0	15 80
Poapua	95 31	26 9	Poolapetta	79 45	17 32
Poapua	94 5	24 30	Poolari	79 45	27 3
Poapua	79 48	14 25	Poolat, or Toodicallo	77 45	10 16
Poapua	94 51	18 42	Poolavainda	78 19	14 28
Poapua	78 39	14 44	Poolawal	73 50	32 59
Poapua	87 42	25 30	Poolbady	82 50	18 35
Poapua	81 54	16 36	Poolbaga	74 40	32 58
Poapua	79 38	7 51	Poolbary	89 0	35 31
Poapua	80 45	8 9	Pooler	74 85	33 24
Poapua	84 31	24 7	Poolerjee	69 2	28 19
Poapua	84 32	24 58	Pooler	69 2	28 5
Poapua	73 35	17 54	Pooler	73 83	22 2
Poapua	77 7	20 11	Pooler	77 25	9 12
Poapua	78 40	20 45	Pooler	77 15	9 1
Poapua	75 40	20 46	Pooler	76 3	11 42
Poapua	79 31	13 8	Pooler	95 12	16 38
Poapua	83 29	28 10	Pooler	89 41	25 36
Poapua	87 27	25 19	Pooler	81 28	16 32
Poapua	88 55	24 11	Pooler	75 58	11 32
Poapua	73 2	27 19	Pooler	79 3	14 56
Poapua	74 39	19 27	Pooler	77 28	13 18
Poapua	74 45	26 30	Pooler	78 22	13 29
Poapua	82 15	16 38	Pooler	93 20	26 29
Poapua	80 24	18 10	Pooler	77 5	10 38
Poapua	96 3	24 30	Pooler	74 0	18 31
Poapua	28 4	25 38	Pooler	77 12	28 22
Poapua	77 37	8 28	Pooler	79 7	19 12
Poapua	73 20	24 0	Pooler	78 20	13 24
Poapua	77 48	15 50	Pooler	78 34	23 13
Poapua	80 47	17 37	Pooler	86 80	24 50
Poapua	76 1	12 57	Pooler	70 55	23 19
Poapua	78 10	12 19	Pooler	80 10	13 9
Poapua	79 0	12 55	Pooler	74 48	21 54
Poapua	78 06	16 38	Pooler	77 18	23 17
Poapua	84 49	24 30	Pooler	73 22	28 19
Poapua	79 13	12 32	Pooler	78 30	19 41
Poapua	84 54	19 9	Pooler	84 40	18 44
Poapua	80 14	17 0	Pooler	73 31	18 40
Poapua	79 17	14 16	Pooler	68 39	27 15
Poapua	77 42	17 25	Pooler	76 52	9 41
Poapua	79 12	10 0	Pooler	69 49	21 49
Poapua	78 5	14 17	Pooler	73 25	16 48
Poapua	91 5	26 7	Pooler	77 15	25 8
Poapua	80 9	8 18	Pooler	74 34	26 20
Poapua	76 21	10 32	Pooler	82 40	20 8
Poapua	80 22	17 30	Pooler	80 1	20 19
Poapua	78 37	10 20	Pooler	81 2	21 34
Poapua	76 0	10 45	Pooler	76 44	22 10
Poapua	78 14	11 53	Pooler	86 17	23 33
Poapua	74 5	15 25	Pooler	78 42	26 31
Poapua	81 27	22 17	Pooler	80 7	10 45
Poapua	83 49	24 16	Pooler	77 4	26 25
Poapua	73 52	23 38	Pooler	80 38	23 18
Poapua	80 19	9 27	Pooler	74 42	19 44
Poapua	89 37	25 21	Pooler	85 51	9 26
Poapua	89 40	21 40	Pooler	73 13	23 45
Poapua	81 30	17 6	Pooler	81 10	25 56
Poapua	79 18	11 25	Pooler	79 10	14 40
Poapua	83 50	24 30	Pooler	75 1	13 5
Poapua	96 28	17 30	Pooler	83 3	18 13
Poapua	76 15	11 42	Pooler	76 25	20 5
Poapua	79 41	15 38	Pooler	77 28	10 54
Poapua	76 0	10 32	Pooler	78 38	19 45
Poapua	75 13	11 42	Pooler	76 13	27 42
Poapua	75 51	11 19	Pooler	79 37	13 28
Poapua	78 52	10 35	Pooler	90 0	24 32
Poapua	72 59	28 24	Pooler	90 50	24 35
Poapua	73 42	29 79	Pooler	88 25	24 21
Poapua	74 25	28 8	Pooler	77 45	23 10
Poapua	88 11	24 46	Pooler	78 49	17 42
Poapua	78 10	13 45			

Places.	Long.	Lat.	Places.	Long.	Lat.
Papah	82 51	23 37	Padrao	73 27	32 51
Papam	83 28	18 14	Padra	77 3	31 59
Papayumla	79 5	15 1	Papad	94 56	21 52
Papoon	78 55	23 59	Papagoccalwa	78 44	14 32
Pardosa	87 30	21 22	Papaguma	75 31	25 43
Pario Nora	79 51	11 21	Papigmann	84 51	33 45
Porandah	87 14	25 45	Pogia	81 3	24 16
Pury	82 36	22 31		78 7	25 19
Porra	81 34	20 43	Puhapeah	81 9	24 1
Poryneah	79 3	23 36	Puhapettye	80 51	5 38
Poyesta	72 0	24 27	Puharpara	79 1	25 43
Poshun	79 8	24 0	Pukhara	83 45	28 15
Potash	87 57	25 12	Pukheda	73 39	33 37
Potajury	81 32	24 22	Pukuh	74 51	50 1
Potajury	79 19	14 29	Pulandoor	80 8	20 43
Potella	74 11	25 8	Pulanti	83 40	27 43
Potales	80 19	24 37	Pulasa	74 30	34 41
Potali	79 34	24 20	Pulcomoorog	78 62	15 42
Potungall	77 43	18 34	Pulicat	89 23	13 21
Potukio	85 7	21 52	Puliculla	90 10	23 25
Poua	103 54	19 11	Pulka	73 56	34 24
Poucoolly	88 0	20 18	Pulka	79 50	24 37
Pouppa	85 4	21 12	Puladom	77 21	11 0
Poursahampoor	85 2	19 36	Pullara	79 43	24 2
Powa	79 45	20 18	Pullali	68 28	38 8
Powade	87 5	18 32	Pullalora	79 46	12 58
Powani	81 0	20 5	Pullapooram	76 58	9 8
Powanam	88 20	22 57	Pullapooram	77 49	11 23
Powasa	78 39	23 32	Pullapotty	77 54	10 39
Powara	77 15	22 20	Pullapotee	74 35	25 44
Poway	82 40	22 11	Pullawa	71 34	22 36
Pownee	79 34	20 54	Pullawer	73 9	21 31
Pownee	81 40	18 28	Pullawer	73 21	22 10
Pownee	76 49	26 41	Pullawer	76 45	22 13
Pownee	76 49	26 41	Pullawer	76 8	21 50
Pownee	76 49	26 41	Pullawer	73 27	22 17
Pownee	76 49	26 41	Pullawer	81 59	16 41
Pownee	76 49	26 41	Pullawer	77 11	10 36
Pownee	76 49	26 41	Pullawer	77 42	9 38
Pownee	76 49	26 41	Pullawer	78 58	8 35
Pownee	76 49	26 41	Pullawer	81 42	26 22
Pownee	76 49	26 41	Pullawer	86 26	23 13
Pownee	76 49	26 41	Pullawer	89 7	25 8
Pownee	76 49	26 41	Pullawer	77 35	16 29
Pownee	76 49	26 41	Pullawer	79 42	27 50
Pownee	76 49	26 41	Pullawer	77 22	28 28
Pownee	76 49	26 41	Pullawer	76 33	19 14
Pownee	76 49	26 41	Pullawer	73 9	21 10
Pownee	76 49	26 41	Pullawer	71 8	35 44
Pownee	76 49	26 41	Pullawer	80 2	24 39
Pownee	76 49	26 41	Pullawer	77 32	24 11
Pownee	76 49	26 41	Pullawer	77 47	22 34
Pownee	76 49	26 41	Pullawer	80 18	17 15
Pownee	76 49	26 41	Pullawer	78 17	25 31
Pownee	76 49	26 41	Pullawer	71 58	23 40
Pownee	76 49	26 41	Pullawer	88 23	26 46
Pownee	76 49	26 41	Pullawer	79 11	24 6
Pownee	76 49	26 41	Pullawer	79 20	14 18
Pownee	76 49	26 41	Pullawer	76 52	9 14
Pownee	76 49	26 41	Pullawer	82 18	15 35
Pownee	76 49	26 41	Pullawer	73 34	17 40
Pownee	76 49	26 41	Pullawer	79 38	30 7
Pownee	76 49	26 41	Pullawer	92 46	2 20
Pownee	76 49	26 41	Pullawer	80 42	15 23
Pownee	76 49	26 41	Pullawer	78 39	18 16
Pownee	76 49	26 41	Pullawer	75 4	24 56
Pownee	76 49	26 41	Pullawer	88 39	24 42
Pownee	76 49	26 41	Pullawer	93 0	26 25
Pownee	76 49	26 41	Pullawer	78 1	12 28
Pownee	76 49	26 41	Pullawer	69 3	34 47
Pownee	76 49	26 41	Pullawer	66 18	22 15
Pownee	76 49	26 41	Pullawer	79 24	20 26

Places.	Long.	Lat.	Places.	Long.	Lat.
Punnah	80 9	24 44	Pusrampoor	75 31	27 46
Punnair	74 51	12 10	Putha	93 45	22 43
Punnakamumpity	74 24	11 8	Puthakot	75 53	32 13
Punnawar	76 19	24 47	Puthargor	78 21	29 35
Punnawooddy	77 28	8 22	Puthat	81 23	24 56
Punnawur	83 29	30 32	Puthar	77 24	23 46
Punnawur	71 7	33 16	Puthar	75 28	23 56
Punnawur	71 55	33 18	Puthar	78 42	23 4
Punnawur	80 44	35 4	Puthar	82 21	25 6
Punnawur	80 44	35 4	Puthar	73 9	18 55
Punnawur	72 21	23 13	Puthar	68 29	39 20
Punnawur	74 51	13 57	Puthar	94 58	32 29
Punnawur	86 36	24 10	Puthar	76 7	24 1
Punnawur	75 55	23 1	Puthar	86 6	26 42
Punnawur	78 19	9 26	Puthar	77 22	21 11
Punnawur	79 38	11 11	Puthar	76 26	28 33
Punnawur	89 33	27 23	Puthar	80 4	7 54
Punnawur	89 55	27 58	Puthar	78 39	10 5
Punnawur	88 54	24 38	Puthar	80 7	22 28
Punnawur	79 28	21 40	Puthar	78 20	17 31
Punnawur	76 46	24 16	Puthar	80 58	24 35
Punnawur	96 20	18 48	Puthar	79 22	16 27
Punnawur	87 45	25 40	Puthar	70 44	30 55
Punnawur	84 55	22 28	Puthar	76 5	27 51
Punnawur	74 58	26 49	Puthar	79 9	33 49
Punnawur	79 45	18 12	Puthar	78 52	18 10
Punnawur	75 21	24 35	Puthar	77 35	15 25
Punnawur	77 54	28 59	Puthar	88 50	25 20
Punnawur	76 53	15 45	Puthar	83 25	24 18
Punnawur	83 3	28 55	Puthar	79 20	23 52
Punnawur	85 31	34 14	Puthar	86 21	23 15
Punnawur	75 17	25 56	Puthar	77 14	17 40
Punnawur	78 59	32 44	Puthar	72 10	22 20
Punnawur	87 32	35 49	Puthar	75 39	11 55
Punnawur	84 10	36 50	Puthar	95 28	18 37
Punnawur	73 13	24 50	Puthar	75 25	19 28
Punnawur	80 54	24 23	Puthar	78 3	9 0
Punnawur	76 49	18 58	Puthar	86 47	21 3
Punnawur	75 30	18 19	Puthar	75 45	11 31
Punnawur	73 24	21 43	Puthar	75 38	12 4
Punnawur	72 57	23 37	Puthar	86 45	23 9
Punnawur	76 45	8 49	Puthar	78 38	14 33
Punnawur	76 37	9 50	Puthar	101 10	15 38
Punnawur	88 14	25 8	Puthar	68 53	30 10
Punnawur	77 9	22 15	Puthar	89 54	22 58
Punnawur	83 47	25 21	Puthar	85 37	22 57
Punnawur	81 5	27 57	Puthar	80 16	25 3
Punnawur	73 43	24 19	Puthar	74 5	19 19
Punnawur	86 29	26 2	Puthar	79 3	17 27
Punnawur	75 20	15 47	Puthar	80 11	14 0
Punnawur	85 49	25 37	Puthar	78 43	14 5
Punnawur	89 19	15 36	Puthar	73 39	30 46
Punnawur	82 55	26 50	Puthar	77 14	27 1
Punnawur	83 14	24 8	Puthar	81 22	23 20
Punnawur	87 48	29 38	Puthar	77 0	20 45
Punnawur	87 28	34 4	Puthar	76 38	22 27
Punnawur	82 14	26 47	Puthar	77 9	12 54
Punnawur	74 51	34 1	Puthar	74 33	26 15
Punnawur	78 13	17 35	Puthar	92 42	26 34
Punnawur	73 45	17 56	Puthar	68 53	10 7
Punnawur	80 38	16 39	Puthar	103 26	16 33
Punnawur	83 49	27 12	Puthar	77 48	25 38
Punnawur	77 30	8 19	Puthar	80 38	27 28
Punnawur	77 8	24 39	Puthar	77 14	24 22
Punnawur	68 59	24 39	Puthar	88 15	25 34
Punnawur	73 58	10 54	Puthar	76 5	34 1
Punnawur	77 31	12 27	Puthar	74 48	19 21
Punnawur	83 30	28 55	Puthar	81 8	28 54
Punnawur	80 3	27 50	Puthar	76 55	14 42
Punnawur	70 39	34 40	Puthar	84 41	22 22
Punnawur	70 50	34 15			
Punnawur	78 5	15 20			

Places.	Long.	Lat.	Places.	Long.	Lat.
Raibalkant	78 3	29 45	Rajour	74 41	33 31
Raichoor	77 24	16 12	Rajowly	85 48	25 40
Raichotta	78 7	12 31		85 52	24 43
Raidce	84 29	22 55	Rajpepia	73 47	21 44
Raigpaddett	79 0	18 5	Rajpoor	77 33	30 13
Raigwale	78 25	27 1		74 30	22 30
Raigwee	77 32	32 42	Rajpoora	76 37	30 36
Raigwee	83 11	37 29		69 29	22 33
Raigurrah	77 41	18 28	Rajpoora	73 40	28 16
Rajaurah	78 17	14 30	Rajkonda	78 50	17 11
Rajapoor	76 39	18 35	Rajpalt	78 28	18 31
Rajapoor	84 29	38 14	Rajwary	74 18	18 34
Rajapoor	76 28	19 46	Rakce	86 12	33 36
Rajapoor	85 27	31 56	Rakce Cote	81 3	29 8
Rajapoor	81 29	25 39	Rakce Gar	77 43	31 9
Rajapoor	78 0	26 10	Rakha	83 8	28 37
Rajapoor	75 10	29 59	Rakce	81 53	16 48
Rajbary	90 32	33 23	Rallai	88 0	27 8
Rajbary	86 38	31 6	Rallagong	74 30	18 36
Rajbary	75 9	22 58	Rallygong	78 31	29 38
Rajbary	85 59	27 26	Ram Dargah	84 57	31 56
Rajbary	74 50	18 31	Ram doorg	77 19	15 19
Rajbary	90 13	24 52	Ram Droog	77 8	16 19
Rajbary	75 58	31 40		76 38	14 25
Rajbary	78 29	39 44	Ramadepatt	79 3	17 33
Rajbary	79 2	38 41	Ramadure	89 5	24 9
Rajbary	79 21	17 43	Ramakshir	76 45	25 47
Rajbary	89 4	39 15	Ramakona	78 51	21 43
Rajbary	74 28	17 30	Ramanam	81 12	17 34
Rajbary	81 43	17 3	Ramreddypett	78 30	18 08
Rajbary	81 12	37 27	Ramrakapetta	80 55	16 34
Rajbary	80 10	19 15	Ramasundra	78 25	13 33
Rajbary	81 10	17 1	Ramasundra	77 7	11 59
Rajbary	90 35	23 30	Rambang	87 30	25 47
Rajbary	82 26	19 27	Rambudrapoor	81 6	17 56
Rajbary	77 37	9 28	Rambudrapuram	83 29	18 21
Rajbary	89 39	23 15	Rambudrapuram	91 0	23 43
Rajbary	77 5	32 41	Rambudrapuram	78 35	12 54
Rajbary	74 34	18 46	Rambudrapuram	86 59	21 28
Rajbary	73 31	16 43	Rambudrapuram	75 27	15 53
Rajbary	82 25	25 5	Rambudrapuram	85 59	20 26
Rajbary	81 43	27 20	Rambudrapuram	79 23	9 18
Rajbary	78 13	16 31	Rambudrapuram	80 5	29 33
Rajbary	81 9	19 3	Rambudrapuram	85 24	18 35
Rajbary	80 54	6 43	Rambudrapuram	79 37	12 45
Rajbary	74 35	45 7	Rambudrapuram	77 23	12 45
Rajbary	92 19	21 29	Rambudrapuram	75 11	13 54
Rajbary	90 38	21 27	Rambudrapuram	77 0	27 16
Rajbary	88 31	25 28	Rambudrapuram	77 56	16 18
Rajbary	89 44	24 34	Rambudrapuram	93 4	24 25
Rajbary	87 50	25 0	Rambudrapuram	89 29	26 39
Rajbary	80 32	18 20	Rambudrapuram	91 46	22 59
Rajbary	74 50	17 19	Rambudrapuram	87 3	22 43
Rajbary	77 30	25 21	Rambudrapuram	85 31	23 41
Rajbary	74 51	25 19	Rambudrapuram	84 22	20 27
Rajbary	87 51	22 39	Rambudrapuram	83 45	24 50
Rajbary	86 54	20 44	Rambudrapuram	82 1	18 4
Rajbary	81 24	21 53	Rambudrapuram	80 56	29 47
Rajbary	79 58	21 45	Rambudrapuram	79 53	21 53
Rajbary	77 18	20 58	Rambudrapuram	79 34	24 29
Rajbary	76 49	24 0	Rambudrapuram	77 41	23 18
Rajbary	73 42	22 33	Rambudrapuram	77 39	22 32
Rajbary	76 21	27 16	Rambudrapuram	77 11	21 25
Rajbary	70 55	23 40	Rambudrapuram	75 48	21 5
Rajbary	70 42	28 29	Rambudrapuram	75 7	28 9
Rajbary	74 30	26 46	Rambudrapuram	74 43	21 29
Rajbary	91 50	24 31	Rambudrapuram	76 56	27 23
Rajbary	73 13	31 40	Rambudrapuram	80 23	24 4
Rajbary	86 24	20 39	Rambudrapuram	76 18	10 49
Rajbary	79 30	19 39	Rambudrapuram	80 33	13 26
Rajbary	75 19	13 8	Rambudrapuram	76 80	10 18
Rajbary	71 41	21 8	Rambudrapuram	84 14	21 31
Rajbary	74 40	27 58	Rambudrapuram	87 37	22 31

Places.	Long.	Lat.	Places.	Long.	Lat.
Rambhonde	79 30	29 20	Ramshagun	88 39	25 41
Rambhoh	80 31	27 30	Ramshagun	87 18	23 2
Rambhoh	74 34	17 14	Ramsir	75 4	26 20
Rambhoh	75 25	16 53	Ramsir	91 6	22 50
Rambhoh	78 11	10 40	Ramsir	79 19	21 32
Rambhoh	86 46	26 3	Ramsir	79 47	14 43
Rambhoh	77 13	24 25	Ramsir	77 40	17 52
Rambhoh	78 55	9 13	Ramsir	75 5	29 57
Rambhoh	89 24	33 28	Ramsir	83 58	26 50
Rambhoh	89 20	22 56	Ramsir	76 48	23 24
Rambhoh	88 12	24 30	Ramsir	95 26	20 40
Rambhoh	84 5	24 27	Ramsir	76 50	9 24
Rambhoh	83 6	25 16	Ramsir	74 3	32 17
Rambhoh	82 1	26 32	Ramsir	78 5	22 5
Rambhoh	81 59	26 11	Ramsir	78 0	13 57
Rambhoh	81 42	26 49	Ramsir	90 5	26 9
Rambhoh	80 7	26 37	Ramsir	86 13	23 20
Rambhoh	78 49	24 53	Ramsir	96 50	21 58
Rambhoh	78 4	27 20	Ramsir	85 8	23 32
Rambhoh	73 19	23 13	Ramsir	83 21	28 18
Rambhoh	84 25	27 10	Ramsir	96 20	16 40
Rambhoh	76 57	32 13	Ramsir	91 50	24 20
Rambhoh	92 10	21 27	Ramsir	73 27	21 38
Rambhoh	76 16	27 5	Ramsir	73 46	21 5
Rambhoh	73 24	16 56	Ramsir	86 50	23 15
Rambhoh	89 20	25 40	Ramsir	87 10	21 49
Rambhoh	90 49	23 4	Ramsir	83 41	23 59
Rambhoh	90 11	24 55	Ramsir	76 42	23 32
Rambhoh	90 7	24 19	Ramsir	81 31	29 11
Rambhoh	85 21	24 20	Ramsir	69 57	21 46
Rambhoh	83 54	27 0	Ramsir	81 4	6 7
Rambhoh	83 17	23 35	Ramsir	74 38	22 38
Rambhoh	81 12	27 29	Ramsir	87 44	23 3
Rambhoh	81 12	25 58	Ramsir	85 38	26 18
Rambhoh	80 44	26 4	Ramsir	86 11	24 16
Rambhoh	80 70	25 59	Ramsir	89 18	25 18
Rambhoh	81 30	25 59	Ramsir	86 10	23 43
Rambhoh	79 13	14 8	Ramsir	90 29	23 5
Rambhoh	79 10	23 14	Ramsir	83 4	26 0
Rambhoh	79 0	28 47	Ramsir	75 19	23 11
Rambhoh	78 32	28 52	Ramsir	74 29	21 41
Rambhoh	78 18	24 4	Ramsir	74 8	26 46
Rambhoh	77 34	31 27	Ramsir	95 30	18 32
Rambhoh	77 33	15 53	Ramsir	72 43	13 46
Rambhoh	75 28	27 6	Ramsir	84 20	25 37
Rambhoh	75 39	32 7	Ramsir	77 48	17 15
Rambhoh	73 0	26 32	Ramsir	78 57	12 47
Rambhoh	70 57	24 12	Ramsir	78 25	20 6
Rambhoh	79 12	19 7	Ramsir	75 0	18 28
Rambhoh	77 10	24 45	Ramsir	72 20	31 1
Rambhoh	76 7	26 0	Ramsir	72 0	30 41
Rambhoh	75 43	22 42	Ramsir	78 25	35 52
Rambhoh	75 23	21 28	Ramsir	76 33	27 54
Rambhoh	75 12	33 18	Ramsir	89 39	35 36
Rambhoh	76 15	32 18	Ramsir	80 31	6 41
Rambhoh	79 9	25 21	Ramsir	86 47	24 57
Rambhoh	76 31	27 43	Ramsir	86 29	24 16
Rambhoh	75 14	30 14	Ramsir	89 40	25 16
Rambhoh	81 4	24 35	Ramsir	82 32	27 7
Rambhoh	80 36	24 55	Ramsir	81 10	30 3
Rambhoh	79 58	26 18	Ramsir	79 0	30 59
Rambhoh	79 58	24 49	Ramsir	77 38	14 17
Rambhoh	79 21	24 51	Ramsir	77 20	14 50
Rambhoh	87 0	25 51	Ramsir	86 54	23 42
Rambhoh	86 21	25 11	Ramsir	85 38	23 16
Rambhoh	85 20	25 19	Ramsir	71 8	22 12
Rambhoh	84 11	26 24	Ramsir	87 10	23 11
Rambhoh	79 29	29 47	Ramsir	76 21	25 9
Rambhoh	83 45	27 45	Ramsir	71 52	26 44
Rambhoh	85 7	21 5	Ramsir	73 13	28 21
Rambhoh	72 30	25 2	Ramsir	90 59	25 58

Places.	Long.	Lat.	Places.	Long.	Lat.
Ramcengant	86 8	22 16	Raniniboor	76 53	26 1
Ramgar	73 22	16 17	Rashwar	76 36	19 57
Ramponoor	71 50	22 35	Rasig	83 58	17 44
Rampoura	71 21	22 32	Rasa	76 31	31 34
Ramsein	71 40	22 33	Raspoor	78 29	31 6
Ramwys	71 59	24 22	Raspoora	79 55	28 17
Ram	70 47	25 25	Rasi	84 11	33 31
Ramich	70 30	22 15	Raspihera	79 8	13 43
Ramheer	74 51	29 50	Rasra	77 34	27 0
Ramput	73 26	29 6	Rasra	82 45	27 26
Ramput	74 37	28 23	Rasra	80 25	6 0
Ramra	81 23	29 19	Rasra	77 0	36 0
Ramrangambugalum	78 36	2 40	Rasra	67 36	31 9
Rant	75 52	23 20	Rasra	86 13	23 17
Rantalerheroo	77 53	14 26	Rasra	90 10	24 59
Rantair	76 10	21 20	Rasra	86 41	23 32
Rantpollam	79 3	13 19	Rasra	84 0	25 27
Rantapalli	77 57	17 34	Rasra	78 49	25 11
Rantapawd	79 14	15 35	Rasra	77 42	29 34
Rantah	73 0	24 6	Rasra	88 41	24 50
Rantapoor	79 53	13 50	Rasra	69 38	27 21
Rantully	77 21	14 34	Rasra	80 28	25 13
Rant Pandee	73 11	23 34	Rasra	72 53	27 18
Rantapoor (Fort)	79 38	14 14	Rasra	71 11	25 39
Rant Dangaree	83 28	21 55	Rasra	85 11	26 30
Rantong	83 25	27 22	Rasra	79 0	16 43
Rantpoor	84 15	26 17	Rasra	84 30	29 29
Rantpoor	81 38	24 23	Rasra	81 33	28 48
Rantpoor	83 18	22 22	Rasra	90 50	25 58
Rantpoor	83 49	25 54	Rasra	80 18	24 41
Rantpoor	78 50	13 57	Rasra	71 41	24 81
Rantpoor	70 31	24 59	Rasra	74 30	25 2
Rantpoor	78 27	11 56	Rasra	76 33	22 50
Rantpoor	85 44	23 12	Rasra	80 3	27 6
Rantpoor	77 33	28 8	Rasra	78 41	15 15
Rantpoor	77 22	24 36	Rasra	79 22	28 58
Rantpoor	75 22	30 27	Rasra	79 0	30 18
Rantpoor	75 40	28 10	Rasra	74 44	23 14
Rantpoor	76 59	22 10	Rasra	78 56	24 40
Rantpoor	76 42	28 12	Rasra	86 57	27 34
Rantpoor	89 40	24 47	Rasra	78 41	29 2
Rantpoor	81 37	20 59	Rasra	73 27	17 37
Rantpoor	82 3	26 53	Rasra	86 47	26 37
Rantpoor	73 9	23 19	Rasra	77 39	23 36
Rantpoor	76 51	25 19	Rasra	86 39	24 28
Rantpoor	73 7	23 38	Rasra	74 38	23 38
Rantpoor	81 28	16 32	Rasra	76 8	21 8
Rantpoor	85 43	28 20	Rasra	77 8	15 4
Rantpoor	79 39	29 40	Rasra	77 8	23 33
Rantpoor	83 34	27 59	Rasra	82 0	26 23
Rantpoor	81 38	25 56	Rasra	77 49	23 15
Rantpoor	81 12	25 18	Rasra	88 18	25 5
Rantpoor	79 11	11 50	Rasra	88 30	25 42
Rantpoor	79 35	25 11	Rasra	75 3	15 9
Rantpoor	72 41	25 39	Rasra	78 0	25 9
Rantpoor	77 55	9 25	Rasra	79 21	26 43
Rantpoor	81 4	24 14	Rasra	75 8	18 4
Rantpoor	81 14	23 53	Rasra	72 14	30 19
Rantpoor	79 0	12 0	Rasra	80 25	18 49
Rantpoor	81 19	24 32	Rasra	76 31	20 58
Rantpoor	73 26	27 15	Rasra	75 38	19 53
Rantpoor	73 26	18 41	Rasra	84 22	25 59
Rantpoor	71 40	30 41	Rasra	82 6	24 28
Rantpoor	75 13	17 14	Rasra	73 43	23 1
Rantpoor	76 16	28 54	Rasra	83 50	24 38
Rantpoor	73 13	20 28	Rasra	83 16	25 34
Rantpoor	73 13	16 0	Rasra	84 43	26 49
Rantpoor	80 39	27 0	Rasra	88 7	23 30
Rantpoor	81 3	24 58	Rasra	85 22	22 10
Rantpoor	78 14	30 2	Rasra	75 34	28 25
Rantpoor	81 18	22 7	Rasra	83 0	29 43
Rantpoor	25 13	20 42	Rasra	75 14	29 42
Rantpoor	75 29	27 31			

Places.	Long.	Lat.	Places.	Long.	Lat.
Rantpoor	79 33	29 14	Rantpoor	77 13	13 48
Rantpoor	86 4	25 44	Rantpoor	74 14	32 42
Rantpoor	85 42	24 54	Rantpoor	89 27	35 5
Rantpoor	92 49	26 34	Rantpoor	89 30	34 32
Rantpoor	84 31	27 0	Rantpoor	75 15	24 50
Rantpoor	81 6	25 13	Rantpoor	78 48	19 29
Rantpoor	79 50	13 37	Rantpoor	82 10	32 18
Rantpoor	86 59	21 44	Rantpoor	73 21	21 47
Rantpoor	87 15	22 40	Rantpoor	76 21	35 7
Rantpoor	86 25	22 49	Rantpoor	83 24	18 58
Rantpoor	80 59	26 8	Rantpoor	78 49	18 20
Rantpoor	74 33	27 57	Rantpoor	76 31	16 22
Rantpoor	96 30	18 31	Rantpoor	74 2	21 19
Rantpoor	90 90	7 7	Rantpoor	73 10	13 31
Rantpoor	95 34	21 58	Rantpoor	75 53	21 35
Rantpoor	79 40	22 18	Rantpoor	87 59	23 42
Rantpoor	89 20	24 1	Rantpoor	74 54	16 34
Rantpoor	77 40	14 5	Rantpoor	74 10	21 33
Rantpoor	77 2	29 42	Rantpoor	73 25	18 14
Rantpoor	91 11	24 11	Rantpoor	74 25	25 23
Rantpoor	70 25	22 17	Rantpoor	74 2	25 77
Rantpoor	17 30	31 31	Rantpoor	75 14	27 19
Rantpoor	73 28	30 11	Rantpoor	76 7	20 58
Rantpoor	82 35	34 46	Rantpoor	74 20	17 40
Rantpoor	77 40	28 51	Rantpoor	89 48	22 43
Rantpoor	81 34	24 30	Rantpoor	76 16	24 23
Rantpoor	76 40	26 1	Rantpoor	81 7	22 14
Rantpoor	74 43	21 44	Rantpoor	79 1	26 23
Rantpoor	88 39	25 10	Rantpoor	77 52	23 46
Rantpoor	89 29	25 39	Rantpoor	80 13	23 46
Rantpoor	88 12	24 14	Rantpoor	86 12	27 22
Rantpoor	81 0	17 26	Rantpoor	78 48	12 58
Rantpoor	89 28	23 29	Rantpoor	80 42	33 50
Rantpoor	77 57	25 25	Rantpoor	85 21	18 0
Rantpoor (Fort)	79 34	24 57	Rantpoor	79 42	24 23
Rantpoor	77 0	14 31	Rantpoor	73 8	31 26
Rantpoor	79 44	18 18	Rantpoor	74 12	33 59
Rantpoor	78 9	15 25	Rantpoor	90 29	26 11
Rantpoor	76 33	12 18	Rantpoor	88 19	23 17
Rantpoor	73 30	29 54	Rantpoor	71 39	24 42
Rantpoor	89 23	25 43	Rantpoor	70 38	23 2
Rantpoor	71 41	30 30	Rantpoor	90 3	23 44
Rantpoor (Fort)	94 35	29 59	Rantpoor	88 11	23 40
Rantpoor	78 16	18 3	Rantpoor	75 59	13 27
Rantpoor	80 11	20 21	Rantpoor	74 15	14 51
Rantpoor	77 24	17 50	Rantpoor	88 12	24 25
Rantpoor	79 1	11 23	Rantpoor	89 30	21 38
Rantpoor	88 40	23 10	Rantpoor	88 30	25 41
Rantpoor	74 36	21 25	Rantpoor	88 0	23 7
Rantpoor	75 48	24 3	Rantpoor	75 37	28 48
Rantpoor	75 0	25 7	Rantpoor	84 0	27 26
Rantpoor	75 18	16 3	Rantpoor	72 54	33 2
Rantpoor	78 54	28 43	Rantpoor	80 37	21 30
Rantpoor	81 1	20 13	Rantpoor	80 13	12 30
Rantpoor	89 20	24 5	Rantpoor	83 17	25 14
Rantpoor	89 20	22 19	Rantpoor	88 40	20 37
Rantpoor	87 37	23 40	Rantpoor	74 29	21 35
Rantpoor	85 2	25 44	Rantpoor	82 20	21 33
Rantpoor	87 27	22 49	Rantpoor	80 19	23 59
Rantpoor	78 14	11 27	Rantpoor	89 28	25 53
Rantpoor	77 15	28 54	Rantpoor	73 30	17 2
Rantpoor	73 39	31 59	Rantpoor	75 35	22 48
Rantpoor	73 43	37 45	Rantpoor	86 51	11 35
Rantpoor	78 45	37 10	Rantpoor	91 48	24 13
Rantpoor	73 59	32 46	Rantpoor	84 49	26 27
Rantpoor	84 59	25 30	Rantpoor	84 23	18 25
Rantpoor	85 29	28 28	Rantpoor	77 13	24 21
Rantpoor	75 6	33 26	Rantpoor	75 8	14 10
Rantpoor	77 54	13 23	Rantpoor	80 23	26 13
Rantpoor	73 24	17 3	Rantpoor	78 19	29 19
Rantpoor	92 11	21 18	Rantpoor	79 7	24 20
Rantpoor	72 40	31 12	Rantpoor	78 4	27 14
Rantpoor	86 23	21 14			

Places.	Long.	Lat.	Places.	Long.	Lat.
Sahabgunge	88 6	26 34	Sampulicott	78 17	16 6
Sahacwal	87 25	25 42	Sampulicott	87 21	26 34
Sahalgunge	79 11	27 25	Samsal	89 32	23 10
Sahat	80 19	23 28	Samsal	82 17	17 4
Sahapur	81 11	25 37	Samsal	75 56	22 58
Sahar	80 38	26 38	Samsal	89 25	27 51
Sahar	67 59	28 30	Samsal	74 51	29 32
Sahar	84 36	23 43	Samsal	89 35	23 41
Sahawtee	84 50	19 40	Samsal	88 27	25 33
Sahawtee	82 44	21 3	Samsal	71 48	29 25
Sahawtee	89 49	26 6	Samsal	81 57	6 2
Sahawtee	82 22	25 38	Samsal	78 52	21 8
Sahawtee	88 56	26 18	Samsal	83 44	25 14
Sahawtee	87 16	26 10	Samsal	71 58	13 38
Sahawtee	87 8	25 29	Samsal	79 53	27 19
Sahawtee	78 32	27 1	Samsal	71 43	23 32
Sahawtee	77 19	29 25	Samsal	78 24	21 7
Sahawtee	78 46	29 20	Samsal	81 52	27 20
Sahawtee	78 31	29 09	Samsal	79 49	14 26
Sahawtee	76 57	19 26	Samsal	74 34	23 22
Sahawtee	76 42	18 1	Samsal	79 5	18 11
Sahawtee	57 28	23 35	Samsal	85 23	27 37
Sahawtee	76 29	27 10	Samsal	71 15	16 15
Sahawtee	76 17	26 53	Samsal	75 51	25 49
Sahawtee	78 11	22 55	Samsal	75 18	17 39
Sahawtee	84 37	26 38	Samsal	88 39	22 37
Sahawtee	85 48	25 39	Samsal	79 49	29 49
Sahawtee	77 18	25 36	Samsal	82 22	25 15
Sahawtee	77 2	27 51	Samsal	74 40	18 46
Sahawtee	74 53	19 0	Samsal	75 17	27 32
Sahawtee	74 21	15 08	Samsal	91 14	35 39
Sahawtee	76 54	15 40	Samsal	47 58	11 39
Sahawtee	76 58	29 33	Samsal	74 4	13 34
Sahawtee	94 49	18 31	Samsal	84 40	26 33
Sahawtee	80 28	24 15	Samsal	76 2	29 50
Sahawtee	76 14	11 41	Samsal	77 55	30 45
Sahawtee	78 38	23 28	Samsal	82 47	27 18
Sahawtee	84 33	17 41	Samsal	87 8	22 50
Sahawtee	85 58	24 34	Samsal	76 38	16 0
Sahawtee	76 8	13 7	Samsal	88 49	25 26
Sahawtee	76 3	18 31	Samsal	89 38	26 30
Sahawtee	75 0	23 24	Samsal	80 50	26 0
Sahawtee	90 6	25 51	Samsal	73 55	23 11
Sahawtee	82 57	28 6	Samsal	73 19	22 36
Sahawtee	81 22	26 3	Samsal	71 37	25 50
Sahawtee	83 14	18 17	Samsal	76 49	28 45
Sahawtee	73 0	22 21	Samsal	81 31	7 54
Sahawtee	74 20	18 0	Samsal	25 24	17 40
Sahawtee	75 30	23 0	Samsal	88 30	25 50
Sahawtee	81 3	29 39	Samsal	72 41	25 48
Sahawtee	83 3	29 19	Samsal	76 45	19 5
Sahawtee	78 48	17 37	Samsal	86 50	24 13
Sahawtee	74 32	16 17	Samsal	82 7	24 42
Sahawtee	80 9	23 4	Samsal	85 12	25 13
Sahawtee	75 11	26 40	Samsal	81 29	21 34
Sahawtee	68 41	29 50	Samsal	89 35	25 6
Sahawtee	88 11	30 37	Samsal	72 57	31 22
Sahawtee	79 4	20 21	Samsal	78 50	16 33
Sahawtee	75 41	24 11	Samsal	79 41	24 51
Sahawtee	73 24	22 23	Samsal	72 57	22 14
Sahawtee	75 25	16 15	Samsal	75 7	26 17
Sahawtee	87 50	22 12	Samsal	87 51	24 6
Sahawtee	84 43	24 35	Samsal	75 52	28 52
Sahawtee	75 3	24 43	Samsal	74 59	28 16
Sahawtee	75 19	24 45	Samsal	79 35	23 08
Sahawtee			Samsal	88 54	21 29
Sahawtee			Samsal	72 42	30 31
Sahawtee			Samsal	76 4	19 50
Sahawtee			Samsal	80 30	27 8
Sahawtee			Samsal	83 51	25 0
Sahawtee			Samsal	80 19	22 19
Sahawtee			Samsal	77 31	25 14

Places.	Long.	Lat.	Places.	Long.	Lat.
Sasree	78 11	27 42	Sayheepoor	81 19	21 58
Sasoreahully Ben- noor	75 38	14 11	Saymay	99 39	20 0
Sasoreah	84 0	25 20	Saymay	94 31	20 21
Sasoreah	83 59	24 19	Saymay	84 41	20 21
Sasoreah	99 29	22 49	Saymay	87 58	25 38
Sasoreah	78 42	29 3	Saymay	79 48	16 18
Sasoreah	86 20	22 41	Saymay	84 38	25 21
Sasoreah	83 40	28 8	Saymay	74 31	23 59
Sasoreah	85 1	25 51	Saymay	78 9	28 39
Sasoreah	78 50	25 7	Saymay	85 38	25 38
Sasoreah	91 48	24 15	Saymay	87 50	25 57
Sasoreah	84 10	27 45	Saymay	85 43	26 33
Sasoreah	92 8	22 6	Saymay	75 57	14 33
Sasoreah	98 28	17 20	Saymay	86 22	22 12
Sasoreah	76 23	19 27	Saymay	77 42	30 44
Sasoreah	74 36	21 22	Saymay	81 29	24 10
Sasoreah	77 42	19 0	Saymay	68 19	29 38
Sasoreah	74 11	17 42	Saymay	87 21	29 21
Sasoreah	80 2	13 25	Saymay	72 39	28 31
Sasoreah	77 20	11 30	Saymay	84 6	28 1
Sasoreah	78 6	38 21	Saymay	81 26	27 28
Sasoreah	69 19	23 9	Saymay	77 47	29 57
Sasoreah	73 42	31 51	Saymay	76 37	26 57
Sasoreah	74 0	34 37	Saymay	79 33	26 32
Sasoreah	70 42	27 8	Saymay	78 28	27 41
Sasoreah	76 52	16 38	Saymay	77 58	27 14
Sasoreah	74 50	21 49	Saymay	76 11	23 2
Sasoreah	78 02	29 52	Saymay	74 32	22 35
Sasoreah	74 6	21 27	Saymay	75 26	31 32
Sasoreah	72 0	23 47	Saymay	72 39	25 10
Sasoreah	79 33	18 23	Saymay	71 31	25 46
Sasoreah	74 31	21 0	Saymay	89 22	25 2
Sasoreah	89 3	25 30	Saymay	88 19	26 10
Sasoreah	74 56	25 30	Saymay	88 12	24 50
Sasoreah	75 20	25 50	Saymay	86 59	25 20
Sasoreah	74 51	25 10	Saymay	88 53	25 0
Sasoreah	89 2	35 16	Saymay	77 3	14 14
Sasoreah	88 58	25 48	Saymay	75 21	26 52
Sasoreah	76 19	23 51	Saymay	76 14	19 44
Sasoreah	73 15	24 50	Saymay	72 16	21 45
Sasoreah	87 3	22 19	Saymay	71 41	22 58
Sasoreah	68 58	25 9	Saymay	70 55	23 11
Sasoreah	70 15	21 21	Saymay	73 14	24 51
Sasoreah	72 32	28 14	Saymay	73 18	27 53
Sasoreah	73 10	25 19	Saymay	73 18	27 53
Sasoreah	74 19	27 45	Saymay	73 18	27 53
Sasoreah	71 20	21 50	Saymay	73 18	27 53
Sasoreah	76 18	24 58	Saymay	74 45	23 50
Sasoreah	70 52	21 39	Saymay	74 0	23 30
Sasoreah	75 42	21 16	Saymay	76 30	23 45
Sasoreah	72 37	23 7	Saymay	80 64	19 57
Sasoreah	71 16	23 34	Saymay	77 10	18 17
Sasoreah	72 31	23 0	Saymay	83 48	24 48
Sasoreah	79 3	14 8	Saymay	73 21	21 49
Sasoreah	89 55	25 26	Saymay	74 56	14 8
Sasoreah	73 12	27 14	Saymay	79 36	18 30
Sasoreah	86 40	22 5	Saymay	73 9	18 37
Sasoreah	30 30	24 58	Saymay	84 47	19 30
Sasoreah	75 39	24 19	Saymay	76 30	25 21
Sasoreah	74 19	20 40	Saymay	78 28	33 29
Sasoreah	77 50	21 37	Saymay	72 49	34 53
Sasoreah	81 37	20 57	Saymay	74 40	13 55
Sasoreah	75 19	25 50	Saymay	74 28	14 37
Sasoreah	71 36	21 21	Saymay	89 30	24 30
Sasoreah	77 20	18 55	Saymay	88 2	24 9
Sasoreah	83 42	24 57	Saymay	84 41	25 41
Sasoreah	74 49	14 8	Saymay	84 20	25 45
Sasoreah	77 20	19 45	Saymay	75 2	21 27
Sasoreah	73 36	19 18	Saymay	75 17	24 2
Sasoreah	76 11	16 24	Saymay	77 18	24 59
Sasoreah	74 94	19 53	Saymay	74 42	18 19
Sasoreah	77 49	27 43	Saymay	74 10	18 9
Sasoreah			Saymay	60 34	25 7
Sasoreah			Saymay	79 20	28 42

Places.	Long.	Lat.	Places.	Long.	Lat.
Sera	69 14	46 35	Springapatam	76 47	12 33
Serdan	91 44	22 39	Serfosa	78 8	24 8
Serdanow	75 26	24 2	Sernaul	75 30	16 39
Serdanum	83 29	18 39	Serol	76 58	18 19
Serdanumana	73 33	31 4	Serouha	80 2	18 50
Serdpur	71 8	29 7	Serouha	77 42	24 11
Serdpur	87 17	25 7	Seroung	75 40	15 50
Serum	69 56	22 15	Seroung	78 11	21 6
Serashwar	74 15	14 54	Seroung	80 3	14 18
Serayar	77 5	16 11	Seroung	83 28	16 20
Serayar	59 5	26 18	Seroung	73 29	16 24
Serayar	55 44	17 11	Seroung	78 7	20 1
Serayar	85 49	27 23	Seroung	78 58	20 12
Serayar	74 30	16 50	Seroung	71 30	22 40
Serayar	80 9	12 21	Seroung	84 11	21 52
Serayar	80 10	12 21	Seroung	74 30	18 50
Serayar	81 0	27 30	Seroung	78 43	9 56
Serayar	77 31	26 58	Seroung	69 48	22 19
Serayar	78 33	26 48	Seroung	80 50	24 42
Serayar	77 11	26 15	Seroung	75 4	22 32
Serayar	75 0	26 9	Seroung	78 33	23 15
Serayar	78 42	23 51	Seroung	77 41	27 25
Serayar	68 51	26 6	Seroung	76 37	18 7
Serayar	85 27	26 20	Seroung	88 52	22 42
Serayar	81 20	23 40	Seroung	84 0	26 34
Serayar	78 25	19 27	Seroung	84 12	26 22
Serayar	74 5	23 42	Seroung	80 14	25 40
Serayar	76 14	26 30	Seroung	80 37	24 27
Serayar	83 25	27 48	Seroung	82 38	27 30
Serayar	84 59	27 22	Seroung	80 19	25 19
Serayar	73 1	26 46	Seroung	78 54	26 9
Serayar	78 2	26 51	Seroung	79 38	22 3
Serayar	86 51	27 54	Seroung	78 30	17 3
Serayar	73 19	26 32	Seroung	80 14	12 35
Serayar	85 17	26 8	Seroung	73 13	17 47
Serayar	83 37	26 17	Seroung	78 37	19 55
Serayar	80 40	26 5	Seroung	76 31	21 31
Serayar	82 40	27 47	Seroung	73 4	21 26
Serayar	81 27	21 50	Seroung	87 13	26 28
Serayar	97 26	24 28	Seroung	90 30	23 45
Serayar	94 21	23 40	Seroung	72 12	26 40
Serayar	77 9	21 7	Seroung	78 27	27 42
Serayar	76 7	25 46	Seroung	76 14	24 30
Serayar	83 2	25 19	Seroung	72 27	25 49
Serayar	84 19	24 35	Seroung	73 39	18 29
Serayar	95 16	21 52	Seroung	75 39	13 31
Serayar	72 0	33 40	Seroung	83 21	26 40
Serayar	84 50	31 25	Seroung	76 14	19 48
Serayar	82 40	27 41	Seroung	78 25	20 15
Serayar	81 43	37 45	Seroung	77 87	22 25
Serayar	75 24	28 40	Seroung	75 19	20 50
Serayar	82 56	35 30	Seroung	80 48	20 45
Serayar	82 8	34 53	Seroung	83 40	28 5
Serayar	74 38	29 43	Seroung	73 5	20 9
Serayar	81 30	27 13	Seroung	72 35	22 18
Serayar	77 0	16 46	Seroung	73 51	22 38
Serayar	78 12	24 31	Seroung	75 51	24 50
Serayar	83 2	24 19	Seroung	69 39	34 50
Serayar	83 1	24 16	Seroung	75 45	27 47
Serayar	80 14	26 48	Seroung	88 22	27 8
Serayar	80 35	23 8	Seroung	83 23	23 41
Serayar	89 20	23 15	Seroung	85 3	27 38
Serayar	82 25	23 47	Seroung	85 45	30 39
Serayar	86 14	24 7	Seroung	77 30	28 49
Serayar	77 41	21 21	Seroung	82 30	26 14
Serayar	78 38	15 40	Seroung	77 35	14 11
Serayar	84 42	25 36	Seroung	71 40	20 9
Serayar	84 42	26 47	Seroung	87 28	22 26
Serayar	80 51	27 0	Seroung	87 29	25 16
Serayar	84 41	26 40	Seroung	78 50	27 40
Serayar	87 13	23 49	Seroung	79 1	28 23
Serayar	82 38	24 15	Seroung	77 9	22 13
Serayar	87 9	22 15			

Places.	Long.	Lat.	Places.	Long.	Lat.
Shahabad	76 51	30 10	Sheenhabha	69 12	21 28
Shahabad	71 53	34 3	Sheenhabha	76 19	22 23
Shahabad	71 7	31 38	Sheenhabha, or Suf	70 10	23 49
Shahabad	73 2	34 40	Sheenhabha	69 13	28 36
Shahabad	78 11	17 10	Sheenhabha	74 10	32 25
Shahabad	73 5	18 44	Sheenhabha	84 45	24 31
Shahabad	72 19	33 50	Sheenhabha	70 27	21 16
Shahabad	72 25	33 40	Sheenhabha	77 41	27 46
Shahabad	72 12	33 46	Sheenhabha	80 5	25 1
Shahabad	77 40	24 40	Sheenhabha	80 7	20 34
Shahabad	74 45	34 40	Sheenhabha	79 15	15 1
Shahabad	74 16	31 40	Sheenhabha	85 53	25 9
Shahabad	82 40	25 4	Sheenhabha	77 33	29 54
Shahabad	83 15	26 4	Sheenhabha	78 42	29 16
Shahabad	76 19	23 25	Sheenhabha	67 17	30 32
Shahabad	85 20	23 24	Sheenhabha	69 0	33 45
Shahabad	89 23	28 40	Sheenhabha	74 23	32 42
Shahabad	75 23	34 18	Sheenhabha	77 34	29 14
Shahabad	75 5	27 26	Sheenhabha	73 36	27 7
Shahabad	72 49	36 6	Sheenhabha	73 53	13 26
Shahabad	72 11	38 53	Sheenhabha	72 53	11 41
Shahabad	71 13	38 49	Sheenhabha	72 53	11 41
Shahabad	70 57	23 23	Sheenhabha	73 36	34 32
Shahabad	75 11	18 17	Sheenhabha	73 36	34 32
Shahabad	77 39	9 3	Sheenhabha	73 36	34 32
Shahabad	85 9	18 23	Sheenhabha	73 36	34 32
Shahabad	77 38	8 43	Sheenhabha	73 36	34 32
Shahabad	78 25	11 40	Sheenhabha	73 36	34 32
Shahabad	79 51	27 52	Sheenhabha	73 36	34 32
Shahabad	78 2	28 52	Sheenhabha	73 36	34 32
Shahabad	76 17	17 48	Sheenhabha	73 36	34 32
Shahabad	83 44	26 35	Sheenhabha	73 36	34 32
Shahabad	74 15	24 45	Sheenhabha	73 36	34 32
Shahabad	81 8	33 6	Sheenhabha	73 36	34 32
Shahabad	78 30	22 45	Sheenhabha	73 36	34 32
Shahabad	72 22	34 59	Sheenhabha	73 36	34 32
Shahabad	77 19	29 26	Sheenhabha	73 36	34 32
Shahabad	77 7	19 25	Sheenhabha	73 36	34 32
Shahabad	83 54	25 23	Sheenhabha	73 36	34 32
Shahabad	78 42	11 43	Sheenhabha	73 36	34 32
Shahabad	78 51	10 0	Sheenhabha	73 36	34 32
Shahabad	79 35	18 52	Sheenhabha	73 36	34 32
Shahabad	101 11	14 38	Sheenhabha	73 36	34 32
Shahabad	79 30	17 50	Sheenhabha	73 36	34 32
Shahabad	74 58	25 36	Sheenhabha	73 36	34 32
Shahabad	76 56	8 40	Sheenhabha	73 36	34 32
Shahabad	76 20	9 42	Sheenhabha	73 36	34 32
Shahabad	78 12	16 15	Sheenhabha	73 36	34 32
Shahabad	68 0	34 16	Sheenhabha	73 36	34 32
Shahabad	76 50	4 52	Sheenhabha	73 36	34 32
Shahabad	78 47	9 35	Sheenhabha	73 36	34 32
Shahabad	77 6	11 9	Sheenhabha	73 36	34 32
Shahabad	80 45	14 13	Sheenhabha	73 36	34 32
Shahabad	82 55	24 47	Sheenhabha	73 36	34 32
Shahabad	78 37	16 7	Sheenhabha	73 36	34 32
Shahabad	50 51	19 36	Sheenhabha	73 36	34 32
Shahabad	75 21	13 0	Sheenhabha	73 36	34 32
Shahabad	87 24	22 37	Sheenhabha	73 36	34 32
Shahabad	77 38	22 13	Sheenhabha	73 36	34 32
Shahabad	76 54	16 43	Sheenhabha	73 36	34 32
Shahabad	76 20	21 18	Sheenhabha	73 36	34 32
Shahabad	74 45	16 44	Sheenhabha	73 36	34 32
Shahabad	74 38	15 31	Sheenhabha	73 36	34 32
Shahabad	77 35	9 9	Sheenhabha	73 36	34 32
Shahabad	94 12	14 42	Sheenhabha	73 36	34 32
Shahabad	82 25	26 25	Sheenhabha	73 36	34 32
Shahabad	81 18	25 40	Sheenhabha	73 36	34 32
Shahabad	74 17	21 0	Sheenhabha	73 36	34 32
Shahabad	87 53	23 6	Sheenhabha	73 36	34 32
Shahabad	77 29	9 35	Sheenhabha	73 36	34 32
Shahabad	70 50	31 35	Sheenhabha	73 36	34 32
Shahabad	76 38	13 36	Sheenhabha	73 36	34 32

Places.	Long.	Lat.	Places.	Long.	Lat.
Sankou	83 3	24 19	Sootoor	84 3	25 45
Sankorah	82 36	25 3	Sootoor	84 3	25 19
Sankur	74 57	19 21	Sootoor	77 41	21 2
Sankur	74 53	21 29	Sootor	77 28	39 37
Sankur	74 14	12 24	Sootor	71 51	24 40
Sankur	75 41	23 4	Sootor	76 31	16 31
Sankur	76 45	25 47	Sootor	77 31	16 32
Sankur	76 41	23 29	Sootor	71 12	24 42
Sankur	71 29	18 22	Sootor	71 54	12 28
Sankur	74 59	18 35	Sootor	74 53	13 52
Sankur	77 0	12 35	Sootor	74 53	13 52
Sankur	78 33	29 11	Sootor	74 53	13 52
Sankur	74 53	22 35	Sootor	74 53	13 52
Sankur	74 13	24 53	Sootor	74 53	13 52
Sankur	73 39	25 28	Sootor	74 53	13 52
Sankur	76 7	24 28	Sootor	74 53	13 52
Sankur	81 10	25 0	Sootor	74 53	13 52
Sankur	78 26	25 2	Sootor	74 53	13 52
Sankur	78 0	25 25	Sootor	74 53	13 52
Sankur	76 78	21 28	Sootor	74 53	13 52
Sankur	78 40	31 0	Sootor	74 53	13 52
Sankur	77 27	20 4	Sootor	74 53	13 52
Sankur	74 40	24 2	Sootor	74 53	13 52
Sankur	74 47	30 23	Sootor	74 53	13 52
Sankur	89 29	31 37	Sootor	74 53	13 52
Sankur	89 30	22 43	Sootor	74 53	13 52
Sankur	79 59	17 40	Sootor	74 53	13 52
Sankur	77 52	13 12	Sootor	74 53	13 52
Sankur	73 47	20 34	Sootor	74 53	13 52
Sankur	78 6	12 40	Sootor	74 53	13 52
Sankur	78 10	13 3	Sootor	74 53	13 52
Sankur	71 7	20 20	Sootor	74 53	13 52
Sankur	71 42	20 32	Sootor	74 53	13 52
Sankur	77 7	31 59	Sootor	74 53	13 52
Sankur	74 29	31 8	Sootor	74 53	13 52
Sankur	74 41	31 41	Sootor	74 53	13 52
Sankur	73 11	32 45	Sootor	74 53	13 52
Sankur	72 59	31 16	Sootor	74 53	13 52
Sankur	75 15	17 40	Sootor	74 53	13 52
Sankur	75 19	25 20	Sootor	74 53	13 52
Sankur	75 29	29 14	Sootor	74 53	13 52
Sankur	71 9	35 17	Sootor	74 53	13 52
Sankur	74 0	27 5	Sootor	74 53	13 52
Sankur	76 2	23 28	Sootor	74 53	13 52
Sankur	63 20	28 39	Sootor	74 53	13 52
Sankur	74 33	23 10	Sootor	74 53	13 52
Sankur	71 0	24 43	Sootor	74 53	13 52
Sankur	75 53	20 8	Sootor	74 53	13 52
Sankur	77 27	23 15	Sootor	74 53	13 52
Sankur	74 54	24 11	Sootor	74 53	13 52
Sankur	73 0	14 12	Sootor	74 53	13 52
Sankur	77 26	13 4	Sootor	74 53	13 52
Sankur	79 0	14 0	Sootor	74 53	13 52
Sankur	78 48	13 11	Sootor	74 53	13 52
Sankur	78 48	20 16	Sootor	74 53	13 52
Sankur	84 49	23 56	Sootor	74 53	13 52
Sankur	76 32	23 16	Sootor	74 53	13 52
Sankur	76 37	15 6	Sootor	74 53	13 52
Sankur	79 47	19 17	Sootor	74 53	13 52
Sankur	78 10	21 15	Sootor	74 53	13 52
Sankur	77 7	23 22	Sootor	74 53	13 52
Sankur	76 47	18 10	Sootor	74 53	13 52
Sankur	75 9	21 40	Sootor	74 53	13 52
Sankur	75 56	21 40	Sootor	74 53	13 52
Sankur	75 56	21 40	Sootor	74 53	13 52
Sankur	84 23	25 40	Sootor	74 53	13 52
Sankur	77 9	21 54	Sootor	74 53	13 52
Sankur	74 38	13 14	Sootor	74 53	13 52
Sankur	74 30	13 28	Sootor	74 53	13 52
Sankur	73 7	23 28	Sootor	74 53	13 52
Sankur	73 45	23 29	Sootor	74 53	13 52
Sankur	87 33	23 28	Sootor	74 53	13 52

Places.	Long.	Lat.	Places.	Long.	Lat.
Sankur	77 41	21 31	Sankur	80 44	25 40
Sankur	75 19	15 47	Sankur	73 41	34 21
Sankur	72 43	25 21	Sankur	89 6	30 2
Sankur	69 30	33 26	Sankur	71 52	33 34
Sankur	67 30	30 28	Sankur	95 3	21 42
Sankur	75 10	24 27	Sankur	76 53	23 1
Sankur	79 48	15 23	Sankur	73 41	33 28
Sankur	75 50	34 40	Sankur	72 40	33 32
Sankur	75 18	13 26	Sankur	72 14	31 31
Sankur	79 2	31 24	Sankur	84 8	20 49
Sankur	78 54	31 50	Sankur	82 3	18 18
Sankur	80 2	12 56	Sankur	87 28	23 5
Sankur	78 67	16 4	Sankur	78 57	28 26
Sankur	77 44	9 39	Sankur	73 50	30 46
Sankur	78 0	8 39	Sankur	74 19	32 27
Sankur	79 30	11 25	Sankur	84 28	25 8
Sankur	77 18	13 50	Sankur	68 40	25 51
Sankur	89 8	32 4	Sankur	85 9	25 25
Sankur	84 5	26 13	Sankur	88 30	25 52
Sankur	82 64	23 32	Sankur	73 87	20 43
Sankur	87 9	24 9	Sankur	80 22	27 5
Sankur	76 59	30 57	Sankur	77 3	22 31
Sankur	77 20	36 21	Sankur	77 20	25 19
Sankur	78 49	37 25	Sankur	73 20	22 42
Sankur	81 7	25 3	Sankur	80 14	26 37
Sankur	74 18	22 8	Sankur	91 5	24 3
Sankur	76 35	24 49	Sankur	68 30	33 35
Sankur	82 45	24 58	Sankur	70 51	20 58
Sankur	72 51	32 21	Sankur	73 40	17 14
Sankur	79 0	13 35	Sankur	74 17	17 30
Sankur	89 30	32 6	Sankur	74 55	15 46
Sankur	72 55	20 11	Sankur	79 32	27 14
Sankur	76 39	29 24	Sankur	77 54	18 50
Sankur	84 59	26 41	Sankur	74 29	19 30
Sankur	84 20	27 3	Sankur	69 29	24 56
Sankur	80 47	25 7	Sankur	70 30	20 50
Sankur	77 48	30 22	Sankur	75 22	24 29
Sankur	69 19	28 38	Sankur	79 11	23 44
Sankur	81 0	26 50	Sankur	74 8	27 38
Sankur	91 20	23 28	Sankur	74 35	16 29
Sankur	91 21	24 20	Sankur	71 54	33 23
Sankur	89 42	23 37	Sankur	78 2	18 0
Sankur	70 28	19 53	Sankur	68 0	28 40
Sankur	69 32	27 15	Sankur	77 48	13 24
Sankur	73 31	29 3	Sankur	84 55	26 13
Sankur	73 7	34 2	Sankur	82 19	26 0
Sankur	81 4	25 46	Sankur	70 28	31 32
Sankur	82 20	17 28	Sankur	77 14	15 28
Sankur	82 50	34 39	Sankur	73 42	24 35
Sankur	74 22	16 8	Sankur	72 0	26 12
Sankur	81 2	16 7	Sankur	71 35	25 41
Sankur	73 17	31 41	Sankur	81 54	22 41
Sankur	74 0	32 15	Sankur	71 20	24 20
Sankur	74 9	24 9	Sankur	90 24	22 27
Sankur	79 21	18 33	Sankur	79 27	18 27
Sankur	80 7	27 0	Sankur	86 53	23 3
Sankur	77 49	22 47	Sankur	78 12	30 57
Sankur	88 20	22 4	Sankur	75 11	34 5
Sankur	88 15	25 15	Sankur	75 39	24 32
Sankur	82 0	26 18	Sankur	73 20	33 30
Sankur	81 0	26 3	Sankur	75 39	24 25
Sankur	84 48	25 15	Sankur	86 15	25 14
Sankur	75 35	23 33	Sankur	67 38	23 13
Sankur	75 57	24 29	Sankur	83 54	26 53
Sankur	79 4	27 7	Sankur	82 53	26 29
Sankur	78 0	23 54	Sankur	80 29	26 10
Sankur	82 25	31 31	Sankur	79 15	27 40
Sankur	78 33	29 27	Sankur	81 50	24 43
Sankur	87 54	25 5	Sankur	80 24	29 41
Sankur	80 34	28 24	Sankur	77 10	30 42
Sankur	72 35	25 59	Sankur	73 3	31 15
Sankur	88 51	25 31	Sankur		

Place.	Long.	Lat.	Place.	Long.	Lat.
Sorbhons	78 14	21 8	Tadok	79 38	13 30
Sordah	88 50	24 18	Tadokrapoor	77 7	13 30
Sordaur	71 19	22 1	Tadokrapoor	90 25	33 40
Surgung	81 57	21 31	Tadung	98 27	23 16
Surgur	78 28	14 0	Tadung	85 58	22 41
Surgur	83 17	24 47	Tadung	89 10	28 13
Surgur	88 46	33 1	Tadung	81 2	27 48
Surnagar	78 18	30 25	Tadung	76 31	19 8
Surkanda	78 40	23 0	Tadung	89 30	28 41
Surkeje	71 27	20 53	Tadung	75 21	15 8
Surkurra	60 19	29 21	Tadung	74 34	21 7
Surnalee Stockade	77 21	26 32	Tadung	98 12	14 37
Surnattra	73 8	23 11	Tadung	78 50	11 27
Surnonee	82 38	26 14	Tadung	72 49	38 38
Surnoorpoor	77 9	26 45	Tadung	79 39	33 41
Surova	85 17	26 46	Tadung	74 50	11 31
Surova	78 29	26 46	Tadung	67 10	32 0
Surova	72 38	24 16	Tadung	75 59	28 12
Surova	72 30	24 38	Tadung	82 42	28 39
Surova	61 11	25 44	Tadung	80 15	23 20
Surova	70 32	28 0	Tadung	85 38	27 7
Surova	67 41	23 40	Tadung	88 59	27 34
Surova	76 16	16 39	Tadung	93 29	29 19
Surova	51 30	24 53	Tadung	81 17	24 26
Surova	72 0	22 58	Tadung	69 53	23 7
Surova	61 4	24 7	Tadung	98 35	13 49
Surova	77 48	26 46	Tadung	73 44	18 33
Surova	76 27	17 4	Tadung	81 28	4 24
Surova	86 18	20 59	Tadung	81 10	6 8
Surova	90 48	24 33	Tadung	77 51	11 7
Surova	85 10	26 30	Tadung	85 10	20 74
Surova	72 33	33 7	Tadung	89 54	25 35
Surova	75 10	36 7	Tadung	90 56	6 50
Surova	88 46	24 28	Tadung	81 16	8 40
Surova	82 48	20 28	Tadung	96 40	23 40
Surova	88 35	23 1	Tadung	85 43	20 26
Surova	90 16	23 41	Tadung	79 31	27 8
Surova	85 47	23 27	Tadung	74 53	14 14
Surova	85 50	19 32	Tadung	76 23	18 28
Surova	81 33	26 36	Tadung	84 7	18 38
Surova	72 45	24 19	Tadung	85 15	24 24
Surova	75 27	21 48	Tadung	73 2	26 4
Surova	71 0	26 12	Tadung	76 50	23 36
Surova	70 12	21 47	Tadung	78 29	15 40
Surova	69 36	21 57	Tadung	77 3	28 13
Surova	71 61	27 29	Tadung	76 18	17 9
Surova	78 45	23 30	Tadung	101 10	16 3
Surova	85 53	24 18	Tadung	95 38	21 47
Surova	87 18	26 18	Tadung	82 48	18 29
Surova	73 45	21 11	Tadung	79 46	19 38
Surova	85 27	23 8	Tadung	87 5	24 15
Surova	88 5	25 21	Tadung	88 1	23 50
Surova	79 3	27 28	Tadung	75 23	23 16
Surova	69 0	18 16	Tadung	86 40	23 4
Surova	87 13	24 52	Tadung	79 22	21 15
Surova	79 50	18 15	Tadung	70 5	21 46
Surova	78 36	18 50	Tadung	89 28	24 24
Surova	86 7	21 11	Tadung	100 33	15 29
Surova	79 9	23 51	Tadung	88 12	27 16
Surova	78 30	23 29	Tadung	79 4	20 34
Surova	69 13	24 58	Tadung	86 33	22 50
Surova	66 30	16 41	Tadung	80 40	27 50
Surova	77 45	26 51	Tadung	79 4	12 30
Surova	69 2	25 59	Tadung	76 43	10 40
Surova	79 13	17 45	Tadung	72 30	33 44
Surova	37 51	21 40	Tadung	68 8	24 45
Surova	78 20	33 4	Tadung	84 40	23 56
Surova	72 45	23 4	Tadung	69 9	24 59
Surova	79 22	22 3	Tadung	78 58	12 1
Surova	88 11	20 14	Tadung	74 28	17 54

Place.	Long.	Lat.	Place.	Long.	Lat.
Tadung	77 57	14 23	Tanjapoor	85 8	25 49
Tadung	78 0	14 24	Tanjapoor	81 39	26 1
Tadung	77 3	14 24	Tanjapoor	81 39	26 1
Tadung	77 29	23 3	Tanjapoor	81 39	26 1
Tadung	80 11	21 22	Tanjapoor	81 39	26 1
Tadung	100 30	15 3	Tanjapoor	81 39	26 1
Tadung	81 14	17 3	Tanjapoor	81 39	26 1
Tadung	80 7	15 4	Tanjapoor	81 39	26 1
Tadung	73 55	15 43	Tanjapoor	81 39	26 1
Tadung	81 2	15 43	Tanjapoor	81 39	26 1
Tadung	79 85	17 26	Tanjapoor	81 39	26 1
Tadung	80 7	15 39	Tanjapoor	81 39	26 1
Tadung	85 50	41 33	Tanjapoor	81 39	26 1
Tadung	81 9	26 4	Tanjapoor	81 39	26 1
Tadung	80 33	26 27	Tanjapoor	81 39	26 1
Tadung	80 0	22 55	Tanjapoor	81 39	26 1
Tadung	84 47	21 15	Tanjapoor	81 39	26 1
Tadung	81 5	27 30	Tanjapoor	81 39	26 1
Tadung	79 14	10 42	Tanjapoor	81 39	26 1
Tadung	77 18	26 26	Tanjapoor	81 39	26 1
Tadung	78 4	19 12	Tanjapoor	81 39	26 1
Tadung	74 13	15 37	Tanjapoor	81 39	26 1
Tadung	78 19	13 46	Tanjapoor	81 39	26 1
Tadung	87 43	21 51	Tanjapoor	81 39	26 1
Tadung	75 38	10 59	Tanjapoor	81 39	26 1
Tadung	82 51	20 26	Tanjapoor	81 39	26 1
Tadung	83 31	27 54	Tanjapoor	81 39	26 1
Tadung	78 53	18 21	Tanjapoor	81 39	26 1
Tadung	84 30	28 13	Tanjapoor	81 39	26 1
Tadung	98 38	18 20	Tanjapoor	81 39	26 1
Tadung	67 42	28 1	Tanjapoor	81 39	26 1
Tadung	76 39	22 52	Tanjapoor	81 39	26 1
Tadung	77 34	13 10	Tanjapoor	81 39	26 1
Tadung	95 30	23 40	Tanjapoor	81 39	26 1
Tadung	79 2	20 59	Tanjapoor	81 39	26 1
Tadung	76 31	31 21	Tanjapoor	81 39	26 1
Tadung	88 30	26 5	Tanjapoor	81 39	26 1
Tadung	75 14	15 7	Tanjapoor	81 39	26 1
Tadung	90 1	23 1	Tanjapoor	81 39	26 1
Tadung	84 10	25 20	Tanjapoor	81 39	26 1
Tadung	76 7	18 23	Tanjapoor	81 39	26 1
Tadung	73 45	15 44	Tanjapoor	81 39	26 1
Tadung	84 9	28 8	Tanjapoor	81 39	26 1
Tadung	79 29	15 40	Tanjapoor	81 39	26 1
Tadung	77 3	28 13	Tanjapoor	81 39	26 1
Tadung	76 18	17 9	Tanjapoor	81 39	26 1
Tadung	101 10	16 3	Tanjapoor	81 39	26 1
Tadung	95 38	21 47	Tanjapoor	81 39	26 1
Tadung	82 48	18 29	Tanjapoor	81 39	26 1
Tadung	79 46	19 38	Tanjapoor	81 39	26 1
Tadung	87 5	24 15	Tanjapoor	81 39	26 1
Tadung	88 1	23 50	Tanjapoor	81 39	26 1
Tadung	75 23	23 16	Tanjapoor	81 39	26 1
Tadung	86 40	23 4	Tanjapoor	81 39	26 1
Tadung	79 22	21 15	Tanjapoor	81 39	26 1
Tadung	70 5	21 46	Tanjapoor	81 39	26 1
Tadung	89 28	24 24	Tanjapoor	81 39	26 1
Tadung	100 33	15 29	Tanjapoor	81 39	26 1
Tadung	88 12	27 16	Tanjapoor	81 39	26 1
Tadung	79 4	20 34	Tanjapoor	81 39	26 1
Tadung	86 33	22 50	Tanjapoor	81 39	26 1
Tadung	80 40	27 50	Tanjapoor	81 39	26 1
Tadung	79 4	12 30	Tanjapoor	81 39	26 1
Tadung	76 43	10 40	Tanjapoor	81 39	26 1
Tadung	72 30	33 44	Tanjapoor	81 39	26 1
Tadung	68 8	24 45	Tanjapoor	81 39	26 1
Tadung	84 40	23 56	Tanjapoor	81 39	26 1
Tadung	69 9	24 59	Tanjapoor	81 39	26 1
Tadung	78 58	12 1	Tanjapoor	81 39	26 1
Tadung	74 28	17 54	Tanjapoor	81 39	26 1
Tadung	76 12	15 49	Tanjapoor	81 39	26 1
Tadung	75 28	23 53	Tanjapoor	81 39	26 1

Places.	Long.	Lat.	Places.	Long.	Lat.
Terdad, or Fergoor	78 31	15 37	Talwan	75 40	31 0
Trichingole	77 58	11 33	Tamberhully	75 18	15 10
Trichingopoly	78 46	10 52	Tambo	73 40	27 44
Trichur	76 17	10 32	Tambooly	74 14	31 50
Trichunangoody	77 37	8 27	Tamkhor	74 15	28 28
Trichwile	81 55	8 46	Tammaroo	84 9	21 18
Trinacottah	79 34	10 32	Tamoo	84 49	21 8
Trinamoor	79 11	10 57	Tamoor	85 21	27 31
Trinamuck	73 40	19 50	Tandavee	75 23	27 15
Trinulavaram	77 39	9 19	Tandikool	86 19	30 9
Trinulwansel	79 57	11 15	Tangatoor	79 18	14 19
Trinanda	79 45	11 57	Tangee	72 0	14 24
Trinonali	81 19	8 33	Tangeong	94 31	34 30
Trinonallee	79 9	13 15	Tanglung Ghaat	77 57	33 38
Trinonallee	79 59	23 9	Tann	101 9	14 10
Trinonore	78 40	19 7	Tanna	74 49	33 40
Trinonore	78 39	13 30	Tanagali	77 49	16 0
Trinonore	78 31	11 2	Tan-grees	84 58	25 40
Trinonore	79 30	12 59	Tapha-kam-yosa	85 13	25 47
Trinonore	78 19	10 25	Tapokha	78 58	28 9
Trinonore	78 33	16 0	Tapuel	77 39	28 3
Trinonore	79 50	11 43	Tarase	68 52	27 9
Trinonore	78 14	8 30	Tarona	68 52	34 10
Trinonore	79 43	10 34	Tarua	78 8	13 30
Trinonore	79 43	10 45	Tarua	86 56	34 30
Trinonore	77 2	8 30	Tarua	84 44	32 47
Trinonore	77 21	8 28	Tarua	74 31	18 8
Trinonore	78 32	9 59	Tarua	74 13	32 50
Trinonore	80 22	13 8	Tarua	84 14	34 5
Trinonore	79 38	19 40	Tarua	76 52	11 50
Trinonore	78 25	10 58	Tarua	73 12	31 35
Trinonore	79 57	13 10	Tarua	69 50	31 42
Trinonore	80 40	17 6	Tarua	85 28	35 38
Trinonore	71 27	32 50	Tarua	77 49	18 1
Trinonore	71 40	29 52	Tarua	73 36	28 19
Trinonore	73 20	21 30	Tarua	80 30	17 37
Trinonore	69 8	28 58	Tarua	77 39	15 49
Tobah	68 32	18 39	Tarua	81 33	41 52
Tobah	68 19	31 13	Tarua	71 31	23 57
Tobah	76 29	31 9	Tarua	73 4	17 8
Tobah	75 30	17 23	Tarua	77 8	23 15
Tobah	77 19	28 29	Tarua	70 52	25 24
Tobah	67 52	32 30	Tarua	73 23	13 44
Tobah	70 51	33 17	Tarua	68 48	28 15
Tobah	69 43	21 21	Tarua	68 51	31 59
Tobah	69 8	31 43	Tarua	81 32	21 23
Tobah	78 8	16 1	Tarua	78 31	11 8
Tobah	62 30	51 20	Tarua	78 15	6 20
Tobah	71 1	19 8	Tarua	74 30	19 33
Tobah	73 59	17 8	Tarua	74 50	20 33
Tobah	68 50	25 42	Tarua	78 51	17 30
Tobah	73 14	14 50	Tarua	78 28	13 6
Tobah	77 7	12 11	Tarua	80 6	24 22
Tobah	73 17	18 13	Tarua	84 15	22 59
Tobah	73 10	34 19	Tarua	78 34	12 12
Tobah	73 17	21 23	Tarua	79 40	37 56
Tobah	71 47	14 14	Tarua	74 11	30 9
Tobah	77 33	15 58	Tarua	73 54	12 45
Tobah	79 57	12 47	Tarua	81 38	23 30
Tobah	71 32	30 39	Tarua	84 39	25 30
Tobah	73 30	22 30	Tarua	74 30	18 30
Tobah	74 59	19 39	Tarua	79 12	12 47
Tobah	73 48	18 42	Tarua	84 25	25 30
Tobah	74 28	31 38	Tarua	72 11	23 30
Tobah	73 59	19 23	Tarua	69 49	31 30
Tobah	76 48	14 38	Tarua	75 44	13 0
Tobah	73 41	21 38	Tarua	72 20	22 30
Tobah	71 45	18 38	Tarua	81 42	27 30
Tobah	76 56	18 15	Tarua	80 26	28 30
Tobah	74 18	15 6	Tarua	77 8	27 18
Tobah	72 18	35 21	Tarua	86 52	27 7
Tobah			Tarua	71 30	20 30

Places.	Long.	Lat.	Places.	Long.	Lat.
Ukomaon	87 32	24 43	Uluwa	80 20	27 18
Ulabad	80 56	26 23	Uluwa	77 49	30 59
Ulabad	84 48	24 1	Uluwa	75 41	17 30
Ulabad	73 45	9 18	Uluwa	79 15	28 0
Ulabad	83 30	17 27	Uluwa	77 28	13 33
Ulabad	73 15	13 6	Uluwa	80 16	37 8
Ulabad	74 30	27 15	Uluwa	65 35	31 40
Ulabad	72 53	23 31	Uluwa	77 25	10 35
Ulabad	77 34	10 5	Uluwa	79 57	10 22
Ulabad	75 59	21 54	Uluwa	79 13	9 15
Ulabad	76 44	20 23	Uluwa	79 28	10 34
Ulabad	78 40	17 12	Uluwa	78 14	21 52
Ulabad	75 53	19 40	Uluwa	75 13	17 56
Ulabad	75 31	14 10	Uluwa	77 0	6 31
Ulabad	76 13	12 54	Uluwa	78 24	9 7
Ulabad	76 35	31 33	Uluwa	78 24	14 23
Ulabad	76 30	9 24	Uluwa	79 26	15 33
Ulabad	79 48	19 30	Uluwa	78 0	18 28
Ulabad	76 33	21 35	Uluwa	78 40	9 33
Ulabad	79 51	24 6	Uluwa	77 43	17 12
Ulabad	82 14	27 0	Uluwa	78 10	21 30
Ulabad	78 2	17 13	Uluwa	78 41	10 12
Ulabad	76 59	24 29	Uluwa	79 34	17 43
Ulabad	70 7	21 39	Uluwa	74 35	15 45
Ulabad	77 0	23 10	Uluwa	77 38	10 38
Ulabad	73 38	22 22	Uluwa	77 48	24 0
Ulabad	73 2	23 12	Uluwa	79 41	12 41
Ulabad	96 3	21 54	Uluwa	78 45	12 43
Ulabad	75 12	21 5	Uluwa	77 44	15 53
Ulabad	77 48	16 9	Uluwa	85 41	25 3
Ulabad	71 38	21 36	Uluwa	79 15	17 12
Ulabad	81 39	16 0	Uluwa	78 23	16 55
Ulabad	75 30	29 7	Uluwa	77 8	8 27
Ulabad	78 50	27 20	Uluwa	77 11	8 24
Ulabad	79 54	18 59	Uluwa	78 32	10 21
Ulabad	77 2	8 59	Uluwa	76 20	9 55
Ulabad	80 13	16 33	Uluwa	73 34	22 18
Ulabad	76 30	9 50	Uluwa	69 11	23 7
Ulabad	74 9	15 9	Uluwa	70 51	24 22
Ulabad	76 54	16 59	Uluwa	81 9	16 55
Ulabad	70 12	34 12	Uluwa	83 40	18 33
Ulabad	79 0	28 10	Uluwa	79 32	11 48
Ulabad	75 5	12 38	Uluwa	78 56	14 10
Ulabad	77 20	21 10	Uluwa	71 0	31 47
Ulabad	73 38	31 0	Uluwa	70 28	32 8
Ulabad	84 53	20 48	Uluwa	73 21	31 29
Ulabad	75 10	21 52	Uluwa	69 43	21 47
Ulabad	74 24	14 39	Uluwa	81 8	6 40
Ulabad	74 55	20 18	Uluwa	78 31	11 45
Ulabad	74 31	20 15	Uluwa	77 3	11 16
Ulabad	75 16	18 45	Uluwa	77 48	11 33
Ulabad	79 56	18 50	Uluwa	79 22	12 44
Ulabad	76 30	13 7	Uluwa	77 17	8 21
Ulabad	95 0	23 45	Uluwa	80 6	15 24
Ulabad	73 21	23 20	Uluwa	79 14	12 56
Ulabad	78 8	28 13	Uluwa	77 55	13 45
Ulabad	75 20	20 33	Uluwa	80 9	26 30
Ulabad	79 59	16 20	Uluwa	76 36	17 22
Ulabad	79 30	14 38	Uluwa	78 32	12 0
Ulabad	77 47	11 11	Uluwa	79 49	13 58
Ulabad	79 1	15 40	Uluwa	79 33	14 0
Ulabad	67 29	31 14	Uluwa	77 14	10 27
Ulabad	67 1	32 41	Uluwa	87 30	24 31
Ulabad	74 14	23 35	Uluwa	77 53	15 30
Ulabad	75 45	24 50	Uluwa	77 53	15 30
Ulabad	74 47	24 29	Uluwa	77 53	15 30
Ulabad	73 48	23 29	Uluwa	77 53	15 30
Ulabad	78 9	9 6	Uluwa	79 0	13 12
Ulabad	71 9	35 33	Uluwa	78 30	16 0
Ulabad	75 30	39 10	Uluwa	79 30	11 30
Ulabad	83 40	39 48	Uluwa	71 38	21 3
Ulabad	83 43	27 41	Uluwa		

Places.	Long.	Lat.	Places.	Long.	Lat.
Veramilly	78 20	10 30	Wama	70 19	35 5
Verapandy	77 35	9 55	Wamgulla	78 18	15 50
Verasramanaputti	78 20	10 13	Wan	74 12	31 30
Veramangalam	77 9	10 5	Wanat	79 19	19 18
Verlow	73 5	21 30	Wancaneer	71 2	22 26
Vernaud	80 12	13 37	Wandechy	89 40	37 50
Verracurion	78 21	11 20	Wandipore	89 58	27 52
Verrautapoor	78 56	22 5	Wandiwile	80 7	75 4
Versawah	78 52	19 8	Wandaryn	76 10	32 12
Veshode	72 52	21 38	Wandree	73 8	33 40
Verre	71 28	23 29	Wara	74 32	15 23
Victoria, or Baun- rde (Bert)	73 11	17 50	Wariapilly	72 54	31 24
Vidaoor	79 48	12 0	Waria	72 43	16 35
Vieravandy	79 38	12 4	Warree	73 18	19 31
Vijrabhye	73 8	19 30	Warree	74 54	17 27
Villanour	79 30	11 57	Waroor	73 58	10 57
Villavani	77 6	8 22	Waroor	77 6	18 36
Villanjan	88 5	25 29	Waroor	79 38	27 47
Vingoria	73 41	15 52	Warpoora	73 59	21 32
Vingoria Rocks	73 42	15 52	Warrie	73 18	19 11
Vingul Salt Mines	77 0	31 43	Warrunah	77 56	18 33
Viniketty Kota	76 5	11 0	Warry	74 42	18 45
Vinoddy	77 52	10 28	Waringul	74 11	32 38
Vinoddyputty	78 3	9 28	Wassoh	79 41	17 37
Vishalpur	93 59	24 30	Wassoh	79 46	14 42
Vishnuramam	77 50	8 27	Wassoh	73 57	23 31
Vishnucothah	83 28	19 24	Wassoh	73 54	17 39
Vissavahnee	77 48	8 15	Wassoh	74 19	17 24
Vissunapettah	80 51	16 36	Wassoh	75 45	13 17
Vita	75 9	12 42	Wassoh	79 17	15 9
Vitapattanam	83 22	17 41	Wassoh	75 10	19 17
Vitapattanam	81 4	18 49	Wassoh	71 33	21 34
Vitapattanam	81 4	18 49	Wassoh	72 31	26 19
Vitapattanam	81 4	18 49	Wassoh	73 31	26 26
Vitapattanam	81 4	18 49	Wassoh	73 58	21 30
Vitapattanam	81 4	18 49	Wassoh	71 0	29 12
Vitapattanam	81 4	18 49	Wassoh	75 9	31 34
Vitapattanam	81 4	18 49	Wassoh	70 6	23 11
Vitapattanam	81 4	18 49	Wassoh	71 43	31 26
Vitapattanam	81 4	18 49	Wassoh	71 0	24 30
Vitapattanam	81 4	18 49	Wassoh	70 53	33 3
Vitapattanam	81 4	18 49	Wassoh	69 34	32 13
Vitapattanam	81 4	18 49	Wassoh	69 17	33 15
Vitapattanam	81 4	18 49	Wassoh	70 55	18 59
Vitapattanam	81 4	18 49	Wassoh	73 29	28 56
Vitapattanam	81 4	18 49	Wassoh	71 20	33 39
Vitapattanam	81 4	18 49	Wassoh	72 26	19 43
Vitapattanam	81 4	18 49	Wassoh	71 50	26 8
Vitapattanam	81 4	18 49	Wassoh	91 38	20 18
Vitapattanam	81 4	18 49	Wassoh	74 13	19 37
Vitapattanam	81 4	18 49	Wassoh	98 47	18 37
Vitapattanam	81 4	18 49	Wassoh	81 18	5 28
Vitapattanam	81 4	18 49	Wassoh	80 61	13 14
Vitapattanam	81 4	18 49	Wassoh	95 34	25 43
Vitapattanam	81 4	18 49	Wassoh	80 56	16 22
Vitapattanam	81 4	18 49	Wassoh	73 15	22 43
Vitapattanam	81 4	18 49	Wassoh	77 11	37 3
Vitapattanam	81 4	18 49	Wassoh	81 33	19 43
Vitapattanam	81 4	18 49	Wassoh	77 39	31 13
Vitapattanam	81 4	18 49	Wassoh	74 3	18 0
Vitapattanam	81 4	18 49	Wassoh	77 47	7 30
Vitapattanam	81 4	18 49	Wassoh	85 36	22 33
Vitapattanam	81 4	18 49	Wassoh	81 40	7 44
Vitapattanam	81 4	18 49	Wassoh	76 50	11 35
Vitapattanam	81 4	18 49	Wassoh	79 18	13 15
Vitapattanam	81 4	18 49	Wassoh	79 32	11 13
Vitapattanam	81 4	18 49	Wassoh	98 52	23 20
Vitapattanam	81 4	18 49	Wassoh	75 51	18 45
Vitapattanam	81 4	18 49	Wassoh	78 43	16 40
Vitapattanam	81 4	18 49	Wassoh	83 11	17 31
Vitapattanam	81 4	18 49	Wassoh	75 31	21 49
Vitapattanam	81 4	18 49	Wassoh	78 13	14 48

OF ALL THE PLACES IN THE MAPS OF INDIA.

Places.	Long.	Lat.	Places.	Long.	Lat.
Wookoor	78 35	9 56	Yatimudda	77 47	9 53
Wooloor	78 45	15 30	Yaiming	94 44	31 16
Wooloorpettah	79 21	11 41	Yaimpilly	78 0	17 40
Wooloor	87 13	21 50	Yaimoor	75 13	13 2
Wooloor	91 41	22 58	Yaimoor	78 39	13 21
Wooloor	78 0	26 7	Yaimoor	78 14	14 27
Wooloor	79 9	9 50	Yaimoor	76 39	14 27
Wooloor	78 49	9 50	Yaimoor	77 34	9 37
Wooloor	77 52	10 3	Yaimoor	77 54	9 37
Wooloor	77 47	8 20	Yaimoor	93 50	19 3
Wooloor	77 45	9 0	Yaimoor	95 2	21 38
Wooloor	78 38	14 13	Yaimoor	79 33	18 48
Wooloor	71 43	33 32	Yaimoor	85 48	16 52
Wooloor	71 28	34 12	Yaimoor	82 25	28 41
Wooloor	74 54	22 40	Yaimoor	79 7	13 43
Wooloor	73 0	23 39	Yaimoor	78 15	14 23
Wooloor	66 50	27 24	Yaimoor	94 40	20 0
Wooloor	75 44	17 33	Yaimoor	78 40	20 0
Wooloor	71 12	29 7	Yaimoor	94 33	9 30
Wooloor	77 27	15 3	Yaimoor	85 25	20 38
Wooloor	79 5	18 19	Yaimoor	94 24	20 51
Wooloor	70 42	39 53	Yaimoor	87 40	15 30
Wooloor	78 26	19 14	Yaimoor	95 16	18 9
Wooloor	71 57	22 41	Yaimoor	95 44	18 39
Wooloor	80 8	15 59	Yaimoor	95 6	21 39
Wooloor	80 52	16 20	Yaimoor	75 32	16 39
Wooloor	78 48	14 35	Yaimoor	77 53	14 37
Wooloor	74 16	19 4	Yaimoor	77 53	10 37
Wooloor	74 11	20 22	Yaimoor	79 12	10 1
Wooloor	74 57	17 50	Yaimoor	76 28	12 25
Wooloor	73 07	20 15	Yaimoor	76 19	29 40
Wooloor	71 52	21 50	Yaimoor	76 14	13 27
Wooloor	71 56	32 50	Yaimoor	75 42	17 37
Wooloor	71 21	19 55	Yaimoor	74 55	18 3
Wooloor	71 42	16 10	Yaimoor	77 7	12 5
Wooloor	71 21	22 37	Yaimoor	73 30	14 37
Wooloor	79 13	20 28	Yaimoor	74 18	29 8
Wooloor	76 33	16 32	Yaimoor	76 5	13 30
Wooloor	74 48	20 7	Yaimoor	80 53	16 9
Wooloor	75 30	22 4	Yaimoor	77 20	13 46
Wooloor	75 32	22 26	Yaimoor	79 10	17 38
Wooloor	75 35	25 20	Yaimoor	79 44	18 24
Wooloor	77 41	20 10	Yaimoor	74 38	10 34
Wooloor	72 0	24 2	Yaimoor	78 21	13 13
Wooloor	80 4	21 28	Yaimoor	78 0	13 13
Wooloor	73 50	19 45	Yaimoor	78 21	13 13
Wooloor	74 31	21 39	Yaimoor	78 21	13 13
Wooloor	76 30	21 3	Yaimoor	78 21	13 13
Wooloor	79 5	20 18	Yaimoor	78 21	13 13
Wooloor	75 24	17 19	Yaimoor	78 21	13 13
Wooloor	74 19	21 0	Yaimoor	78 21	13 13
Wooloor	72 41	22 23	Yaimoor	78 21	13 13
Wooloor	71 30	21 39	Yaimoor	78 21	13 13
Wooloor	73 13	23 0	Yaimoor	78 21	13 13
Wooloor	71 29	27 47	Yaimoor	78 21	13 13
Wooloor	68 39	32 18	Yaimoor	78 21	13 13
Wooloor	75 44	17 43	Yaimoor	78 21	13 13
Wooloor	68 33	44 30	Yaimoor	78 21	13 13
Wooloor	75 17	23 50	Yaimoor	78 21	13 13
Wooloor	70 58	28 52	Yaimoor	78 21	13 13
Wooloor	74 10	29 31	Yaimoor	78 21	13 13
Wooloor	74 25	29 11	Yaimoor	78 21	13 13
Wooloor	73 59	29 11	Yaimoor	78 21	13 13
Wooloor	76 45	16 21	Yaimoor	78 21	13 13
Wooloor	75 51	18 5	Yaimoor	78 21	13 13
Wooloor	74 6	20 26	Yaimoor	78 21	13 13
Wooloor	74 6	17 52	Yaimoor	78 21	13 13
Wooloor	77 53	13 50	Yaimoor	78 21	13 13
Wooloor	78 24	13 4	Yaimoor	78 21	13 13
Wooloor	73 24	13 6	Yaimoor	78 21	13 13

Thus far the western boundary of the Burman Empire is formed by mountain-ranges. The remainder, from 21° N. lat. up to the Nagai Mountains, which divide it from Assam, is bounded by the territories of the Raja of Manipore, a prince who has placed himself under the protection of the British, and whose country extends eastward as far as the Nampagna River, a branch of the Khyndusen, which constitutes the boundary line of the Burman Empire in this part.

The northern extremity of Birma is again separated by mountain ranges from the neighbouring country. The ranges called Patkoi or Patano Mountains, which rise to great height, and the still higher Langkat Mountains, divide it from Assam and the countries along the Upper Brahmapootra. In the high summits, whence the Brahmapootra descends to the west, are also the sources of the Iravaddi, which river may with great propriety be called the river of Birma, as all the countries drained by it and its tributaries belong to that empire, with the single exception of the southern part of Manipore. It has lately been ascertained that no part of the Chinese empire extends so far west as the banks of the Iravaddi. We shall, therefore, follow the course of this river, and make some observations on the countries drained by it.

The different opinions respecting the source of the Iravaddi, and its identity with the Zasko-tsin of Tibet, will be examined under the head of BRAHMAPOOTRA. Lieutenant Wilcox was informed that its source was at no great distance from that of the Brahmapootra, to the south of it, and about fifty miles from Maseri, a town of the Bar Khamti. The river soon issues from the mountains, and enters a plain, or rather an extensive valley, occupied by the Bar Khamti. The country here forms a perfect level, partly cultivated, and partly studded with clumps of trees and bamboos, and intersected by a number of rivulets. The Iravaddi opposite the town of Maseri is only eighty yards broad and fordable. The plain on its banks is 1855 feet above the level of the sea.

From the country of the Bar Khamti, the Iravaddi continues its southern course through three degrees of latitude to Bhamo, through countries about which we have scarcely any information at all. It would seem that high mountain-ranges frequently close upon it, and at other places plains of considerable extent border its banks. Seen on its western side are the Sumokhram Mountains and the plain of Monkhung, extending on both sides of the Monkhong river far to the west. The mountain-ranges are partly in possession of the Singphos, a powerful mountain tribe which also occupies a considerable portion of the mountain south of Assam, and everywhere maintains its independence in the mountain-fastnesses. The ranges which divide this portion of Birma from the Chinese province of Yunnan seem to be exceedingly rugged, and the difficulties encountered in traversing them have always frustrated the attempts of the Chinese to conquer the countries above the Iravaddi. From Maseri to Bhamo the river falls within a course of about 336 miles 1300 feet, being at the latter place only 500 feet above the sea. This accounts for the river being unnavigable for the greater part of that distance, except for small canoes.

Bhamo is a place of some note, being the principal market for Chinese goods, which are brought to this town on horses and mules. Below Bhamo the river suddenly turns to the west, but soon resumes its southern course, and thus continues to a few miles east of Annapoora. The river flows in this tract through a valley of no great breadth, the mountains rising on each side, and frequently advancing to the very banks of the river, especially on the east. Between Bhamo and Annapoora the river is only navigable for small trading boats.

Above Annapoora the Iravaddi begins to decline to the south-west, and from that town it runs in a westerly direction for nearly a hundred miles as far as the mouth of the Kyan Duayn. With the change of the river the face of the country is changed. Issued from the narrow valley it enters a very wide one, or rather a plain. Along its banks, and especially on the southern side, the level country extends for many miles, in some places even to thirty, and even then is not bounded by high mountains, but by moderate hills, which increase in height as they recede further from the river. Considerable portions of this plain are covered by the foundations of the river in the wet season. On the north side of the river the hills are at no great distance from the banks, and here the ground is impregnated with nitrate of soda and with nitre, of which great quantities are extracted. To the north of these hills is the lake of Nandagondo, which extends in length from S. to N. above thirty miles; the country about it presents an undulating surface. At a considerable distance east of the mouth of the Kyan Duayn river the hills cease, and an open slightly-undulating country extends to its banks and beyond them. This portion of the valley of the Iravaddi seems to be the most fertile and most populous part of the Burman Empire, and offers at the same time the most easy communication with its lateral provinces. The Iravaddi opens an easy road to the north as well as to the south, and its two greatest tributaries, the Myit-nga and the Kyan Duayn, fill the provinces lying east and north-west of the valley. The seat of government has long since been fixed in the central part of the empire, and here are the four capitals, Ava, Annapoora, Sagay (Sagay), and Monchabo.

The Myit-nga, or 'Little river' (so called in comparison with the Iravaddi, which is named by Sir F. Hamilton the Megaphant, then in the Chinese province of Yunnan, and runs a little to the west of south, nearly parallel with the Iravaddi), is probably for more than three hundred miles. In this course it drains an elevated but wide, fertile, and well-populated valley, in which its waters are employed to irrigate the cultivated lands. Arrived at the parallel of Ava, where it is still about eighty miles from the capital, it suddenly turns to the west, and continues generally in that direction to its mouth. Near its entrance into the Iravaddi it divides into two branches, of which the eastern retains the name of Myit-nga. Our western is called Myit-tha. On the island formed by these two branches of the Myit-nga, the present capital of the country, Ava, is built, more

especially near the mouth of the eastern or principal branch, which at this place is from 150 to 200 yards broad and very deep. It must be considered as the proper port of the capital, and a considerable number of war-boats are always stationed there.

Having given an account of the former capital, Annapoora, under that article, we shall here insert a short description of the present capital, Ava, and the ancient capitals of Sagay and Monchabo.

Ava is called by the natives Angwa, meaning a fish-pond, because the town was erected on a place where such a pond had formerly been. This name has been corrupted by the Chinese and Malays into Awa, and by Europeans again into Ava; but in all public writings it bears the name of Ratnapoora, or the City of the Pearl.

Ava consists of the inner town or city and the outer town. The city occupies the north-east angle of the whole, and extends nearly up to the mouth of the Myit-nga river. The outer town lies to the south-west of the city. The whole is surrounded by a brick wall fifteen and a half feet high and ten feet in thickness, with innumerable embrasures about the distance of five feet from each other; on the inside of the wall there is thrown up a bank of earth, forming an angle of about forty-five degrees. The ditch round this wall is inconsiderable, and during all the dry season fordable in every part. The Myit-nga on the east face forms a considerable defence on that side. The city is enclosed by a separate wall, which is better constructed than that of the large town. The ditch on the north and west faces of it is also broader and deeper and not fordable; the east side is defended by the Myit-nga, and the north by the Iravaddi. It is mostly occupied by the palace of the king, the Rong d'bau, or hall of justice, the Lut d'bau, or council chamber, the arsenal, and the habitations of a few courtiers of distinction. All these buildings are situated in a square, which is surrounded by a strong well-built wall about twenty feet in height; and on the outside of this wall and at no great distance is a tank-wood stockade of the same height as the wall.

The circumference of Ava toward the walls and excluding the suburbs, is about five miles and a half. In general the houses are mere huts thatched with grass. Some of the dwellings of the chiefs are constructed of planks, and tiled; there are probably in all not less than a dozen houses constructed of brick and mortar. Poor as the houses are, they are scattered over the extensive area of the place, and among large quarters are, indeed, small districts of habitations. There are in the town several markets or bazars, composed of thatched huts and sheds, but well supplied with commodities, at least with reference to the wants and habits of the people. Paltry as the town is, it was a splendid and imposing appearance at a distance, which it owes to the great number of temples, all surrounded by tall, white, or gilded spires.

The town of Ava, which twice before had been the capital of the Biru empire, became so a third time in 1822, and must therefore be considered as a new town. This accounts for its small population, which Crawford estimated in 1826 at only 25,000 inhabitants.

The town of Sagay, or Zakkai, which was once the seat of government, is situated on the opposite side of the Iravaddi, directly facing Ava. The river is at this place 1030 yards wide. On the river face the town has a brick wall, which extends for about half a mile; the height of this is not above ten feet; but it has a *terre pleine*, parapet, and embrasures, like the wall of Ava. On the land side there are no defences whatever. The town extends along the Iravaddi more than a mile and a half, but its depth towards the hills is very inconsiderable. It consists of mean houses thinly scattered among gardens and orchards. On the site of the town and its environs there are innumerable temples, ruins, old or modern, which give it a striking appearance from a distance.

Monchabo, commonly called by Europeans Monchabo, is about fifty-two miles from Ava in a north-west direction, and at no great distance from the western shores of the lake of Nandagondo. It is a walled town, and still a place of considerable traffic and population. In 1756, Alompra, the founder of the present dynasty, who was a native of the place, made it his capital, and gave it the Pali name of Ratna-sinba, or 'the pearl lion,' or lion of pearls.

Below the town of Ava the Iravaddi is a majestic river, whose breadth in some places extends to four miles and upwards, but it is commonly divided into many channels by sandy and uninhabited islands, which are inundated when the water of the river rises to its greatest height. Near the place where the river declines to the south-west begins an extensive island, called Ala-Kyan or 'middle islands,' which extends for many miles to the confluence of the Kyan Duayn with the Iravaddi. It is the largest of all the islands in the river, high and not exposed to inundation, and consequently well cultivated and inhabited. Opposite this island on the eastern bank of the Iravaddi is the town of Yodagoo, where the peace was concluded between the Burmese and English in 1826.

The Kyan Duayn, by far the largest of the tributaries of the Iravaddi, drains an immense country, its further branches rising in the Patkoi Mountains and the Saitoshima, where these two chains meet the Langkat Mountains. The numerous streams which descend from these ranges unite in a country called Hakkung, which, according to our imperfect information, seems to be a large plain washed on all sides by mountains, but fertile, and offering extensive tracts for cultivation. Hakkung lies between 25° and 27° N. lat. The river formed in this plain receives the name of the Tenni, and passes afterwards through a nearly unknown mountainous country in a narrow vale, till near 28° N. at it enters a wider valley, and unites with the Nampagna, which latter, for the greater part of its course, constitutes the boundary line between Birma and the kingdom of Manipore. After this junction the country on the river begins to resemble an undulating plain, especially on the eastern banks of the river, which is here called the Nung-tin. On

the western banks the country belongs to Manipoore, and is much more hilly, and in some parts even mountainous. South of 24° N. lat. Birma extends in both banks of the Nungai, which is here increased by the waters of the Kungai, or river of Manipoore, which comes from the west. This latter river runs nearly parallel to the Nungai for about 200 miles from north to south, but then, suddenly turning to the east, breaks through the chain of the Dangai Hills and unites with the Nungai. After this junction the river begins to be called Kyan Duayn, and to the west of it, at no great distance from its banks, there is a range of hills, the Dangai Hills, or Gumbandoung, which are of moderate height, but very barren and bleak. The level country on its eastern banks extends to a considerable distance, is in general well peopled, and contains extensive tracts of cultivated ground. It is bounded eastward by an undulating country, which becomes hilly only near the banks of the lake of Nandagando. The Kyan-Duayn in the wet season is a considerable river, but in the dry season its mouth is not more than 200 yards wide. The whole of its course probably exceeds 600 miles.

From its confluence with the Kyan Duayn the Irawaddi continues, in general its south-westerly direction, but with numerous bends on both sides, to the neighbourhood of Sengbongay, where it turns to the south, and continues in that direction to the town of Pagan. Hence it runs to the south-east, and after a few miles crosses the promontory of Kynok-ta-ran, and enters the low countries which form its delta. This promontory constitutes the boundary between the ancient kingdoms of Ava and Pegu. The population, which north of it consists principally of Burmans, at Pagan, is to the south of it almost entirely composed of Talans and Karens. In this part of its course the river sometimes expands to a width of three or four miles, and at other places it narrows to 500 or 600 yards. At the more narrow places it is commonly very rapid, and the navigation is also rendered difficult in the dry season by numerous shoals, and a few ridges of rocks which traverse the bed of the stream.

The valley of the Irawaddi, south of its confluence with the Kyan Duayn, to the town of Meikoon, south of 20° N. lat., is, in its general aspect, hilly, and very barren, but the hills rise to no great height, at least not near the river, and are in many places separated by tracts of flat country, which in some places are cultivated and well cultivated. South of Meikoon the hills approach nearer the river, and often form its banks. They are in most places covered with forest-trees of considerable size, among which teak-trees are frequent. Cultivation is confined to the narrow flat tracts, which rise and then descend the hills from the river.

The most remarkable place in this part of the valley of the Irawaddi is Pagan, or Bagin Yaw, (south of 21° N. lat.), which, according to Burman chronology, was the seat of government for above 100 years. It contains the most remarkable and interesting remains of antiquity in the Burman dominions. The ruins extend for at least eight miles along the bank of the river, and occupy frequently a depth of three or four miles. As the ruins of the number of temples is quite surprising. They are of all sizes, and in various states of preservation. Some have been restored, and are still used as places of worship; others are soverely complete, though neglected; but many are mere ruins, and a considerable number are heaps of mouldering brick.

Towards the south (about 20° 30' N. lat.), the eastern banks of the Irawaddi exhibit remarkable natural phenomena, the famous vein of petroleum, which is situated near a village called Heng-sa-khweung, about three miles from the banks of the river. The vein, which is stated to be about 200 to 300 yards long, and of a width of about 100 to 200 yards. The country here is a series of sand-hills and ravines. The hills are either covered with a thin soil, or are rather bare, the trees, which are sparingly scattered over them, not rising beyond twenty feet in height. The pit from which the petroleum is obtained is an artificial perpendicular shaft, generally from 200 to 300 feet deep, the greatest depth not exceeding 300. At the bottom of the pit the liquid is collected, but whether from the emission of gaseous fluid, or steam, from the escape of the oil itself from the ground, is not yet determined. The oil is drawn from them by means of earthen pots. When taken out of the well it is of a thin, watery consistency, but thickens by cooling, and in cold weather it congeals. It has a pungent, aromatic odour. Immense quantities of this oil are annually consumed in the Burman empire. It is used for the purpose of burning in lamps, and situated under to protect it against thefts, especially the white rat, which will not approach it. The quantity exported to Geyser Island and the Malay peninsula is trifling.

The country near the petroleum wells is also remarkable for its petrified wood and its fossil bones. The petrified wood is abundantly scattered over the whole country between Pagan and Ava. It is commonly beautifully preserved, and displays most distinctly the structure and fibres of the living plant. The fossil bones are confined, as it seems, to the neighbourhood of the town of Wessawut, at no great distance from the petroleum wells. They are imbedded in the sandy loam, and consist principally of the remains of mastodons, elephants, deer, and the rhinoceros.

The most important place on the Irawaddi, between the mouth of this river and the capital of the Burman empire, is Prome (about 18° 30' N. lat.), called by the Mohammedans Foul, whence the European name derives its origin. The Burmans call it Foul-praw, or Foul. It is a thriving town, and contains in 1827, shortly after the war, upwards of 10,000 inhabitants. This place, or rather one lying at six miles to the east of it, is reported to have been the most ancient seat of the Burman government, at a epoch which begins some centuries before the Christian era. The ruins of the ancient town consist of a broad, earthen wall, of a quadrangular plan, from five to six feet in height. The area contains no relics of antiquity, and is extremely well cultivated.

The promontory of Kynok-ta-ran, which forms the southern extremity of the valley of the Irawaddi, is the eastern extremity of one of the offshoots of the Arracan mountains. Nearly opposite to it rises another chain of hills of very moderate elevation, which, however, in its progress to the east increases in height, and forms a range which is visible at a distance of fifty miles and upwards. The higher portion of these mountains, called the Gumbandoung Mountains, extends in an eastern direction probably to the banks of the Setaung river. Nothing is known of this range but its geographical position; nor are we better acquainted with the country extending to the north of this chain up to the capital of the empire, and occupying the central parts of the southern portion of Birma, between 18° and 23° N. lat., and the rivers Irawaddi and Salween. It is supposed to be a country of secondary and tertiary formation, and to constitute a kind of uneven table-land of very moderate elevation. As far as our information goes, it has in general a very sterile soil, consisting mostly of sand or gravel, and is very thinly inhabited. Perhaps the valleys along the rivers form an exception. The hills, which cover the whole surface, and are commonly low, rise to a considerable height in a few places. A conical mountain, called Poup, several miles to the east of Pagan, is thought to attain an elevation of above 5000 feet. Crawford thinks that the ranges visible from Ava to the south-east exceed the mountains of Arracan in height; and Sangermano states that the Karens, who inhabit the neighbourhood of Tongo or Tauru, have been able to maintain their independence against the Burmans in their mountain-fastnesses; whence we may infer that this portion of the Burman territories contains extensive mountain ranges.

The southern portion of the Burman empire is a low, level country, without any hills. It comprehends the Delta of the Irawaddi, and all the extensive tract which spreads from its eastern branch to the banks of the Setaung river. Hamilton estimates the southern line of the Delta at 135, the western at 115, and the eastern at 115 miles. It contains more than 10,000 square miles, and is considerably larger than the Delta of the Nile. The country east of it may extend over a tract of nearly the same area; and thus this level country contains considerably more than 20,000 square miles.

The Irawaddi enters the low lands near 18° N. lat., where it throws off a great number of branches of various magnitudes, water an immense extent of country, and affording a convenient internal navigation, to which there are few parallels in any country. Many of these branches reunite and divide again. The river falls into the sea by fourteen different channels. The three principal are Bassien, Dallah, and Rangoon, or Syrian. The Bassien river, also called Anank Khiam, that is, western channel, forms an excellent harbour near the island of Negrais (called by the Burmans Haingi Kyau, and by Sangermano, Negragila), and is navigable for vessels of considerable burden up to the town of Bassien; farther upwards it is only navigated by the river barges, and this navigation extends in the dry season (from November to May) only to Lamena or Lemena. Higher up it is a trifling stream, nearly dry, and all water connexion with the main river is interrupted; but after the rains it becomes again navigable for the river barges. This channel branches off from the main river south of Myan-aung.

After having thrown off the Bassien river on the right, the Irawaddi continues to flow in a southern direction, but with numerous windings, and sends off many smaller branches. At nearly the same distance from the sea and the place where the Bassien channel branches off, is the second great branch of the Irawaddi, at the village Yau-sin-chau-yah, the river here dividing its waters between the Dallah and Rangoon channels. The Dallah channel forms near the sea numerous wide branches, but they are not navigable, on account of the bars before their embouchures. The Rangoon or Syrian channel, which is also called the Asiatic Khiam, that is, the eastern channel, flows off nearly in an eastern direction, and affords in all seasons an uninterrupted navigation into the main river, being from 80 to 150 yards across, and generally three or four fathoms deep, which, however, on some shoals lessens to two and a half fathoms. At the lowest water the depth on these shoals is said to be not more than five feet. The advantages which this branch of the Irawaddi offers for navigation have concentrated on its shores, especially at the town of Rangoon, all the maritime commerce of its shores, especially at Rangoon. In the dry season the tides ascend the branches of the river to the place where the two principal branches meet at the village of Yau-sin-chau-yah, but in the wet season they are observable in the Rangoon channel only as far as the village of Pansang, which is many miles farther down.

The distance from Rangoon to Ava along the river, according to Colonel Wood's map, is 460 miles; according to Symes, 500; and according to the Diwan's log-book, 540. At the height of the freshes, a war-boat, proceeding day and night, has been known to go from Ava to Rangoon in four days. In the dry season, a war-boat, proceeding in the same manner, will go from Rangoon to Ava in eight days, and in the rainy season in ten.

The Delta of the Irawaddi, as far as the tide reaches, is covered with a thick forest of moderate-sized trees, sparingly interspersed with some grassy plains. As soon as the tide ceases, the character of the vegetation is greatly altered. The country is covered with a tall rushy grass (a species of *saccharum*), among which are scattered trees from twenty to sixty feet high, without any underwood. The appearance of inhabitants and a few villages of Talan fishermen; and farther off are the Karen villages, somewhat more numerous, and with a few patches of rice-culture. As the banks of the river are at a distance of two or three miles from the level of the surrounding country, this circumstance might be taken advantage of for watering the land to a great extent. But irrigation is neglected, and the country is covered with innumerable pools, which are often so extensive that they might be called lakes. In the province of Bassien alone, 127 of these lagoons were counted at the time when it was occupied by the British. In the northern district of the Delta, especially north of Heng-sa-khweung, the cultivated portion of the country is much more considerable, and here the water of the river is used for irrigating the rice-ground.

The country which extends to the eastward of the Delta seems to be of the same description. It is drained by the Pegu river and the Setang. The Pegu river, which is called by the natives Bagou Kliou, or 'Pegu Rivulet,' has its source in the Galludet hills, and unites with the Bangoon branch of the Irawaddi three miles below the town of Bangoon. It is navigable only a few miles to the northward of the town of Pegu, which advantage it owes wholly to the action of the tide. In the fair season it is almost dry at low water. The Setang has its sources near the 50th parallel, and runs southward the whole of its course, till it empties its waters into the northernmost angle of the Bay of Martaban. This river, where it is of great breadth, is rather a considerable arm of the sea than a river. Beyond the reach of the tides it is an inconceivable stream; and even as low down as the town of Tongo it is only navigable for boats. Its mouth is confined by sand-banks, and is liable to a dangerous bore, which renders its navigation impracticable for large vessels, and difficult for vessels of all descriptions.

That portion of the Burman empire which extends along the western banks of the Saluen river is almost entirely unknown. It seems to be more mountainous than the country along the middle course of the Irawaddi, but to contain some fertile tracts.

Of Upper Lao, or that portion of Birma which extends on the left bank of the Saluen river, between the Chinese province of Yunnan and the kingdom of Siam, we have so little information, that we only know it to be a mountainous country, which however contains some fertile and cultivated tracts along the courses of the rivers. It seems to be rich in metallic wealth.

We conclude our description of the Burman Empire with a short notice of the Saluen river, which forms the eastern boundary-line between it and Siam, and the British province of Martaban, for between 500 and 600 miles. The Saluen, or Thaluin, called also Sialuen, rises in the eastern districts of Tibet, in the country of the Nou or Nout, and its upper course is called by the Chinese Nou-kiang. It afterwards passes through the Chinese province of Yunnan, where it is named the Tsa-kiang. Continuing its southern course, it leaves China, and divides the province of Upper Lao from the remainder of the Burman territories, and afterwards forms the boundary between Siam and Martaban on one side, and the Burman empire on the other. This river is remarkable for the small number of large bends, and for not forming a delta, as is the case with all larger rivers in this part of the world. It is likewise less navigable: vessels of moderate size can only come up to the town of Martaban, and with difficulty and danger. Small boats may ascend as far as Ka Kayet, at the confluence of the Yanzuian river; but neither to the north the navigation in the wet season is entirely interrupted by numerous eddies, rapids, and cataracts. About twelve miles north of the town of Martaban, a creek, called the Kzadachang, leads from the Saluen to the Setang, and another channel hence to the Pegu river; so that there is an inland water communication between the Saluen and the Bangoon branch of the Irawaddi, a direct distance of more than 200 miles. Near its mouth the Saluen is divided into two branches by the island of Bala, which is about twenty miles in length, and about half that extent in average breadth: it is noted for its great fertility in rice. The southern branch of the Saluen, between the island of Bala and the new settlement of Anihant, is seven miles across, and the wider of the two.

The climate of such an extensive country, which extends over twelve degrees of latitude, must, of course, vary very greatly. We are, however, acquainted only with a small portion of it. The greatest difference observed is that which prevails between the low country at the southern extremity and the valley of the Irawaddi before it branches off into different channels. In the low lands the south-west and north-east monsoons divide the year between them, and hence there are only two seasons, the wet and the dry. From the end of April to the beginning of May, to the end of July, or during the south-west monsoon, violent rains pour down nearly without intermission; and at the beginning, as well as at the end of this period, the rains are accompanied with tremendous thunder and lightning, and with violent winds. These rains are followed by an unsettled state of weather, which continues to the end of October or the beginning of November. But from this time to April the season is perfectly dry, except the month of February, in which while rain sometimes falls; but is a very gentle, and never continues for several days. In the mornings however thick fogs are frequent in October and November.

In the valley of the Irawaddi and the adjacent hilly countries three seasons are observed, the cold, the hot, and the rainy. The cold season, which may be called the winter, though it never freezes nor snows, prevails during the two months which precede the winter solstice and the two which follow it. The air is dry, the nights and mornings chilly, and the heat of the day very moderate; but mists are frequent in November and December. This is the most pleasant part of the year, and the season of the harvest of rice, grain, and pulse. The transition from cold to heat is very sudden. In March and April it is often very hot, and the heat continues to the month of July. In May really trees shed their leaves, but they are instantly clothed with new ones. During the season of the heat the climate of the low lands is less warm than the valley, because the rain diminishes the heat. In the valley a little rain falls in May or the beginning of June, and this rain is called the first rain; but sometimes the rains do not come on, and even when they are abundant, they do not continue long enough to change the temperature very much. During the hot season the clouds are carried by the south-west monsoon between the two ranges of mountains which enclose the valley of the river to the hilly country adjacent to it on the north, where the mountain contained in them descends on the mountains which divide the Burman Empire from Assam, and pours down to the valley of the Irawaddi in torrents and streams, which cause the river to rise and to inundate the lower tracts on its banks during the months of June, July, and August. In some places the difference of the lowest and highest water-marks is more than thirty-two feet. After

the first rains in May, two months and a half follow in which not a drop of rain falls in the valley of the Irawaddi. The second or great rains begin in the middle of August, and last to the end of October. They are generally heavy, but it sometimes happens that these second rains do not come at all, or are not sufficiently plentiful, and in such an event scarcity is the natural consequence. Such a disaster never occurs in the low lands. During the second rains the river rises and falls several times; but in general the waters are not entirely drained off before the end of October, in which month the fair weather becomes settled, and the agricultural labours begin, as well on those fields which have only the advantage of the rains as on those annually inundated by the river, which, by its deposits, renders the soil more fertile.

The thermometer ranges in the low lands between 55° and 90°, rarely passing these two extreme points, but more frequently the latter than the former. In the valley of the Irawaddi it descends lower in the cold season and rises higher in the hot, occasionally to 34° and upwards.

We are unacquainted with the climate of the northern mountainous districts, except that of the country of the Bor Khamti, at the most northern extremity of Birma, which was visited in 1827 by Lieutenant Wilcox, who states that after the rain the thermometer fell five or six degrees, when the air was delightfully clear, and the sky partially covered with clouds. Within three or four days the atmosphere thickened, and the thermometer regained its highest range, when it became excessively close, till another storm reduced the heat. In the morning at sunrise the range was from 73° to 78° in the shade, and at the hottest time of the day from 84° to 94°. The nights were comparatively cool and pleasant. The observations were made in the month of May. From the 15th of October to February, the weather is clear and dry; the remainder is perfectly uncertain. The heavy rains set in about the 15th of June, and continue to the 15th of September.

Gold is obtained in Birma by washing in some rivulets, and is said to exist more abundantly in Lao. But the produce is not equal to the consumption, which is considerable, especially for jewellery; and a considerable quantity is imported from China. Mines of silver, copper, and iron exist in a district situated on the confines of China, not far from Bhamo, and called by Hamilton, Boddun; by Crawford, Bor-twang. They are worked by the Chinese. Lead and antimony are said to exist abundantly in the mountainous country of Upper Lao, where they are worked, and the produce of the mines is brought to Ava. But in general the metallic riches of the country are much neglected. Iron, however, is got in several places, but though the ore is good, the produce is indifferent, owing to the ignorance of the natives.

As of precious stones, those of the sapphire family and the spinelle ruby are easily found. They are found at two places not far from each other, called Mornut and Kyau-nan, about five days' journey from the capital, in an east-south-east direction. The stones are obtained by digging and washing the gravel in the beds of rivulets or small brooks. The varieties said to exist are the oriental sapphire, the oriental ruby, the opaque ruby, the star ruby; the green, the yellow, and the white sapphire; and the oriental amethyst. Noble serpentine or green-stone, is found in most part of the upper branches of the Irawaddi, and exported in considerable quantities by the Chinese to their own country, where it is used for rings and amulets. The Uru, a branch of the Kyan-Duayn, produces a stone the nature of which is not known, but for which the Chinese pay a large price. [Wilcox.]

Mines of amber are found on the branches of the Kyan-Duayn, and in the vicinity of the Bhamo. They seem to be abundant, from the circumstance of the unwrought material being very cheap at Ava. Coal seems to be plentiful, but it is not used. Limestone exists in great abundance in the mountains near the capital; and at a place called Sakya-in, about forty miles above Ava, on the eastern bank of the Irawaddi, statuary marble is worked, which Mr. Chantry considers equal to that of Carrara.

Nitre, natron, and culinary salt are found in many of the arid and calcareous tracts in the upper provinces, and chiefly in the neighbourhood of the capital. Natron, in an impure state, is used by themselves instead of soap, a preparation with which they seem to be unacquainted. Salt is extracted from some lakes in the upper provinces, especially near Mawchaho, and from the sea-water in the lower provinces.

Among the vegetable productions of the Burman forests the teak holds the first place. It is not found in the low alluvial lands to which the tides reach; but in the high lands beyond their influence, it seems to be very generally dispersed throughout the country. The forest of Sarawadi, situated on the boundary-line between the low and high lands, furnishes nearly the whole of what is exported to Bengal, Madras, and other countries. The teak of Ava is considered less durable than that of the coast of Malabar when employed in naval architecture; but it has been determined by careful experiments, that it is stronger, and therefore fitter for gun-carriages and machinery. The second timber-tree is the *Besoea odorata* of large size, and very abundant in the lower provinces, where it is used in boat-building, and the common canoes are often made of an entire tree of it, hollowed out. Another valuable timber-tree is the *Heritiera foliata*, called in India country, which grows in great quantities and of a large size on the sea-coast, and every where within the influence of the tides. In the upper country have been found seven new species of oak, many of them fine forest-trees, of which the timber promises to be useful. No trees of the pine family have been discovered. The bamboo grows everywhere in the forests, and in the lower parts of the country it grows to an astonishing height and thickness; some will measure one foot and a half in diameter, and are large enough to form the principal pillars of a house. The *Mimosa catechu*, which affords the *terro japonica*, or catechu, rises to the height of thirty and forty feet, and is found generally in the upper and lower countries. The drug is obtained by boiling the wood cut

down into chips, and insinuating the produce. This article is much used in the country and largely exported, particularly to Bengal. The Burman forests yield also the *varna*, which is generally used in the fabrication of the lacquer ware; the best comes from the country of the Shans, and especially from Upper Lao. From the forests of the same country is obtained a large quantity of *gutta serena*, of excellent quality.

The following are the objects of agriculture in Burma: rice, maize, millet, wheat, various pulses, palm, sugarcane, tobacco, cotton, and indigo. In the valley of the Irrawaddy two crops of rice are generally obtained, and the best is raised during the monsoonal rains, and the others through means of artificial irrigation. The return is seldom above fifteen or twenty-fold for the seed. In the Delta and the adjacent alluvial countries, only one crop is got, immediately after the rains, which frequently yields fifty and sixty-fold. Maize and millet are cultivated in the higher lands as winter-crops; but neither produces in such abundance as in other countries; maize, at the utmost one hundred-fold for the seed. Wheat is only grown in the neighbourhood of the capital, but though it yields from forty to sixty-four-fold, and in the worst soil from ten to twenty-four-fold, its cultivation is not much extended, because the Burmans prefer rice. The pulses most commonly cultivated are the *Phaseolus mung*, the *Dolichos Bengalensis*, the *Cicer arietinum*, and the *Arachis*, or earth-nut. The *Sesum indicum* is very generally grown throughout the upper provinces, its oil being used in cookery as a substitute for butter; and for the lamps, where petroleum is high-price.

Tea is cultivated in a district, about ten days' journey north-east of Ava, but it is not used as in China and with us. The Burmans eat the leaves pickled, with oil and garlic; they consume an immense quantity of this article.

Cocos and areca palms are not frequent; but the palmyra, or *Borassus flabelliformis*, forms immense groves in the valley of the Irrawaddy. Its wine, when insinuated, gives a cheap but impure sugar, which is universally consumed, partly like that of the cane, and partly for the preparation of a strong liquor. The sugar-cane forms also an object of agriculture, but to a small extent; the only use made of it is to eat it in its crude state.

Excellent tobacco is grown in the higher lands. Cotton is cultivated in every part, but more especially in the higher lands. There are two species of cotton, one red, which is not frequent, and is the most esteemed. The white species is the *Gossypium hirsutum*; its fibre has a fine and silky texture, but a short staple. At the market of Dacca, to which large quantities are brought, it fetches a higher price than the ordinary varieties of Indian cotton. Indigo is likewise generally cultivated, but both the culture and manufacture are rude, and the produce is unfit for exportation.

In the upper provinces a species of *Crotalaria* is cultivated for cordage; in the southern provinces the rattan is the principal substitute for hemp.

Little attention is paid to gardening and horticulture. The young shoots of bamboo, wild asparagus, the succulent stems of a variety of aquatic plants and uncultivated arums, are gathered and brought to market. Few vegetables are cultivated. Our common potatoes, peas, carrots, cabbages, turnips, mustard, cress, radishes, &c., are not known. Others are little attended to, as melons, cucumbers, the egg-plant, pumpkins, yams, sweet potatoes. Quinones are frequent in the mountainous tracts towards the north, and especially in Lao, whence they are imported into the other provinces. Capsicum and the beet pepper are carefully cultivated.

Fruit-trees are numerous, but also much neglected. The most common are the mango, the orange, the pine-apple, the custard-apple, (*Faidium pomiferum*), the jack-fruit or jack, the papaya-fig (*Carica papaya*), and the plantain. A species of mango, called the Marian, bears a small fruit, about the size and shape of a green egg, and is much cultivated and prized by the natives, although little palatable to a European. It is found only in the lower provinces, where also the pine-apple grows in great perfection, though it is inferior to that of the countries lying nearer the equator. The durian (*Durio*) and mangostin (*Garcinia mangostana*), do not grow in Burma. Sangerman and ennumerates among the vegetable productions of Burma, pepper, cassia, and a species of nutmeg of an oval shape, and larger but less aromatic than those of the Moluccas.

The domestic animals are the ox, the buffalo, the horse, the hog, the dog, and the cat; goats and sheep are only kept as rarities, and a few asses are brought from China. The camel is not known. Both oxen and buffaloes are of a large size, and extensively used for domestic purposes; the buffalo is confined to agricultural labour, and the ox to burden and draught. The oxen are generally of a reddish-brown colour, rarely black, and seldom or never of the light or white grey which is so general in Northern India. Before carriages they run at a quick pace. The horses are small, rarely exceeding thirteen hands high, and are never used to burden, nor for draught, their only use being for the saddle. Horses are only used as war-steeds, and are not taken care of, except at Rangoon, where they are raised for the consumption of foreigners. Dogs are extremely frequent, and rove about without belonging to any body. The cats, like those of the Malays, have only a short tail, and are excellent mousers.

The wild quadrupeds are the elephant, rhinoceros, hog, deer, oxen, and buffaloes, the bear, otter, tiger, leopard, with wild and civet cats. The elephant is very numerous in the lower provinces, where it often enters the rice-fields and causes great damage. It is not used as a beast of burden, and only the royal family are permitted to mount it. Accordingly, only few are tamed; the king has small number of white elephants. The rhinoceros with a single horn is numerous in the lower provinces, but probably less so than the elephant. Both are hunted by the Karens. Stags and deer are found in immense herds, and one species is nearly as large as an ox. Oxen and buffaloes are found in a wild state in the forests. The royal tiger, the spotted leopard, and several species of cats

are numerous. It is remarkable, that none of the canine tribe, so frequent in the neighbouring country of Hindostan, are, as far as is known, to be found within the Burman dominions. There are neither wolves, jackals, foxes, nor hyenas; and this zoological feature is said to extend to all the countries of tropical Asia lying east of Bengal. [Crawford.] Herds of a small size occur in the upper provinces. Monkeys, differing in size, shape, and colour, are numerous; especially along the water-courses of the Irrawaddy in the Delta. The orang-outang is found in the great forests which lie between the city of Pegu or Bago, and Tongo or Tanab.

Of poultry a few common fowls and ducks only are reared. Peacocks are very numerous in the woods of the lower provinces, and of fine flavour. The jungle fowl is generally spread over the country, and two species of pheasants are numerous in the lower provinces. Pigeons abound everywhere, especially the wild ones of a green colour. There are also partridges, quails, geese, ducks, and snipes. Parrots are numerous, and cause great damage to the fruit-trees. 'Eucalyptus' swallows' nests are gathered on some small rocky islands in the neighbourhood of Cape Negrais, and exported to China. Many of the land-birds are distinguished by the brilliancy of their colour. The feathers of the blue jay are used in China to ornament the dresses of ceremony of the Mandarins. [Crawford.]

Fish are plentiful in the Irrawaddy, especially in the channels of the Delta, where immense quantities of pressed fish or *Ngapi* are prepared. These pressed fish constitute a main article of the diet of the Burmans. In some cases the fish is mashed and pounded, and this description generally consists of prawns. In the coarser sorts the pieces of fish are entire, half putrid, half pickled. They are all sold and offensive to Europeans.

Lizards are numerous, and some species are used as food: one of them especially, called *patat*, is not inferior to a fowl. Alligators are met with in the channels of the Delta, where the water is brackish, and in many places where it is perfectly salt. Lani and water-tortoises are found in several places, but especially in great abundance on the Bassien branch of the Irrawaddy. Near the large island of Negrais is another island, called the Island of Turtles, where these animals are taken in immense numbers, and carried to Pegu and Bengal. They are of great size, and sometimes weigh 300 pounds. Farther up is a sand-bank, on which the tortoises deposit their eggs in such numbers as to be sufficient for the supply of a great portion of the empire. These eggs are sent by boats to Bassien and Rangoon, and hence distributed over the country.

Throughout the whole country, but more especially in the upper provinces, nearly every species of serpent is used for food, after the head has been cut off. Leeches are a great nuisance; some are as large as small eels, and inflict fearful wounds on the buffaloes, which are fond of bathing in the rivers. A species of red ant is eaten, fried, or with the insect; and a worm, which in the lower provinces is found in the heart of a shrub, is considered such a delicacy, that every month a great quantity is sent to the capital to be served upon the table of the emperor; it is eaten either fried or roasted. [Sangermano.]

Bees are wild in the woods, and in such abundance that wax forms a staple article of commerce.

The nations that inhabit the eastern and south-eastern countries of Asia seem to belong to one race, if we may judge from their physical constitution. They are distinguished by a short, squat, robust, fleshy figure, and by features very different from those of Europeans. The face is somewhat in the shape of a lozenge, the forehead and chin being sharpened, while at the cheek bones it is very broad. The eyebrows project very little, and the eyes are very narrow, and placed rather obliquely in the head, the external angles being the highest. The nose is very small, but has not, like that of the negro, the appearance of being flattened. The apertures in the nostrils, which in the European are straight and parallel, in them are nearly circular and divergent; for the *septum narium*, being much thicker towards the face, places them entirely out of the parallel line. Their hair is black, coarse, thick, and abundant. Even in the warm climate the people have not the deep hue of the negro or Hindoo.

If we may judge from the languages which are spoken in the Burman territories, the inhabitants are divided at least into five nations, some of which comprehend many tribes. Crawford states that eighteen different tribes or nations had been enumerated to him. Wilson, in his attempt to reach the sources of the Irrawaddy, found in the most northern corner of the kingdom seven dialects spoken in villages only one day's journey from one another, and differing so much that the inhabitants of one could not be understood by those of another village. He also found that the languages of the Bor Khamti, of the Englos, and of the Kinnangs, were entirely distinct from one another.

The Burmans, who call themselves *Myanmas* (pronounced *Myanmas*) or *Brahmas* (pronounced *Byahmas*), occupy the centre of the empire, between 18° and 23° or 25° N. lat., and extend from the Aracan mountains to the Salween river. The languages spoken by the Yo or Jo, and those of the Kyain and Karens, are only dialects of the Burman language. The Yo inhabit the hilly country extending west of the Dangchi hills to the mountains of the Kookis; we know very little of them. The Kyains, who call themselves *Kolons*, are the inhabitants of the Aracan mountains, but many of them have settled in the valleys on the west of the Irrawaddy; they are a peaceful industrious tribe, and cultivate the ground and weave cloth of cotton and silk. The men and women tattoo their faces all over, in lines mostly describing segments of circles. The Karens

or Karens live partly intermixed with the Peguans in the Delta of the Irrawaddy, where they call themselves Pias, and are the most industrious cultivators of the soil. They occupy also the hilly and mountainous country on the upper branches of the Salween near Tonga, where, according to the statement of Saungmye, they have preserved their independence. Other Karens are found on the banks of the Salween north of Martaban, as far as the mouth of the Sittoung.

The Peguans, who at no distant time formed an independent and powerful nation, seem at present not to be very numerous. They are called Tassins by the Burmans, and by themselves Moan; they occupy nearly exclusively the low country between the Delta of the Irrawaddy and the Salween river. In the Delta itself they are mingled with the Karens, but form the greater part of the population.

The Shans are the most numerous nation of the peninsula beyond the Ganges; they call themselves Tay. This nation is dispersed over nearly one-half of the Burman empire, and all the tribes inhabiting the kingdom of Siam and Lan belong to it. In Burma four tribes of Shan are distinguished: the Loma Shan occupy Upper Lan, the Tay-ray, called by the Burmans Myelap-shan (pronounced Myelapshan), live on the western banks of the Salween, and extend north of Amarapura to the banks of the Irrawaddy, and even on the country to the west of that river. Their country is called Ka-shan, or pronounced (Ko-sang-pyi), or the nine provinces of Shan. The country to the north of them is inhabited by the Tay-long, called by the Burmans Cusi-Shan; the Bor Khanis, united by Wilcox, are only a smaller tribe of these Cusi-Shan. Another numerous tribe of the Shan extends on both sides of the Kyan-Duayn up to the boundary of Manipore, and the inhabitants of the last named country are likewise Shans. The Shans inhabiting the country along the Kyan-Duayn are called by the Burmans Kethu or Cusi.

In the northern parts of the empire the tribes of the Shan appear to occupy only the plains and larger valleys. The mountains and the upper valleys are in possession of two numerous races of mountaineers, the Singfos and the Naga. The Singfos inhabit the mountains which skirt the Irrawaddy on both sides and extend northward to the vale of the Brahmaputra in Assam. The Naga tribes are dispersed over the extensive mountain-districts between the upper branches of the Kyan-Duayn, and as far as the boundary of Assam. They seem to belong to the same nation which, under the name of Kookies, occupies the country between Manipore and Chittagong. The Singfos and the Naga live in a state of independence.

The Burmans are greatly inferior to the Hindoos in civilization, and still more so to the Chinese. Like the Talaings or Peguans, they tattoo or stain the skin with an indelible tint, but this practice is confined to the men. Not to be tattooed is considered a sign of effeminacy, and there is no one who is not tattooed more or less. They bore the lobe of the ear, making a very large and unsightly aperture, into which a gold or silver ornament is put, or a piece of wood, or roll of paper. If the aperture is not occupied, a man or woman, after smoking half a cigar, thrusts the remainder into the ear for future use. They consume large quantities of tobacco in the form of cigars; and also much betel, which they mix with the areca nut, lime, and a little tobacco.

Their dress, though upon the whole not unbecoming, is much less so than the flowing and graceful garments of the western nations of India. Too much of the body is left naked, and the fabrics worn are comparatively coarse and homely. Umbrellas, which are in general use among all classes, are among the principal insignia of rank or office. The colour of the dress of the priests is yellow, and it would be deemed a disgrace to wear a garment in any one else to use this colour.

The Burmans are very voracious in their food. They eat all kinds of reptiles, lizards, iguanas, and snakes; and, as their religion forbids them killing animals for food, they generally eat those which have died of disease. Venison is the only meat permitted to be sold in the markets. The killing of a cow is punished with peculiar severity.

The Burmans are of a gay character, and fond of amusements, which are principally chess, music, the exhibition of fire-works, and some kinds of dramatic representations.

Their progress in the useful arts has not been great. All their cotton fabrics are coarse and high priced, and British piece-goods are imported in considerable quantity. Silk articles are coarse and high-priced, but durable. All the cottons given to these fabrics are fugitive, especially those of the cottons. Coarse and unglazed earthenware is of very good quality, and cheap. Those known in India under the name of Pegu jar often contain 150 gallons; but the Burmans are unacquainted with the art of making any kind of porcelain. Their iron manufactures, which are always coarse and rude, consist of swords, spears, knives, scissors, and carpenters' tools. Muskets, or rather matchlocks, are made at Ava, and the best tempered swords are imported from the country of the Shans. Brass ware is not much used, lacquered ware being chiefly substituted for it. The manufacture of this ware is very much extended, and in this the Burmans display invention and taste, but the best description is imported from Lan. Gold and silver ornaments are manufactured at the capital; some are good, but in general the jewellery is clumsy and rude, and inferior to that of India.

In Burma, as among other nations which have embraced the religion of Buddha, education is in some degree attended to. It is a kind of religious duty for the priests to instruct youth. The monasteries are the only schools, and the priests generally the only teachers. Education is entirely eleemosynary: the children even live at the teachers, and

the parents only make occasional presents to the priests. The children are instructed for about six hours in the day in reading, writing, and the four common rules of arithmetic. There are few persons who do not know how to read, and not many who do not write. The girls are instructed by the nuns, or female priestesses, in reading, and some also in writing, but that is less general.

Like the other Hindu-Chinese nations the Burmans have two languages and two alphabets, the vernacular and the foreign, or Pali. In the Burman language all the words not derived from the Pali are monosyllables, and even the polysyllabic words derived from this source are pronounced as if each syllable were a distinct word. There is no inflection of any part of speech. Relation, number, mode, and time are all expressed by prefixing or adding certain particles. Some roots of this language may be converted into nouns, verbs, or adjectives by a similar simple contrivance. The Pali alphabet is very little used, even in their religious writings, for which they have recourse to the vernacular alphabet.

The literature of the Burmans consists of songs, religious romances, and chronological histories, of which the second class occupies the principal rank. The Buddhist religion, as it exists among the Burmans, does not appear to differ materially from that practised in Ceylon, Siam, and Kambuja. Among the Burmans neither the Christian nor the Mohammedan religion has made any progress.

In Burma there is no census of the population, and accordingly there are no exact data for ascertaining the amount. There is consequently a great difference in estimating the number of inhabitants. Symes carried it to upwards of fourteen millions, which Cox reduced to from six to seven millions; and Crawford, who has been at great pains in collecting information on this subject, does not rate the population of the Burman empire higher than four millions, or about twenty-two inhabitants to a square mile.

The sovereign of Burma, who is called Soa, is lord of the life and property of all his subjects. The country and people are at his entire disposal, and the chief object of government is his personal honour and aggrandizement. No class of inhabitants possesses hereditary rights except the Tanbwas, or Saubwas, who are the tributary princes of some of the subdued nations. Among the Burmans themselves there is no hereditary nobility. The first officers are appointed and dismissed at a nod, and neither their titles, rank, nor offices, and very often not even their property, can descend to their children. Any subject can aspire to the first office in the state, and such offices in reality are often held by persons of very mean origin.

In Burma there is no vizier or prime minister; but the king has two councils, a public and a private one, through which the royal orders are issued. The first is called the lat-d'hau, from the name of the hall in which the business is transacted, and consists commonly of four officers, called wun-yis, who have the right of deliberating, and of voting, and four of less rank, called wun-dauks, who do not deliberate or vote; there are also eight secretaries, called sac-d'hau-yis. The private council consists likewise of four officers, called atwen-wuns, and thirty secretaries. Whatever emanates directly from the king is first discussed in the private council and then transmitted to the lat-d'hau.

For internal administration the country is divided into provinces, these into townships, the townships into districts, and the districts into villages and hamlets, and every one of these divisions has its political head. The governor of a province is called myo-wun, his first officer re-wun, who is his deputy, and then follow the ak'hon-wun, or collector of taxes, and the akauk-wun, or collector of customs.

The Burmans have no standing army, nor is there any distinction between the civil and military classes, or between civil and military employments. As the sovereign is considered the lord of all his subjects, every male adult is obliged to become a soldier. In case of a war, all persons able to bear arms are brought together through the agency of the local officers, by an order of the lat-d'hau; and they serve under the same leaders as when dwelling in their own districts or townships. The troops have no regular pay, but are armed and fed at the public expense. An army thus composed cannot be long kept together, and a defeat or difficulty is almost sure to disperse them. This accounts for the sudden disappearance of the numerous armies which the Burmans opposed to the British at the beginning of the last war. The Burmans, however, would be good soldiers if they were well disciplined and armed; but at present they are unable to withstand a European force. In their last contest with the English they displayed a good deal of skill in the construction of field-works, but they seldom knew how to defend them.

In Burma there is no land-tax; but the sovereign, being considered as the lord of all the inhabitants, assigns the labour of the peasants or cultivators to his favourites and public officers instead of stipends and salaries, or appropriates them to the expenses of public establishments, such as the war-boats, the elephants, &c. Those to whom the townships or villages are assigned in this way assess the cultivators at their discretion, usually by levying a kind of capitation-tax, which, according to circumstances, is taken either in money, in kind, or in services. This manner of taxing the country is exceedingly oppressive, and whenever such high persons are in favour at court, the cultivators have no resource against oppression but to abandon the lands, and to take refuge in some other place. Hence the decay of established towns and villages and the rise of new ones is a thing of yearly occurrence.

The lords of the land make yearly offerings to the king, and it is supposed that these offerings amount to one-tenth of the income derived from the grant. These offerings con-

stitute one of the principal sources of the king's revenue. The remainder arises from a tax on the petroleum, the ngapi, salt, and teak-timber, besides the customs on the merchandise exported and imported, the former paying five per cent, and the latter ten per cent. Crawford thinks that the whole revenue of the king does not exceed 25,000, per annum. But his expenses are still less, as no public officer receives any fixed money salary. The principal officers are paid, as already stated, by assignments of land, or, more correctly, by an assignment of the labour and industry of a given portion of the inhabitants; and the inferior ones by fees, perquisites, and irregular emoluments. Money therefore is seldom paid out of the royal treasury, unless for the personal gratification of the sovereign. In extraordinary cases, as for instance if a war be undertaken, an extraordinary contribution is levied on the people.

The circulating medium consists, for small payments, of lead; in the case of larger ones, of gold and silver, and chiefly of the latter; but there is no coin of any of these metals. The money must be weighed and generally assayed at every payment. Silver may be considered as the standard, and gold is about seventeen times as dear. Lead fluctuates according to its market value. The weighing and assaying of the metals, which is done by a class of brokers called *poi-za*, causes an expense or loss of two and a half per cent, at every disbursement.

The commerce carried on in the interior of the country is considerable the different portions of the empire producing several things which are not found in others. The inhabitants of the sea-coast and the lower country take to the capital and the upper provinces rice, salt, ngapi, dried fish, and foreign commodities. The Shans bring to Ava cotton and silk stuffs, some raw silk, varnish, stick-lac, ivory, bees-wax, lacquer ware, swords, gold, lead, and tin; and take in return the articles brought from the lower provinces, especially salt, ngapi, and dried fish. Ava sends to the lower provinces petroleum, salt-petre, lime, paper, lacquer ware, cotton and silk fabrics, iron, cutlery, some brass-ware, catechu, palm-sugar, &c.

The internal commerce is much facilitated by the easy water-communication, especially in the lower country, where the numerous branches and channels of the Irrawadi, together with the Pegu river and the Salween, render the transport of commodities so easy that roads are nearly unknown. The hilly country north of it possesses these advantages only so far as it approaches the Irrawadi or Kyan-Duayn. In this part roads are numerous, and the merchants travel for security in caravans, as in other parts of Asia. The trading vessels used on the Irrawadi for the transport of commodities are commonly small, not exceeding ten or fifteen tons burden; but larger vessels are also used, some of which may be 100 tons.

The foreign commerce of the Birman is limited to that with China, carried on over land, and to that with the nations who visit the ports of the country. The trade with China is considerable, and entirely carried on by the Chinese, who come in great numbers to the annual fairs of Bhamo and Mide. Bhamo is situated on the banks of the Irrawadi, and seems to be a considerable place. Mide is a small town about six miles to the north-west of Ava. This trade resembles that between China and Russia at Kiachta and Malakof. The caravan arrives at Ava in the beginning of December, and is stated to be six weeks in travelling from Yunnan. The commodities are brought on small horses, mules, and asses. The principal fairs are at Bhamo, and few traders only come to Ava. The articles imported from China are copper, ornament or yellow arsenic, quicksilver, vermilion, iron pans, brass-wire, tin, lead, alum, silver, gold and gold-leaf, earthen-ware, paints, carpets, shawls, tea, honey, raw silk, velvet and raw silks, spirits, musk, vermicelli, dry fruits, paper, fans, umbrellas, shoes, wearing apparel, and a few live animals. The largest article of export is raw silk which is worked up in the manufactures of the country. The exports from Birma consist of raw cotton, ornamental feathers, excellent swallows' nests, ivory, rhinoceros and deer horns, sapphires, and noble serpentine, with a small quantity of British woollens. Raw cotton is by far the most considerable article. The average amount is stated to be not less than 14,000,000 lbs. The whole amount of the export and import trade with China is estimated at from 400,000, to 700,000.

The navigation of the Birman does not generally extend beyond the Gulf of Bengal. The places visited by their vessels are Chittagong, Dacca, and Calcutta in Bengal; Madras and Masulipatnam on the coast of Coromandel; and the Nicobar Islands, and a few places in Sumatra. Many foreign vessels, especially British, American, and Chinese, visit the harbour of Rangoon. The articles exported seaward are teak-wood, terra Japonica or catechu, stick-lac, bees-wax, ivory, raw cotton, ornament, gold, silver, rubies, and sapphires, with horses. The most important article is teak timber, which is principally carried to Calcutta. Raw cotton goes to Dacca, and is used in the fabrication of the fine muslins.

The principal articles imported at Rangoon are cotton piece-goods, British, Bengal, and Madras; British woollens; iron, steel, quicksilver, copper, corals, borax, sulphur, gunpowder, saltpetre, fire-arms, coarse porcelain, English glass-ware, opium, tobacco, cocoa and cocoa-nuts, sugar and spirits. After cotton piece-goods the most important articles are areca-nut and cocoa-nuts. The value of the cotton piece-goods was estimated in 1822 at 282,000. Crawford thinks that the value of all the imports of Rangoon is not over-rated at 300,000 a year, and that the exports may be taken at the same amount. Bhamo formerly was a place of considerable traffic, and some European nations had factories established there, but since the foundation of Rangoon it has lost all its commercial importance.

In order to show the various literary character of each age, the catalogue is divided into three columns: the first containing those authors who have drawn chiefly from their own sources, as poets and novelists; the second, those who treat on matters of fact, as history and geography; and the third, the philosophic and scientific writers. Where an author has written in different styles, his name will be found in the column to which his most distinguished productions appertain. The Hebrews having, almost without exception, treated on speculative subjects, the triple division does not extend to them. The dates of birth and death are appended to each name, where they could be ascertained. In other cases, the situation of the name will show nearly the time when each author has flourished.

HEBREW.

[The words in italics between parentheses are the familiar appellations of the preceding persons; they are formed from the first letters of each word composing their names. For example, the Jews call Maimonides *Rambam*, from the four initial letters of his full name, Rabbi Moses ben Maimon. Jom Tof, in like manner, is called *Raba*, from the words Rabbi Yom To bar Abraham.]

- 1500 Moses, 1572-1452 *
Phineas, supposed author of the book of Joshua
1100 David, 1085-1015
1000 Solomon, 1033-975
800 Jonah, d. 761
Amos
Hosea
Joel
Obadiah
Micah
Isaiah, d. 681
Nahum
700 Habakkuk
Zephaniah
Jeremiah
600 Baruch
Ezekiel
Daniel
Zachariah
Haggai
500 Ezra
Nehemiah, d. 430
Malachi
300 Jesus, son of Sirach
100 Nechemiah ben Hakkana, 'Sepher habbahir,' the illustrious book. The most ancient of Rabbinical books. Cabbalistic
Jonathan, 'Targum,' or Chaldee paraphrase of the Bible

- Q Onkelos, 'Targum' Josephus, b. 35
100 Akiba, d. 120. The Mishna has been incorrectly attributed to him
Shimeon ben Jochei (*Rashbi*). The 'Zohar,' a celebrated cabbalistic commentary on the Pentateuch is usually attributed to him, but was composed by his disciples
Jose ben Chilpheta, 'A History of the World'
Nathan of Babylon, 'Pirke aboth' the sayings of the fathers, Ethics
Eliezer, 'Pirke Eliezer,' the sayings of Eliezer, a History of the World

- Judah Hakkadosh, 'Mishna,' the oral traditions of the Jews, which, with the Gemara or Commentary, constitutes the Babylonian Talmud
Rab, supposed author of the 'Siphra,' a commentary on Leviticus, and of the 'Siphre,' a Commentary on Numbers and Deuteronomy
200 Ushaya, 'Bereshith Rabba,' a Commentary on the Mishna
Author of the 'Mechilta,' a Commentary on Exodus
Jochanan, 'Talmud of Jerusalem'
300 Rabba bar Nachman, 'Rabbath,' Commentaries on the Bible
400 Rabashe, began the 'Gemara,' a Commentary on the Mishna
Martemar, continued the 'Gemara'
500 Abina, completed the 'Gemara'
800 Simeon Hejara, 'Great Decisions,' jurd. Judah bar Nachman (*Rishon*), Compendium of the preceding
900 Sanda Gaon, 'Philosopher's Stone,' 'Book of Faith,' 'Grammar,' &c.
Sherira, 'The Book of Answers,' bishr.
1000 Samuel Haccohen, d. 1134
Joseph Ching, Grammarian
Judah Barzilloni, 'Rights of Women,' juridic.
Joseph ben Gorion (*Ribag*), 'Compendium of Hebrew History.'
Moses Aben Ezra, d. 1080. Grammarian
Isaac of Cordova, d. 1091. 'Chest of Spices'
1100 Alpha, d. 1103. 'Compendium of the Talmud'
Nathan, d. 1105. 'Talmudic and Chaldee Lexicon'
Solomon Jarchi (*Rashi*), grammarian, d. 1105. 'Tongue of the Learned'
Joseph ben Meir (*Ribem*), d. 1141. 'Commentary on Talmud'

Juda the Levite, 'Sopher Cosri,' philosophical
 Abraham Aben Ezra, very learned Commentaries on the Bible
 Tam, d. 1170, 'Sopher Hajashat,' the Book of Righteousness
 Samuel Ben Meir (Rashbam), d. 1171, 'Commentary on the Talmud'
 Benjamin of Tudela, d. 1172, 'Travels'
 Samuel, 'Book of Piety,' Ethics and Theology
 Isaac bar Abba, Grammarian
 Moses Kimhi, Grammarian
 David Kimhi (Radak), Grammarian
 Abraham bar Dier (Rabad), d. 1199, Cabbalist
 Abraham ben David (Rabad), Jurist
 Moses ben Maimon (Rambam), 1131-1200, 'Yad Hazaka,' the strong hand, a very celebrated Commentary on the Talmud, &c. (This author is better known by his Latinized name, Maimonides)
 1200 Abraham bar Chasdai, Ethics
 Eliakim, Cerephonies
 Baruch Miggarnisa, Laws, Ceremonies
 Eliezer Miggarnisa, Ethics, Commentaries
 Asher, Compendium of Talmud
 Perez Hacohen (Haroph), Cabbalist
 Moses ben Nachman (Ramban), d. 1228
 'Law of Man,' a celebrated book on Ceremonies, &c.
 Moses Mikkol, 'Great Book of precepts,' Compendium of Talmud
 Isaac ben Solomon, d. 1238, 'Precepts and Fables'
 Nissim d. 1250, 'Book of Homilies'
 Isaac ben Joseph, d. 1250, 'Book of Precepts'
 Moses Aben Tybon, Translator of Mathematical and Philosophical works from the Greek and Arabic
 Solomon ben Adras (Rashba), Theology, Metaphysics, 'Meditations on Maimonides'
 Menachem Hekshat, d. 1290, 'Reasons for the enactment of the Laws of Moses'
 Bechiah, 'Commentary on Pentateuch'
 1300 Shimon, d. 1312, 'Intro. to the Talmud'
 Isaac Israeli, 'Foundation of the World,' History
 Judah, son of Benjamin, Ritual
 Mordechai, 'Compendium of Talmud'

Isaac Dura, 'On Forbidden and Permitted Food'
 Aaron Hacohen, 'The Way of Life'
 Jeremiah, 'Book of Rectitude'
 Jacob ben Asher, 'The Four Orders,' a Ritual of much authority
 David Aburabham, Astronomy
 Levi ben Gerson (Rabbi), d. 1370, 'Commentary on the Law'
 Menachem Abba Serach, d. 1375, Ritual
 Isaac ben Sheshat (Ribash), 'Questions and Answers on Various Subjects'
 Moses Hacohen, 'Help of Faith'
 Isaac Sprot, 'Bene Bochan,' a polemic work against Christianity
 Jan Tof bar Abraham (Ribba), 'Commentary on Maimonides'
 Chasid, d. 1396, 'Light of the Lord,' Ethics and Theology
 Simeon bar Zemach, 'Shield of the Fathers'
 1400 Jacob Levi, d. 1427, A Ritual
 Joseph Albo, the Divine Philosopher, 'Foundation of Faith'
 Israel Germanus, 'Questions and Answers on the Law'
 Joshua Levite, 'Intro. to the Talmud'
 David Yital, 'Golden Verses'
 Samuel Sirin, Grammarian
 Isaac ben Arama, 'Com. on the Law'
 Elias Mirachi (Ram), Arithmetic
 Abarbanel, 'Commentary on the Bible'
 Isaac Abuhaf, Ethics
 1500 Abraham Seba, 'Riddle of Myrrh,' a Commentary
 Isaac Karro, 'Explanations of the Bible'
 Elias Levi, Grammarian
 Solomon ben Virga, 'Hist. of the Jews'
 Benjamin Zeel, 'Questions and Answers'
 Abraham Zaccuth, 'Tuchasin,' Sacred and Jewish History
 Moses Isrie, Astrology
 Joseph Karro, 'Com. on Maimonides'
 Abarias Edomans, History and Philology
 Gadaliah, 'Cabbalistic Chain,' History and Chronology
 Len d. 1592, 'Lion's Whelp,' Grammar
 David Gans, History
 1600 Moses of Trani, 'Book of God'
 1700 Moses Mendelssohn, 1729-1775, Philosophy

A. D. AUTHORS OF THE NEW TESTAMENT.
 St. Matthew, St. Mark, St. Luke, St. John the Evangelists
 St. Paul, St. Peter, St. James, St. Jude, Epistola.

GREEK.		GREEK.	
Imagination.	Fact.	Speculative and Scientific.	
B.C. 900 Homer, 'Iliad' 'Odyssey,' &c. Hesiod, 'Works and Days,' &c.	B.C. 900	B.C. 900	
700 Tyræus, Elegies (fragments) Archilochus, Satires, Elegies (fragments)	700	700	
600 Alcaeus, Lyrics (frags.) Sappho, Lyrics (frags.) Solon, d. 558 Epimenides Stesichorus, 633-553, Lyrics (fragments) Mimnermus, Elegies (fragments) Anacreon, Lyrics.	600	600	
500 Simonides, 556-467, Lyrics Æschylus, 525-456, Tragedies Pindar, 518-439, Odes Bacchylides, Lyrics	500	500	Pythagoras, Philosophy Zeno of Elia, Philosophy Ocellus Lucanus, Philosophy
Sophocles, 495-405, Tragedies		Gorgias, Orations (fragments)	Anaxagoras, 500-428, Philosophy
Euripides, 480-406, Tragedies		Hecateus, History (fragments) Herodotus, d. 484, Hist. Thucydides, 471-391, Hist. of Peloponnesian War Antiphon, Orations Andorides, Orations Lysias, 458-378, Orations	
Aristophanes, d. 380, Comedies			Socrates, 468-399, Philosophy
400		400 Ctesias, Hist. (frags.) Xenophon, 444-359, History, Philosophy, &c. Isæus, Orations	
		Isocrates, 430-338, Orations Dinarchus, Orations Lycurgus, Orations Demosthenes, 382-322, Orations Æschines, 389-314, Orations	Hippocrates, 406-357, Medicine Democritus, 460-357, Philosophy Plato, 429-347, Philosophy Aristotle, 384-322, Philosophy, Criticism Theophrastus, d. 288, Ethics Epicurus, 341-270, Philosophy
300 Bion, Idyls	300		300 Euclid Geometry Zeno of Citium, d. 263, Philosophy
Moschus, Idyls Lycophron, 'Cassandra'			
Callimachus, Hymns and Epigrams Theocritus, Idyls Aratus, Poem on Astronomy Cleanthes, Hymns		Manetho (frags.) History	

B.C.	Imagination.	B.C.	Fact.	B.C.	Speculative and Scientific.
300	Appollonius Rhodius, 'Argonautics'	300		300	Appollonius, Conic Sections Archimedes, <i>d.</i> 212, 'Sphere and Cylinder,' &c. Eratosthenes Philosophy
200	Nicaander, 'Theriac'	200	Polybius, 206-124, Universal History Apollodorus, 'Bibliotheca,' Mythology	200	
100	Meleager, Epigrams	100	Conon, Mythology Seymnus, Poetical Geogr. Dionysius Halicarnassus, 'Roman Antiquities' Dionysius Periegetes, 'Geography' Diodorus Siculus, General History	100	
0		0	Strabo, Geography Pausanias, Description of Greece Pintarch, Biography, Morals, &c. Dion Chrysostom, Orations	0	Diocorides, Botany and Medicine Epictetus, 'Enchiridion,' Philosophy
A.D. 100		A.D. 100	Ælian, <i>d.</i> 140, Varieties Appian, History Ptolemy, Geo. Astron. Arrian, 'Expedition of Alexander'	A.D. 100	Justin Martyr, <i>d.</i> 163, Theology Polycarp, <i>d.</i> 167, Theology Galen, 163-193 Medicine Athenagoras, <i>d.</i> 172, 'On the Resurrection.' Phavorinus, Lexicon Hermogenes, <i>d.</i> 161, Rhetoric Polyænus, Strategy M. Aurelius Antoninus, Philosophy Hephæstion, 'On Metres' Max. Tyrius, Philosophy
	Iamblichus, 'Rhodians and Sinoides,' a novel				
	Lucian, Dialogues Oppian, Poems on Hunting and Fishing Athenæus, <i>d.</i> 184, 'Deipnosophistæ' anecdotes				Julius Pollux, 'Onomasticon,' Rhetoric
200		200	Diogenes Laertius, <i>d.</i> 222, 'Lives of Philosophers' Philostatus, <i>d.</i> 214, Life of Apollonius Dion Cassius, Hist. of Rome Herodian, History of Rome	200	Ammonius, Philosophy Origen, <i>d.</i> 254, Theology

Imagination.	Fact.	Speculative and Scientific.
		Hesychius, Lexicon Lamblichus, Philosophy Longinus, <i>d.</i> 273, 'On the Sublime'
300	Porphyrus, 233-304, Life of Pythagoras, Philos.	
300	Eusebius, <i>d.</i> 340, Ecclesiastical History	300
	Achilles Tatius, 'Clitophon & Leucippe,' novel Xenophon, 'Anthea and Abrocone,' novel	Libanius, Orations and Epistles Julian, <i>d.</i> 363, Philosophy Athanasius, 298-371, Theology Greg. Nazianzen, 318-389, Theology Gregory Nyssenus, <i>d.</i> 396, Theology Cyril, 375-386, Theology Diophantus, Mathematics
300	Aristænetus, 'Erotic Letters'	300
	Heliodorus, 'Theagenes & Chariclea,' novel Chariton, 'Chareus and Calirhoe,' novel	Chrysostom, 354-407, Theology
400	Longus, 'Daphnis and Chloe,' novel Nannus, 'Conquest of India by Bacchus' Sibanius, 'Literary Collections' Quintus Smyrnaeus, (commonly called Calaber, 'Contin. of Homer' Mæmus, Poem of Hero and Leander	400
	Eunathius, 'Ismenæus & Ismenæa,' novel Coluthus, Poem on 'Rape of Helen' Tryphiodorus, Poem on 'Destruction of Troy'	400
500		Synesius, Orations and Epistles Nemesius, 'Nature of Man' Philosophy Zosimus, 'Hist. of Roman Emperors' Socrates, 389-446, Ecclesiastical History Sozomen, <i>d.</i> 450, Ecclesiastical History Theodoret, <i>d.</i> 450, Ecclesiastical History Cyril, <i>d.</i> 443, Homilies Proclus, <i>d.</i> 445, Theology Proclus, <i>d.</i> 500, Platonist
	Stephanus, Geography	500
	Procopius, 'Hist. of Reign of Justinian' Olympiodorus, 'History of Honorius' Cos. Indicopleustes, Topography Evagrius, Ecclesiast. Hist. Agathias, Byzantine Hist.	500
600		Menan, Protector, Chron. Theophanes, Byzant. Hist. Philoponus, Grammarian
	Theophylactus Simocatta, Byzantine History	
700		700
		Damascenus, <i>d.</i> 750, Theology

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
800	800 Nicephorus, 758-828, Hist. Syncellus, Hist. John Malalas, History	800 Theodorus Studites, 759-826, Sermons Photius, d. 891, 'Bibliotheca'
900	900 Leontius, History Genesius, History Const. Porphyrogeneta 905-959, Hist. Selections Sim. Metaphrastes, 'Lives of Saints'	900 Leo VI. d. 911, 'On Christian Faith'
1000	1000 George Cedrenus, Hist. John Xiphilinus, d. 1080, Abridg. of Dion Cassius John Scylitza, History	1000 1000 Theophylactus, Theology Michael Psellus, Mathematics
1100	1100 Nicephorus Bryennius, d. 1137, Byzant. Affairs Anna Comnena, Reign of her father Alexius Const. Manasses, History Zonaras, History of Romanus, History of Jews Will of Tyre, 1100-1184, History John Tzetzes, History in Verse Cinnamus, History	1100 Euthymius Zygabenus, Theology Suidas, Lexicon Eustathius, Commentaries on Homer Isaac Tzeizes, Commentary on Lycophron
1200	1200 Joel, History Michael Glycas, History George Acropolita, Hist. Nicetas Acominatus, Hist. George Pachymur, Hist.	1200 1200 Nicephorus Blammas, Theology
1300	1300 Manuel Philes, 1275-1340, Poems Maximus Planudes, Anthology Leo Pilatus, Literature	1300 Theod. Metacrita, d. 1312, History Callistus Xantopoulos, Ecclesiastical History Niceph. Gregoras, Hist. John Cantacuzenus, Hist. George Codinus, Hist. Michael Ducas, Hist.
1400		1400 Eman. Chrysolorus, d. 1415, Grammar Geo. Gemistius, or Pletho, d. 1450, Philosophy Eman. Moscopulus, Notes on Herodotus Bessarion, 1395-1472, Theology Geo. of Trebizond, 1395-1468, Aristotelian Theodore Gaza, d. 1478, Origin of Ticks

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
Demet. Pamperes, Tales Marullus Tarchoniola, d. 1500, Poems	Laonicus Chalcondyles, History of Turks George Phranza, History	John Argyrophilus, Aristotelian
1500	1500	1500 Demetrius Chalcondyles, 1433-1513, Philology
1600	1600	1600 Panagioti, d. 1673, Theology
1700 Kallinikus, Poems	1700 Alex. Manrocardato, Hist. of the Jews Meletius, Geography	1700 Dorotheus, Aristotelian
Nicholas Caradza, Translation of Voltaire Riga, d. 1796, Lyrics, Natural Philosophy	Ducas, Translation of Thucydides	Marcus Tharlboures, Mechanics Bulgari, Mathematics
1800 N. Piccolo, Tragedy Christophilus, Anacreontics, Opera Calvos, Lyrics Harion, Translation of Sophocles	1800 D. Philippides, d. 1827, Hist. of Wallachia, &c. Palluris, Hist. of Greece Perrevas, History of Salt and Parga Gr. Demetrius, Geography	1800 I. Salidas, Metaphysics Coray, Commentaries, Lexicon Cumas, Dictionary Neophitus Bamba, Ethics

LATIN AND ITALIAN.

[The Latin ceased to be a spoken language about the sixth century, but was in almost universal use throughout Europe as the language of composition until the thirteenth century, when the modern languages began to appear. As long as the literature of the West was almost exclusively confined to Italy, we have arranged all authors who wrote in Latin under the same head; but about the sixth century they will be found under those countries where their works were published, whatever the language in which they wrote.]

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
B. C. 20 M. A. Plantus, Comedies Q. Ennius, Epics (Fragments) P. Terentius, Comedies	B. C. 200	B. C. 200
100	100 T. Pomponius Atticus, 110-33, Letters M. T. Cicero, 107-43, Orator and Philosopher Julius Caesar, 98-46, Commentaries Hirtius, Pansa, Gallic War C. Sallustius, 85-35, Jugurthine War Cora. Nepos, Biography	100 M. P. Cato, De Re Rustica 100 Varro, 115-28, De Re Rustica, Lingua Latina Vitruvius, Architecture Verrius Flaccus, d. 4, Fasti Capitolini
T. Lucretius, b. 93, De Rerum Natura Catullus, 88-40, Lyrics P. Virgilius, 70-19, Eneid Q. Horatius, 65-8, Odes, Satires Propertius, 59-16, Elegies A. Tibullus, 4, n. c.-17 A. n., Elegies Ovid, 43 B. C.-17 A. D., Metamorph. Fasti, &c. Hyginus, Poeticon Astronomicum	T. Livius, 59 B. C.-19 A. D., History of Rome 0 Vel. Paterculus, 19 n. c.-30—A. D., Hist. of Rome Pomp. Mela, Geography	0

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
Phædrus, Fables	Valerius Maximus, Anecdotes of Great Men	C. Celsus, De Medicina Columella, Agriculture
Persius, 34-62, Satires Lucan, 38-65, 'Pharsalia' Petronius Arbiter, d. 67, Satyricon Valerius Flaccus, Argonautica O. Silius Italicus, 'Punica War' Sulpicia, Satires, &c. Statius, d. 29, 'Thebais,' 'Achilleis' Martial, 29-104, Epigrams Juvenal, 48-128, Satires P. Ph. the younger, 61-113, Epistles	Quintus Curtius, History of Alexander	L. A. Seneca, 12-65, Philosopher, Tragic Poet Pliny the elder, 23-79, Natural History Q. Quintilian, Criticism
100	100 Tacitus, History Suetonius, Biography Florus, History of Rome Aulus Gellius, Noctes Atticæ C. Jul. Silius, Polyhistor Justin, History	100 Valer. Probus, Grammar Frontinus, Strategy Terentianus Maurus, De Arte Metrica Pompeii, Festus, Grammar
200	200	200 Ulpian, d. 228, Law Tertullian, d. 220, 'Apology for Christianity' Minutius Felix, Dialogue in favor of Christianity Julius Obsequens, 'De Prodigis' Censorinus, 'De Die Natali' Cyprian, d. 258, Theology
Nemesianus, Cynegetica Jul. Calpurnius, Eclogues		
300	300 Æl. Spartianus, History Jul. Capitolinus, Do. Æl. Lampridius, Do. Vol. Gallienus, Do. Trebellius Pollio, Do. P. Vopiscus, Do. Aurelius Victor, Do.	300 Arnobius, 'Adversus gentes' Lactantius, d. 325, 'Defence of Christianity' Æl. Donatus, Grammar F. Macrobius, Astronomy, Theology Ambrosius, Theology Jerom, 329-420, Version of Bible Rufinus, d. 410, Ecclesiastical History T. Vegetius Renatus, De Re Militari Augustin, 354-430, Theology
Aquilinus Juvenus, Gospel in Verse M. Victorinus, Hymns Festus Avienus, Geographical Poem D. M. Ausonius, Idylls A. T. Macrobius, Saturnalia Symmachus, Epistles C. Claudianus, Poems A. Prudentius Clemens, Christian Poems	F. Eutropius, History of Rome Ann. Marcellinus, Do.	
400	400 Yib. Sequester, Geography Sulpitius Severus, d. 425, Sacred History	400

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
Sedulius, Poetical Life of Christ Martinus Capella, De Nuptis Phil. et Merc. Paulin. Petrucorius, Poem on Martin of Tours 400 Sidonius Apollinaris, d. 482, Poems	Orosius, Hist. of World	
Ennodius, d. 521, Christian Poems 500 Boethius, Poet and Philosopher	Victorinus, Hist. of Church in Africa Idacius, Chronicles to 468	400
Arator, 490-556, Acts of Apostles in Verse	500 Cassiodorus, 491-562, History	500 Priscianus, Grammar Fulgentius, 468-533, Theology Dionysius Exiguus, d. 526, Christian Era Non. Marcellus, Grammar
600	Jornandes, Hist. of Goth. Evagrius, Eccl. History	
700	600 Secundus, d. 615, Hist. of Lombards	600
800	700 Paul Warnefrid, History of Lombards	700 Cresconius, Collec. Canons Verses
900	800 Erchempert, History of Lombards Anastasius, Lives of Popes	800
1000	900 Luitprand, History of his Times	900
1100 Donizo, Latin Poetry	1000 Papias, Grammar Lautian, d. 1089, Theology	1000
Cinillo d'Alcamo, Sicilian Poetry	Falcandus, Hist. of Sicily	1000 Gratian, Canonist Campanus, Mathematics
1200	1200 Pietro dalle Vigne, d. 1249, History	1200 Accursius, 1182-1260, Law Thos. Aquinas, 1224-1274, Theology Bonaventura, Scholastic
Guido of Colonna, Poetry, History Brunetto Latini, d. 1294, 'Il Tesoro' Guido Cavalcanti, d. 1300, Poems John XXII., Poem on Medicine	Marco Polo, Travels G. de Voragine, d. 1298, Legends of Saints	G. Durand, Law Pietro d'Albano, 1250-1315, Astrology, Physics Torreiano Rusticelli, Commentaries
1300 Dante, 1265-1321, La Divina Commedia	1300	1300 Mon. de Luzzi, Anatomy Arn. Villanovan, d. 1313, Alchemy Cecco d'Ascoli, d. 1327, Astronomy G. Andreas, d. 1348, Canon Law Bartolus, Law
F. Barberino, 1264-1348, Poems Petrarca, 1304-1374, Sonnets Epic, Literature Boccaccio, 1313-1375, 'Il Decamerone'	Ferreti, 1356-1439, History of his Times.	

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1400 A. Beccadelli, 1374-1471 'Hermaphroditus' Poggio, 1390-1459, Literature Lorenzo Valla, 1407-1457, Literature D. Burchiello, Sonnets	1400 Leonardo Bruni, History of Florence Gualtino, 1370-1460, Translation of Plutarch B. Accolti, 415-1466, History of Holy War Flav Blondus, 1368-1463, History of Venice, &c. Æm. Sylvius, 1406-1464, History, Poetry, &c. John Gohelin, History Beccat. Penemita, 1393-1471, Biography Bart. Platina, 1421-1481, Lives of Popes F. Buonaccorsi, 1437-1496, Biography Pomp. Lantus, 1425-1496, Lives of Cæsars, &c. Franc. Berlinghieri, Geography G. Pontano, 1426-1568, Wars of Ferdinand I. Bosfinus, d. 1502, History of Hungary	1400 Leonard of Pisa, Algebra Nicholas Tedeschi, Law Mich. Savenarole, d. 1462, Medicine Bar. Montagnana, d. 1460 Barsterius, Law Gianozzo Manetti, 1399-1459, Orientalist Paul Toscanello, d. 1482, Astronomy
Pulci, 1432-1487, 'Morgante Maggiore' Franc. Philippius, 1396-1481, Poetry and Ethics Loren. de' Medici, d. 1492, Poetry, Literature Angelo Poliziano, 1454-1494, Poetry, Drama Marcellus Ficinus, 1433-1499, Transl. Plato	1500 P. Accolti, 1455-1532, hist.	1500 Ant. Della Torre, d. 1512, Anatomy L. da Vinci, 1452-1532, 'Treatise on Painting' G. Abrosi, Astronomy A. Accillini, 1472-1512, Medicine B. Castiglione, 1479-1529, 'The Courtier'
G. Rucellai, 1475-1526, 'Le Api' Alexander ab Alexandro, 1461-1521, dies Gentiles M. Boiardo, 'Orlando innamorato' Sannazar, 1458-1530, Arcadia Berni, d. 1530, Satires Ariosto, 1474-1533, 'Orlando Furioso' F. M. Molza, d. 1544, Poems	Machiavelli, 1469-1526, History of Florence, &c. Gualtieri, 1483-1540, History of Italy Bembo, 1470-1547, History of Venice L. Alberti, d. 1552, History of Bologna	G. Fracastoro, 1483-1553, Medicine And. Alciato, 1492-1560, Law Nic. Tartaglia, Mathem. F. Commandino, 1509-1573, Mathematics Angelo Canino, d. 1557, Orientalist
Trissino, 1478-1550, 'Italy Delivered', Epic, Tragedy Hier. Vida, d. 1566, Latin Poetry Mic. Angelo Buonarroti, d. 1564, Poems Giovanni della Casa, 1537-1558, Il Galateo, &c.-d. G. Anguillara, d. 1561, Tragedy L. Dolce, 1568-1568, Tragedy, Epic, History Bernardo Tasso, 1493-1575, 'Amadis' Greg. Giraldi, 1504-1573, Tragedy	B. Callini, 1500-1570, Autobiography B. Varchi, 1503-1566, History of his Times V. Borghini, 1515-1580, History G. Vassari, 1514-1578, Lives of Painters &c.	And. Vesalio, 1514-1564, Anatomy Faleopius, 1523-1563, Medicine

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1500 A. F. Grazzini, d. 1583, Comedies Torg. Tasso, 1544-1597, 'Gerusalemme Liberata' G. Bagnoli, d. 1600, Tragedy Guarini, 1538-1613, 'Il Pastor Fido' Ottavio Rinuccini, Opera F. Bracciolini, 1566-1606, 'La Croce Racquistata' Oraz. Vecchi, Comic Opera G. Marini, 1669-1625, Poems C. Accillini, 1577-1640, Poems A. Tassoni, 1561-1635, 'Secchia Rapita'	1500 Sperone Speroni, 1500-1588, Orations S. Ammirato, 1531-1600, History of Florence G. Adriani, 1511-1579, History of his Times B. Davanzati, 1529-1606, Hist. Engl. Reformation C. Barionius, 1538-1607, Ecclesiastical Annals P. Paruta, 1540-1598, History of Venice Possevin, 1523-1611, Description of Muscovy, &c. P. R. Sarpi, 1552-1623, Hist. of Coun. of Trent E. C. Davila, 1576-1631, Hist. Civil Wars France	Eustachi, d. 1570, Do. P. Manut. Aldus, 1512-1574, Commentaries Cardano, 1501-1576, Mathematics P. Launcellotti, 1511-1599, Law Andrea Cossalpino, 1519, 1603, Botany U. Aldrovandi, 1522-1605, Natural History Orazio Torsellino, 1545-1609, Grammar
1600 G. Chiabrera, 1552-1637, Poems	1600 G. Bentivoglio, 1579-1644, Hist. Civil Wars Flanders	1600 J. Fabricius, d. 1619, comparative Anatomy Bellarmine, 1542-1621, Polemics Galileo, 1564-1642, Astron. T. A. Campanella, 1568-1639, Philosophy L. Vanini, 1583-1619, Theology B. Castelli, d. 1644, Mathematics B. Cavalieri, d. 1647, Do. Fabio Colonna, 1567-1647, Botany, &c.
Lanz. Lippi, 1606-1664, Comic Poems G. Marini, Romances Salvator Rosa, 1615-1673, Satires C. M. Maggi, 1630-1699, Poems Ben. Mannini, 1646-1704, Art of Poetry, Satires V. Filicaja, 1642-1707, Poems	P. della Valle, 1586-1652, Travels E. Strada, 1571-1649, Hist. of Wars of Flanders G. B. Nani, 1616-1678, History of Venice Oderic Rainaldi, Ecclesiastical Annals Villani, Hist. Florence	F. Redi, 1626-1697, Natural History M. Malpighi, 1628-1694, Anatomy V. Viviani, 1621-1703, Mathematics A. Magliabecchi, 1633-1714, Literature G. D. Cassini, 1625-1712, Mathematics, Astronomy D. Guglielmini, 1635-1719, Mathematics
1700 Aless. Guidi, 1650-1712, Lyrics	1700 G. Baglivi, 1668-1706, Medicine	

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1300 John Gower, d. 1409. Elegies, Romances, &c.		
1400	1400 Andrew of Wyntoun. Chron. of Scotland	1400
John Lydgate, 1380-1440. Poems	T. Walsingham, d. 1440. History of Normandy	John Fortescue, Laws of England
James I. of Scotland, 1436- 1437, 'King's Quhair,' &c. Harry the Monstreth, 'Sir W. Wallace'	John Hardyng, Chron. of England Lord Berners, Trans. of Proissart W. Caxton, Translations	Thos. Littleton, d. 1487. Law
Stephen Hawes, 'Passe- time of Pleasure' John Skelton, d. 1529. Sa- tires, Odes	Douglas of Glastonbury, Chron. of England	
1500 Wm. Dunbar, 1465- 1530, 'Thistle and Rose' Gavin Douglas, 1475-1522, Trans. Virgil Thomas More, 1480-1435, 'Utopia' Thomas Wyatt, d. 1542, Sonnets John Heywood, d. 1565, Drama Earl of Surrey, d. 1546-7, Poems Geo. Gascoigne, d. 1577, Drama	1500 R. Fabian, d. 1512, 'Triso- f of England and France' T. Halls, d. 1547, Hist. of Houses of York & Lanc. John Leland, d. 1554, En- glish Antiquities W. Cavendish, 1506-1557, 'Life of Wolsey' J. Ball, 1495-1563, 'Lives of British Writers' Ralph Hollingshed, d. 1581, Chronicles Geo. Buchanan, 1506-1562, History of Scotland J. Fox, 1517-1587, Book of Martyrs	1500 Thos. Linacrer, 1480-1524, Philology, Medicine Anth. Fisherbert, Husban- dry Thomas Elyot, Philology H. Latimer, 1475-1535, Ser- mons Roger Ascham, 1513-1568, 'The Schoolmaster' Thomas Wilson, d. 1581, Logic and Rhetoric Thomas Tusser, d. 1580, Husbandry
Philip Sidney, 1554-1586, 'Arcadia' Christ. Marlowe, d. 1593, Drama Edmond Spenser, 1559-1599, 'Faery Queen' W. Shakespeare, 1564-1616, Drama John Lyly, 1550-1600, 'Euphuës' John Fletcher, 1576-1625, Drama F. Beaumont, 1586-1613, Drama	N. Fisherbert, 1550-1612, Biography John Stowe, 1527-1605, Chronicles, Topography Sir T. North, Trans. of Plutarch	J. Jewel, 1522-1570, Divi- nity R. Hooker, 1553-1600, Ec- clesiastical Polity W. Gilbert, 1540-1603, 'On the Loadstone' L. Andrews, 1565-1626, Ser- mons
1600 John Owen, d. 1612, Latin Epigrams	1600 J. Pitts, 1570-1616, Hist. of Kings, Bishops, &c. Richard Knolles, d. 1610, History of the Turks Wm. Camden, 1551-1623, Antiquities R. Hackluyt, 1553-1616, Naval Histories W. Raleigh, 1552-1617, History of the World Samuel Daniel, 1567-1619, History of England	1600 Edward Coke, 1550-1634, Law John Napier, 1550-1617, Logarithms

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1600	1600 John Hayward, d. 1627, English History	1600
J. Ford, b. 1586, Drama Ben Jonson, 1574-1637, Drama P. Massinger, 1585-1639, Drama J. Harrington, '561-1612, Trans. Ariosto E. Fairfax, d. 1632, Trans. Tasso M. Drayton, 1563-1631, Poems G. Sandys, 1577-1643, Translation Poems J. Daniel, 1562-1619, Poems W. Drummond, 1585-1649, Poems John Donne, 1573-1662, Satires, Essays Geo. Wither, 1588-1667, Satires James Shirley, 1594-1666, Drama Sir J. Suckling, 1609- 1641, Poems John Denham, 1615-1668, Tragedies, Cooper's Hill Samuel Butler, 1612-1688, Hudibras John Milton, 1608-1674, 'Paradise Lost' Edmond Waller, 1605-1687, Poems A. Cowley, 1618-1667, Poems A. Marvell, 1620-1678, Poems	J. Speed, 555-629, Hist. of Great Britain Henry Spelman, 562- 1641, Antiquities R. B. Cotton, 1570-1631, Antiquities S. Purchas, 1577-1628, Collection of Voyages Thomas Roe, 1580-1641, Travels in the East E. (Lord) Herbert, '581- 1633, Hist. of Hy. VIII. R. Baker, d. 1645, Chron. of England Thos. Fuller, 1606-1661, History, Biography Clarendon, 1608-1673, His- tory of Rebellion Thomas May, d. 1650, His- tory of Parliament Isaac Walton, 1593-1683, Biography B. Whitlocke, 1605-1678, History Mrs. Hutchinson, Biograp- hy W. Prynne, 1600-1667, History, Politics Wm. Temple, 1629-1700, History W. Sherlock, d. 1689, Di- vinity J. Tillotson, 1630-1694, Ser- mons Archbishop Leighton, 1613- 1684, Divinity R. Baxter, 1615-1691, 'Saint's Everlasting Rest' R. Boyle, 1627-1693, The- ology, Chemistry	Robert Burton, 1576-1639, 'Anat. of Melancholy' Francis Bacon, 1569-1626, Philosophy, History Wm. Harvey, 1578-1657, Circulation of Blood John Selden, 1584-1654, An- tiquities, Law, History J. Harrington, 1611-1677, 'Oceana' James Usher, 1580-1656, Di- vinity, Sermons, History Thomas Hobbes, 1588-1679, Metaphysics W. Dugdale, 1605-1686, An- tiquities, History W. Chillingworth, 1602-1644, Theology Isaac Barrow, 1630-1677, Di- vinity, Mathematics J. Pearson, 1612-1686, Di- vinity Brian Walton, 1600-1661, Polyglot Bible Jeremy Taylor, d. 1667, Di- vinity Alger. Sydney, 1617-1683, 'Discourse on Govt.' Thos. Browne, 1606-1682, 'Or Vulgar Errors' Edmund Casteln, d. 1685, Lexicon Heptaglotton R. Cudworth, 1617-1688, Metaphysics J. Evelyn, '620-1706, 'Silva' H. More, 1614-1687, The- ology T. Sydenham, 1624-1689, Medicine W. Sherlock, d. 1689, Di- vinity J. Tillotson, 1630-1694, Ser- mons Archbishop Leighton, 1613- 1684, Divinity R. Baxter, 1615-1691, 'Saint's Everlasting Rest' R. Boyle, 1627-1693, The- ology, Chemistry
Rochester, 1648-1680, Sa- tires Roscommon, 1631-1684, Poems N. Lee, 1656-1691, Drama John Bunyan, 1628-1688, 'Pilgrim's Progress' John Dryden, 1631-1701, Tragedy, Satire, 'Virgil' Thos. Otway, 1651-1685, Tragedy 1700 John Dryden, 1631- 1701, 'The Choice' John Philips, 1676-1709, 'Splendid Sailing' Thos. Parnell, 1679-1717, 'The Hermit' Geo. Farquhar, 1678-1707, Comedies	R. Brady, d. 1700, History of England 1700 Thomas Wymond, d. 1718, Poets S. Ockley, 1678-1720, Ori- ental History Thos. Hearne, 1678-1735, History and Antiquities	1700 John Ray, 1629-1705, Bo- racy, Natural History John Locke, 1632-1704, Me- taphysics R. South, 1633-1716, Di- vinity Isaac Newton, 1642-1719, 'Principia' J. Flamsteed, 1646-1719, As- tronomy

Imagination.	Poe.	Speculative and Scientific.
1700	1700 John Strype, 1643-1737, Eccl. Hist., Biography Gilbert Burnet, 1643-1715, 'History of his Times' L. Echard, 1671-1730, History of England Thomas Carte, 1686-1754, History of England John Potter, 1674-1747, Antiquities Sir W. Petty, 1623-1682, Statistics	1700 R. Hooke, 1735-1702, Phil. B. de Mandeville, 1670-1733, 'Fab. of the Bees' Edm. Halley, 1656-1742, Astronomy Hans Sloane, 1660-1753, Natural History A. Clark, 1696-1742, Divinity, Philosophy D. Waterland, 1683-1740, Divinity R. Bentley, 1661-1740, Divinity, Philology A. Baxter, 1687-1750, Metaphysics Lord Bolingbroke, 1672-1751, Politics, Literature G. Berkeley, 1684-1753, Metaphysics, Ethics P. Doddridge, 1701-1761, Divinity Jas. Bradley, 1692-1762, Astronomy F. Hutcheson, 1694-1747, Moral Philosophy T. Sherlock, 1675-1761, Divinity C. Maclaurin, 1696-1746, Mathematics Earl of Chesterfield, 1694-1773, Letters Eph. Chambers, d. 1740, Cyclopædia B. Hoadly, 1676-1761, Polemics Bishop Butler, 1692-1752, Divinity J. Wesley, 1703-1791, Divinity D. Hartley, 1704-1757, 'Observations on Man' Samuel Jenyns, 1704-1787, Theology W. Warburton, 1709-1779, Theology, Criticism J. Martin, 1698-1770, Divinity, Criticism Lord Kaimes, 1696-1762, Elements of Criticism R. Lowth, 1710-1757, Divinity, Philology W. Blackstone, 1723-1780, Laws of England
Matthew Prior, 1664-1721, Poems R. Steele, d. 1729, Drama, Essays Daniel Defoe, 1660-1731, 'Robinson Crusoe' Jos. Addison, 1672-1719, 'Spectator,' 'Cato' Nich. Rowe, 1673-1718, Tragedy J. Vanbrugh, d. 1726, Comedy W. Congreve, 1672-1728, Comedy John Gay, 1688-1732, 'Beggar's Opera,' Fables M. W. Montague, 1690-1762, Letters Robert Blair, 1699-1746, 'The Grave' S. Richardson, 1689-1761, 'Clarissa,' 'Pamela,' &c. D. Garrick, 1716-1779, Drama S. Foote, 1720-1771, Drama R. Dodsley, 1703-1764, Drama Jonathan Swift, 1667-1740, Satires, Fables, &c. J. Watts, 1674-1748, Hymns Edward Young, 1681-1765, 'Night Thoughts' A. Pope, 1688-1744, Poetry W. Somerville, 1692-1743, 'The Chase' Allan Ramsay, 1686-1758, 'The Gentle Shepherd' Richd. Savage, 1696-1743, Poems Jas. Thomson, 1700-1748, 'Seasons' John Dyer, 1700-1758, Poems H. Fielding, 1707-1754, 'Tom Jones,' &c. Jas. Hammond, 1710-1742, Elegies Lawr. Sterne, 1713-1768, 'Tristram Shandy' W. Shenstone, 1714-1763, Pastorals, &c. W. Collins, 1720-1756, Odes H. Brooke, 1706-1783, 'Poet of Quality'	Nathanael Hooke, d. 1753, History of Rome C. Middleton, 1683-1750, Life of Cicero, &c. John Swinton, 1703-1767, History, Antiquity Lord Lyttleton, 1709-1773, History, Poems, Divinity James Granger, d. 1770, Biog. Hist. of England Sam. Johnson, 1709-1794, Lives of Poets, Dict. &c. Jonas Hanway, 1712-1786, Travels in the East John Blair, d. 1782, Chronology	

Imagination.	Fact.	Speculative and Scientific.
1700 M. Aenside, 1721-1770, 'Pleasures of Imagination' Thos. Gray, 1716-1771, Odes, Elegies T. Smollett, 1720-1771, Novels R. Glover, 1712-1789, 'Leonidas' O. Goldsmith, 1721-1774, 'Travelles,' 'Vicar of Wakefield' W. Mason, 1745-1797, Poems, Biography T. Chatterton, 1752-1770, Poems Ar. Murphy, 1727-1805, Drama Wm. Cowper, 1731-1800, Poems R. Cumberland, 1732-1811, Drama Eras. Darwin, 1732-1802, 'Botanic Garden' James Beattie, 1735-1803, Poems R. Ferguson, 1750-1774, Poems Geo. Colman, 1733-1791, Comedies J. Wolcot (Peter Pindar), 1738-1819, Com. Poems J. Macpherson, 1738-1796, 'Ossian's Poems' Robert Burns, 1759-1796, Poems J. Home, d. 1808, Drama R. B. Sheridan, 1751-1816, Drama Ann Radcliffe, 1764-1823, novels 1800 Rob. Bloomfield, d. 1823, 'Farmer's Boy' Mrs. Barbauld, Poems, Tales Lord Byron, 1788-1824, Poems John Keats, Poems P. B. Shelley, d. 1822, Poems R. C. Maturin, d. 1824, Drama Miss Austin, novels 1800 J. Macdunnid, 1779-1808, Biography E. D. Clarke, d. 1822, Travels C. J. Fox, d. 1806, Hist. W. Mitford, History of Greece R. Heber, Travels, &c. Major Rennell, Geog.	1700 David Hume, 1711-1776, Hist. of Eng. Essays, &c. W. Robertson, 1721-1793, Hist. of Charles V., &c. Thos. Warton, 1728-1790, Hist. of Eng. Poetry, Poems H. Walpole, d. 1797, 'Historic Doubts,' 'Royal & Noble Authors' J. Moore, 1730-1802, 'Views of Society and Manners' James Bruce, 1730-1794, Travels W. Gilpin, 1724-1804, Biography, Divinity E. Gibbon, 1737-1794, Decl. & Fall of Rom. Empire J. Whitaker, 1735-1808, Hist. of Manchester, &c. Edmund Burke, 1730-1797, Oratory J. Boswell, 1740-1795, Biography J. Milner, 1744-1797, Church History Joseph Strutt, 1748-1802, Chronology, Antiquities Charles Burney, d. 1814, History of Music 1800 J. Macdunnid, 1779-1808, Biography Arthur Young, 1741-1820, Agriculture A. Rees, 1743-1825, Cyclopædia Joseph Banks, 1743-1820, Natural History Dr. Parr, d. 1825, Philol. D. Ricardo, d. 1823, Political Economy C. Hutton, d. 1823, Mathematics Humph. Davy, Chemistry John Playfair, d. 1819 P. Elmsley, Philology T. Wollaston, Chemistry Thomas Young, Biog. Physics, &c. T. Scott, Divinity D. Stewart, Metaphysics Archib. Magee, d. 1831, Divinity	Adam Smith, 1723-1790, 'Wealth of Nations' Benj. Franklin, 1706-1790, Electricity, Philosophy J. Harris, 1709-1750, Philology John Hunter, 1728-1793, Medicine F. Baiguy, 1716-1795, Divinity T. Reid, 1710-1796, Metaphysics Sir J. Reynolds, 1723-1792, Art S. Horsley, d. 1806, Theol. Jos. Priestley, 1733-1804, Metaphysics, Chemistry Hugh Blair, 1718-1800, Sermons J. Horne Tooke, 1736-1812, Philology Wm. Jones, 1747-1794, Orientalist R. Price, 1723-1791, Metaphysics, Divinity Wm. Paley, 1743-1805, Theology Richd. Porson, 1759-1803, Philology Thos. Beddoes, 1760-1808, Medicine N. Maskelyne, d. 1811, Astronomy G. L. Stanton, d. 1801, Chinese Code W. Herschell, 1738-1822, Astronomy

GERMAN.

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
800 Walafrid Strabo, d. 849, Poems, Theology	800 Einhard, d. 849, Life of Charlemagne, Annals	800 Rabanus Maurus, 776-856, Theology
Ottfried, Harmony of Gospels in rhyme	Nithard, d. 853, History of Wars of France	Gottschalk, d. 868, 'On Predestination'
900 Horowitz, Lat. Comedies Noted. Trans. of Poems	900 Einhard, d. 95, Chronicle	900 Balthasar, d. 974, Theology Grammar
1000 Wilpo, 'Praise of Henry III.' Biography	1000 Dithmar, d. 1018, Chron. of Saxon Emperors	1000 Mangold, Theology
Willeram, Francic Poems	Hermann Contractus, Universal History Mar. Scotus, 1028-1085, Chronicle Adam of Bremen, Ecclesiastical History Lambert, General History Sigebert, d. 1143, Chron. Kosmas, 1045-1126, History of Bohemia	1000 Epke of Regow, 'Saxon Mirror,' (Law) John Semeca, Law Alb. Magous, 1193-1280, Natural Philosophy
1100 Henry of Veldeck, Minnesinger	1100 Berthold Constantiensis, Universal History Otto, d. 1158, Chronicle Helmold, d. 1170, Chron. of Slavi	1200 John Saule, Sermons
1200 Gunther, Poems	1200 Arnold of Laback, Chronicle of Slavi	John Huss, 1376-1415, Theology
Frederic II., 1195-1254, 'De Arte Venandi'		
Freydank, Poems		
1300 Kudger of Manesse, Collection of Ballads Henry Frauenlob, Songs Bonar, Fables	1300 Heinrich von Rasdorf, Chronicle Heinrich von Harzleben, Chronicle Jacob von Konigshofen, Chronicle John Schilberger, History of Timur	1400 John von Gmunden, Astronomy
1400 Felig Hammerlein, Satires	1400 Gubelin, Persons, General History Windeck, Life of Sigismund John Stadweg, Chronicle	

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1400 Hans von Rosenplut, Poems	1400 Peter von Andlo, De Imperio Romano	1400 Geo. von Peurbach, 143-1461, Theory of Planets Regiomontanus, 1436-1476, Astron., Math. mat. Nic. von Cuss, Mathemat. Thomas à Kempis, 1360-1471, Theology Gabriel Brie, d. 1495, Theology
Heinrich von Alkmaar, 'Reinke de Voss'	Mar. Behaim, Geography Breydenbach, Topography Conrad Botho, Chronicle	John Geyley, 1445-1510, Theology John Trithemius, 1462-1516, Nat. Philosophy Reuchlin, 1454-1522, Philology
Conrad Celtes, 1459-1508, Latin Poems, History of Nuremberg Thos. Murner, 1475-1536, 'Rogues' Guild'	1500 Maximilian, d. 1550, Autobiography Grunbeck, Lives of Emperors Adrian Kranz, d. 1617, History of Saxons &c. B. Pirkheimer, 1480-1530, History, Poetry John Aventin, 1466-1534, Annals of Bavaria	1500 J. Wimpfelingen, 1452-1528, Theol., Poems
Mele. Pflanzing, 1481-1535, 'Thuerdank'	Glareanus (H. L.), 1488-1563, Classics	Holander, d. 1531, Law Corn. Agrippa, 1486-1535, Physics, Theology M. Luther, 1483-1546, Theology Zwingle, 1484-1531, Theology Melancthon, 1497-1560, Theology Paracelsus, 1493-1541, Chemistry Joac. Camerarius, 1500-1574, Philology Conrad Gesner, 1516-1565, Natural History Basil Faber, 1520-1576, Thes. Erud. Schol. Mar. Chemnitz, 1522-1586, Theology Wm. Xylander, 1532-1576, Philology Wesenbeck, 1533-1586, Law Fred. Sylberg, 1536-1596, Philology Theod. Reza, 1519-1609, Theology, Philology
Hans Sachs, 1494-1574, Poems Joh. Fischart, 1511-1581, Satires G. Fabricius, 1516-1571, Lat. Poems, Topography	Rollenhagen, 1542-1609, Froeschmauser Fr. Taubman, 1565-1613, Latin Poems	John Pistorius, 1544-1607, Collec. German Hist. Marg. Preher, 1565-1614, Hist. Germany & France
600	1600	1600 C. Schwefelfeld, d. 1616, Natural History J. Buxtorf, 1585-1621, Philology John Kepler, 1571-1631, Astronomy B. von Helmont, 1577-1644, Chemistry C. Scioppius, 1576-1649, Ars Critica John Bayer, Uranometria, G. Barth 1587-1658 Philology Sol. Glass 1593-1656 Philol. Sacra Otto Guericke, 1602-1686 Air-Pump; &c.
Martin Opitz, 1597-1639, Poems James Balde, 1603-1668, Poems A. Gryphius, 1616-1664, Tragedies	G. Calixtus, 1586-1656, Ecclesiastical History Olearius, 1604-1685, Travels	

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1600 Paul Fleming, 1699-1640, Poems	1600 S. von Puffendorf, 1811-1694, History Law	1600 Her. Cornig, 1606-1681, Antiquities
Lohenstein, 1632-1683, Poems	D. G. Morhoff, 1699-1691, Biography History	Ex. Spanheim 1629-1702, Numismatology
1700 C. Gryphius, 1642-1706, Poems, Hist. Philology	1700 H. Meibomius, 1638-1700, History	1700 Ladaiph, 1649-1711, Philology
Von Canitz, 1654-1699, Poems	C. Cellarius, 1638-1707, Geography Antiq.	Leibnitz, 1646-1716, Mathematics Metaphysics
Guthrie, 1695-1724, Poems	C. Franckenstein, 1661-1717, History, Biog.	C. Thomaeus, 1655-1728, Law
Liscov, Satires	J. Arnold, 1665-1714, Ecclesiastical History	F. Bodinus, 1667-1729, Divinity
J. C. Gottsched, 1700-1766, Poems, Trag., Criticism	J. G. von Ecard, 1670-1730, General History	G. E. Stahl, 1660-1734, Chemistry
Hagedorn, 1708-1754, Fables	J. A. Fabricius, 1668-1735, Bibliography	F. Hoffman, 1660-1742, Medicine
Haller, 1708-1777, 'The Alps'	H. Freyer, Gen. Hist.	Bernoulli, 1667-1747, Mathematics
J. E. Schlegel, d. 1759, Drama	H. G. S. 1671-1738, History of Germany	O. Oederick, 1675-1748, Philology
E. C. Kleist, 1715-1759, Idylls	J. L. Mosheim, 1685-1755, Ecclesiastical History	J. M. Gessner, 1691-1761, Philology
Gilbert, 1715-1769, Fables		A. G. Baumgarten, 1714-1751, Ethics, Metaph.
Baheuer, 1714-1774, Satir.		J. J. Gessner, 1707-1787, Numismatology
Glein, d. 1803, Songs		G. F. Meyer, 1711-1777, Philosophy
Klopstock, 1724-1803, 'The Messiah'	A. F. Busching, 1724-1793, Geography	F. W. von Gleichen, 1714-1783, Nat. History
Zacharius, 1727-1777, Comic Poems	Frank, d. 1784, Chronol.	J. Winkelmann, 1718-1768, Antiquity
C. F. Weiss, Drama	Walch, d. 1784, Ecclesiastical History	Leon. Euler, 1707-1783, Mathematics
J. G. Zimmerman, 1728-1793, 'On Solitude'		G. J. Zollikofer, 1730-1780, Sermons
Gotz, 1721-1781, Pastorale		J. A. E. Götz, 1731-1786, Entomology
Ramler, 1725-1798, Odes		Im. Kant, 1724-1804, Metaphysics
Dusch, 1727-1788, Poems		
G. E. Lessing, 1729-1781, Drama, Fables	C. Gatterer, d. 1799, Hist.	Senler, d. 1791, Theology
S. Gessner, 1730-1788, 'Death of Abel'		Putzer, Law of Nations
Wieland, 1733-1813, Romances Poems	J. W. von Archenholz, 1715-1812, 'Seven Years' War'	Adelung, d. 1807, Philology
Pfeffel, 1736-1809, Fables		Lavater, 1741-1801, Physiognomy
G. A. Berger, 1748-1794, Poems	Schröckh, d. 1808, Ecclesiastical History	Warner Gassler
Gothe, b. 1749, Drama	F. Forster, d. 1798, Geography	
LeH. Voss, 1751-1820, Novels	A. L. von Schlozer, d. 1809, History	
F. Schiller, 1759-1805, Drama		
Kotzebue, 1761-1819, Drama		

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1800 F. Schlegel, 1773-1829, Novels, Poetry, Hist. &c.	1800 J. von Müller d. 1809, Universal History	1800 Herder, 1741-1803, Philosophy of History
Ernst Schuitze 1787-187, Elegies	J. G. Eichhorn, d. 1827, History	Fichte, d. 1819 Metaphysics
E. T. W. Hoffman, d. 1822, Tales		F. H. Jacobi, d. 1819, Metaphysics
A. Lafontaine, 1700-183, Tales	Von Hammer, Orien. Hist. Korner Nietuhr	Baumbach, Physiology Schelling, Metaphysics

FRENCH.

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
500 Venan. Fortunatus, Latin Poetry	500 Gregory of Tours, 554-595, History	500
600	600 Marculfe, 'Chartes Re- gles,' &c.	600
700	700 Fredegair, Chronicle	700
800 Theodulph, d. 821, Hymns, Theology	800	800
Servatus Lupus, d. 862, Epistles		Agobard, d. 840, Theology
Hincmar, d. 862, Epistles	Ado, d. 875, Chronicle	Faschiasius Radbert, 'Transubstantiation'
Abbon, 'Siege of Paris'		
900	900 Flooard, 896-966, Chron. Dudon, Hist. of Norman Conquest in France	900
1000 Adalbert, d. 1030, Poetry	1000 Aimoin, d. 1008, History of France	1000 Gerbert, d. 1033, Geometry, Mathematics, &c.
Fulbert, d. 1029, Epistles		Abon, d. 1001, Arithmetic and Astronomy
1100	1100 Gilbert, 1053-1124, Hist. of First Crusade	Bernardus, d. 1058, Theology
Wm. of Poitiers, 1071-1120, First Troubadour	Pierre Theobode, Hist. of Crusades	1100 Anselm, 1033-1109, Scholastic
Hildebert, 1157-1133, Poetry	Marboulans, d. 1123, Biography	Pierre Abelard, 1079-1142, Theology
Bechada, Norman Poetry, 'Geste de Golefroi'	Super, 1062-1152, Life of Louis le Gros	Edmond of Clairvaux, 1051-1153, Mystic
Geoffroi, Gaimar, Anglo-Nor. Chron. in verse	Rich de St. Victor, 1097-1140, Geography, History, and Theology	Peter Lombardus, d. 1164, Theology
Rob. Wace, 'Roman de Rou'		
Fouques, a Troubadour		
Alexandre de Bernai, Poetry, Fables		Alain de l'Isle, d. 1202, Theology, Ethics

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1200 John Egidius, Poem on Medicine William le Breton, 'Deeds of Philip' in verse F. Gautier, 'Alexandria' William de Lorris, 'Ro- man de la Rose' Jean de Meun, Contin. of 'Roman de la Rose' Estève de Bezier, Last Troubadour 1300 Peter Langtoft, Anglo- Norman Chron. Philippe de Vatri, Trans- lation of Ovid	1200 Pierre de Poitiers, Sacred History Godefroy de Villehardouin, Conq. of Constantinople Phil. Mouskes, d. 1283, Hist. of France in verse W. Eubraquis, Traveller Jean de Joinville, 1260- 1313, Hist. of Louis IX. 1300 John Froissart, 1337-1402, Chronicles	1200 Vincentius of Beauvais, Encyclopædia Rob. of Sorbonne, d. 1271, Theology 1300 Bernard Gordon, Medicine John of Paris, d. 1326, The- ology W. Durand, d. 1333, Law W. Occam, d. 1347, Law 1300 Peter d'Ailly, 1350-1426 Astronomy John Gerson, 1363-1429, Scholastic Raymond de Sabunde, d. 1422, Theology Henry of Bahma, d. 1432, Mystic James Lefèvre, 1430-1537, Theology Wm. Budæus, 1467-1540, Jurist 1500 J. C. Scaliger, 1484-1558 Philology Du Bois, 1478-1555, Anat.
1400 Alain Chartier, d. 1456, Poetry Corbell, Satire D'Auvergne, d. 1508, Poems Clement Marot, 1463-1525, Poems	1400 Philip de Comines, 1445- 1509, Hist. of his Times Guill. du Bellay, d. 1543, History of his Times Jacques Amyot, 1514-1593, Translations J. J. Scaliger, 1540-1609, History, Criticism, &c. J. A. de Thou, 1553-1617, History of France	1400 1400 Peter d'Ailly, 1350-1426 Astronomy John Gerson, 1363-1429, Scholastic Raymond de Sabunde, d. 1422, Theology Henry of Bahma, d. 1432, Mystic James Lefèvre, 1430-1537, Theology Wm. Budæus, 1467-1540, Jurist 1500 J. C. Scaliger, 1484-1558 Philology Du Bois, 1478-1555, Anat.
1500 F. Rabelais, 1483-1552, Satires J. du Bellay, 1492-1560, Poems Steph. Jodelle, 1532-1573, Odes, Tragedies, &c. M. A. Muret, 1525-1585, Poems, Criticism Mich. de Montaigne, 1533- 1592, Essays Fran. Malherbe, 1555- 1628, Odes	1500 Guill. du Bellay, d. 1543, History of his Times Jacques Amyot, 1514-1593, Translations J. J. Scaliger, 1540-1609, History, Criticism, &c. J. A. de Thou, 1553-1617, History of France	1500 J. C. Scaliger, 1484-1558 Philology Du Bois, 1478-1555, Anat. Rob. Stephens, 1503-1553, Philology P. Ramus, 1515-1572, Logic Seb. Castellio, 1515-1563, Philology Jas. Cuiacius, 1520-1590, Law Lambinus, 1516-1572, Com- mentaries Hen. Stephens, 1525-1590, Philology F. Viète, 1540-1603, Algo- bra Pierre Charron, 1543-1603, Theology Isaac Casaubon, 1559-1604, Philology

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1600 M. Regnier, 1573-1613 Satires J. Chapelain, 1595-1674, 'La Pucelle' P. Corneille, 1606-1684, Drama St. Evremont, 1613-1703, Literature Rochefoucault, 1608-1680, Reflections Molière, 1620-1673, Drama La Fontaine, 1621-1695, Fables, Tales Sagrains, 1624-1701, Idyls T. Corneille, 1625-1709, Drama M. de Scygné, 1626-1694, Letters J. Racine, 1639-1699, Drama Boileau, 1636-1711, Satires 1700 Regnard, 1647-1709, Co- medies Galland, 1646-1715, Trans. of Arabian Nights Fenelon, 1651-1715, Tele- machus, &c. Deshoulières, 1638-1694, Elegies J. B. Rousseau, 1671-1741, Odes Cresillon, 1674-1762, Tra- gedies Ren. La Sage, 1677-1745, 'Gil Blas' P. N. Destouches, 1680- 1754, Comedies J. B. Grécourt, 1683-1743, Odes, Tales, &c.	1600 P. Matthieu, 1544-1621, History of France Ad. Du Chesne, 1584-1640, Collections of Histories Bochart, 1599-1667, 'Geo- graphus Sacra' Henry Spondanus, 1589- 1643, History S. Guicheron, 1607-1664, Hist. of House of Savoy Henri Valesius, 1603-1696, Ecclesiastical History Adr. Valartus, 1607-1692, 'Deeds of the Franks' L. Moreri, 1643-1680, His- torical Dictionary Tillemont, 1637-1698, Ec- clesiastical History 1700 J. Marsollier, 1647-1724, History, various Fleury, 1653-1723, Eccle- siastical History G. Daniel, 1649-1728, His- tory of France Valincourt, 1653-1730, Bi- ography Vertot, 1655-1735, Hist. Paul Rapin, 1661-1725, History of England Bossuet, 1662-1704, Hist., Sermons C. Rollin, 1661-1741, An- cient History Folard, 1669-1752, Strategy Saurin, 1677-1730, Sermons	1600 C. Salmasius, 1596-1652, History and Criticisms Dennis Pe'au, 1583-1652, Chronology P. Gassendi, 1592-1655, Phi- losophy Des Cartes, 1596-1650, Metaphysics, Mathem. B. Pascal, 1623-1662, Divinity D'Herbelot, 1625-1695, Ori- entalist Cassini, 1625-1712, Astron. Huet, 1630-1721, Philosophy Bourdalone, 1632-1704, Ser- mons La Bruyère, 1636-1696, 'Characters' Malbranche, 1633-1715, 'Search after Truth' 1700 P. Bayle, 1647-1706, Dic- tionary Hardouin, 1646-1729, Cri- ticism And. Dacier, 1661-1722, Philology Anne Dacier, 1661-1720, Philology Tournefort, 1656-1706, Botany Fontenelle, 1657-1756, 'Plurality of Worlds' Montfaucon, 1655-1741, An- tiquities Massillon, 1663-1742, Ser- mons

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1700 <i>Motivans</i> , 1688-1763, Novels Voltaire, 1695-1778, Tragedy, Poetry, Hist., &c.	C. I. F. Hénault, 1688-1770, <i>Chronicles</i> , Hist. C. Villaret, 1715-1769, <i>History of France</i> L. P. Anquetil, 1723-1808, <i>History</i> M. t. Bouquet, d. 1754, <i>Recueil d'Histoires</i> Goguet, d. 1758, <i>Origin of Laws, Arts, &c.</i> Larcher, 1726-1812, <i>Treatise of Heronotus</i> Crevier, d. 1765, <i>Ancient History</i> Gayot, d. 1771, <i>Ecclesiastical History</i> J. De Guignes, 1721-1800, <i>History of the Huns</i> D'Anville, 1702-1782, <i>Geography</i> G. Raynal, 1711-1796, <i>Hist. of East and West Indies</i> C. F. X. Millot, 1726-1785, <i>History</i>	1700 Montesquieu, 1698-1755, <i>'Esprit des Loix'</i> Rémusat, 1683-1757, <i>Nat. History</i> H. de Gigant, 1686-1783, <i>Criticism, Philology</i> Girard, d. 1748, <i>'Synonymes'</i> Buffon, 1707-1788, <i>Natural History</i> De Brosses, 1709-1777, <i>Philology, History</i> Helvetius, 1715-1771, <i>'De l'Esprit'</i> D'Aubenton, 1716-1799, <i>Natural History</i> N. Vattel, d. 1770, <i>'Law of Nations'</i> D'Alembert, d. 1783, <i>'Encyclopédie'</i> La Grange, <i>Mathematics</i> Baillly, 1736-1793, <i>History, Astronomy</i> Lagrange, 1733-1791, <i>Chemistry</i> Mouton, 1725-1799, <i>Mathematics</i> Turgot, <i>Polit. Economy</i> Mirabeau, <i>Politics</i> Fourcroy, d. 1807, <i>Chem.</i> J. Lalande, d. 1807, <i>Astron.</i> 1800 Volney, 1755-1820, <i>Travels, Philology, &c.</i> Haüy, d. 1822, <i>Crystallography</i> La Place, d. 1827, <i>Mathematics</i> Goussier, <i>Chem.</i> Cuvier, <i>Natural History</i> Dumoulin, <i>Legislation</i> P. L. Courier, <i>Politics</i>
1700 B. St. Pierre, <i>'Paul and Virginia'</i> Mme. de Genlis, Novels Mme. Cottin, 1772-1807, <i>Tales</i> Deille, d. 1813, <i>'L'Histoire des Chinois'</i> Madame de Staël, 1768-1817, <i>'Corinne'</i> , &c.	Denon, d. 1825, <i>Travels in Egypt</i>	

SPANISH AND PORTUGUESE.

P. is prefixed for Portuguese.

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
800	800 John of Biclar, d. 630, <i>Chronicle</i> Isidore, d. 630, <i>Chron. de Goth.</i>	800 Arias, <i>Law</i> Fulgencius Ferrandus, <i>Canon Law</i> Martin, d. 580, <i>Ethics</i>
800	800 Eulogius, d. 859, <i>Martyrology</i> Alvarez, <i>Biog. of Eulogius</i>	800 Ildefonso, d. 667, <i>Polemics</i>

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
P. 1100 Egaz Mouez, <i>Songs</i> P. Gonzalo Hermiguez, do.	1100	1100
1200 Gonzalo Berceo, <i>Rhymes</i>	1200 Rodrigo Ximenez, d. 1245, <i>History of Spain</i>	1200 R. de Penafort, 1175-1275, <i>Decretals</i> Alphonso X., d. 1284, <i>Astronomy, Alchemy</i> Raimund Lullo, 1226-1315, <i>Theology, Chemistry, &c.</i>
1300 Juan Manuel, d. 1362, <i>Romances</i>	1300	1300
1400 Villena, d. 1434, <i>Trans. Virgil and Dante</i> E. de Villena, d. 1434, <i>Moral Drama</i> Juan de Mena, 1412-1456, <i>Poems</i> L. de Mendoza, 1398-1458, <i>Poems</i> Perez de Guzman, <i>Lyrics</i> Juande la Encina, <i>Pastoral Dramas</i>	1400 Diez de Games, <i>Biography</i> R. de Zamora, 1407-1470, <i>History of Spain</i> Ferd. del Pulgas, <i>Biog. of Ferdinand and Isabella</i>	1400 J. de Torquemada, d. 1468, <i>Sermons, Criticism</i>
1500 Lope de Rueda, <i>Comedies</i> Torres Naharro, <i>Comedy</i> Juan Boscan, d. 1544, <i>Sonnets</i> P. Ber. Ribeyro, <i>Elegies</i> Garcilaso de la Vega, 1503-1536, <i>Poems</i> P. Saa de Miranda, 1456-1558, <i>Lyrics</i> Juan de la Cueva, <i>Art of Poetry</i> P. Gil Vicente, d. 1557, <i>Comedy</i> J. de Montemayor, 1520-1561, <i>Romance</i> Ant. Figueira, 1528-1569, <i>Elegies</i>	1500 P. Damian Goez, <i>History, Travels</i> P. Joao de Barros, d. 1570, <i>'Hist. Portugal in India'</i> A. Zarate, <i>'Discov. of Peru'</i> A. de Morales, 1513-1590, <i>History of Spain</i> J. Acosta, 1547-1600, <i>History of West Indies</i> Gonsalvo Huescas, d. 1580, <i>Lives of the Popes</i> Luis Marmol, <i>Description of Africa</i> Jeron. Zurita, 1513-1580, <i>History of Arragon</i> Estevan Garibay, <i>History of Spain</i>	1500 Fras. Ximenez, 1437-1517, <i>Polyglot Bible</i> 1500 Perez de Oliva, d. 1530, <i>Ethics</i> J. Luis Vives, 1492-1540, <i>Philosophy, Theology</i> Ant. de Guevara, d. 1544, <i>Ethics, Epistles</i> P. A. Goyas, 1505-1565, <i>Law</i> Ant. Agostino, 1516-1586, <i>Theology, Law</i> S. des Brosses, 1523-1600, <i>Grammar</i> P. D. de Andrada, 1528-1535, <i>Theology</i> Luis Molina, 1535-1600, <i>Metaphysics</i>
Diego de Mendoza, d. 1575, <i>Poems, History</i> P. Camoens, 1524-1579, <i>'The Lusiad'</i> Luis de Leon, 1527-1591, <i>Lyric Poems</i> Fern. de Herrera, d. 1578, <i>Classical Poems</i> P. Rodriguez Lobo, <i>Romances, Pastorals, &c.</i> P. P. de A. Caminha, d. 1595, <i>Epigrams, Pastorals</i> C. de Castillejo, d. 1596, <i>Romantic Poems</i> A. de Ercilla, 1533-1600, <i>'Aracana'</i> Geron. Bermudez, d. 1599, <i>Tragedy</i> L. de Argensola, 1565-1613, <i>Tragedy, History</i>	Juan Mariana, 1537-1624, <i>History, Chronology, &c.</i> Blanca, <i>Hist. of Spain</i>	J. Guevara, 1541-1622, <i>Publicist</i>

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
P. 1500 Jeron. Cortereal Poems Cervantes, 1549-1616, "Don Quixote"	500 J. G. de Mendoza, History of China	1600 J. Valverde, Anatomy
1600	1600 Hery, Tordesillas, 1565-1625, History of Spain P. A. de Meneses, d. 1617, History of Augustines P. P. Andrade, Chronicle of John III. P. B. de Brito, 1670-1617, History of Portugal	1600
Bart. de Argensola, 1566-1631, Tragedy, History F. Quevedo, 1570-1645, Tales, Satires L. Gongora, 1580-1638, Poems Lope de Vega, 1562-1635, Drama J. P. de Montalvan, d. 1639, Tragedy M. de Mañrigo, Romances P. Man de Pina e Sousa, d. 1619, Pastoral Poems L. V. de Guevara, d. 1646, "El Diablo Coxuelo" Vic. Espinel, 1545-1639, Elegies	P. A. de Andrade, d. 1633, Travels in Tibet and Cathay Pra. de Sandoval, History Juyne Bleda, History of Moors in Spain G. Acuna, 1597-1641, Description of River Amazon P. E. de Almeida, d. 1646, History of Ethiopia P. J. F. de Andrade, 1597-1657, Life of John de Castro, Comic poetry	
Calderon, 1601-1667, Drama L. Ulloa, d. 1690, Poems P. A. B. Bacellar, d. 1663, Sonnets P. Matheo Ribeiro, Romance	Nic. Antonio, 1617-1672, Bibliotheca Hispanica P. Alb. Coelho, d. 1658, "Wars of Brazil"	
M. de Villegas, 1595-1639, Anacreontics P. F. de Vasconcellos, Poems P. R. de Macedo, d. 1682, pto. P. Viol. do Goo, 1601-1638, do. P. F. da Castanheira, Novels P. A. Nunes da Silva, Sonnets	Ant. de Solis, 1611-1686, Hist. of Conq. of Mexico	
1700 Fran. Candamo, d. 1709, Drama Ant. de Zamora, Comedy P. Xav. de Meneses, 1674-1743, "Henriquez de", epic poem Ignacio de Luzan, d. 1754, Art of poetry	700 J. Ferreras, 1652-1736, History of Spain P. Barbosa Machado, Dictionary of Learned Men Velasquez, d. 1772, Hist. of Castilian poetry P. Figueireda, Eccle. Hist.	700 Feyjoo, d. 1765, Ethics-Criticism A. Ulloa, 1716-1735, Mathematician
Tomas de Yriarte, d. 1771, Fables, &c. P. A. de Barros Pereira, P. Manoel da Costa, poems V. Garcia de la Hueria, Tragedy P. P. Correa Garcao, Lyric poems	Madraz. Hist. of America	

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1700 Leon de Arroyal, Odes P. Paulo de Vasconcellos, Sonnets Mel. Valdez, Odes, Lyrics P. Cathar. de Sousa, Tragedy 1800 G. Joyellanos, 1744-1811, "Agrarian Law" P. Tol. da Almeida, Satires Fern de Moratin, d. 1828, Comedies M. Garcia de Villanueva, "On the Theatre" J. H. Davila, General Literature	1700 Cavanilles, Annals 1800 J. A. Llorente, History of Inquisition Jose Antonio Conde, History of Moors in Spain	1700 Ruiz, Botany P. J. H. Magalhães, d. 1790, Natural Philosophy Felix de Azara, Zoology J. N. de Azara, 1731-1804, Antiquity
		1800

DUTCH.

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1200 J. van Maerlant, 1235-1300, Poems, "Rymbybel" Melis Stoke, Poetic Chron. 1300 Jan van Heleu, Poems, Chronicles Heij. van Holland, Poems Claes Willems, Poems	1200 1300 1400 J. Wils, Trans. Boethius Dirk van Munster, Christian Mirror Lambert Goetman, "Mirror of Youth"	1200 1300 Gerard Groot, Theology
1400 J. Wils, Trans. Boethius Dirk van Munster, Christian Mirror Lambert Goetman, "Mirror of Youth"	1400 Edmund Diuter, d. 1448, Chron. of Brabant P. vander Heyden, 1393-1473, Chronicles	1400 J. W. Gansfoet, Theology Rud. Agricola, 1442-1485, Philosophy, History &c.
1500 A. Byns, Religious Poems Jan Frontiers, Poems and Prose J. Secundus, 1511-1536, Amatory Poems Dirk Koornhert, 1522-1590, Transl. Homer P. van Marix, Odes, Songs R. Visscher, Epigrams Heudrick Spiegel, Didactic Poems	1500 S. Fighius, 1520-1604, "Roman Annals" A. Schott, 1552-1629, History of Spain	1500 Erasmus, 1467-1536, Theology, Literature, &c. J. Heurnius, 1543-1601, Medicine C. Kilian, d. 1607, Dictionary Jostus Lipsius, 1547-1606, Philology Sim. Stevinus, d. 1633, Hydrostatics, Mathem. H. Erpenius, 1584-1624, Orientalist
1600 G. Brederode, 1585-1637, Comedies, &c. D. R. Ramphuisen, 1596-1626, Religious Poems Daniel Heins, 1580-1635, Poems, Philology	1600	1600

Imagination.	Fact.	Speculative and Scientific.
1600 J. Cats, 1577-1660 drama P. C. Hooft, 1587-1647, Tragedy, Odes, Hist. of the Netherlands G. van Baerle (Barlaeus), 1584, 1648, Latin Poems Just van Vondel, 1597- 1679, Tragedies M. Visscher, Traus, Tasso Jan van Heemskerck, 'Ar- cadia' J. Westerbaen, 1599-1669 Epigrams Const. Huygens, 1596-1687 Epigrams Jer. Decker, 1610-1666, Elegies D. Jonckheij, d. 1651, Am- atory Poems Nicolaas Heint, 1620-1681 Poems, Philology Jan de Brune, 'Woeustoude of Wit' Jan Vos, Drama, Epigrams Reinier Aushi, 1612-1673, 'Plague of' Naples.	1600 H. de Groot (Grotius), 1583-1645, Hist. The- ology, Poetry, &c. Ger. Prandt, 1626-1635, Hist. of Reformation Caw. Coll. of Batavian History J. G. Cramer, 1732-703, Roman Antiquities J. Perizonius, 1631-1715 History 1700 J. Gronovius, 1645-1716, Greek Antiquities	1600 J. Golius, 1596-1667, Ori- entalist Voetius, 1589-1676, Pole- mics Beverwyk, 1594-1647, Me- dicine Diemerbroeck, 1609-1674, Anatomy J. P. Gronovius, 1611-1671, Philology J. Leendert, 1614-1699, Phi- lology F. Burmann, 1628-1679, Theology Chr. Huygens, 1629-1685, Mathem., Mechanics B. Spinoza, 1632-1677, The- ology Swammerdam, 1637-1690, Natural History A. Lenwenhoek, 1632-1723, Natural History 1700 F. Ruysch, 1639-1734, Anat.
1700 P. Franciscus, 1645-1704, Latin Poetry J. A. Vander Goot, 1647- 1681, Drama		G. Bidloo, 1649-1713, Anat. C. Viretings, 1639-1722, Theology Binkershoek, 1631-1743, Law H. Boerhaave, 1669-1733, Medicine Hemsteghuys, 1685-1766, Philology A. Schultens, 1596-1750, Philology Gravesande, 1688-1742, Mathematics Chr. Haest, 1696-1749, Philology B. S. Albinus, 1683-1771 Anatomy Oudendorp, 1696-1761, Philology W. Otto Reiz, 1702-1768, Law D. Gaubius, 1703-1780, Medicine Hoogerveen, 1712-1794 Philology G. van Swieten, 1700-1772, Medicine P. Camper, 1722-1789, Anat. D. Ruhnken, 1723-1768, Philology Valckenaar, Philology.
Eliz. Wolff, Novels Loejes, Novels Bellamy, 1757-1796, Odes Klein, Lyrics Van Alphen, Odes	P. Bandam, Collection of Batavian History Simon Styl, History of Netherlands	

Imagination.	Fact.	Speculative and Scientific.
1800 Hincopen, Odes Holmers d. 1813, Poems Nieuwland, Poems Borger, Odes Bilderdyk, Dramas, Odes, &c. Tollens, Poems Da Costa, Sacred Poems Wilderbosch, Odes	1800 Te Water, History Engelberts, Ancient Hist. of Netherlands Kluits, Hist. of Holland Westendorp, History Ypey, Ecclesiastical Hist.	1800 D. Wyttenbach, d. 1808, Philology Van Kampen, Statistics De Jonge, Antiquities Hamaker, Orientalist Vander Palm, Literature

SWEDEN, DENMARK, AND ICELAND.

S. Sweden, D. Denmark, Ic. Iceland.

Imagination.	Fact.	Speculative and Scientific.
Ic. 900 Hjalti, Poems Ic. 1100 Thorwald, Ballads	900 1100 Ic. Arn, d. 1148, Annals of Iceland D. Saxo Grammaticus, d. 1204, Hist. of North Nations D. Sueno, History of Den- mark 1200 D. Sturla Thoridsen, History of Norway	900 1100 D. Suenesen, Jurist D. Axel Theology 1200 S. 1400 Bryn Karlsson, d. 1430, Instruction to Kings and Princes
Ic. Semund, b. 1156, The Elder Edda Ic. 1200 Snor. Sturleson, d. 21, Younger Edda, Hist. of Norway Ic. Suerren, Tales	1200 1400 S. Eric Olaf, History of Goths & Swedes S. 1500 John Magnus, d. 1541, Hist. of Sweden S. Olaus Magnus, Customs of North Nations S. P. Lagerloof, 1534-1599, Hist. North. of Europe Ic. Arn. Jonas, 1545-1640, Hist. of Iceland, &c.	1500 D. Tycho Brahe, 1546-1601, Astronomy D. Ursus, d. 1600, Do. S. 1600 P. Kirsten, 1577-1640, Orientalist D. G. Bathroline, 1585- 1929, Anatomy, Theol. D. Ole Worm, 1588-1654, Antiquities, Philology
1600 D. Anders Arrebo, b. 1587, Religious Poetry D. Anders Bording b. 1619, Poems S. Stierhjelms, Epic Poem, 'Berenias'	1600 D. J. J. Pontanus, 1591- 1640, Danish History Ic. Torfaeus, 1639-1720, Hist. of Norway	S. Ol. Rudbeck, 1630-1702, Botany, Anat., &c. D. 1700 J. C. Starmus, 1635- 1703, Phys., Mathem.
D. 1700 Thos. Kingo, b. 1700 1634, Hymns		

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
	S. 1700 John Peringskiöld, 1700 1654-1720, History	
	D. Arne, Magnussen, & 1663, Collec. Histor.	
	D. Albert Thura, History	
D. L. Heiberg, 1684-1754, Drama, Satire, Hist.	D. Hans Gram, d. 1748, History	
D. Ch. Falster, 1690-1752, Satirist		
S. Olof Dalin, 1706-1753, Poetry and History	D. Langebek, d. 1775, Collec. Danish-Hist.	S. Linnæus, 1707-1778, Bot- any
	D. Pontoppidan, d. 1764, Origines Havnenses	
	S. Lagerbring, d. 1784, History	
D. Sneedorf, 1724-1764, Poems		S. Wallerius, d. 1785, Miner- alogy
D. Tullin, Lyrics	D. F. T. Søren, 1720-1795, Hist. of Denmark	D. Oeder, Flora Danica
D. John Ewald, 1743-1784, Tragedy, Lyrics		S. Ibre, Dictionary
D. J. H. Wessel, Humor- ous Poems		
S. Bellermin, 1741-1790, Lyrics		
D. H. Tode, 1735-1800, Dramas, Fables		
D. Samsoe, 1739-1799, Tragedies		
D. P. A. Heiberg, d. 1758, Drama		
S. Elgström, d. 1810, Poems		
Ic. 1800 Thorlacsen, d. 1819, Transl. Milton	D. 1-0 Mølle Bruu, d. 1826, Geography	1800
D. C. L. Sander, Dramas	S. Thonild, Travels	
D. Jens Baggesen, d. 1826, Lyrics		S. Berzelius, Chemistry
D. Oehlenschläger, Poems	S. Aftelin, Iceland Re- cords	D. Rask, Onomatist
D. B. S. Ingemann, Lyrics	S. Hallenberg, History	S. Wotterstadt, 'On Yellow Fever'
S. Atterbome, Poems	S. Granberg, Statistics	S. Lillgren, Northern Anti- quities
S. Tegner, Romances, &c.	S. Bissell, Topography	S. Norberg, Orientalist

POLISH.

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
	1200 Vinc. Kadubus, d. 1226, Hist. of Poland	1200
	• Boguchalus, d. 1253, Chronicle of Poland	
	Martin Plesner, d. 1278, Chronicle of Popes and Emperors	
1400	1400 Długosius, 1415-1481, Hist. of Poland	1400
1500	1500	1500
	Chwalczewski, Chronicles Bielski, Do.	1500 N. Copernicus, 1472-1543, Astronomy
		Lacus Gornicki, Ethics
		Her of Naglowic, 1515-1568, Ethics
Kochanowski, 1530-1584, Dithyrambs	Strykowski, Chron. of Poland & Russia	

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1600	1600 Ab. Bravins, 1567-1637, Ecclesiastical Annals	1600
Sarbiewski, 1595-1640, Latin Poetry		John Maccov, d. 1644, The- ology
	Lubienetski, 1623-1675, Hist. of Reformation	Prizpov, 1590-1670, Do.
1700	1700 Dogiel, Coll. Ht. Poland Mizler, Do.	1700
Naruszewicz, d. 1796, Poetry and History		
1800 Krasicki, Poems, Ro- mances	1800	1800
Boguslawski, Drama		
Broukowski, Novels		
Bernatowicz, Do.		
Bulgaria, Do.		
Mickiewicz, Poems		
Odyniec, Drama	Lach Szmyrna, Travels Potocki, Do.	Linde, Lexicon

RUSSIAN.

[The Russian has been in use as the language of literature scarcely more than a cen-
tury. Almost all books used in Russia were written in the ancient Slavonic tongue,
which does not greatly differ from Russian, but more closely resembles the languages
spoken in Servia, and in the other provinces near the Save and Danube. The first
printing-office in Russia was established in 1553.]

<i>Imagination.</i>	<i>Fact.</i>	<i>Speculative and Scientific.</i>
1000	1000 Nestor of Kiev, 1056- 1115, Chron. of Russia	1000 Yaroslav, Code of Laws
1100	1100 Theodosius, d. 1120, Annals	1100
	Sylvester, d. 123, Chro- nicles of Russia	
	Simeon of Susdal, d. 1206, Chronicles of Russia	
1200	1200 John of Novgorod, Hist. of Russia	1200
[The blank of nearly four centuries arises from the oppression of the Mongols, who held Russia from 1243 to 1477. They destroyed almost all ancient books, and repressed the rising spirit of knowledge which a close connexion with the Greeks was then introduc- ing into Russia.]		
1500	1500	1500
1600	1600 Simeon of Polotsk Poems, Spiritual Dramas	1600 Sudebnick, Code of Laws 1600 Demetrius of Rostoff, The- ology, Spiritual Dramas
1700	1700 Khukoff, Hist. of Russia V. Tatishcheff, d. 1750, Chronicles of Russia	1700 Theophanes, Sermons
	Cantemir, 1708-1744, Sa- tirical Poems	
	Lomonosoff, 1711-1765, Poetry, Hist., Science	
	Tredianoffski, Poems	
	Popofski, Transl. Pope	
	Sumarokoff, 1718-1777, Drama	
	Kherskoff, 1773-1807, 'The Russian'	
	Cherbatoff, History Gulick, Do.	
		Plato, 1737-1812, Sermons

Imagination.	Fact.	Speculative and Scientific.
1700 Kostroff, d. 1793, Trans. the Iliad Petroff, 1736-1799, Trans. the Eneid Kniazina, 1742-1794, Drama J. Khemnitz, 1744-1781, Fables Kluslin, Comedies Kobinoff, Comedies Ablesimoff, Operas G. R. Derjavin, 1743-1816, Lyric Poetry H. Bogdanovitch, 1743- 1803, Dushenka, Poems Vizin, 1745-1792, Comedies, Tales Nicoloff, Tragedies		1700 P. S. Pallas, 1741-1811, Natural History
1800 Maikoff, Comic Poems Dmitrieff, Lyrics, Fables Ozeroff, d. 1816, Tragedies P. Sumarokoff, Poems, Tales V. A. Jakofski, b. 1783, Poems Mironoff, d. 1821, Satires Batushkooff, Trans. Tihullus Gnenitch, Trans. Iliad, Odes Kryloff, Fables	Muravieff, 1757-1816, History, Didactics Eugenius, History	1800 Shishkoff, Criticism
	1800 Karamain, b. 1765, Hist. of Russia Kachenofski, History G. Glinka, History	Augustin, Sermons
	Kotzebue, Voyage of Discovery Greich, Hist. of Russian Literature Tinkowski, Journey to China	

ARABIAN, PERSIAN, AND TURKISH.

P. Persian, T. Turkish. Those unmarked are Arabian.

Imagination.	Fact.	Speculative and Scientific.
600 Mahomet, Koran Lebid, 622-757, Poems Zohair, Poems		600 Aharun, Medicine
Kais El Ameri, or Amraknis, Poems		
700 Abnu Massab, Poems Abunawas, 762-830, Poems Rehassi, Poems Abu Obeid, d. 838, Fables		700 Jafar, Chemistry Abu Alomfah, 650-767, Theology
	Muham. ben Omar, Hist.	
800 A. Temam, 804-815, Poems		800 Asma, 740-830, Theology Kendi, Philosophy J. ben Serapion, Medicine Alhazmon, Astronomical Tables Baheli, d. 835, Etymology Alfragan, Astronomy Nasir Khosru, Metaphysics Alhumazan, 835-855, Mathematics, Astronomy Bochari, 810-870, "The Sahih," Traditions
	Wahab, Travels Abu Said, Travels I. Katabah, d. 889, Hist. Abu Jafar, 838-922, Hist. Hontat ben Isaac, 874 Translations from Greek	Geber, Chemistry

Imagination.	Fact.	Speculative and Scientific.
800 Abu Mohammed Abdallah, Literature		
900 Ibn Dorath, d. 931, Poems	900	900 Albategni, Astronomy Rases, d. 922, Medicine Ben Musa, Mathematics Azophi, Astronomy.
Almotanabbi, d. 965, Poems	Said ben Batrik, 876-937, General History Eutychius, History Massudi, d. 957, History and Geography	Alfarabi, d. 954, Aristotelian Philosophy Geuhari, d. 958, Aristotelian Philosophy
P. 1000 Ferdusi, 932-1020, "Shah Nameh," epic poem	Ibn Haukal, Geography	1000 Achmet, Treatise on Dreams Ibn Mesua, Medicine Avicenna, 980-1038, Nat. Philosophy, Medicine
Abul Ola, 973-1057, Poems	1000 Alimnyadad, History of Saracens in Sicily	Abulcasis, Medicine Jelaleddin, Correction of Calendar Arzachel, Astronomy
1100 Tograi, d. 1119, poems	1100	1100 Gazali, 1058-1112, Aristotelian, Philosophy Alhazis, Optics Tabrizi, d. 1135, Commentaries
Hariri, 1054-1121, Moral poems	Algazel, Antiquities, &c. Ben. Idris, b. 1099, Geog.	Alchabit, Optics, Astron. A. Zohar, d. 1168, Medicine
P. Eteki, d. 1181, poems P. Khahani, d. 1186, poems P. Anvari, d. 1200, poems Jasfar ben Tofail, d. 1198, "Hajr ben Yokdan," a nov. I. Elhareth, d. 1234, poems		Averroes, d. 1205, Aristotelian Philosophy
1200	1200 Bohadin, Life of Saladin Abu Hatif, Topography of Egypt Abuldem, d. 1244, History El Harawi, Travels	1200 A. Baga, d. 1219, Arithm.
P. Saadi, 1193-1291, "Gulistan," "Bostan"		Caswin, d. 1274, Natural History Beithar, d. 1246, Botony, Medicine.
Elharagi, poems	Abulferage, 1226-1286, Universal History Elmacin, d. 1302, History of Saracens	P. Nasireddin, 1201-1273, Astronomy
1300	P. Fadlallah, History of Maguls	1300 E. Hajan, d. 1344, Geography, History Novairi, d. 1331, Universal History Mohammed Ibn Batuta, Travels. Ibn al Wardi, d. 1358, Geography

Imagination.	Fact.	Speculative and Scientific.
1300	1300 Abu Shameh, 64299, Hist. P. Turan Shah, d. 1374, History Jafar, d. 365, Biography	1300 Firuzahadi, 1329-1414, 'The Camoos'
P. Hafiz, d. 1335, Odes		
1400	P. 1400 Ali Yezdi Sherifed-din, Life of Tamerlane Makrizi, 1367-1438, Hist. Arabshah, d. 1450, Life of Timur Baqi, d. 1480, Biography P. Khondemir, & Mirkhond Gen Hist. to A.D. 1474 T. Baber, d. 1530, Autobiography	1400 Zeineddin Abulbassas Dictionary Ulug Beg, 1303-1444, Astronomy, Chronology Babacuchi, d. 1381, Politics
P. Jami, d. 1456, Poems		
1500	1500 Alhassan, Description of Africa Af Jannabi, d. 1590, Universal History	1500 Babacushi, d. 1506, Morals
1600	1600 Perisuta, Hist. of India Abulghazi, 1606-1603, Hist. of Tartars T. Heli Khalifeh, d. 1675, History	P. 600 Nared Shirazi, Metaph. Meham. Hossain, 'Botani Kats,' Dictionary
1700	P. 1700 Gholam Hussein, Annals of Hindostan	1700 Gholam Ali, Grammar

INDIAN CHRONOLOGICAL SYSTEMS.

I.—SOLAR OR SIDEREAL YEAR.

The HINDU SOLAR YEAR, as it is improperly called, is strictly solar: it contains that space of time, during which the sun departing from a given star returns to the same in his apparent revolution through the zodiac. In the most ancient period of their astronomy, before the introduction of the solar zodiac, the pundits placed the beginning of the year at the entrance of the sun into *Ashvini*, the first of the 27 *Nakshatras*, or mansions of the fixed lunar zodiac. The solar zodiac was afterwards formed from the lunar one, about the year 1451 A. D. according to BENTLEY; the names of the months being taken from those of the lunar mansions in which the moon happened to be full in the year of its invention.

BENTLEY supposes that a lunar cycle, or luni-solar period was about the same time discovered, there having been 3704 lunations in 247 years and one month, which caused the initial month of the year to change its name every 247 years; the first had been *Ardrâ*, the second became *Rohini*, &c. so that the day of an ancient author's writing may be roughly ascertained, should he happen to mention the name of the continuing month of the year. The following is a useful table of these lunar periods, which lasted until the year 538 A. D.*

Periods.	Devan.	Month.	Lunar Asterion coinciding.
1	1 Sep. 1192 A. D.	1 <i>Ashvini</i> .	<i>Chaitra</i> .
2	1 Oct. 945	1 <i>Rohini</i> .	<i>Vaisakha</i> .
3	30 ... 698	1 <i>Ardrâ</i> .	<i>Jyestha</i> .
4	21 Nov. 451	1 <i>Margashirâ</i> .	1. <i>Asvini</i> .
5	25 Dec. 204	1 <i>Pauṣa</i> .	<i>Sirâvati</i> .
6	27 Jan. 44 A. D.	1 <i>Magha</i> .	<i>Nakshatras</i> .
7	31 Feb. 501	1 <i>Phalgunâ</i> .	<i>Bhadrapadâ</i> .
8	29 Mar. 538	1 <i>Chaitra</i> .	<i>Ashvini</i> .

* It is necessary to allude to this cause division to show how *Vaisakha* came eventually to be the first month of the solar year.

† BENTLEY supposes the former name of this month *Margashirâ* to have been changed at this period, to denote its now commencing the year.

The adoption of the fixed sidereal zodiac of 12 signs is ascribed by BENTLEY with tolerable certainty (from the position of the equinoctial colure and the minimum errors of the *Brâhms Siddhanta* tables) to this latter epoch; whence *Vaisakha* has continued to be the initial month of the solar year to the present time. This month corresponds with the signs *Mesha* or Aries of the fixed solar Hindu ecliptic*.

The Hindus divide the year into six seasons (*ritu*), of two sidereal months each, the succession of which is always the same; but the vicissitudes of climate in them will depend on the position of the equinoctial colure.

† The order and names in the Sanscrit, Hindi, and Tamul languages of the signs, months, and lunar mansions are as follows:

SEASONS.	SIGNS.	NAMES OF MONTHS.			Nakshatras or Lunar Mansions as they corresponded in 1192 B. C.
		Sanscrit and Bengalee.	Oordoo.	Tamul.	Tamul Seasons.
					Sanscrit.
1. Vísenta.	{ 12 ✕ Min. 1 ☉ Mesha.	Chaitra.	Chyt.	Poongooni.	Si. 14 Chaitra. 15 Swati. 16 Vaisakha.
	{ 2 8 Vrisha.	Vaisakha.	Rysakh.	Chytrani.	{ V. 17 Anurâdhâ 18 Jyestha.
2. Grishma.	{ 3 II Mithuna.	Jyestha.	Jeth.	Vyassel.	19 Nirriti. 20 Parva Ashârha.
	{ 4 23 Karkata.	Asârha.	Asarh.	Auni.	{ G. (Abhijit afterwards struck out.) 21 Uttara Ashârha.
Va rsha.	{ 5 9 Simha.	Srâvân.	Sawun.	Audi.	22 Srâvati. 23 Sravistha.
	{ 6 11P Kanya.	Blâdra.	Bhaddon.	Anvari.	{ V. 24 Satabhisha. 25 P. Bhadrâpada.
3. Sarada.	{ 7 2 Tu.	A'swin.	Amun.	Paratasi.	26 U. Bhadrâpada. 27 Revati.
	{ 8 11P Vrisika.	Kârthika.	Kartik.	Arpesi.	{ Sa. 1 Asvini. 2 Bharani.
4. Hemanta.	{ 9 V3 Mûl.	Margashirâ or Agrahayana.	Aghun.	Kartiga.	3 Krittika. 4 Rohini. 5 Mrigashirâ.
	{ 10 8 Dhanus.	Pausha.	Poos.	Margali.	6 Ardra. 7 Punarvasu.
5. Sisira.	{ 11 22 Kumbha.	Magha.	Magh.	Tye.	{ H. 8 Pushya. 9 Ashlesha. 10 Magha.
		Phalgunâ.	Phagoon.	Maussi.	Si. 11 P. Phalguni. 12 U. Phalguni. 13 Hasta.

The Hindus employ the several following modes of considering the duration of the day.

1. The *Sôgh*, or natural day, is the time between two consecutive sun-risings; therefore, this day is of variable duration. Its subdivisions are 60 *dahas*, of 60 *cinâdikas*, of 60 *ripalas*.

2. The *Saura*, or solar day, is the time during which the sun describes one degree of the ecliptic; consequently longer or shorter as the sun is near the *Agræe* or *Perigee*; it is divided into 60 *dandas* (or *kalas*) of 60 *cinâdikas* each.

3. The *Nakshatra* day is the true sidereal day; being the time between the same point of the ecliptic rising twice. These are equal throughout the year, and are used in all computations. They are divided into *ghatis* and *palas* (called *ghatikas* in the south) following always the same convenient sexagesimal division. The *pal* is again divided into 6 *pranas* or respirations; but the *Sarga Siddhanta* and all astronomical works continue the subdivision by 60 throughout thus:

60 <i>Lôhanas</i> = 1 <i>lavo</i> .
60 <i>haras</i> = 1 <i>minêsha</i> .
60 <i>nimêshas</i> = 1 <i>kâsha</i> .
60 <i>kâshas</i> = 1 <i>atipala</i> .
60 <i>atipalas</i> = 1 <i>ripala</i> = 0.4 second English.
60 <i>ripalas</i> = 1 <i>pala</i> = 24 seconds do.
60 <i>palas</i> = 1 <i>danda</i> = 24 minutes do.
60 <i>dandas</i> = 1 <i>dina</i> or 1 day and night.
60 <i>ditas</i> = 1 <i>ritu</i> or season.

4. The lunar day, or *ritu*, is the 29th part of a lunation, and will be spoken of hereafter: it is used in astrological reckoning.

The division into weeks is also used, and the names of the days are derived from the

* According to the Hindu authorities the year in which the zodiac was adjusted, or when the solar and sidereal zodiacs agreed, and there was no *agnânsa* or precession, was in 503, A. D.

planets, in precisely the same order as those of Europe; they are here inserted, with their synonyms in some other languages.

English.	Hind.	Singalese.	Tyberon.	Burmese.
☉ Sunday.	Rabō-vār.	Eri-dā.	Grah-nyl-mā.	Tanann-garvā.
☾ Monday.	Sam-vār.	Sa-dā-dā.	zā-vā.	Tanang-dā.
☿ Tuesday.	Mangal-vār.	Ang-yahanuvā-dā.	mā-g-sar.	Ang-dā.
♂ Wednesday.	Buch-vār.	Be-dā-dā.	thag-pā.	Buddha-dā.
♂ Thursday.	Vrihat-vār.	Bed-has-pa-ting-dā.	phur-hā.	Kyāsa-pādā.
♀ Friday.	Shukra-vār.	Si-ku-rā-dā.	pa-sang.	Sak-kyā.
♂ Saturday.	San-char.	Senasu-rā-dā.	spen-pā.	Chā-uf.
♂ Sunday.	San-vār.			

[They have already been given in Persian, and Hindustanee, in the Almanac for 1839.]

Each month contains as many days and parts of a day as the sun endures in each sign; the civil differing from the astronomical account only from its rejecting fractions of days; each civil year and month being accounted to begin at sunrise, instead of at the exact time of the sun's entrance into the respective signs on the strict astronomical computation. If the fraction exceeds 50 ghatis (half a Hindu day), then the civil year or month is accounted to begin one day later than the astronomical.

The portion of time assigned to each month further depends on the difference of time calculated for the passage of the sun through the northern and southern signs of the zodiac, the time for the former being 1865.21h. 38m. 24s., and for the latter, 1781.8h. 34m. 6s. The odd hours and minutes of which are applied to the beginnings of the year and months. The effect on civil reckoning is to produce differences in the relative lengths of the months of one or even two days more, or one day less, and to bring about a bissextile year of 365 days, as nearly as possible once in four years.

The unfixed lengths of the civil months renders it impossible to find the precise day corresponding to any other era, excepting by having recourse to a calculation of the day of the week on which the Hindu civil month in question commenced; which, however, with the aid of the tables provided in Colonel WARREN's excellent work from the brahmanical formulae, becomes a very simple problem. The order of the days having remained invariable since they first received their names, if any duration of years be multiplied by the mean length of the year, and the result in days be divided by seven, the remainder will necessarily show the day of the week (counting from the epoch of initial day*), on which the period terminates.

Tables of roots, or moments at which particular epochs commence, such as centuries, will serve to facilitate this calculation, which in fact renders the systems of the Hindu year more simple in expounding than those of the west, which are liable to regular variations.

A table of roots, as they are called, may in like manner be prepared for the durations of the months singly and collectively, so that by simple addition (rejecting sevens) the initial day of the required Hindu civil month may be accurately found. The dominical letter furnishes the same means of finding the day for any European date, and any two approximate dates may be thus brought to correspond precisely by the intervention of the weekly form.

It is impossible to enter into further particulars of the formation of the Hindu year without considerable knowledge of their astronomy; but it may be as well to state, that all the calculations of their books depend upon the hypothesis of four grand periods, comprising together 4,320,000 years, called a *Mahā Yuga*, or great epoch of the conjunction of the planets in the beginning of the Hindu zodiac.

The four divisions of the *Mahā Yuga* are called the *Satya yug*, the *Treta yug*, the *Dvāpar yug*, and the *Kali yug*, which latter commenced in March 3102 B. C. and is still current. All astronomical calculations start from this epoch, using the astronomical prescriptions, which, by the nature of the system, are all whole numbers, although they vary in different authors as the progress of observation suggested corrections. The three principal systems are set forth in the *Brahma*, *Śiva*, and *Arjuna Siddhāntas*, which BASTLEY has proved to have been framed respectively about the years 538, 1068, and 1322 A. D. The year by the *Satya Siddhānta* consists of 3654. 13g. 31v. 31p. 94a. and by the *Arjuna Siddhānta* 3654. 13g. 31v. 31p. which, expressed in the European method, will be 3654. 5h. 12m. 24s. 31f. and 3654. 5h. 12m. 30s. respectively. The latter is employed in the south of India; it differs from the Gregorian reckoning one day in sixty years, in the amount of the equinoctial precession. The following table gives a general view of the planetary system according to the above authorities and that of the *Purāṇa Siddhānta*, another authority supposed by BASTLEY to be nearly coeval with that of *ARJUNA*.

* This for the commencement of the *Kali yug* is Friday in the *Satya Siddhānta*. In the epochs used in the *Arjuna Siddhānta*, it is Sunday.

General View of the different Hindu Planetary Systems.

Revolutions of	Brahma Sid- dhānta.	Sōrya Sid- dhānta.	Arjuna Sid- dhānta.	Purāṇa Sid- dhānta.
The sun,.....	4320000000	4320000000	4320000000	4320000000
The moon,.....	5773330000	5773330000	5773330000	5773330000
Mercury,.....	1793699894	1793699894	1793699894	1793699894
Venus,.....	7022589192	7022589192	7022589192	7022589192
Mars,.....	2256832000	2256832000	2256832000	2256832000
Jupiter,.....	364226455	364226455	364226455	364226455
Saturn,.....	140567258	140567258	140567258	140567258
Equinoxes,.....	199959	199959	199959	199959
Number of days,.....	1577915430000	1577915430000	1577915430000	1577915430000
Apsides. Sun,.....	480	387	403	480
Moon,.....	48810568	488203000	488105674	48810568
Mercury,.....	323	280	239	323
Venus,.....	603	530	593	603
Mars,.....	293	204	293	293
Jupiter,.....	855	900	850	855
Saturn,.....	41	39	36	41
Nodes, (retrograde),.....				
Moon,.....	232311168	232328000	232313354	232311168
Mercury,.....	311	488	384	311
Venus,.....	893	903	917	893
Mars,.....	297	214	298	297
Jupiter,.....	63	174	99	63
Saturn,.....	584	692	620	584
Revolution of the Rāhis in an exclusive epicycle,.....		1599998		1599998

To find the number of *tunations*, deduct the sun's revolutions from those of the moon, the remainder is the number sought. The mean annual motion of a planet is found by dividing its revolutions by 4320000000, and their mean places at any epoch of the *Kali Yuga* (i) by the common rule of three, as, 4320000000 : revolutions in a *Mahāyuga* : : *x* : even revolutions and fraction, the latter to be converted into longitude on the Hindu ecliptic.

ERAS DEPENDENT ON THE SOLAR YEAR.

The Hindu solar or sidereal year is used in India, south of the Nerbudda, in Bombay, in Bengal, in Tirkoot, and Nepal. The two principal eras in use are: 1. The *Kali yug*, dated as before stated from the equinox of March 3102 before Christ. 2. The *Saka* dating from the birth of SA'IVA'HANA, a mythological prince of the Dukhan, who opposed VIKRAMA'DITYA the Raja of Ujjayini.

This era, called *Saka*, (a word of the same import,) commences on the 1st Bysakh, 3179. K. Y. which fell on Monday, 11th March, 78, A. D. Julian style. Several other styles seem to be connected in origin with it;

The *Saka* of Bengal, as above,..... = 78 A. D. = 3179 K. Y.
 The Burmese epoch, used at Prome,..... = 79 A. D. = 3180 K. Y.
 The Aji Saka, used in Java,..... = 74 A. D. = 3175 K. Y.
 The Bali year, ditto,..... = 81 A. D. = 3182 K. Y.
 The Bengalee *Saka*, and
 The Vilayatee year of Orissa, &c. these will be hereafter mentioned under the fourth division.

HINDU LUNI-SOLAR YEAR.

The circumstances of the Indian luni-solar year differ from every other mode of dividing and recording time that has been employed in ancient or modern times. Some similarity had been remarked in the secular *calculus* of a month to the Chaldean system, and, at a particular period, the common intercalations connected with those of the lunar cycle of Meton; which lead the learned to imagine them derived from the same source; but Colonel WARREN has proved, from a minute analysis of the Hindu *Chandra Menā*, that it has no further similitude to other systems than its dependence on the moon's motions must naturally induce.

The ordinary year, called *Samsat-sara*, or *nama*, is divided into twelve lunar months; an intercalary month, called in Sanskrit *adhik*, vulgar, *saund*, being supplied, on a particular principle, once in about three years.

The year commences at the true instant of conjunction of the sun and moon; that is, on the new moon which immediately precedes the commencement of the solar year, falling somewhere therefore within the 20 or 21 days of the solar month Chytr (Chaitra). The day of conjunction (*amavasya*) is the last day of the expired month; the 1st of the new month being the day after conjunction.

Although the initial element of the year is thus determined, there are two modes of reckoning the month. In the south of India they begin contemporaneously with the year, on the conjunction (*amavasya*), and run through the 29 days in two divisions of about 15 days, called *supar* or *skala paksha*, and *Crishta* or *balaka paksha*, the light and the dark half, or wax and wane of the moon.

The *Dakshinapada* *Mena*, however, which is derived from the *Sarga Siddhanta*, and is followed throughout Hindustan and Telingana, makes the months commence with the full moon (*poornima*), preceding the last conjunction; so that new-year's day always falls in the middle of the solar month Chytr, and the year begins with the last *paksha* or light half of that month.*

The lunar months are in all cases named from the solar month in which the *amavasya* or conjunction happens, so that when two new moons fall within one solar month, (for example, on the 1st and on the 30th days,) the name of the corresponding lunar month is repeated; the years being then intercalary or containing 13 months. The two months of the same name are distinguished by the terms *adhika* (added) and *adha*, (proper or ordinary.)

By the *Sarga Siddhanta* system, the intercalated month takes its place in the middle of the natural month; that is, of the four *pakshas*, 1, *badhi*, 1, *adha*, 2, *badhi*, 2, *adha*,—the 1st *badhi* and 2d *adha* belong to the natural month, and the 1st *adha* and 2d *badhi* to the intercalated month. The *Tamil* account makes the first month of the two the intercalated one.

It happens once within each term of 150 years, that there is no new moon in some one of the last six lunar months, which from the sun being in perigee, as before explained, contain only 30 and 29 days each. On these occasions the month of that name is *expunged*; but it always happens that two others in the same year are for the opposite cause *repeated* in such years.

The common intercalary year is called, *adhika samsat sara*; the double intercalary, with its expanded month, *supar samsat sara*.

The lunar month, whatever may be its civil division, is divided into 30 *tithis*, or lunar days, which are subject to singular rules regarding intercalation and omission. When two *tithis* end in the same solar day, the intermediate one is struck out of the calendar, and called a *supar tithi*; when 30 *tithis* begin or end in a solar day, the *tithi* is repeated on two successive solar days, and the first is called *adhika*. When a *tithi* begins before or at sunrise, it belongs to the solar day about to begin; when after sunrise it is compared with the next solar day, provided it does not end in the same day; in which case, it would be expunged out of the column of *tithis* as before explained.

To render this singular mode of computation more perplexing, although the *tithis* are computed according to apparent time, yet they are registered in civil time.

It is usual however to make account of the days in the semi-lunar periods by the common civil reckoning of lunations (as with the years, after the completion of each *diurnal period*); that is, the day on which the full moon occurs is the 15th day of *tithi*, and the following day is the 1st day. It is like our reckoning of the same thing in the vulgar (as, 1st, 2d, 3d, 4th, 5th, &c.) and is evidently better adapted for computations, than when the current day or year is the one expressed by the figure.

The circumstance of expunging a *tithi* happens on an average once in 61 days; so that in one year it occurs five or six times. When a *tithi* is repeated twice it is called *triple*; one *tithi* is equal to 6.25 of a day, or 64 *tithis* = 53 days nearly.

Era of Vikramaditya.

The principle era to which the luni-solar system is exclusively adapted is that of VIKRAMADITYA, called *Samsat* or vulgarly, *Sambat*. The prince from whom it is named was of the *Tura* dynasty, and is supposed to have reigned at Udaya (*Udayagiri*) 55 years before SATYAHITA, the rival founder of the *Saka* era, south of the Nerbada (*Narmada*) river. The *Saka* era commenced when 304 years of the *Kali yug* had expired; i. e. 51 years before Christ, so that if any year, say 1925, of the *Kali yug* be proposed, and 1st *adha* expired year of VIKRAMADITYA be registered, subtract 304 years from, and the result, 1821, is the year sought. To convert *Samsat* into Christian years subtract 57; unless they are less than 58, in which case, deduct the amount from 58, and the result will be the date B. C.

* Hence has doubtless arisen the variance in the names of the *Tamil* and *Bengal* months, the former being in some the month behind the others—see the table of those twice year, page 18.

The Era of VIKRAMADITYA is in general use throughout Telingana and Hindustan properly so called; it is less used although known in Bengal, Tirhut, and Nijal, and according to WARREN, is nearly unknown in the peninsula. The luni-solar division of the year however, is necessarily adapted to other eras, conjunctively with the solar division, because almost all the festivals and religious observances of the Hindus and Buddhists depend upon the *Chandra mēna* or lunar reckoning. There can therefore be hardly said to be any era exclusively solar, although the *Samsat* is exclusively luni-solar.

The Balabhi and Siva-singha Eras.

The *Balabhi* era is mentioned by Colonel Topp as occurring in an inscription found at Sonmāth, and from its locality and connection with the *Samsat*, it must have been of the same construction, merely dating from a newly assumed epoch, which is shown in the Annals of Rājāsthān to correspond with 375 of *Vikramaditya*, or 518 A. D. *Balabhi* was destroyed in 892 *Samsat*, when it may be presumed the era was discontinued.

A third era, called the *Siva Singha Samsat*, is also noticed by the same author as having been established by the Gonds in the island of Dyo; its epoch or zero corresponds with 1169 *Vikr. Sam.* (1112 A. D.)

The *Fuslee* (*Pauli*) year of upper India also follows the *Samsat* division, as being the system in vogue where it was introduced: this will be alluded to again under the fourth head.

III.—YEARS NUMBERED BY CYCLES.

Era of Parasurama.

This division of time Colonel WARREN states to be used in that part of the Peninsula of India, called *Adyala* by the natives, extending from Mangalore, through the provinces of Malabar, Cochin, and Travancore, to Canje (Cannier). It derives its name from a prince, who is supposed to have reigned 1176 years before Christ, the epoch being 7th August, 3537 Jul. Per. or 1923 Kal. yug. This era is reckoned in cycles of 1000 years. The year itself is solar, or rather *sidereal*, and commences when the sun enters the sign *Capra* (Virgo), answering to the solar month *Asun* (*Asvina*). The commencement of the 377th year of the 3d cycle occurs with the 1st *Asvina* of 1793 *Saka*, and 14th Sept. A. D. 1800.

The Grāhaparivṛtti Cycle of 90 years.

The southern inhabitants of the peninsula of India use a cycle of 90 years, which is little known, according to Colonel WARREN, in the Carnatic. This cycle was analysed by the Portuguese Missionary BISCOP, while resident for 40 years in Madras. The native astronomers there say it is constructed of the sum of the products in days of 15 revolutions of Mars, 22 of Mercury, 11 of Jupiter, 5 of Venus, 29 of Saturn, and one of the Sun.

The epoch of this cycle occurs on the expiration of the 3678th year of the *Kali yug*, in 24 B. C. The years follow the ordinary solar or sidereal reckoning. The concurrent cycle and year for any European year may readily be found by adding 24 and dividing by 90; thus 1830 A. D. = $\frac{1830+24}{90} = 20$ cycles, 34 years.

The Frīhaspati Chakra or Cycle of Jupiter.

The cycle of Jupiter is supposed by many to be one of the most ancient modes of reckoning time not only in India but in Asia generally; but we shall shew presently, that with regard to the former country at least it is most probably of comparatively modern introduction. It has been however known from time immemorial in China, where it for each year of the cycle; but these names are curiously compounded of two series of 12 and 5 names in the Chinese system, as has been fully explained in page 13, whereas in India the series of single appellations continues through the sixty years.

The origin of the *Frīhaspati Chakra* is unknown; it has been imagined by some to be the same as the Chaldean *Sosos*, but Colonel WARREN thinks without foundation. It is mentioned in the *Sarga Siddhanta*, and other works, and is constructed on astronomical principles, although its genuine application in reference to Jupiter's revolutions has long since fallen into disuse in the south of India, as well as in China and Tibet; and this circumstance will furnish a clue to ascertain the epoch of its introduction into these countries; but we must first describe the different systems followed.

There are three rules for computing the years of the Jovian Cycle; 1, that of the *Surya Siddhanta*, followed in this part of India; 2, that of the *Jyotishora*; 3, that of the *Telins*, followed in the south.

According to the first, Jupiter's revolutions being 361220000 in a *Mahā yug* (see the Table in page 21); his motion in one solar year coincides very nearly with one sign of zodiac, is $002^{\circ} 31' 4''$. The actual time therefore of the planet's passing through one zodiacal sign (which is called a year of Jupiter) is, as $36^{\circ} 21' 94''$: $3654.152.310$: $1:30^{\circ}$: $5410.32.56$, the true duration of the *Chakra* year. The difference, for four days and 18 hours short of the solar year, will in 80 years amount to a whole year; so that to keep the cycle in accordance with the planet's heliocentric motion, one year must be expunged in that period of time.

To find the current year of the cycle on this principle for any year of the *Kali yug* (say the beginning of 4870 A. Y.) we have—

As 32000 solar years to 36122 revolutions of Jupiter, so 4870 to 410 rev. 7 signs, $2\frac{1}{2}$ signs; the odd signs and demers, give his longitude, which requires a small correction or 60° . Thus multiplying 410 by 12, and dividing by 60, we have 82 cycles and 7 years: the latter, to be counted always from the 27th of the cycle, or *Vijaya*, gives the 31d year, or *Fikari*.

3d. method. The *Jyotishora* rule expounds the *last year expunged* of the cycle, setting out from the *Saka* epoch, and reckoning from *Prabhara* as the first of the cycle. The rule is as follows:—

Note down the *Saka* year in two places. Multiply one of them by 22, and add 4291 to the product. Divide by 1875. Add the integers of the quotient to the 2d number noted down, and divide by 60. The remainder will shew the last year expired from *Prabhara*. The fraction left by the divisor, 1875, may be reduced to months and days of the current year.

Example. 4870 *Kali yug* = 1691 *Saka*. $\frac{1691 \times 22 + 4291}{1875} = 22 \frac{873}{1875}$ and $\frac{1691 + 22}{60} = 28 \frac{337}{60}$;

the fraction $\frac{873}{1875} = 5$ months 17 $\frac{1}{2}$ days of the 31d current year, or *Fikari*, which agrees nearly with the former account.

The effect of the difference between the two systems is, that the expunged year in the *Jyotishora* reckoning occurs 13 years antecedent to that of the *Surya Siddhanta*. The second General Table follows the latter account, which must be borne in mind when consulting the *chakra* column.

This form of the *Vrihispati Chakra* prevails throughout Bengal, but little more than the name is ever attended to.

3d. method. The *Telins* rule takes no notice of the commencement of the *Vrihispati* year, which it identifies in duration with the *Chandra indra*, or common luni-solar account: thus it directs to—

Divide the expired years of the *Kali yug* by 60, the quotient will give the number of cycles expired, and the remainder the odd years, to be reckoned from *Prabhara* the 13th of the *Chakra*.

Example. For the year 4870 *Kali yug* $4870 \div 60 = 81$ cycles, 10 years. — *Sarvadhara* the 23d as expired. *Prabhara*, the 23d will be the current year sought.

This is the rule followed in the palmistry, as it coincides with the practice of Tibet, as appears from the following particulars, in which we are indebted to M. CSOMA DE KÖRÖSI'S researches.

Tibetan Kalenglar.

In Tibet the cycle of Jupiter is employed; but as the Sanscrit literature was there introduced at a late period, this country presents the anomaly of preserving two series of denominations for the *Chakra* years: one derived from the Chinese by exact translation, and the other in a similar manner copied from the Indian cycle.

The whole Tibetan Kalenglar is indeed copied from the Indian; giving the solar and lunar days, the *sat*, *antara*, *magar*, and *kurmas*, with the usual lucky and unlucky days. The months are divided into *lar-chaks* and *sak-chaks*, or bright and dark halves, &c. The astronomical year begins with the vernal equinox (solar) on the first Bysakh, but the

* Multiplying by 22 and dividing by 1875 is equivalent to dividing by 85.277, the period where a year is to be expunged by this system.

124

civil year commences differently in different parts of Tibet, varying from December to February. At Ladakh it begins in December. The *Hors* or Turks keep their new year some days after the winter solstice in January; and the people of U, tsang, and Lassa commence theirs with the new moon of February. The months have several names expressive of the seasons, asterisms, business undertaken in them, &c. but they are usually denominated numerically; first, second, &c. The year is luni-solar with intercalations.

The only fixed epoch in Tibet appears to be the birth or death of SH'AKYA, from which event the almanacks note the years elapsed; sometimes also they note the year from the death of the two great Lamas of *Lama* and *Teshi-lunpo*, or their re-incarnations within the last two centuries, and other memorable events.

The Tibetans in estimating their age, especially in conversation, count by the cycle of 12 years (which is in fact the true cycle of Jupiter).

In the ordinary business of life, the cycle of 60 years is universally employed, in which each year has its distinct name. The cycles themselves are not distinguished numerically, but are rendered intelligible by the mention of some coincident event or remarkable person of the period, a mode highly objectionable for the remote dates.

The order of the years agrees precisely with the Tanul account to the present time, having no expunged year. But the Tibetans do not count from the same fixed epoch. Their authors on the *Kala Chakra** system state, that the mode of reckoning by cycles of 60 years was introduced into India about the year 965 A. D. and that 60 years afterwards it was adopted in Tibet (about 1025-6 A. D.). Their epoch therefore occurs in 1025 A. D.

Now it is remarkable that the 60th cycle of the *Surya Siddhanta*, and the 15th cycle of the *Jyotishora* and the 68th cycle of the *Telins* astronomers, were all completed in 965-6 A. D. which is not much prior to BENTLEY'S epoch of VARAHA MIHIRA, the supposed author of the former work.

Moreover the two systems starting from the point thus assumed, would up to the present period (on account of the omitted years in the one) diverge between 10 and 11 years from one another, which is actually the case, the year 1834 A. D. agreeing with the 39th year of the Bengal cycle, and with the 28th of the Tanul and Tibetan account.

That the cycles did not commence either with the *Kali yug* or with the *Saka* epoch is proved by the two rules given above for expounding their dates, which expressly state that the odd years are to be reckoned from *Vijaya* (the 27th) and *Prabhara* (the 13th) respectively, and not from *Prabhara* (the 1st) as would naturally be expected.

It is not therefore unreasonable to conclude, that the theory of the *Vrihispati Chakra* was invented or introduced in India, as affirmed by the Tibetan authorities, in the middle of the fourth century, and this might be adduced as a confirmation of the date assigned by BENTLEY to the *Surya Siddhanta* which upholds and expounds that cycle.

M. CSOMA states that before the introduction of the cycle of Jupiter into Tibet, frequent mention is made in their books of a period of 403 years, called *mi-lha-gya-tsho*, a symbolical name for the number 403; and dates are always expressed in it, as the 80th, 240th, or any other year of this period; now it is curious, as M. CSOMA remarks, that if 403 be deducted from 1025 A. D. the remainder 622 A. D. exactly coincides with the epoch of the H. 9th, leaving an impression that the latter era had been once established there. The destruction of the Buddhist religion to the north is ascribed to the Muhammadans by the Tibetan authors.

We subjoin a catalogue of the Sanscrit, Tibetan, and Chinese names of the sixty *Chakra* years, with an English translation of the last two. The Sanscrit names have also a meaning which is precisely rendered in Tibetan. But they have no reference to any precise objects, and are therefore not worth inserting. It should be remarked that the first year of the Indian series corresponds with the fourth of the Chinese, which goes far to disprove the connection of the two cycles: for had the discrepancy been owing to the different modes of reckoning, as with the *Surya Siddhanta* and the *Telins*, the divergence would have been at the other end of the scale; unless indeed it should have run through 50 years, which would have occupied nearly 50 centuries.

* See a note by M. CSOMA, on this subject, in the Jour. As. Soc., vol. II. p. 37.

+ See Jour. As. Soc. vol. III. p. 2: *Gya-tsho*, a lake, = 4; *Kha*, void, = 0; and *mi*, fire, = 3.

† The latter names are extracted from VARAHA'S *Kala Samkalita*: the Chinese from DR. GILSON'S *histoire des Huns*; and the Tibetan from M. CSOMA'S Grammar of the Tibetan language now under publication.

TABLE IV.—Names and Numbers of the *Vikrampati Chakra*, or 60 years' Cycle of Jupiter, in Sanscrit, Tibetan and Chinese.

Sanscrit Names.	Tibetan Translation of Sanscrit Names.	Tibetan translation of Chinese Names.	Chinese Names.	Meaning of Chinese Names.	No.
1. Prabhava.	Kab-hyang.	Mei-os.	Ting-mao.	Fire-hare.	4
2. Vibhava.	Nam-Hyang.	Sa-hbrag.	Yen-chin.	Earth-dragon.	5
3. Soma.	Dhar-po.	Sa-Shrul.	Kise.	Earth-serpent.	6
4. Prapadha.	Rab-mro.	Chags-r Ta.	Keng-on.	Iron-horse.	7
5. Prapadha.	Shy-Chi-bag.	Chags-lug.	Sin-oiel.	Iron-sheep.	8
6. Anura.	Angla.	Ch'au-spre.	Gin-chin.	Water-ox.	9
7. Anura.	Dang-shong.	Ch'hu-hya.	Kuei-yeon.	Water-bird.	10
8. Anura.	Dang-po.	Shing-k hyl.	Sin-su.	Wood-dog.	11
9. Anura.	Sa-tin-bd-lan.	Shing-Phag.	Yin.	Wood-hog.	12
10. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	13
11. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	14
12. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	15
13. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	16
14. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	17
15. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	18
16. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	19
17. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	20
18. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	21
19. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	22
20. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	23
21. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	24
22. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	25
23. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	26
24. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	27
25. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	28
26. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	29
27. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	30
28. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	31
29. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	32
30. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	33
31. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	34
32. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	35
33. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	36
34. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	37
35. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	38
36. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	39
37. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	40
38. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	41
39. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	42
40. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	43
41. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	44
42. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	45
43. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	46
44. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	47
45. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	48
46. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	49
47. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	50
48. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	51
49. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	52
50. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	53
51. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	54
52. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	55
53. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	56
54. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	57
55. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	58
56. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	59
57. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	60
58. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	61
59. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	62
60. Anura.	Dang-hyei.	Me-hyl.	Ting-tse.	Fire-mouse.	63

COMPARATIVE EPOCHS OF THE ELDER BUDDHA.

ERA OF BUDDHA.

End in Ceylon, Ava, Pegu, Siam, &c.

The determination of the Epoch of Buddha, GOTAMA or SAKYA, has engaged the attention of many learned orientalists, and, although there remain some discrepancies in the results arrived at, most of these may be explained and reconciled, by assuming that several individuals of the same character have existed at different epochs, or that the system of Buddhism has been at these times revived or re-organized.

Omitting all mention of the earliest Buddhas, such as the one who figures at the head of the lunar race of Hindu mythology, it may be advanced with tolerable confidence that the two latest of the epochs attributed to this personage are founded on actual events from the near coincidence which may be observed in the statements of distant nations regarding them. A critical notice on the subject by Professor H. H. Wilson, appeared in the *Oriental Magazine* for 1825, which furnishes the following data for the epoch of, what may be called, the ELDER BUDDHA.

According to PADMAKARIO, a Lama of Bhutan who wrote in the 16th century	B. C.
(made known by M. CHOMA DE KOUSS)	
By KALHANA Pandit, author of the history of Cashmir	1058
—ABUL FAZL, probably following the last	1032
—A couplet from Chinese historians	1306
—DE GÜTENE'S Researches	1036
—GREGG, (period of Buddha's death)	1027
—BAILLY	939
—SIR WILLIAM JONES	1031
—BAXTER one occasion, 1081; on another	1027
—JARRIGE, from a Mongol Chronology, published by PALLAS	1034
—Japanese Encyclopedia, birth of Buddha	591
—MATEUCCI, a Chinese historian of the 12th century	1027
—M. KALPOTRA himself, concurring with Sir WILLIAM JONES	960
—M. ARNUSAT dates the death in	1027
The Era adopted at LATA, and founded on the average of 9 of the dates quoted by	970
PADMAKARIO, who himself however rejects them	835

The majority of these quotations concur in fixing the period of the existence of a Buddha about 1000 years anterior to the Christian era. It is not however believed that any chronological era is founded upon this period; and if derived from book authorities, or tradition, the same would have travelled wherever the religion spread.

There is an equally extensive and consistent series bearing testimony to the existence of a Second Buddha in the sixth century before Christ, indeed most of the eras noted are evidently identical in origin and concurrent in date to the present time.

The Burmese epoch of GOTAMA's death, as given by CRAWFORD from a native chronological table

The Chinese epoch of BUDDHA's death and commencement of their era, on the landing of Vijaya, according to the Honble G. TURNOUR (*Ceylon Almanac* for 1834)

The Siamese epoch, *Oriental Magazine*, 1825

The religion of BUDDHA was introduced in Siam in 558 B. C., according to FINL.

The reign of SAKYA, according to the Raj-guru of Assam, occurred in the 18th year of AJATA SATRU, and 1900 years before CHANDRAGUPTA, the contemporary of

ALEXANDER, which may agree thus, 348+195 =

This date may further be reconciled with the other three dates quoted by Professor Wilson in conjunction with them, namely,

The Chinese,.....

The Pagan,.....

And the Chinese cited by KALPOTRA.....

by referring these latter periods to the birth, and to the ministry or commencement of the reign of SAKYA; for by the Burmese calendar the first of these events happened in the year 628 B. C. and the latter in 608-9.

There is a constant difference of 10 years throughout the early series of the latter chronicle, which also places the period of 10 years throughout the reign of AJATA SATRU, instead of the 18th, as above given; by adding then a correction of ten years, from whatever cause it may have originated, the Burmese dates will correspond exactly with those of Pagan and Ceylon, and they are thus brought to the

The *Oriental Magazine* makes this date 546, but the authority in the text is most to be relied on. According to the invariable rule of Eastern chronologists the year is not many years being expired after the death of GOTAMA, and thus the year 1 of the Burmese era corresponds with the second current year or 543 B. C. while the epoch, or

162 years by the Burmese table in CRAWFORD.

confirmation of the unity of origin of the eras of all the countries which received their religion from Ceylon, or through the latter from central India*.

Jain Eras.

The JAINS in some parts of India are stated to follow the era of their last Jina, MAHATMA, whom they make to be the predecessor of GOTAMA, and place a few years anterior to him, in the year 569 before Christ, and 512 before VIKRAMADITYA. None of the Jain inscriptions found in South Behar or elsewhere, however, show any trace of an exclusive chronology, while they invariably bear the common Saka date of VIKRAMADITYA. One inscription on a brass image found on digging a tank at Baghepur is dated "after Purna 945," which Dr. B. HAMILTON interprets "after PARSWANATHA, the 23rd teacher of the Jain religion, and consequently somewhat anterior to MAHATMA, who was the 24th;" but nothing positive can be asserted of these vague epochs.

Burmese Eras.

Other eras prevail in the Burmese country, which are more generally employed for the business of life, while the sacred era is kept up in ecclesiastical documents. The *Prome* epoch was established by king SUMENDEI, and its 1st year corresponds with 613 of the mixed epoch or 79 A. D. It seems to be the same as the Saka era of SALLYAHANA. The present *Puigar* epoch used throughout Ava was established by PUTTA-CHAN-RAN; the 1st year agreeing with 639 A. D. or 1182 B. mixed era. The division of months accords with the lunar-solar system of the Hindus in every respect, the year beginning as usual with the new moon of the solar month *Chaitra*. To reduce the Burmese vulgar year into the Christian, add 638. For the *Prome* era the number 78 must be used for the like purpose. They have also another sacred era, called the grand epoch, said to have been established by AN-PA-PA the grandfather of GOTAMA: the first year corresponds with 691 B. C.

Néwar Era of Nepal.

Besides the *Saka* and *Samsat* eras introduced by the Gurkha dynasty into Nepal, there is still in use among this people a former era, called the *Néwar*, from the name of the ancient dominant, or aboriginal, tribe of the valley. Dr. BRANLEY informs us that the origin of this era is not known, though many attempt to account for it by fabulous stories. The *Néwar* year commences in the month of October, the year 851 terminating in 1831, A. D. Its epoch concurs therefore with the month of October, 870, A. D. which number must be retrenched from a *Néwar* date to have the corresponding Christian year.

IV.—ERAS DERIVED FROM THE HEJIRA.

Fusly or harvest years.

We have alluded in the foregoing pages to one or two eras following the solar and lunar-solar systems, which were nevertheless derived from the Mohammedan year. They are 1, the Bengaly sun; 2, the Vilyaty (*Vilyaty*) or Vily year of Orissa; 3, the Fusly (*Fusly*) year of the Upper Provinces; 4, the Fusly year of the peninsula. The circumstances connected with all of these have hitherto been enveloped in some obscurity.

Colonel WALKER was unacquainted with the three first, except by imperfect information obtained from Calcutta. He might however have discovered at once their character, had he known the custom followed in this presidency of inserting the concurrent dates of all these eras at the head of every regulation enacted by Government.

The Persian Abanar of the Suddier Dewanee Adalat, from the year 1764, inclusive, has recently been translated and printed by the present Register of that court, for the use of civil officers in reducing the dates of native documents. These tables have proved very useful in comparing and proving the scales introduced into the present work, for facilitating the same operation.

HARRISON'S *Analysis of the Land Revenue Regulations*, page 176, contains a list note the best indication of the Fusly or "harvest" years, tracing their origin to the year of the Beglar Agha's accession to the throne, or the 2d *Rabi-ul-tam*, A. H. 965, 15th Feb. 1556. A solar year for financial and other civil transactions was then designated upon the current lunar year of the Hejira, or subsequently adjusted to the first year of Agha's reign. It has been by some supposed that the Bengaly sun was established by HODDER BASTI, one of the kings of Bengal, but the following extract from a Persian manuscript found in possession of a native gentleman at Benares, for which we are indebted to the kind inquiries of Captain THOMAS, Secretary of the Benares Sanadit College, sets the matter in a very clear light, and entirely confirms Mr. JAMISON'S statement.

* The *Journal Asiatique*, for Nov. 1838, contains a chronological table of the events of BODDHA'S life, derived entirely from Chinese and Japanese authorities, which makes it very evident that the *Vo* or *Bodhi* of 1067 B. C. is the same identical personage, as the *vo* of 344 B. C. As far as our chronology is concerned the recent date is alone in use; but the more ancient date seems to be supplied by some passages in the Sanskrit original text.

+ Trans. Roy. As. Soc. vol. 1. 327.

"From the time of AMIR TIMUR, until the reign of JALALUDDIN MUHAMMED AKBER, there were three eras in use, viz. the Hejira, the Turkey, and the Jaldy. The Turkey commenced with the creation of the world, and is computed in cycles of 12 solar years each. In the month of Muharram of Hejira 1133, five hundred and sixty-five cycles had elapsed, and the fourth year of the following cycle was in progress. Each year began with the new moon of the month Jeth of the Hindu calendar, and the months are lunar. At the end of two or three years as the case may be, an additional month is introduced to balance the computation by solar years and lunar months.

"The Jaldy period is dated from the 5th of the month Shaban to the year 468 H. free, under the reign of JALALUDDIN TOGLAK SHAH, 1261 A.D. ARSULAN SALJUKI. The year begins with the Nawroz, or the day that the sun enters the zodiacal sign Aries. There are thirty days allotted to each month, and five supplemental days are added to the twelfth month, to which at the expiration of every fourth year a sixth day is superadded.

"As the annual method of computation in the Turkey era accorded with that observed by the Hindus in reckoning the years of the Sambat, it was generally used in all his dominions by the conquest of Bengal, &c. but after the Emperor AKBER had extended several modes of computing time prevalent in different parts of the empire—as the Sambat, with its lunar months and solar years;—the Bengaly era, in which the year began with the arrival of the sun at the vernal equinoctial point, and the months were regulated by his passage through the twelve signs of the zodiac; and the months were which comprehended lunar months, and a lunar year beginning on the 15th of the 1st to the accountants and other public officers; at length some of them drew the attention of the Emperor to this subject, who, after deliberating with his ministers, decided that the three foregoing eras should be made to agree with the year of the Hejira 965, (1553) and that appropriate names should be given to them. Accordingly, it was decreed that the Sambat in Upper Hindustan should be named Fusly, and should commence with the month Aswin (Koonwar), in which the collection of land-tax for the following seasons is first made. The era introduced into Bengal was denominated *Saka-Bengaly*, and the year was continued there, in the period of its commencement, on the sun entering Aries, as heretofore. This was likewise the case in the Dekkan, Hindustan, and the annual revolution continued to be dated on the 15th Shaban. These three eras therefore owe their origin to the A.D. or the Emperor AKBER, and they are joined upon the basis of the Mohammedan epoch, but the annual revolutions accord with those of the eras which they superseded."

Thus the object of AKBER was merely to equalize the name or number of the year all over his vast empire, without interfering with the modes of subdivision practised in different localities; and this explanation will materially simplify the understanding of the subject of the four harvest years.

The Bengaly sun, the Vilyaty sun, and the Tamil Fusly year, may be always considered identical in character with the Saka solar year, while the Fusly of the western provinces may in like manner be classed with the lunar-solar Sambat (*Samsat*) year.

The reason of a year's variation in the denomination of the Bengaly sun will at once be seen on comparing the commencement of each.

The Hejira year 963 began on the 26th November, 1556, N. S.

The concurrent Fusly year 963, began on the 1st of the lunar month Aswin (*Aswina*), which fell on the 16th September, 1556.

The Vilyaty year 963, on the 1st of the solar month Aswin, which occurred on the 8th September, 1556.

But the Bengaly sun 963 began on the 1st Byakh falling within the same Hejira year, which was necessarily that of the 11th April, 1556.

The number 992 must be added to convert the two first eras into Christian account, if less than four of their months have transpired, and 993 years, if more; also 993 for the first nine months of the Bengaly sun, and 994 for the rest.

Fusly Era of the Dekkan.

The Fusly year of the peninsula however differs two years from the preceding, being apparently in advance of them. This can only be caused by its having branched off from the Hejira as a parent stock at a later period.

The year 1240 of this Fussy begins in July, 1831, or in the second month of 1247 Hejira. The difference is seven years, which converted into days, and divided by 11, the constant acceleration of the lunar year per annum, gives a period of about 256 years back for the epoch sought. But as the Fussy only drops behind one year in 32, a latitude to that extent may be allowed in fixing the epoch of its foundation. In fact, we learn from GRANT DUFF'S History of the Marhattas, that this Dakhni era owes its origin to the Emperor SHAH JAHAN, who, after bringing his wars in Maharashtra to a close in 1639, endeavoured to settle the country, and introduce the revenue system of TONK MTL, the celebrated minister of the Emperor AKBER. Along with the survey and assessment, naturally came the "revenue year," which, commencing as usual with the current Hejira year of the time, has now diverged from it seven years, as above mentioned.

The constant for converting this era into Christian years is +599. The year is, or ought to be, sidereal, but the Madras Government has now fixed its commencement to the 14th July. Its subdivisions are however little attended to, the sole purpose of its application being in revenue matters.

The Tarikh Iahy, or Era of Akber.

This era was established by the Emperor AKBER in the thirtieth year of his reign, (A. H. 992, A. D. 1584,) many years after his introduction of the Fussy era, as AMUL FAEL says, "in order to remove the perplexity that a variety of dates unavoidably occasioned. He disliked the word Hejira, (*hijri*, flight,) but was at first apprehensive of offending ignorant men, who superstitiously imagined that this era and the Muhammedan faith were inseparable. AMIR FATEMA ULLAH SHIRAZI corrected the calendar from the tables of ULUGH BEG, making this era to begin with his majesty's reign. The days and months are both entered *separatim*, without any intercalations. The names of the months and days correspond with the ancient Persian. The months have from 29 to 30 days each. There are no weeks, the whole 30 days being distinguished by different names, and in the 3 months which have 32 days, the two last are named *coronides* (day and night), and to distinguish one from the other are called first and second."

The epoch of the Iahy era consequently falls on Friday the 5th *Rabi-ul-awwal*, A. H. 992, corresponding with the 19th February, 1586, N. S. which number must be added to bring its dates into Christian account. It is used on inscriptions, coins, and records of JAHANGIR's and the following reigns, but generally coupled with the Hejira date.

The Shuhoor or Soor Era of Maharashtra.

There is another era of Muhammedan origin still employed by the Marhattas of the west, entitled the Shuhoor or Soor-sun, a corruption of the Arabic word *shehar*, plural of *shahr*, month, and literally meaning the "year of months." An account is given of this era in Captain T. B. JAMES'S "Report on the weights and measures of the southern Konkan." That officer affirms on some Hindu authority that it was introduced on Thursday the 6th June, 1842, A. D. in the Hejira year 743, while others place it a year sooner; but the computation of its agreement with the Hejira year, says Captain JAMES, (in the same manner as was followed in ascertaining the epoch of the Fussy year,) shows it to have begun when the 745th Hejira (A. D. 1344,) corresponded with the 745th Shuhoor sun*. It was probably adopted on the establishment of one of the Mahomedan kingdoms in the Dekhan under the reign of TUGLAQ BAHADUR.

The years of this era are denominated after the corresponding Arabic numerals:

The following examples will be sufficient to explain the system; the names are however corrupted in pronunciation by the Marhattas.

1	Ahadī,	10	Ashar,	100	Māyat or Māyo.
2	Iau,	20	Ishrin,	125	Inn-ashrin māyat.
3	Salas,	30	Sādashin,	150	Mādashin.
4	Arba,	40	Arba'in,	200	Sals māyat.
5	Khams,	50	Khamseen,	250	Khamseen-arba māyat.
6	Sitt,	60	Sittān,	300	Alf.
7	Saba,	70	Saba'in,	350	Māyat-o-alf.
8	Samānī,	80	Samānīn,	400	Samānī māyat-o-alf.
9	Tis,	90	Tis'in,	450	Sals-ashar sals-māyat-o-alf. (A. D. 1824.)

* This correspondence would continue for several years before and after, so that the Hindu account may probably be correct.

The correspondence with other eras may be seen from the following brief rule for their mutual reduction.

To reduce Shuhoor years into	$\left\{ \begin{array}{l} \text{Christian} \\ \text{Sala} \\ \text{Samrat} \\ \text{Fussy} \end{array} \right\}$	years, add	$\left\{ \begin{array}{l} 599 \\ 321 \\ 655 \\ 9 \end{array} \right\}$	years respectively.
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If the given date fall after the sixth month of the Shuhoor year, it will occur in the next ensuing Christian year; and after nine months, in the next *Sala* or *Samrat* year; because the *Shahar* year begins in June, at the sun's entrance into the lunar mansion *Mriga* (*Mrigashirsha*). It is not stated whether its subdivisions follow the Hindu or the Arabic system, but the former may be taken for granted.

Julos Years.

There is still another system of recording time to which some allusion is requisite under this head, as it depends like the foregoing upon the Hejira reckoning. During the dynasty of the Moghul Emperors, the year of the reigning monarch was usually inscribed, as is the case in most countries, upon all documents of a public nature. It was also particularly noted on the gold and silver coinage, where indeed it continues to be inserted under the Company's rule, although the date has long remained unchanged. The Hejira date was frequently added.

The Julos sun (*Sam-i-jalos*) necessarily follows the Hejira reckoning, and the same tables will answer for the solution of them when the accession day of each sovereign is known. Those of the Moghul Emperors have accordingly been inserted among the festivals of the Muhammedan lunar calendar scale, where an explanation will be given of their application. A list of the sovereigns of Delhi in chronological succession will also be found among the tables of dynasties.

It seems that the "Julos sun" has been constituted a fixed era in the southern Konkan, commencing with the year of Sairafahana 1578, (A. D. 1656,) and running on henceforward in the ordinary solar manner contrary to all precedent in other parts of India. This epoch, derived from Capt. JENNIS' report, is anterior by two years to the coronation of ABRANGZEB; but it corresponds precisely with the accession of Sultan ALI ADIL SHAH II. to the throne of Beejapoor; from which circumstance it doubtless drew its origin, although from subsequent disturbances, its correction was lost sight of.

In general it should be borne in mind that the duration of a Muhammedan monarch's reign, as well as of his life, is reckoned by lunar years; and that both consequently require correction when compared with other dates.

Raj-abhishek Era of the Marhattas.

Only a few years subsequent to the establishment of the Julos era last mentioned, another of the same nature was set up by the Marhattas, or at least it has since come into use, founded upon the rise of their power under the famous SIVAJI. We have the authority of GRANT DUFF for fixing the date of SIVAJI's ascending the throne on the death of his father SHAJI in the year A. D. 1664, when he first assumed the title of Rājā, and struck money in his own name.

To convert the *Raj-abhishek* (meaning 'anointment of the king') into the Christian era, 1664 must be added. The division of months probably accords with the *Sala* system.

Recapitulation.

The whole of the eras mentioned in the foregoing imperfect account are for the convenience of reference, collected below in a tabular form, with the equation for their conversion into the ordinary reckoning of Europe. It has been deemed preferable to insert the year of the Christian era corresponding with the *first nominal* year of each of the Indian eras, which will here and there produce an apparent variation from the epochs or initial dates given in the foregoing sketch. (See note, page 223.)

Tabular View of Eras used in India, with the equation for converting them into Christian Dates.

Denomination.	Commencement.	Equation.
The KALI YUGA, (vulgo Kul-joog) commences, Friday 18th February (before Christ)	3103 B. C.	3103 - K = C
The first year being reckoned as 0, the year 1 accords with (after Datto)	3101 B. C.	K - 3101 = C
Era of BUDDHA'S birth, by Chinese account.....	1027 B. C.	not used.
Datto, his <i>nirvan</i> , in India, Ceylon, Ava, Siam, &c. 1st year =	545 B. C.	545 - B = C
	543 B. C.	B - 543 = C

Jain era of Mahavira,	1st year 625 B. C.	not used.
Samvat (Sambhuti),	Vikramaditya, year 1 = 1 March A.D. C.	— 564
Saka (Shuk) of Salivahanaka,	— 78 A. D.	+ 784
Parasurama Cycle of 1000 years, (1st year of 4th Cycle),	— 825 A. D.	+ 824
Prabavirahita do. of 90 years, (1st year of 1st Cycle),	— 1777 A. D.	+ 1776
Frithagen Jupiter's Cycle of 60 years, (established in 96 A. D.)	— 1796 A. D.	+ 1795
1st year of 8th Cycle, (Surya Siddhanta),	— 1807 A. D.	+ 1806
1st year of 83rd Cycle, (Telugu account),	— 1807 A. D.	+ 1806
1st year of 14th Cycle, (Tibet account),	— 1807 A. D.	+ 1806
1st year of 7th Cycle, (Chinese account),	— 1807 A. D.	+ 1806
Turkish or Igbari Cycle of 12 years coincides with Tibetan and Telugu	— 1807 A. D.	+ 1806
Jovian Cycle, in its initial year,	— 1807 A. D.	+ 1806
Bolsai Samvat of Samant, 1st year =	March 318 A. D.	+ 317
Sira Siro Samvat of Gujarati, ditto =	March 411 A. D.	+ 410
Burmese era of Prome, 1st year =	March 79 A. D.	+ 78
vulgar epoch,	— 638 A. D.	+ 637
sacred era (see Buddha), ditto =	— 543 B. C.	+ 544
grand epoch,	— 691 A. D.	+ 690
Java era, Aji Saka,	— 74 A. D.	+ 73
Bali era,	— 81 A. D.	+ 80
Nipal, Nesar era,	— 870 A. D.	+ 869
Tibet, msa-cha-gya-tso, 486-year era, ditto =	— 422 A. D.	+ 421
Hindia, lunar year,	— 629 A. D.	+ 628
Era of Yazdigird, Persian,	— 629 A. D.	+ 628
Julian era of Malek Shah, ditto,	— 1070 A. D.	+ 1069
Turkish-tikka of the Emperor Akber, ditto,	— 836 A. D.	+ 835
Fusli, revenue year of Upper India,	— 1556 A. D.	+ 1555
of South India,	— 1558 A. D.	+ 1557
of Orissa,	— 1556 A. D.	+ 1555
Bengal era, ditto,	— 1546 A. D.	+ 1545
Shalva era of the Marhattas,	— 1544 A. D.	+ 1543
Julian era of Benares,	— 1645 A. D.	+ 1644
Raj-walshak of the Marhattas,	— 1664 A. D.	+ 1663

HINDU THEOGONY.

1. The infinite Almighty Creator, of the Vedas, BRAHMA.

The Hindu Trinity, or Trimurti:—	Brahma	Vishnu	Siva
Their consorts:—	Saraswati	Lakshmi	Parvati
Their attributes:—	Creator	Preserver	Destroyer
Their attendant vehicle or vehicle:—	hansa, a goose	garuda bird	ramd. bull
Their symbols:—	time	fire	—
Their stations:—	Mertu	the Sun	Jupiter
Their common titles:—	AUM	Paramahansa	Narayana
Figure under which they are worshipped:—	mentally	Saktism	the Hindu
Analogue in Western Mythology:—	SATURN	JUPITER	JUPITER

2. Other members of the Hindu Pantheon, and their supposed analogues in western mythology, according to Sir Wm. Jones.

SARASWATI,	Minerva, patroness of learning	DURGA	— Juno.
GAYE'S A,	Zeus, god of wisdom	— (see NARAYANA)	— Mercury, music.
INDRA,	Jupiter, god of broadness	KRISHNA	— Apollo.
VARUNA,	Neptune, god of water	BRANAKI	— Venus.
PRITHVI,	Ceres, goddess of earth	KA'LI	— Prosperpine.
VISHWAKARMA,	Vulcan, architect of gods	DURGA	— Vulcan, fire.
KA'UTIKYA, or	Mars, god of war	SPA'NA	— Vesta, (his wife.)
SEKANDA,	Cupid, god of love	ARUNI	— Castor and Pollux.
KA'NA,	Sol the Sun	KUMA'NA	— Aurora.
SURYA, or	Mithra, the same	ARUNA	— Diana.
ANNA,	—	ATAPIDHYI	— Pluto, god of
HANUMA'N, son of	—	HEV'NA	— the river Ganges.
PAYANA,	—	CHANGA	— the river Ganges.
KA'NA,	—	NA'RU	— Ceres.
YAMA,	—	ANNA PERANA	— Anna Perenna.
HERA'CLA,	—	—	—
ASHWICHLA,	—	—	—
VAITARI,	—	—	—

3. THE TEN CRASHMA'DICAS, children of Brahma, or PRAJA'PATIS, lords of created beings.

1. Marichi,	morality	6. Kirtu,	piety
2. Atri,	ascetic	7. Daksha,	ingeniously
3. Angirasa,	charity	8. Vasishtha,	simulation
4. Pulastya,	patience	9. Bhrgu,	humility
5. Pulaha,	pride	10. Narada,	reason

4. THE SEVEN MENUS, of the present creation.

1. Swarabhava, Adam?	4006 B. C.
2. Swarochedha,	—
3. Utama,	—
4. Tamas, Chao, Thamus of Egypt?	—
5. Harvata,	—
6. Chakshusha,	—
7. Vaisravata, or	—
Satyavata,	Noah? 2850 B. C.

5. THE SEVEN RISHIS, sprung direct from Brahma.

1. Kashapa, Muni.
2. Atri, Muni.
3. Vasishtha,
4. Vishwamitra,
5. Gautama,
6. Jamadagni,
7. Bharadwaja.

6. THE TEN AVATARAS, or incarnation of Vishnu.

1. Matsya, ... the fish.
2. Kurma, ... the tortoise.
3. Varaha, ... the bear.
4. Narasimha, ... the lion.
5. Vamana, ... the dwarf.
6. Parashurama, son of Jamadagni.
7. Rama, ... of the solar race.
8. Krishna, ... of the lunar race.
9. Buddha, ... of the Buddha.
10. Bhama-bhushana, or Kalki-avatara, to appear at the close of the Kali yuga.

7. THE ELEVEN RUDRAS, or forms of Siva.

1. Ajakapala,
2. Abhiradha,
3. Virupaksha,
4. Sureswara,
5. Javanta,
6. Bhurgha,
7. Tryambaka,
8. Aparajita,
9. Savita,
10. Hara,
11. Ishta,

8. THE EIGHT VASUS: a kind of demi-god.

1. Dhava, ...	5. Anila, or wind.
2. Drava, ...	6. Anila, or fire.
3. Soma, the moon,	7. Prithvika,
4. Vishva, ...	8. Brabhuva,

9. THE TEN VISHWAS, a class of deity worshipped in funeral obsequies.

1. Vayu, ...	6. Karta,
2. Satya, ...	7. Dhriti,
3. Karta, ...	8. Karta,
4. Daksha, ...	9. Pururava,
5. Kala, ...	10. Madrava,

10. THE EIGHT DIKPA'LAS, guardians and the EIGHT DIKPA'NIS, lords of the cardinal points.

1. Indra, east.	1. Surya, the Sun
2. Agni, (or Vahn), south-east.	2. Sukra, Venus
3. Yama, south.	3. Mangala, Mars
4. Nirrita, south-west.	4. Rahu, the moon
5. Varuna, west.	5. Sanu, Saturn
6. Marut, (Vayu, Pawan) north-west.	6. Chandra, the Moon
7. Kuvera, north.	7. Bulha, Mercury
8. Isana, (Prithivi), north-east.	8. Viraspati, Jupiter

11. THE TWELVE A'DITYAS; monthly names or emblems of the Sun.

1. Varuna.	5. Indra.	9. Swarnareta.
2. Ravi.	6. Ravi.	10. Divakara.
3. Yodanga.	7. Gabbasti.	11. Mitra.
4. Bhana.	8. Yama.	12. Vishnu.

12. THE 27 NAKSHATRAS, daughters of Dakṣa, or lunar mansions.

1 Asvini.	10 Magha.	19 Mula.
2 Bharani.	11 Purva Phalguni.	20 Purva A'sarha.
3 Kṛtika.	12 Uttara Phalguni.	21 Uttara.
4 Rohini.	13 Hasta.	22 Svastika.
5 Mrigashira.	14 Chitra.	23 Dhanishtha.
6 Ardra.	15 Swati.	24 Satabhisha.
7 Punarvasu.	16 Visakha.	25 Purva Bhadrapada.
8 Pushya.	17 Anuradha.	26 Uttara Bhadrapada.
9 Ashlesha.	18 Jyeshtha.	27 Revati.

13. THE NAMES OF BUDDHA.

Buddha, Sākya-muni or Sinha, Gautama, Tachala, Mahā-śramaṇa: Soudhodani, from his father Sudhodhana; Akabandhu, or kinsman of the Sun; Māyā-devī-putra, or child of Māyā.

But of the Muslims.	Poot, of Siam.
Buddas and Sarmatas, of the Greeks.	Sommonokodam, of ditto.
Mercurius Mayas filius, of Horace.	Godama, of Ava.
Bud or Wud, of the pagan Arabs.	Naka, of Japan.
Woden, of the Scandinavians.	Chakabout, of Tongsin China.
Toth, of the Egyptians.	Chom-dan-das, } of Tibet.
Fo, Poe, or Fo-hi, & Sa-ka, of the Chinese.	Sanga-gyas,

Buddhā System of Theogony.

ADI-BUDDHA, the Supreme Being, created by dhyān five divine Buddhas, who are quiescent: viz.

1 Vairochana Akshobhya.	Each of whom procured from himself his son, or Bodhisattva.	1 Samanta Bhadra.
2 Ratna.		2 Vajra Pāṇi.
3 San bhava.		3 Ratna Pāṇi.
4 Amitabha.		4 Padma Pāṇi.
5 Amogha Siddha.		5 Visva Pāṇi.

The Buddhist Triad, or mystic syllable A U M, is interpreted:—

A, the *Piṇa* mantra of the male Buddha, the generative power.

U, ditto of the female Dharma or *Adi Prāṇi*, the type of productive power.

M, ditto of *Sunga*, the union of the essences of both.

The seven human or earth-born Buddhas.

1 Vipasya.	5 Kanaka Muni.
2 Sikkhi.	6 Kasyapa, and
3 Visva Bhu.	7 SAKYA SENHA.
4 Karkut Chand.	A rya Maitri, the future Buddha.

14. THE 24 JINAS OR TIRTHANKARAS, of the Jains.

	where born	where died
1 A'sināth or Rishabhdeva.	Ajodhya.	Gujerat.
2 Ajitanāth.	do.	Mt. Sikkhar (Indo.)
3 Sambhunāth.	Sāwanta.	Parvath.
4 Abhimandyanāth.	Ayodhya.	do.
5 Sumatināth.	do.	do.
6 Padmaprabhāth.	Kāśambhi.	do.
7 Suparsvanāth.	Benares.	do.
8 Chandraprabha.	Chandripur.	do.
9 Sivdināth or Pushpadanta.	Kakendrapur.	do.
10 Sistanāth.	Bhadrapur.	do.
11 Sri Anandāth.	Sināth.	do.
12 Vasupādya.	Champapuri.	Champapuri.

13 Vimalanāth.	Kuṃpalapuri.	Mt. Sikkhar.
14 Anantanāth.	Ayodhya.	do.
15 Dharmanāth.	Ratanpur.	do.
16 Santanāth.	Hastinapur.	do.
17 Kunthunāth.	do.	do.
18 Arandāth.	do.	do.
19 Mallināth.	Mithila.	do.
20 Munisvarata.	Rājgriha.	do.
21 Nemināth.	Mithila.	do.
22 Namināth.	Dwarika.	Mt. Nirināra.
23 Parswanāth.	Benares.	Mt. Sikkhar.
24 Vardhamāna or Mohāvi Swāmi.	Chitrakōt.	Pawapuri.

15. THE SAPTA DWIPAS or divisions of the ancient world, ruled by the sons of PRITHVIRATA, King of ANTAREVE DA.

Oldest division.

Jambudwipa.	India.
Anguldwipa.	Nipal?
Jamudwipa.	Assam, Ava?
Jamudwipa.	Malaya.
Shakudwipa.	Africa.
Kushudwipa.	Assyria.
Paradwipa.	Europe.

Newer division.

Jambudwipa.	India.
Plakshadwipa.	Asia minor, W.
Sakadwipa.	Ceylon, I. W.
Kurudwipa.	Assyria, Persia, &c.
Sarandwadwipa.	near the Baltic? W.
Sakadwipa.	part of Kushadwipa, Britain? W.
Purandwadwipa.	ditto, Ireland? W.

16. THE FOUR VEDAS.

1 The Rig veda.
2 The Yajur veda.
3 The Sama veda.
4 The Atharva veda.

17. THE FOUR UPAVEDAS.

1 The <i>Ayush</i> .	medicine.
2 The <i>Gandharv</i> .	music.
3 The <i>Dhanvas</i> .	warfare.
4 The <i>Sampatya</i> .	mechanics.

18. THE SIX ANGUS, or bodies of learning.

1 <i>Siksha</i> .	pronunciation.	4 <i>Khandas</i> .	prosody.
2 <i>Kalpa</i> .	religious acts.	5 <i>Jyotish</i> .	astronomy.
3 <i>Pyakarana</i> .	grammar.	6 <i>Nirukti</i> .	interpretation of Vedas.

19. THE FOUR UPA'NGAS.

1 <i>Purana</i> .	history, comprising the 18 puranas.
2 <i>Nyaya</i> .	logic, and the principles of knowledge.
3 <i>Nimansa</i> .	religious principles and duties.
4 <i>Dharma shastra</i> .	law, human and divine.

20. THE EIGHTEEN PURA'NAS.

1 <i>Brahma Purana</i> .	10 <i>Narayana</i> .
2 <i>Padma</i> , or lotus.	11 <i>Skanda</i> .
3 <i>Brahmanda</i> , egg of Brahma.	12 <i>Markandeya</i> .
4 <i>Agnya</i> , or Agni, fire.	13 <i>Bhavisya</i> , prophetic.
5 <i>Vaishnava</i> , or Vishnu-purana.	14 <i>Matsya</i> , or the fish.
6 <i>Garuda</i> , Vishnu's bird.	15 <i>Parash</i> , or hour.
7 <i>Brahmavarta</i> , or transformations of Krishna (as the supreme).	16 <i>Kurma</i> , or Kurma, tortoise.
8 <i>Siva</i> , or of Siva.	17 <i>Purana</i> , or dwarf.
9 <i>Linga-purana</i> .	18 <i>Bhagavat</i> , or life of Krishna.

21. The six Principal Sects of the Hindus.

1 Saiva.	worshippers of Siva, in his thousand forms.
2 Vaishnava.	Vishnu.
3 Sauriya.	Surya, or the Sun.
4 Ganapatiya.	Ganesha.
5 Sakta.	Bhawant, or Parvati.
6 Bhagavati.	who recognize all 5 divinities equally.

POPULAR STATISTICS—A DESCRIPTION NAMES AND SITUATION.

ABYSSINIA, an eastern kingdom, Africa,			
Miles Length.	M. Bdr.	Chief Cities and their Population.	M. fr. London.
800	600	Gondar.....40,000	2880 s w
ALGIERS, one of the Barbary states, Africa,			
600	170	Algiers.....150,000	990 s e
AMAZONIA, a country of South America,			
1400	960	St. Pedro.....12,600	5000 s w
ANNAM, an empire of eastern Asia,			
		Hue.....100,000	
ANTIGUA, a British leeward island, West Indies,			
20	18	St. John.....10,600	3900 s w
ARABIA, a country on the West of Asia,			
1430	1200	Mecca .....18,600	2810 s
AUSTRIA, an empire, south part of Germany,			
760	520	Vienna.....270,000	650 s e
AZORES, islands in the Atlantic Ocean,			
9 in No.		St. Michael's.....50,900	1460 w
BAHAMA, or LUCAYA, isles, Gulph of Florida, Africa,			
500 in No.		Providence.....10,900	3500 s w
BAHIA, or St. SALVADOR, a province of Brazil,			
		128,060	5120
BANDA ORIENTAL, a republic of South America,			
		Monte Video.....11,000	
BARBADOES, a British West India Island,			
21	15	Bridgetown.....15,060	4000 s w
BAVARIA, a kingdom of Germany,			
125	87	Munich.....70,900	550 s e
BELGIUM, or the Netherlands, a kingdom of Europe,			
260	150	Brussels.....80,060	180 e
BENGAL, a British presidency in Hindoostan, con. 306,000 sq. miles.			
400	300	Calcutta.....300,000	6500 s e
BERBICE, a British colony in South America,			
		Amsterdam.....7,060	2803
BERMUDA, isles in North America, Atlantic Ocean,			
400 in No.		St. George.....5,000	2700 s w

OF THE GLOBE.

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Pretty fertile, but subject to violent summer rains; king is absolute; Bruce traced the course of the river Nile here; natives are of a dark olive complexion. Contains 2,060,000 inhabitants. Mahom. & Christians.

Generally fertile; ill cultivated; lately conquered and colonized by France; former revenue 150,000*l.*; force 65,000 men; many piratical ships of war infesting the Med. Sea. 1,806,000 inhabitants. Mahom.

Very little colonized, though claimed by Spain; parts known promise well; great river Amazon, the largest in the globe, branches through the country, and contains above 200 separate streams. Catholics.

Here commerce is principally in the hands of the Chinese. The government is despotic; the people very industrious, particularly in manufactures. It contains 14,000,000 inhabitants. Buddhists.

A productive sugar colony, yielding 30,000 hogshead annually; water very scarce; has an excellent harbour. Contains 5,000 whites, and 30,000 negroes. Protestants and Catholics.

Most of the country is barren and sandy, extremely hot and unhealthy; coffee, drugs, and pelames, are produced, besides fruit; subject to Turkey. Contains 10,000,000 inhabitants. Mahometans.

Corn, wine, cattle; a rich and fine state; revenue of this and other domains, 10 mil. lions; present forces 50,000 men; the Emperor is the head of the Germanic body; few ships of war. Con. 33,600,336 inhabitants Catholics.

Lying midway between Europe and America, producing corn, wine, fruits, and cattle; subject to earthquakes; discovered 1439, by the Portuguese, to whom they now belong. Catholics.

Twelve of them are large; Providence is colonized, producing cotton, drugs, dyewoods, and mahogany; the inhabitants cultivate cotton to advantage; belongs to Great Britain. Con. 20,000 inhabitants. Prot.

This city carries on a great trade in gold, sugar, tobacco, Brazil wood, skins, balsam of copani, ipecacuanah. Contains 30,000 whites, 38,000 mulattoes, and 60,000 negroes.

This small state is tolerably fertile, but not rich or abundant; it is too limited in extent to maintain its own independence, except from the weakness of its neighbours. Contains 75,000 inhabitants. Catholics.

A productive sugar colony in the west Indies; subject to hurricanes; was once the most valuable isle of any of the Caribbees. Contains 20,000 whites, and 90,000 negroes. Protestants and Catholics.

A fruitful country, having corn and wine in plenty; revenue 1,656,000*l.* can keep 30,000 men; the natives are strong and laborious. Contains 4,238,305 inhabitants. Cath. and Jews.

A luxuriant soil in corn, fruits, flax; valuable mines; has six universities; lately separated from Holland, and its King, Leopold, elected by the Allied Sovereigns. Contains 1,439,000 inhabitants. Catholics.

Calcutta, the capital & greatest commercial city of the East Indies, in 1717, a pretty village, trades largely to China, and exports sugar, saltpetre, gums, pepper, silk, indigo, &c.: rev. 14,000,000*l.* inh. 70,000,000. Mah. Bra. and Prot.

This country has greatly improved since it fell into the hands of the English, in 1803; producing abundance of coffee, sugars, cotton, cocon, tobacco, and indigo. Contains 40,600 inhabitants, principally black.

Rich in vegetable production; the air pure, people industrious; they are walled in with rocks, and lie 900 miles off North America; belongs to Great Britain. Contains 30,000 inhabitants. Protestants.

NAMES AND SITUATION.

BIEMA, an empire of eastern Asia, Miles Length. M. E. Ch. Chief Cities and their Population. M. in London.			
Ava	50,000		
BOHEMIA, a central kingdom in Europe, 200 150 Prague			
	100,600	600	e
BOLIVIA, a republic of South America, La Paz D'Ayachuco			
	40,000		
BOMBAY, a British presidency in Hindoostan, containing 65,000 sq. m. Bombay			
	220,020	5000	
BORNEO, chief of the Sunda Isles, East Indies, 900 600 Borneo			
	50,600	6200	s e
BRANDENBURG, a northern state of Germany, 200 130 Berlin			
	220,400	490	e
BRAZIL, an eastern empire of South America, 2240 700 Rio de Janeiro			
	140,990	5100	s w
BRUNSWICK, a duchy in the north of Germany, 150 60 Brunswick			
	86,600	400	e
BUENOS AYRES, or Rio de la Plata, a republic of S. America, Buenos Ayres			
	80,000		
CADIZ, a large and free port town of Spain, 70,500			
	1013		
CANADA, a northern country of North America, 474 750 Quebec			
	33,600	2800	w
CANARY, Isles, near Africa, North Atlantic Ocean, 13 in No. Palmas			
	23,000	1450	s e
CANDIA, a Levant Isle, Mediterranean Sea, 200 60 Candia			
	10,000	1150	s w
CARNATIC, a country of India, Asia, 570 120 Arcot			
	10,600	4800	s e
CAROLINAS, N. and S. two of the United States of N. A. 650 285 Charleston			
	10,600	8200	s w
CEYLON, a British island in the East Indies, 230 150 Colombo			
	236,000	5100	s e
CHILI, a western country of South America, 1200 400 St. Jago			
	60,600	7566	s w
CHINA, an eastern empire of Asia, 1330 1030 Peking			
	1,060,600	8000	s e

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

This empire, diminished by large cessions of territory, made to the English in 1828, is still powerful: its productions are the common staples of the east. It contains 3,500,000 inhabitants. Buddhists.

Corn, cattle, mines of silver, copper, quicksilver, lead, iron, and saltpetre: power absolute: revenue 630,000l.: manufactures of linen and flax: belongs to Austria. Contains 3,137,495 inhabitants. Prot. and Cath.

Its productions resemble those of Peru, of which it formerly was a part, and in it are mined the celebrated silver mines of Potosi. It contains 1,400,000 inhabitants. Catholics.

The port is, after Calcutta, the principal commercial emporium of the East Indies; it has a fortress, dockyard, and arsenal; country sterile and climate unwholesome. Rev. 42,800,000. Con. 11,000,000 ind. Mah. Brah. and Prot.

Marshy near the coast; produces rice, pepper, drugs, and fine diamonds, subject to several Mahometan princes; it is the largest island in the world, except Australasia. Contains 3,200,000 inhabitants, chiefly Pagans.

Corn, cattle; subject to his Prussian Majesty, who resides at Berlin: revenue 100,000l.; can produce 50,000 men; manufactures of tapestry, gold, mirrors, silks and woollen stuffs, Con. 1,500,000 inhab. Luth. & Cath.

Fine sugar, tobacco, indigo, drugs, Brazil wood, gold, and precious stones; towards the north, hot and stormy; the south pleasant; rev. 2,578,000l.; several ships of war, and contains 5,300,000 inhabitants. Cath.

A very fruitful country: the city has 10 Luth. churches, a rich monastery, and a cathedral; subject to his Britannic Majesty: revenue 400,000l.: can raise 30,000 men. Contains 347,000 inhabitants Luth. Cath. Calv.

Yields every tropical production, and those of temperate climates; the mountains are rich in gold, silver, and copper. It contains 850,000 inhabitants. Catholics.

A very ancient place; here are linen manufacturers, great quantity of salt, wine, fruits, is the centre of the Spanish commerce to the W. Indies and America: 45 miles W. of Gibraltar, and contains 70,000 inhabitants.

Cold air: long winters: timber, ashes, furs, skins; improved of late: a legislative code granted by G. Britain in 1791, to whom it belongs. At Quebec Gen. Wolfe was killed. Contains 490,000 inhabitants. Prot. and Cath.

150 miles S. W. of Morocco, yielding choice wines and fruits: of the first, 10,000 hogsheads annually brought to England: belongs to Spain. Tenerife is noted for its height. Contains 210,000 inhabitants. Catholics and Pagans.

Corn, wine, oil, fine honey, wool. The Turks took the capital in 1629, after a siege of 24 years, and the loss of 300,000 men. The Venetians lost 85,000. Contains 30,000 inhabitants. Greek Church.

Very fruitful and populous: the Nabob is nominal sovereign: has a revenue of 1,500,000l.: and pays an annual subsidy of 160,000l. to the East India Company. Contains 3,000,000 inhabitants. Mahometans.

Level and fertile in wheat, Indian corn, cotton, timber, tobacco, honey, and drugs: two contiguous states, and rapidly improving in riches and trades as any in the Union. Contains 1,142,000 inhabts. All religions.

Much-valued pepper, cinnamon, ivory, cotton, silk, saltpetre, precious stones, gold and pearls, the richest island on the globe; possessed by the Dutch until reduced by the British. Contains 930,900 inhabts. Pagans.

A delightful soil and climate, producing every tropical fruit in great abundance; gold, silver, copper, and lead mines. Contains 1,400,000 inhabitants. Catholics.

Tea in abundance, silk, cotton, rice, tallow; fruitful in all necessities of life; gold, silver, minerals, manufactures and arts in great perfection; emperor absolute; rev. 30,000,000l. Contains 170,000,000 inhabts. Buddhists.

NAMES AND SITUATION.

CIRCASSIA & GEORGIA, two Asiatic nations.

Miles Length.	M. Bath.	Chief Cities and their Population.	M. fm. London.
600	150	Teflis.....20,000	1920 s e
COLUMBIA, a country of South America,			
1300	450	Panama.....144,000	4650 s w
CORNICA, a French island, Mediterranean Sea,			
150	50	Bastia.....12,000	770 s e
CUBA, a West India isle, Gulph of Mexico,			
700	90	Havannah.....50,000	4000 s w
DELAWARE, one of the United States of North America,			
92	24	Dover.....13,600	3000 s w
DEMARARA, a British settlement in South America,			
		Georgetown.....20,000	2800 s
DENMARK, a northern kingdom of Europe,			
240	180	Copenhagen.....100,000	610 n
DOMINGO, St. or HAYTI, a West India island,			
400	75	St. Domingo.....30,000	3700 s w
EGYPT, a kingdom north-east part of Africa,			
550	250	Grand Cairo.....300,000	1920 s e
ENGLAND & WALES, south part of Great Britain,			
425	340	London.....1,472,069	
ENGLAND (New), in the United States of N. America,			
300	200	Boston.....53,500	2760 w
ETHIOPIA, a large country of Africa,			
		Chivoca.....30,600	4260 s
FLORIDA, E. & W. two of the United States of N. America,			
600	130	St. Augustine.....32,000	3500 s w
FRANCE, a central kingdom of Europe,			
600	560	Paris.....900,000	225 s e
FRIENDLY ISLES, South Pacific Ocean,			
20 in No.		Tongataboo.....20,000	7400 s w
GENOA, or LIGURIA, a state north of Italy,			
150	12	Genoa.....30,000	660 s e
GEORGIA, a southern United State of North America,*			
500	278	Savannah.....42,000	3300 s w

* See also Circassia.

Product, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Indifferently fruitful: the natives are a wandering vagrant race, with peculiar manners and customs; females handsome, the males very ordinary. Contains 200,000 inhabitants. Greeks and Mahometans.

Very rich and fruitful: it is now divided into 5 independent states, consisting of 12 departments and 37 provinces, containing 95 cities, 154 towns, and 845 villages. Contains 3,569,000 inhabitants. Catholics.

Very hilly, with many fertile valleys, producing corn, wine, and oil; has often changed masters, now annexed to France. Corsica gave birth to Buonaparte. Contains 180,000 inhabitants. Catholics.

Best soil in the West Indies, having cassia, ginger, long pepper; best tobacco in the world, neglected by the Spaniards: Havannah taken by the British, 1762; restored, 1763. Contains 704,000 inhabitants. Catholics.

Was formerly part of Pennsylvania; is rather unhealthy, being low and marshy, and nearly encircled by water; improving in commerce. Contains 130,000 inhabitants. All religious.

Produces sugar, coffee, rum, cotton, and the finest kinds of wool. This settlement, and that of Essequibo, form one government, both containing about 10,000 whites, and 70,000 negroes.

Consists of Jutland peninsula, with Zealand and other islands; timber, tallow, hides, tar, trade oil; power absolute; rev. 1,500,000l.; can raise and keep 50,000 men, and 25 ships of war. Contains 2 million inhabitants. Lutherans.

Plentiful and fertile, producing sugar, coffee, cotton, indigo, cassia root, and plenty of cane; was formerly divided between France and Spain, but now independent. Contains 550,000 inhabitants; principally blacks.

Coffee, senna, rhubarb, sal-ammoniac, myrrh, saffron, salpêtre, aloes, opium, indigo, sugar, rice, wheat, flax, sandal wood, dates, cotton. The attempt about to be made of communicating with the East Indies by the Red Sea, is likely to restore Alexandria to its ancient importance as a commercial emporium. Contains 4,000,000 inhab. Mahom.

Woollens, cottons, stuffs, silk, copper, iron, and hardware manufactures; government limited; rev. 50 mil.; army, 89,375 men; 606 ships of war; 860 market towns; 105 canals; and contains 14 mil. inhabits. Prot.

Contains the states of Massachusetts, Connecticut, New Hampshire, and Rhode Island, all in a high state of progressive improvement, having corn, cattle, timber, arts, and manufactures. Conts. 1,300,500 inhts. All religious.

A vast inland region, abounding in fruits, sugar-cane, &c. containing many states: Mr. Park, the traveller, explored this remote country, in which is Houssa, a large and populous city. Pagans.

Extremely fertile, having Indian corn, cattle, plenty of timber, fruits; and well adapted for the cultivation of cotton, silk, sugar, and grapes, besides valuable minerals. Contains 1,600,000 inhabitants. Catholics.

Wines, brandy, flax, oil, drugs, silks, woollens, linens, lace, corn; government limited; rev. one 38 millions; army 700,000 men; 323 ships of war; and contains 34 million inhabitants. Catholics.

Discovered by a Dutch navigator, 1643; visited by Captain Cook: the natives are ingenious and industrious, having many of the arts among them, viz. agriculture, architecture, and manufactures. Pagans.

Corn, wine, oil, fruits, near the sea coast, but sterile inland: this state was aristocratical, formerly powerful, but changed by French influence to democracy; has been of late ravaged by war. Conts. 600,000 inhabts. Cath.

Indian corn, rice, indigo, tobacco, fruits, silk, cotton: the chief culture is rice, air temperate; country pleasant: consists of 14 counties, and governed same as the other states. Conts. 369,000 inhabts. Prot. and Cath.

NAMES AND SITUATION.

GERMANY, the central country of Europe,				
Miles Length.	M. Bwth.	Chief Cities and their Population.	M. fr. London.	
600	500	Frankfort on the M. 50,000	670	s e
GIBRALTAR, a town of Spain, in Andalusia,				
3	1	20,000	1060	
GREECE, a kingdom of southern Europe,				
400	100	Athens.....5,000		
GREENLAND, a country on the extreme north coast of America,				
		Maurice Bay .....11,000	1500	n
GRENADA, a British isle in the West Indies,				
28	15	St. George .....10,000	4000	s w
GUADALOUPE, a French West India isle,				
60	24	Basseterre .....6,000	3900	s w
GUATEMALA, or Central America, a republic of North America,				
		Guatemala.....50,000		s e
GUAYANA, a large country of South America,				
780	450	Cayenne.....12,000	1500	s w
GUINEA, a western country of Africa,				
1200	360	Benin.....60,000	2700	s
GUINEA, (New) or PAPUA, an isle, South Pacific Ocean,				
1200	300	Aboiney.....24,000	2600	s e
HAMBURG, a large independent city of Germany,				
6m. round.		Hamburg.....114,000	450	n e
HANOVER, a kingdom of Germany,				
200	100	Havoner.....30,080	427	
HINDOOSTAN, or India within the Ganges, (see also India.)				
1000	600	Delhi.....320,000	3720	s e
HOLLAND, a maritime province of the Netherlands,				
150	120	Amsterdam.....212,000	250	w
HONDURAS, a British settlement in North America,				
370	200	Valladolid.....10,300	4000	
HOTTESTOWN, Country, south part of Africa,				
550	230	Cape of Good Hope 70,300	6200	s
HELENA, St., an island in the Atlantic Ocean,				
27m. round.		St. James' Town....1,500	4900	s
HUNGARY, a southern kingdom of Europe,				
300	250	Presburg.....27,000	690	s e

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Wool in abundance, corn, cattle, wine, &c.; governed by nearly 300 princes; different states; separate powers, revenue, &c. independent of each other; can raise above 600,000 men. 30 million inhabitants. Catholics and Lutherans.

The bay is 9 miles in length, and 5 in breadth; it was taken from the Moors in 1462, and in 1704 it fell into the hands of the English. The fortress is the strongest in the world. Conts. 20,000 inhabitants and garrison. Protestants.

One of the most celebrated, most lovely, and most fertile countries in the world; it has recently thrown off the yoke of Turkey; it is supposed to contain 2,200,000 inhabitants. Greek Church.

Called also Spitzbergen; a desolate inhospitable coast, without vegetation, claimed by Denmark; the natives are miserable beings; British and other nations have whale fisheries here. Contains 26,000 inhabitants. Lutherans.

Sugar, coffee, tobacco, and indigo; subject to Britain; taken by the French 1779, restored 1789; accounted a very flourishing colony; has commodious harbours; no hurricanes. Contains 40,000 inhabitants. Protestants.

50,000 hogsheads of sugar annually; cotton, indigo, rum, ginger; originally belonging to France, but often disputed by Britain, especially in the late war. Contains 114,839 inhabitants. Protestants and Catholics.

It yields all the fruits and productions of the tropics and the temperate zones, has excellent pasture, and here is likely to be cut the canal connecting the Atlantic and Pacific Oceans. Contains 2,000,000 inhabitants. Catholics.

Sugar, coffee, tobacco, indigo, gum, fruit, cotton and pepper; excessively hot from October to March inclusive; soil extremely fertile. Surinam is the Dutch colony. Contains 228,000 inhabitants. Catholics and Protestants.

An extensive coast, abounding in gold and ivory, with which the British, Dutch, Portuguese, French, &c. carry on a lucrative trade, and which has supplied the W. India isles with slaves. Contains 1,500,000 inhabitants. Pagans.

Separated from New Holland by a strait; the soil abounds in bread fruit, coconuts, and most roots and plants found in the South Seas; visited by Captain Cook. Contains 100,000 inhabitants. Pagans.

Situate on the Elbe, and is the greatest commercial city in Germany; has 16 churches; timber in abundance; revenue 160,000; and contains 160,000 inhabitants. Lutherans.

Produces timber, silver, copper, lead, iron, vitriol, brimstone, quicksilver, and nappes; taken by the French in 1803, retaken by the English in 1813. Sov. K. of G. Brit; conts. 1,500,000 inhabts. Luth. Cath. Calv.

A luxuriant region; Great Mogul nominal supreme head, but the real power in the hands of the British East India Company, who have factories on the coasts. Conts. 110,000,000 inhabitants. Mahometans and Brahmans groaning under B. despotism.

Climate moist and foggy, the soil favourable to vegetation; the Dutch are industrious and frugal; plenty of cattle, butter, and cheese; 80 ships of war. Contains 3,633,000 inhabitants. Calv. Catholics, Luth.

This province, and the peninsula of Yucatan, discovered by Christopher Columbus in 1492, produces in great abundance the logwood tree, sugar, indigo, cotton, coffee, and mahogany. Contains 50,000 inhabitants.

The country round the Cape is lofty and barren, the rest hardly explored; the Dutch were masters of it, but lately disposed of by the British, who now possess it. Contains 180,000 inhabitants. Protestants and Catholics.

Lies 1200 miles from Africa, 1800 east from South America; rather hilly; belongs to the East India Company; Buonaparte died here an exile. Contains 7000 inhabitants. Protestants.

Extremely fruitful, having corn, wine, plenty of game, gold, silver, copper, and iron; subject to the Emp. of Austria; power limited; can raise above 100,000 hardy soldiers. Contains 5,200,000 inhabitants. Protestants and Catholics.

NAMES AND SITUATION.

JAMAICA, a British West India isle, Gulf of Mexico.

Miles Length. M. Bth. Chief and their Population. M. fr. London.

170 80 Kingston 30,000 4000 s e

JAPAN, an isle and empire, east part of Asia.

600 100 Jeddo 1,000,000 5500 s e

JAVA, one of the Sunda isles, East Indies.

600 95 Batavia 86,600 5900 s e

ICELAND, an European isle, north Atlantic Ocean.

260 150 Schallholt 12,000 970 n w

JERSEY, GUERNSEY & ALDERNEY, three isles, coast of France.

24 16 St. Helier and St. Pierre 20,000 135 s e

JERSEY, (New) one of the United States of N. America.

161 52 Trenton 10,000 2790 s e

INDIA, (East) Hindoostan, Asia.

2000 1500 Calcutta 300,000 6500 s e

IONIAN ISLANDS, in the Mediterranean Sea.

47 in No. Zante 18,000 980 s

IRELAND, an island west of Great Britain.

235 180 Dublin 251,514 300 n w

ITALY, a lovely and celebrated country in the South of Europe.

650 280 Rome 170,000 1600 s e

KABOOL, a nation on the confines of India.

Candahar 100,000

KENTUCKY, one of the United States of North America.

250 200 Frankfort 18,000 2812 s w

LABRADOR, or NEW BRITAIN, North America.

1200 700 Albany 7,200 3300 n e

LATVIA, a country in the north of Europe.

800 500 Thorne 9,000 1270 n e

LEGNOR, a maritime town of Tuscany.

8m. in cir. 66,000 759

LEIPZIG, a large and strong town of Saxony.

35,000 634

LOUISIANA, an inland country of North America.

850 250 New Orleans 50,300 4300 s w

MADAGASCAR, an island, Indian ocean, Africa.

900 300 Edeine 30,000 4600 s e

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Best sugar in the West Indies, rum, ginger, pimento, cotton, drugs, indigo: finest and most valuable of the British W. I. Islands: contains above 60,000 whites, and 300,000 blacks. Protestants and Catholics.

Nippon is the chief island, and accounted the richest country in the world for gold; the emperor is despotic, his revenue and forces immense; an ingenious people. Contains 25,000,000 inhabitants. Buddhists.

Separated from Sumatra by the Straits of Sunda; a most valuable acquisition to the Dutch, whose chief settlement it is, and principal depot for their oriental traffic; king absolute. Contains 9,350,000 inhabitants Mahometans.

Some pasturage, but generally mountainous, stony, and barren; the chief articles of trade are hides, tallow, oil, and whalebone; here is the volcano Hecla; belongs to Denmark. Contains 50,000 inhabitants. Lutherans.

These isles have belonged to England, since the conquest 1555, although close to the French coast, surrounded with rocks. Contains 50,000 inhabitants. Prot. and Catho.

Much sandy and barren soil, with some fertile spots, having wheat, barley, Indian corn, and some copper iron ore. Consists of 13 counties. Contains 320,000 inhabitants. Protestants and Catholics.

Diamonds, sapphires, rubies, gold, rice, sugar, cotton, silk, spices, drugs, indigo, salt-petre, muslins, calicoes; the British govern this immense country. Rev. £22,500,000. Contains 140,000,000 inhabitants Mahomedan Brahmins and Protestants.

These islands, seven in number, are mostly very fruitful, particularly Zante, in corianders and olive oil, of which they export an immense quantity. Dependent on Great Britain. Contain 193,000 inhabitants. Greek church.

Linen, cloth, flax, butter, provisions, corn, cattle, &c. Sovereign, King of Great Britain; can raise 100,000 men. Contains 7,734,365 inhabitants. Catholics and Protestants.

The garden of Europe, abounding in wine, oil, silk, honey, sugar, cotton, and fruits; divided into several states, and oppressed by Austria. Contains 16 million inhabitants. Catholics.

The soil is rich and natural resources great, but the country in a state of anarchy; it has the largest horse market in the east. Contains 6,500,000 inhabitants. Mahometans.

One of the finest of the United States, producing all the necessaries of life, abundance of tobacco, many navigable rivers, and improving rapidly in trade and population. Contains 565,000 inhabitants. Protestants and Catholics.

A cold inhospitable climate, producing only miserable shrubs, having moose, and reindeer, beavers, and other animals useful in trade; Hudson's bay, near this coast, is a depot of flourishing commerce. Protestants.

Little vegetation, full of reindeer, but valuable mines, great plenty of game, fish, &c.; the natives poor, but contented: follow fishing and hunting; subject to Russia, Sweden, and Denmark. Contains 60,000 inhabitants Lutherans.

Exports essences, silks, oils, wines, straw hats, oranges, lambs' and goats' skins, and corn; has a good harbour, lies 145 miles north-west of Rome: its commerce is prodigious, and it contains 60,000 inhabitants.

One of the principal trading towns in Germany, noted for its 3 celebrated fairs; has 8 churches, 5 hospitals, an university, and a catholic chapel; lies 54 miles W. N. W. of Dresden. Contains 35,000 inhabitants. Catholics and Lutherans.

Plenty of indigo, flax, hemp, cotton, tobacco: this is a very desirable country where colonized, enjoying a temperate climate and rich soil; lies westward of the United States. Contains 161,000 inhabitants. Protestants and Catholics.

Very pleasant, desirable, and fertile, producing sugar, honey, wines, gums, corn, vegetables, valuable mines, and minerals; governed by petty princes. Contains 2,000,000 inhabitants. Mahometans.

NAMES AND SITUATION.

MADEIRA, an island in the Atlantic Ocean,			
Miles Length.	M. Bwth.	Chief Cities and their Population.	M. fm London.
54	21	Funchal..... 16,000	1060 s
MADRAS, a British presidency of Hindoostan, containing 142,000 sq. m.			
		Madras..... 100,000	6800 s e
MALTA, an isle in the Mediterranean Sea,			
20	12	La Vallette..... 30,000	950 s e
MAN, a British isle, Irish Sea, Atlantic Ocean,			
30	12	Douglas..... 10,020	250 n w
MANTUA, a central duchy of Italy, Europe,			
50	27	Mantua..... 25,000	615 s e
MAHRATTAS, a country of India, Asia,			
1000	700	Poona..... 150,000	3700 s e
MARANHAM, a province of Brazil, South America,			
		St. Louis..... 8,500	5130
MARTINICO, a French West India isle, America,			
60	30	Fort Royal..... 9,300	4000 s w
MARYLAND, one of the United States of North America,			
134	110	Baltimore..... 43,000	2880 s w
MAURITIUS, an island in the Indian Ocean, Africa,			
150m. in cir.		Port Louis..... 10,000	4200
MECKLENBURG, a country of Germany,			
135	80	Schwerin Strelitz..... 17,600	440 e
MESSINA, a strong seaport in Sicily,			
5m. in cir.		50,000	1180
MEXICO, (Old) an empire, North America,			
2000	600	Mexico..... 203,000	4900 s w
MEXICO, (New) a country of North America,			
2000	1800	Sancti Petri..... 12,000	4350 s w
MILAN, a northern duchy of Italy, Europe,			
150	75	Milan..... 140,000	560 s e
MOLUCCAS, islands in the Indian Ocean, Asia,			
5 in No.		Amboyna..... 45,000	5900 s e
MONTREAL, an island of North America,			
28	10	36,000	2920
MOROCCO, an empire of Barbary, Africa,			
600	260	Mequinez..... 70,600	1080 s

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Fruitful and productive of choice wine, exporting annually 30,000 hogsheds sugar, and fruits; discovered by the Portuguese 1419, to whom it belongs; lies north of the Canaries. Contains 150,000 inhabitants. Catholics.

Exports cotton, indigo, pearls, tobacco, &c. &c. It is the principal emporium on the coast of Caronandiel, but an inconvenient place for trade. Revenue 3,000,000l. Contains 15,000,000 inhabitants. Brahmins.

60 miles S. of Sicily; fertilised by tran-planted soil, producing corn, wine, &c.; heat is excessive; very strong by nature and art; formerly belonged to the Knights, but now to Great Britain. Contains 100,000 inhabitants. Catholics and Protestants.

Lies equally distant from England, Scotland, Ireland, and Wales; pretty fertile; was formerly a sovereignty under the Duke of Athol, who sold the lordship to the crown for 70,000l. in 1765. Contains 50,000 inhabitants. Protestants.

Corn, wine, and fruit; the city is one of the strongest places in Europe; was taken by the French, 1795, since retaken, and restored to the Emperor of Austria; birth-place of Virgil, the poet. Contains 214,000 inhabitants. Catholics.

Fruitful as any of Hindoostan: a powerful nation, under many princes, and extending quite across the Mogul's empire. Their armies are composed of light horse. Contains 31,000,000 inhabitants. Pagans.

The climate, though so near the Equinoctial Line, is pleasant and healthy, producing abundance of cotton, maize, rice, and all kinds of grain and fruits. Contains 26,000 inhabitants. Catholics.

80,000 hds. of sugar annually, cotton, indigo, ginger, chocolate, aloes, pimento, plantains, and other tropical fruits; lies about 80 miles N. of Barbadoes. Contains 80,000 whites, and 50,000 negroes. Protestants and Catholics.

40,000 hds. of tobacco annually, besides wheat; well situated for commerce, having many fine harbours, resembling Virginia; government republican. Contains 680,000 inhabitants. Protestants.

Sugar, oranges, citron, pine apples, cassava, and all fruits and herbs proper to tropical climates, and the esteemed black ebony tree; in 1810 it fell into the hands of the English; and contains 80,000 inhabitants.

A fertile province, formerly under one prince, but now divided; Schwerin is the most considerable, revenue 40,000l.; can keep 2,000 men. Contains 450,000 inhabitants. Lutherans, Protestants, and Catholics.

* Silk, oil, fruit, corn, and excellent wines; has one of the safest harbours in the Mediterranean; a cathedral, and 50 churches; 30 convents, 1 hospital, 6 asylums; lies 110 miles E. of Palermo. Contains 50,000 inhabitants.

The coast is unhealthy, but pleasant inland, and very fertile in all grains, sugar, choice fruits, gold, silver, cochineal, and cocoa; has 10 ships of war, and contains 8,500,000 inhabitants. Catholics.

One of the finest countries on the globe, either for climate or produce, having, besides gold, fine fruits and curious plants; lies within the temperate zone. Contains 1,602,000 inhabitants.

Corn, wine, oil, porcelain, and fruits; its cathedral is built of solid white marble; has 230 churches, 30 hospitals, 9 theatres, and a college; revenue 300,000l.; maintains 30,000 men, and contains 2,983,000 inhabitants. Catholics.

Small, but valuable, producing cloves, mace, and nutmegs in abundance, oranges and lemons; they have good rice. Discovered by the Portuguese 1411, now in the possession of the Dutch, Mahometans.

It has a fortified town, of the same name, and is the grand depot of the N. American fur trade; is situated in Lower Canada, distant 129 miles S. W. of Quebec; belongs to G. Britain, and contains 30,000 inhabitants.

Indifferently cultivated, but abounds in fruits and rich pastures; Emperor despotic; revenue 160,000l.; can rise 105,000 men, chiefly cavalry. Contains 5,500,000 inhabitants. Mahometans.

NAMES AND SITUATION.

Moscow, the ancient capital of Russia,				
Miles Length.	M. Bth.	Chief Cities and their Population.	M. fm. London.	
20m. in cir.		250,900	1529	
MYSORE, a large province of India, Asia,				
550	330	Mysore.....	32,600	3800 s e
MINORCA, MAJORCA, & IVICA, three isles, Mediterranean,				
		Majorca, Cittadella.....	30,000	750 s e
NAPLES, a kingdom in the south of Italy,				
300	100	Naples.....	350,900	800 s e
NEGROPONT, an isle in the Grecian Archipelago				
100	18	Negropont.....	20,000	1360 s e
NEPAUL, a kingdom of northern India,				
		Lalitan Patan.....	24,000	
NEWFOUNDLAND, a British isle, Atlantic Ocean,				
350	250	St. John's.....	11,000	2500 w
NEW HOLLAND, a vast island, South Pacific Ocean,				
2700	2000	Sydney.....	16,232	9200 s e
NOVA SCOTIA and NEW BRUNSWICK, North America,				
400	200	Halifax & St. John's	35,000	2600 w
NORWAY, a northern European kingdom,				
1000	240	Christiana.....	10,000	670 n
OPORTO, a seaport town of Portugal,				
		70,00		765
ORKNEY and SHETLAND ISLES, North of Great Britain,				
70 in No.		Kirkwall & Pomona	17,000	570 n
OSNABURG, a province of Hanover,				
40	20	Osnaburg.....	12,000	300 e
OTAHETE, an isle, South Pacific Ocean,				
				8300 s e
PARAGUAY, an interior Country of South America,				
		Asension.....	14,000	
PELEW ISLANDS, in the North Pacific Ocean,				
18 in No.		Pelew.....		6300 s e
PENNSYLVANIA, one of the United States of N. America,				
283	150	Philadelphia.....	156,000	3000 s w
PERNAMBUCO, a province, East coast of Brazil:				
		Pernambuco.....	60,900	5000

Products, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Moscow, is the capital of the government, and formerly of the whole empire: previous to the entry of the French it was the largest city in Europe; a great part burnt in 1812. Contains 250,000 inhabitants. Greek Church.

Seringapatam was formerly the capital. Tippoo Sultan, son and successor to Hyder Ali, engaged in war with the E. I. Company, in which he was killed, and his state entirely reduced. Contains 70,000 inhabitants.

Majorca the largest, Ivica the least, but productive of salt: Minorca has corn, wine, and oil; formerly subject to G. Brit.; taken by, and ceded to Spain 1783; reduced by Brit. last war. Contains 200,000 inhabitants. Catholics.

Fruitful in corn, wine, oil, fruits, saffron, silks, drugs, &c.; revenue 100,000*l.*; can raise 70,000 men, and 12 ships of the line. Murat was shot here in 1815. Contains 5,000,000 inhabitants. Catholics.

Is the largest island in the Archipelago: abounds in corn, wine, oil, and fruits: subject to Turkey; the tides are irregular on the coast, frequently flowing 12 times in 24 hours. Contains 71,000 inhabitants. Greek Church.

This country has some commerce, but it is scarcely an independent state, being much reduced and awed by British power. It contains 2,500,000 inhabitants. Brah. and Mohom.

A mountainous barren country, first discovered by Sebastian Cabot; the cod fishery on the coast is very considerable, employing about 20,000 people, and producing 50,000*l.* annually. Contains 60,000 inhabitants. Catholics.

The largest island on the globe, discovered by Capt. Cook: the east coast is called N. S. Wales. Rapidly improving: the soil varies, belongs to G. Brit. Contains 60,000 inhabitants exclusive of the aborigines. Protestants.

The air is cold and unhealthy, soil thin, being fitter for pasture than grain: abounds with timber: both well adapted for trade, and improving fast: belong to G. Britain, and contain 200,000 inhabitants. Protestants.

Scanty produce of corn: rugged, barren, inhospitable, plenty of timber, good mines, and valuable fishery: subject to Sweden; revenue 200,000*l.*; can raise 30,000 hardy soldiers. Contains 1,900,000 inhabitants. Luth.

It is by nature almost impregnable; 70,000 pipes of wine annually exported, oranges and lemons; has an excellent harbour; 147 miles N. by E. of Lisbon. Contains 70,000 inhabitants. Catholics.

Scattered to the north of Great Britain, having little cultivation, but plenty of cattle; belongs chiefly to Lord Dundas; here is the greatest herring-fishery in the world. Contains 80,000 inhabitants. Pres. & Prot.

A small but fruitful state, yielding corn, wine, hemp, and flax; cattle in plenty; revenue 33,000*l.*; can keep 2000 men, has many manufactories, Contains 126,000 inhabitants. Protestants and Catholics.

Discovered 1767 by Captain Wallis, and visited three times by Captain Cook; produces bread fruit, cocoa nuts, plantains, sugar, dragon tree, &c.; very hot climate. Contains 100,000 inhabitants. Christians.

An immense territory, one of the most fruitful in America, but little known; it does not trade with any other country. Government despotic, under Dr. Francia. Said to contain about 500,000 inhabitants. Catholics.

Visited by Captain Wilson, of the Antelope packet, which was wrecked on the coast; the natives appear to be humane, civilized, noble, and generous. Pagans.

Corn, cattle, wax, hides, skins, furs, cotton, &c.; fine air, and temperate climate: one of the finest of the United States; lately added 200,000 acres to its limits. Contains 1,380,000 inhabitants. Protestants.

Produces cotton, sugar, Brazil wood, and hides; feeds a great number of cattle; a small inconvenient harbour; has a Bishop's see; belongs to Brazil. Contains 60,000 inhabitants. Catholics.

NAMES AND SITUATION.

PERSIA, a western kingdom of Asia,

Miles Length.	M. Bdrh.	Chief Cities and their Population.	M. from London.
1300	1000	Ispahan 206,000	2460 s e

PERU, a western country of South America,

1550	500	Lima 80,400	5520 s w
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PHILIPPINE ISLES, Indian Ocean, Asia,

1100 in No.		Manilla 150,900	6200 s w
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POLAND, a late kingdom and republic, Europe,

700	680	Warsaw 120,765	760 e
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PORTUGAL, a south-west kingdom of Europe,

260	120	Lisbon 263,000	850 s w
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PORTO RICO, a Spanish West India Isle,

120	40	St. Juan de Porto Rico 20,000	3940 s w
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PRUSSIA, a central kingdom of Europe,

600	300	Berlin 220,000	540 n e
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RHODES, an Asiatic Levent isle, Mediterranean.

40	15	Rhodes 8,000	1500 s e
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ROMAN STATE, middle part of Italy,

240	120	Rome 170,000	1600 s e
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*RUSSIA, an Eastern European empire,

2000	2000	St. Petersburg 330,000	1140 n e
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SANDWICH ISLES, North Pacific Ocean,

12 in No.		Hawaii 85,000	2500 s e
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SARDINIA, an island and kingdom, Mediterranean,

135	60	Turin 90,600	870 s e
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SAXONY, an eastern kingdom of Germany,

75	62	Dresden 80,200	570 s e
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SEIO, an isle, Archipelago, Levant,

35	15	Seio 20,000	1400 n e
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SCOTLAND, northern part of Great Britain,

280	140	Edinburgh 162,403	377 n
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SEAM, a kingdom of farther India, Asia,

700	200	Bangkok 90,000	5040 s e
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* Russia is the greatest empire that ever existed, occupying nearly one-sixth part of the globe; it is 41 times the extent of France, or 136 of England; but too small for the ambitious views of Peter the Great, who wished to make the Caspian Sea for a bathing place—the Black Sea as a wash-house—his North Pacific Georgia to make a vineyard, on Turkey for a garden, seized on Poland to serve as a place of banishment to those who should incur his displeasure.

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Rice, gums, choice fruits, silk, vegetables, &c.; extensive manufactories, rich mines: King absolute; revenue 10,000,000; can raise an army of 300,000 men: Contains 9,000,000 inhabitants. Mahometans.

Extremely rich in gold, silver, medicinal herbs, drugs, sugar, Vienna wood, cotton, Peruvian bark, copper, and cocoa; a powerful state; 7 ships of war. Contains 20,000,000 inhabitants. Catholics.

Laconia is the chief; discovered by Magellan in 1521; exports cassia, gold dust, pepper, sage, tortoise-shell, wax, wild honey, amber, tar, brimstone. Contains 2,640,000 inhabitants. Catholics.

Fertile in corn, rich pastures, mines of copper, iron, &c.; conquered and divided by Russia, Prussia, and Austria. Contains 15,000,000 inhabitants. Catholics and Greek Church. Russian Poland contains 4,000,000 inhabitants.

Not much corn, but choice wines, and excellent fruits, also wool; government absolute; revenue 3,800,000; can raise 40,000 men; 47 ships of war. Contains 3,800,000 inhabitants. Catholics.

Much encumbered by mountains, yielding ginger, sugar, hides, cotton, cassia, mastich, salt, oranges, lemons, and well watered. Contains 93,000 whites, and 100,000 negroes. Catholics.

Much the same as Poland, of which it was a part; government absolute; revenue 9,000,000; usual force, 175,000 men; can raise above 300,000; no navy. Contains 14,788,000 inhabitants. Catholics and Evangelists.

Abounds in wine; subject to the Turks, who took it in 1542 driving the knights of St. John to Malta; was famous for the Colossus of brass, one of the wonders of the world. Contains 26,990 inhabitants. Greek Church.

Rome, once the mistress of the world, is now governed by the Pope; the ruins of its former greatness are still magnificent. Its Cathedral, St. Peter's, is the largest in Europe. Contains 3,000,000 inhabitants. Catholics.

The soil, produce, and air various; Russia in Europe and Asia consists of 41 governments; the largest state on the globe; revenue 10,000,000; can raise 70,000 men and 100 ships of war. Contains 42 millions inhabitants. Greek Churches.

Tropical fruits; nearly the same as the West Indies in latitude: at Hawaii Capt. Cook was killed, on Sunday, Feb. 14, 1779, by the natives, with whom he unfortunately had a dispute. Contains 150,000 inhabitants. Christians.

Plenty of corn, wine, and coral fishery, but marshy and unhealthy; monarch absolute; revenue 500,000; of which the island produces about 5,000; maintains 40,500 men. Contains 4,500,000 inhabitants. Catholics.

Wool in abundance; one of the most fruitful and pleasant states in Germany; revenue 1,500,000; army 50,000 men; regimental militia, 20,000. Contains 1,400,000 inhabitants. Lutherans and Catholics.

Rather hilly, but fertile and pleasant, having choice wine, fruit, and mastic; reduced by the Turks in 1566; renowned as the birth-place of Homer. Contains 120,000 inhabitants. Greek Church.

Grain, flax, coal, lead, limestone, black marble, and slate; it has valuable fisheries on the coast, and many large manufactories; can raise 100,000 men, besides seamen. Contains 3,500,000 inhabitants. Presbyterians and Protestants.

Little is known of this country or its government, which resembles that of China. The English and Americans, however, trade here a little. It contains about 3,000,000 inhabitants. Buddhists.

the habitable Globe, and extending from 18° E. to 130° W. long, or about 200 miles. It of the late Emperor Alexander, who insisted on having the Baltic Sea to skate upon—the Ocean for a fish-pond. Alexander encroached on Tartary for pastime, on Persia and China, Finland and Lapland for a hunting ground, and took part of North America

NAMES AND SITUATION.

SIBERIA, a northern region of Asia,				
Miles Length.	M. Bdrh.	Chief Cities & their Population.	M. fr London.	
3500	1200	Tobolsk.....	25,000	2180 n e
SICILY, the largest island in the Mediterranean Sea,				
180	110	Palermo.....	170,000	920 s e
SILESIA, a province of Prussia, Germany,				
200	170	Breslau.....	60,000	520 e
SINDHIA, a kingdom of northern India,				
		Oudjein.....	50,000	
SPAIN, a south-west kingdom of Europe,				
700	500	Madrid.....	206,000	560 n e
St. Croix and St. Thomas, two West India isles,				
45	20	Christianstadt & St. T.	8,000	3925 s w
St. Lucia, one of the windward isles, West Indies,				
27	12	St. Lucia.....	7,000	4010 s w
St. Kitt's or St. Christopher's, a leeward isle, W. I.				
15	4	Basseterre.....	5,020	4000 s w
St. Vincent, a windward isle, West Indies,				
24	10	Kingston.....	6,000	4020 s w
SUMATRA, one of the Sunda isles, East Indies,				
1050	165	Acheen.....	20,000	6900 s e
SWAN RIVER, a British settlement in Australia,				
			3,600	5200
SWEDEN, a northern kingdom of Europe,				
1000	600	Stockholm.....	80,000	750 n e
SWITZERLAND, a central republican state of Europe,				
220	130	Berne.....	18,500	470 s e
TARTARY, a vast central region of Asia,				
4000	1250	Bocharia.....	40,000	2800 s e
THIBET, a southern country of Asia,				
1600	700	Lassa.....	30,000	3780 s e
TOBAGO, a British west India isle, America,				
32	10	Scarborough.....	5,600	4080 s w
TONQUIN, a kingdom of farther India, Asia,				
1200	500	Cachao.....	100,000	5050 s e
TRINIDAD, an isle, coast of South America,				
90	40	Port-o-Spain.....	10,300	4100 s w

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

The south part of this vast tract is fruitful, the north cold and uncultivated; the Russian state-crimeals are exiled to this country. Contains 3,445,000 inhabitants. Greek Church and Pagans.

So fertile as to have been called the southern granary of Europe; it still produces much corn, fine wine, and oil; part of the kingdom of Naples; here is the famous volcano of Etna. Contains 7,000,000 inhabitants. Catholics.

Corn, cattle, mines of gold, silver, copper, lead, iron, and manufactories in linen cloth; subject to Prussia, who conquered it 1742; revenue 500,000*l.*; can raise 40,000 men. Contains 2,424,967 inhabitants. Lutherans.

This was formerly a formidable nation, but is now comparatively insignificant, and surrounded by English power. The soil is good, and the natives industrious. It contains 4,000,000 inhabitants. Brahmans and Mahomedans.

More pasturage than corn, but wine, fruits, oil, and cattle in plenty; the King is absolute; revenue of Old Spain 5 millions; can raise above 100,000 men, and 56 ships of war. Contains 14,800,000 inhabitants. Catholics.

About 10,000 hogsheads of sugar, or 1000 pounds each, annually; did belong to Denmark; taken by the English; rapidly increasing in trade and riches. Contains 35,387 inhabitants. Protestants and Catholics.

A vast quantity of sugar, besides cotton, ginger, tropical fruits, and indigo; was taken by the French in 1782, afterwards by Great Britain. Contains 10,000 whites and 40,000 negroes. Protestants and Catholics.

Extremely rich in the valleys; sugar, good timber, and plenty of water, allotted to France, 1762; taken by the English, 1803, and retained; lies north-west of Barbadoes. Protestants and Catholics.

Very fruitful, and well adapted for the raising of sugar, and plenty of indigo; was taken by the French, 1774, but restored to Britain, 1783; situate 50 miles N. W. of Barbadoes. Contains 30,000 inhabitants. Protestants.

Sugar, bread fruit in plenty, rice, choice fruits, cotton, coffee, ginger, gold, and valuable minerals; the English and Dutch have factories here; belongs to Great Britain. Contains 1,100,000 inhabitants. Pagans.

Situated on the western coast of New Holland; a great number of persons have already gone out as settlers; it is fertile, abounds in fish and wild fowl, and promises well.

Generally barren, with some fertile valleys, but rich in mines of silver, copper, lead, iron; sovereign power limited; can raise 50,000 men; besides 85 ships of war. Contains 3,250,000 inhabitants. Luth.

A confederacy of 23 united cantons, situated among the Alps, the highest mountains of Europe. A sterile but magnificent region. Contains 2,090,000 inhabitants. Protestants and Catholics.

A vast tract, comprising all the middle parts of Asia, and varying in soil and produce. The natives are divided into several nations: are a wandering people. Contains 10,000,000 inhabitants. Mahomedans.

A remote country, indifferent fertile; the sovereign, called the Grand Lama, is worshipped by this and the neighbouring nations of Tartary, &c. who believe in his divinity. Contains 30,000,000 inhabitants. Mahomedans.

Valuable as any of the Carribee isles, having sugar, cinnamon, nutmegs, gum-copal, well watered, and commodious for trade; taken by France, but conquered by Britain 1803. Contains 13,000 inhabitants. Protestants.

Luxuriant, and rich in gold, drugs, also perfumes; manufactories of ebony, earthenware, and lacquered-ware, equal to Japan; monarch absolute. Contains 21,000,000 inhabitants. Pagans.

Lying near the N. E. coast of South America; very fruitful in sugar, cotton, indigo, Indian corn, fine tobacco, and fruits; rather unhealthy; belongs to Great Britain. Contains 35,000 inhabitants. Protestants and Catholics.

NAMES AND SITUATION.

TRIPOLI, and BAREA, Barbary coast, Africa,			
Miles Length.	M. Breadth.	Chief Cities and their Populations.	M. fm. London.
600	150	Tripoli.....40,000	1260 s e
TUNIS, a Barbary state, north part of Africa,			
200	120	Tunis.....150,000	2900 s e
TURKEY, a southern European empire,			
1000	900	Constantinople.....507,000	1340 s e
TURKEY, a large country in Asia,			
1120	850	Aleppo.....50,000	1860 s e
TUSCANY, an Italian duchy Europe,			
120	80	Florence.....80,000	692 s e
UNITED STATES, Republic of North America,			
1700	700	Washington.....36,000	3000 s w
VAN DIEMAN'S LAND, a British island, South Pacific Ocean,			
		Hobart Town.....10,000	3340
VENICE, a province of Austria,			
173	95	Venice.....165,000	690 s e
VERDE, CAPE, Isles, near Africa, Atlantic Ocean,			
20 in No.		Santiago.....20,000	3350 s w
VERMONT, one of the United States of North America,			
157	65	Bennington.....10,900	2906 s w
VIRGIN ISLANDS, North of Carribees, West Indies,			
30 in No.		Tortola.....6,000	3900 s w
VIRGINIA, one of the United States of North America,			
446	224	Richmond.....26,000	3100 s w
WURTEMBERG, a southern kingdom of Germany,			
150	64	Stuttgart.....31,000	560 s e
YORK, (New) one of the United States of North America,			
336	226	New York.....313,000	2820 s w
ZANGUEBAR, a country South East coast of Africa,			
1490	350	Melinda.....300,000	2800 s
ZEBALAND, (New) an isle or islands, South Pacific Ocean,			
2100	220	East Cape P.....25,000	10,000 s s

Produce, Government, Revenue, Military and Naval Strength, Arts, Religion, and Population of each Kingdom.

Very fertile, except the eastern part, which is barren and sandy; governed by a dey, or king, elected by the army, but nominally subject and paying tribute to the Turkish Sultan. Contains 600,000 inhabitants. Mahomedans.

Corn, wine, honey, hides, bees' wax, tallow, indigo, and about 26,000 tons of olive oil annually; it is governed by a council of state, with a dey at the head, and is tributary to Turkey. Contains 2 mil. inhabitants. Mahomedans.

Abundance of corn, wine, delicious fruits, mines, minerals, and fine marbles; the Grand Seigneur or Sultan despotic; revenue 2 millions; can raise above 800,000 men. Contains 10 mil. inhabitants. Mahomedans and Greek Christians.

Corn, oil, wine, honey, rhubarb, carpets, raw silk, coffee, drugs, gum, and cotton; subject to the Grand Seigneur; these fine provinces are neglected by the Turks. Contains 11,500,000 inhabitants. Mahomedans.

Corn, oil, wine and fruits; revenue 300,000; maintains 30,000 men. Florence was formerly a considerable state. Its present sovereign is an Archduke of Austria. Contains 1,275,000 inhabitants. Catholics.

Consisting of 24 confederate independent republican states, governed by a congress, senate, and president. They extend from Canada and New Brunswick north, to Mexico south. Contain 14,000,000 inhabitants.

Separated from New Holland by Bass Straits; discovered by Tasman 1633, and visited by Captain Cook in 1777; the land chiefly high, well wooded and watered. A flourishing colony. Contains 20,000 inhabitants.

Comprising part of the continent of Italy, with 72 islands, on which the city stands; this fine and once powerful state was dismembered 1797, and the country ceded to Austria by France. Contains 165,000 inhabitants. Catholics.

Three hundred miles west of Africa; discovered 1482, by the Portuguese, to whom they belong; producing salt, sugar, cotton, some wine, Indian corn, roots, and tropical fruits. Catholics and Pagans.

One of the finest climates in the globe; producing iron ore, pot and pearl ash, maple, sugar, and spirits; having a chain of mountains running through it; divided into counties. Contains 240,000 inhabitants. All religions.

Lying between Porto Rico and Leeward Isles; they are very small, and belong jointly to the British and Dutch; a considerable traffic is carried on between these islands and Europe. Contain 20,000 inhabitants. Protestants.

Wheat, Indian corn, 100,000 hogheads of tobacco, annually; divided into 82 counties; a most flourishing place, rapidly improving; government same as the other states. Contains 1,600,000 inhabitants. Protestants.

One of the finest states in Germany; populous and fertile; the late Duke married the Princess Royal of Great Britain; revenue 800,000; maintains 15,000 men. Contains 2 million inhabitants. Lutherans and Catholics.

Wheat, Indian corn, hemp, flax, cotton, and abundance of timber; this country is in a flourishing state of prosperity. The trade of New York is immense. Contains 1,373,000 inhabitants. Protestants and Catholics.

Indian corn, tropical fruits, &c.; divided into a variety of petty states and sovereignties; the Portuguese, however, are masters of the coast and trade, bringing from thence gold, ivory, wax, and slaves.

Consists of two islands, divided by a strait; discovered by Tasman in 1642; explored by Captain Cook in 1779; many European roots and fruits thrive in this fertile country. Contains 150,000 inhabitants. Pagans.

VOLCANOES OR BURNING MOUNTAINS.

Mount *Etna*, in the island of Sicily, is about 11,000 feet high. It is more than three miles in circumference at the top, and between 70 and 80 miles at the bottom. Flames, ashes, and smoke are thrown out from its crater, which is deep and hollow. It has often done great damage by its eruptions, and has thrown its ashes to a distance of eighty miles. In 1532 it destroyed the town of Bronte, containing a population of 10,000 people, but with little loss of life.

Mount *Vesuvius*, near Naples, in Italy, is about 3,600 feet high, and about 20 miles round at the base, the ground on which it stands being more extensive than London and its suburbs. The eruptions of this volcano have been frequent, and have done great mischief; it has thrown its ashes 30 miles. The first on record has been most interestingly described by the younger Pliny, whose uncle perished therein. It happened in the year 79, and destroyed two cities, Pompeii and Herculaneum; and after more than 1,500 years, people are now clearing away the dust from the houses, finding many most curious things, perhaps 2,000 years old. Smoke was then carried from it across the sea into Africa, and birds were suffocated in the air, while fish perished in the waters which the lava, or streams of fire, had made warm. There have been more than 40 eruptions or breaking out of this volcano recorded in history. That in 1794, destroyed the town of Torre del Greco a second time, it having been destroyed 163 years before. A great part of the mountain is covered with black ashes, cinders, and stones, but on some parts of it are flourishing vineyards.

Mount *Hekla* in Iceland, is about 5,600 feet high, that is, 1,400 feet higher than *Vesuvius*, but it is not so celebrated in history. There are several other volcanoes near it, whose eruptions in 1783 were most dreadful, and threatened to destroy every soul on the island. They sent forth a stream of fire for six weeks, which ran 60 miles into the sea, and was 12 miles wide. There are also volcanoes of hot water in Iceland, called the *Geysers*.

Huvel, the chief of the Sandwich Islands, in the Pacific Ocean, abounded in volcanoes, but they are very small, and are not known to have done any great damage.

Cotopaxi is one of the chain of mountains in the Andes, South America. It is 18,800 feet high, that is, nearly five times as high as *Vesuvius*. In the year 1738, the flames of this grand volcano rose 3,000 feet above the mountain. In the year 1744, the fire, struggling not very within it, roared like a huge furnace, so that the noise was heard at the distance of 200 miles. In 1768 the air was darkened with its ashes. In 1805 was another eruption, and so hot was the mountain that it melted the snows by which it was covered.

Tapien-daying, in Java, was very large, but the greatest part of it fell, in a terrible eruption in 1772. It swallowed up ground fifteen miles long and six broad;—destroying forty villages and three thousand people. There are thirty-eight large mountains of this kind in the island of Java. One of these, called *Tan-tan-Jon Pra-kw*, is very large. Its crater measures a mile and a half in circumference, and constantly throws up a large column of mud, which smells like brimstone, and after rising about 30 feet, bursts, like a bubble, with a dull noise, and scatters itself over the surrounding plain.

Tomara Mountain, in the island of Sumbawa, one of the Javan cluster, had an eruption in 1815, which was felt a thousand miles off, by the shaking of the earth; and at Java, 500 miles from it, the sky was darkened at noon by its ashes, which covered the streets, and fell like snow. Trees, &c. were destroyed for many miles; the roads were strewn with dead, and twelve thousand persons perished.

The Peak of Teneriffe, one of the Canary Islands, 12,166 feet high, is a volcano, but thought to be nearly exhausted. In 1706 its lava ran fifteen miles. The last eruption was in 1798.

Sugfrien Mountain, St. Vincent's Isle, in the West Indies, is 3,000 feet high. In 1812 there was an eruption, which lasted four days. The sun was darkened by its smoke and ash; stones thrown from the mountain killed many persons; several houses were set on fire, and the people fled to cellars and caves for protection.

There is a small volcano in *Stromboli* one of the Lipari Islands, north of Sicily, which as we have elsewhere noticed, is always burning.

REMARKABLE PLACES ABROAD.

Abo, the capital of Finland, entirely burnt down in 1827.

Alppo, the capital of Syria, destroyed by an earthquake in 1822.

Alexandria, in Egypt, famous for two large libraries. The former, of 400,000 manuscripts, was destroyed by fire, forty-seven years before Christ; and the latter, of 700,000 volumes, was used by the Saracens when they conquered the country, to light their fires instead of wood.

Athen, was the most celebrated city of Ancient, as it is now the capital of Modern, Greece. For ages the seat of science and philosophy, it retained its celebrity long after its political consequence, which had been very great, was destroyed successively by the ascendancy of the Macedonian and Roman Empires. It had been previously taken by the Lacedemonians, and is memorable for a plague which desolated the city.

Easteras, in Persia. Here 80,000 persons died of the plague in 1773.

Cairo, or *Grand Cairo*, in Egypt, was nearly destroyed by an earthquake, in which 40,000 people perished, in 1756.

Colobras, a city of Colombia, South America, was destroyed by an earthquake in 1812, when 12,000 persons perished.

Cherson, in Russia. Here died John Howard, the philanthropist, 1790.

Constantinople, in Turkey, rebuilt and named after Constantine the Great, and from his reign the seat of government during the eastern empire of Rome, has been more desolated by war, fire, earthquake, plague, and famine, than any other city upon record. It has been taken more than once by the Saracens or Turks, the capital of whose empire it has been since 1457, when it was captured after a desperate defence, in which Constantine Palaeologus, the last emperor of Rome, perished, with the principal men of his court. It has been lately occupied by a Russian army. 300,000 persons died of the plague in 1611, and 300,000 in 1812 and 1813. 32,000 houses were burnt in 1791, and its suburb Pera was destroyed by fire, 1821.

Copenhagen, in Denmark, was burnt, and seventy-seven streets destroyed in 1728. It was taken by the English in 1807.

Duygar Bank, off Holland, is famous for a sea-fight between the French and English in 1781.

Fez, in Barbary, Here 247,000 persons died of the plague in 1799. Half this city was destroyed by an earthquake, in which 12,000 Arabs perished, in 1757.

Frederickshall, a sea-port town in Norway, where Charles the Twelfth, King of Sweden, was killed by a musket-ball while besieging it in 1718.

Gibraltar, a rock at the entrance of the Mediterranean Sea, on which is the strongest fortress in the world. It was taken from the Spaniards in 1704, by the English, to whom it now belongs, and in 1779 sustained a siege by the French and Spanish fleets, which lasted until 1783, when it was raised in consequence of the signing the preliminaries of peace.

Herculaneum, near Naples, in Italy, was buried by an eruption of Mount *Vesuvius*, in 79. Some of the houses and streets have lately been cleared. This city and Pompeii contained 2-0,000 people.

Holland, is mostly banked in against the sea, which however gave way at Dort, in the year 1821, destroyed seventy-two villages and drowned 100,000 people, and formed the *Zuyder Zee*.

Jassy, the capital of Moldavia, nearly destroyed by fire, in 1827.

Jerusalem, in Palestine, where Jesus Christ was crucified.

Leyden, in Holland. The finest part of this city was blown up by gunpowder, which caught fire in a vessel lying in its port, in January, 1780.

Lima, in Peru, was destroyed by an earthquake, which knocked down seventy-two churches, and swallowed up much wealth, in 1746.

Lisbon, in Portugal, was totally destroyed by an earthquake in p. 155, when in eight minutes whole streets were swallowed up, and 50,000 persons perished.

Lutzen, a town of Upper Saxony, in Germany, where Gustavus Adolphus, King of Sweden, was killed in battle, in 1632. Here Buonaparte also fought a great battle, in 1813.

Madeira. Half this island was destroyed in 1757, by an earthquake.

Maringopol Italy, famous for a battle fought between the Austrians and French, in which the former were defeated in 1800.

Messina, in Sicily, was destroyed by an earthquake, in a moment, in 1693; 18,000 persons perished in the city, and 60,000 in the island. It was totally destroyed again in 1784.

Moscow, in Russia, had 18,000 houses burnt in 1752, and was set fire to in 300 places, by the Russians, to burn out the French, in October, 1812, when three-fourths of that large city was destroyed.

Naples, in Italy. An earthquake happened here in 1456, when 40,000 persons perished.

Nayon, a city in Picardy, where John Calvin, the great Church reformer was born, 1519.

Paris, in France, was burnt, 538;—entered by the troops of England, Prussia, and Russia, in the year 1814.

Petersburgh, Russia, had 11,000 houses burnt by lightning, in 1780.

Port Royal, Jamaica, was destroyed by an earthquake in 1692;—burnt in 1703 and 1815;—destroyed by hurricanes in 1723, 1744, and 1784.

Quito, in Peru, South America, was destroyed by an earthquake in 1750.

Sayrna, in Turkey, was destroyed by an earthquake in 1730. It was burnt in 1742. Twenty thousand persons died of the plague here in 1784.

Trafalgar, a cape off Spain, near which Lord Nelson gained a great naval victory over the French and Spanish, and was killed in action, October 21, 1805.

Watecho, a village in the Netherlands, ten miles south of Brussels, where the Duke of Wellington beat the French army, commanded by Napoleon Buonaparte, in his last battle, June 18th, 1815.

HEIGHTS OF MOUNTAINS ABOVE THE LEVEL OF THE SEA.

Most of the great Mountains of the earth lie together in connected chains or ridges.

EUROPEAN MOUNTAINS.

	Feet.		Feet.
Mount Blanc, Savoy.....	15872	Ben Lomond, Scotland.....	3240
Mount Rosa, Alps.....	15530	Sea Fell, England.....	3166
Oedler Spitz, Tyrol.....	15430	Helvellyn, ditto.....	3055
Mount Cervin, Alps.....	14754	Skiddaw, ditto.....	3020
Corn du Midi, ditto.....	14270	Grasmere Fell, ditto.....	2756
Fisterhorn, ditto.....	14000	Nepkin, Ireland.....	2621
Mulhassan, Granada.....	11700	Treca's Beacon, England.....	2390
Mount Perdu, Pyrenees.....	11270	Plynlimmon, Wales.....	2403
Col de Geant, Alps.....	11140	Wharfedale, England York.....	2384
Vignemale, Pyrenees.....	11010		
St. Gothard, Switzerland.....	11000		
The Cylindar, Pyrenees.....	10930		
Etna, Sicily.....	10926		
Bullislaw, Transylvania.....	9890		
Pic du Midi, France.....	9374		
Canigou, Pyrenees.....	9207		
Lomnitz, Carpathia.....	8850		
Rotondo, Corsica.....	8700		
Grand Passo, highest of } the Apennines.....	8791		
Mont d'Oro, Corsica.....	8630		
Gundarans, Spain.....	8520		
Snoechatten, Norway.....	8200		
Maggiore, Alps.....	7385		
Bartholomy, France.....	7365		
Mount Cenis (pass over } Piedmont).....	6780		
Olympus, Greece.....	6520		
Mont d'Or, France.....	6510		
Canal, ditto.....	6090		
Swacku, Sweden.....	6050		
Parnassus, Greece.....	6000		
Sierra d'Estre, Portugal.....	5580		
Hussako, Moravia.....	5325		
Sneekoppe, Bohemia.....	5240		
Kassberg, Syria.....	5220		
Adelat, Sweden.....	5180		
Hecla, Iceland.....	5000		
Ida, Canada.....	4960		
Puy de Dome, France.....	4846		
Balloon, Vosges.....	4620		
Ben Nevis, Scotland.....	4380		
Ben Lawers, ditto.....	4020		
Parnassus, Spitzberg.....	3955		
Vesuvius, Naples.....	3721		
Snowdon, Wales.....	3570		
Ceder Liris, ditto.....	2914		
Carned Llewellyn, Wales.....	3469		
Macguillicuddy's, Kerry, } Ireland.....	3400		

ASIATIC MOUNTAINS.

Dhawalagheri, Nepaul.....	26462
Jumnatra, ditto.....	25500
Dhaulun, ditto.....	24740
Peak in the Valley of Nepaul.....	24625
Egmont, New Zealand.....	15304
Petcha, Tartary.....	15000
Soomochang Bootan.....	14000
Ophir, Sumatra.....	13840
Ghassa, Bootan.....	13080
Sochouda, China.....	12600
Acarat, Armenia.....	12700
Altai, Tartary.....	10735
Awatscha, Kamtschatka.....	9060
Libanus, Syria.....	9525
Neighberries Dodabet.....	8760
Geta, Java.....	8500
Olympus, Natolia.....	8003

AFRICAN MOUNTAINS.

Atlas.....	from 10 to 13000
Peak of Teneriffe.....	12320
Lameroon, Abyssinnia.....	11200
Compass Mountain, Cape } of Good Hope.....	10000
Gondar Mountains, Abyssinia.....	8000
Mont de Turo, Canary.....	7420
Peak in Azore Island.....	7016
Bonnet Pointu Bourbon.....	6000
Raino, Madeira.....	5160
Dalme's Peak, St. Helena.....	2700

AMERICAN MOUNTAINS.

Chimborazo, Quito.....	21441
Great Peak, New Mexico.....	19786
Cayamba Urea, Peru.....	19388
Antisana, Quito.....	19150
Volcanic Cotopaxi, ditto.....	18900
Mt. Ruah, Owyhee.....	18400
Potosi, Peru.....	18000

161

	Feet.		Feet.
Mount Elias, Russian America.....	17840	Alcantara, stone, Tagus.....	1920
Orizaba, Mexico.....	17371	Badajoz, stone, Spain.....	1874
Volcanic Taquragway, Peru.....	16500	Saumur, stone, France.....	1730
Monna Roa, Owyhee.....	16474	Avignon, Rhone, ditto.....	1710
Sierr Merida, Peru.....	16420	Bourdeaux, stone, Garron.....	1690
Cofe de Perote, Mexico.....	13400	Maasheim, stone, Germany.....	1650
Orkheite Mountain.....	10895	Presburg, boats, Hungary.....	1650
Blue mount, Jamaica, fr. 5 to 8000		Lyons, stone, France.....	1560
Mount Wasington, United } States.....	6225	Rouen, boats, ditto.....	1550
Sulphatara, Gaudal.....	5100	Boston, United States.....	1503
Alleghany.....	from 2 to 3500	Salem, ditto.....	1500
		Warsaw, wood.....	1500
		Lintz, ditto, Austria.....	1470
		Frankfort, Order.....	1460
		Tours, stone, France.....	1400
		Limerick, Shannon.....	1340
		Cremona, boats, Italy.....	1300
		Waterloo, stone.....	1223
		Westminster, ditto.....	1223
		Berwick, ditto.....	1164
		Londonderry, wood.....	1068
		Ratisbon, stone, Bavaria.....	1050
		Menai, Wales, chain.....	1050
		Pont, Neuf, Paris.....	996
		Blackfriars, stone.....	995
		London, ditto.....	930
		Vauxhall, iron.....	860
		Berwick Chain.....	804
		Southwark, iron.....	708
		Span, of Menai Cen. Ch. Se.	560
		Span of Berwick, ditto.....	437
		Cen. Arch. of Meissen } Bridge, Saxony.....	375
		Arch of Schuykill Bridge, } Philadelphia.....	340
		Cen. Arch Southwark.....	240
		Sunderland, iron.....	236

LENGTH OF BRIDGES.

Trajan's Bridge, nr. Vidin, } Bulgaria.....	10,000
Nantes, succession of } Wooden Bridges.....	9600
Washington, Potomac.....	5300
Philadelphia, Delaware.....	5000
Klow, wood, Russia.....	4800
Boston, do. United States.....	3483
Strasbourg, do. France.....	3390
Pont St. Esprit, ditto.....	3050
Buda, Boats, Hungary.....	3050
Thron, wood, Prussia.....	3000
Riga, ditto, Russia.....	2500
Washington, cast br.....	2500
Belfast, wood, Ireland.....	2500
Dresden, stone.....	2480
Wittenburg, Pru. Sax.....	2450
Cologne, boats.....	2330
Seville, ditto, Spain.....	2310
Mortosa, ditto, ditto.....	2290
Mentz, ditto, Germany.....	2100
Wexford, wood.....	2080
Zamora, Douro.....	1940

RIVERS.

EUROPEAN RIVERS.

	Length in English Miles.		Length in English Miles.
Volga, Russia.....	2500	Vistula, Poland.....	700
Danube, Austria.....	1800	Theyse, Hungary.....	650
Nieper, Russia.....	1300	Oder, Prussia.....	630
Don, do.....	1100	Tagus, Spain.....	580
Dwina, do.....	1052	Loire, France.....	545
Cana, do.....	1050	Pruth, Russia.....	520
Petchora, do.....	930	Duna, Russia.....	516
Rhine, Germany.....	840	Rhone and Saone, France.....	510
Elbe and Moldaw, do.....	800	Guadiana, Spain.....	500
Oka, Russia.....	760	Meuse, Netherlands.....	500
Niester, ditto.....	710	Save, Austria.....	480
		Seine, France.....	450

* For the Mountains of Hindoostan see Vol. I. Tables last page Companion to the Almanac.

Length in English Miles.	Length in English Miles.
Douro, Spain..... 450	Nurbuddah, ditto..... 780
Drave, Austria..... 440	Benjer, Borneo..... 570
Garonne, France..... 440	Jordan Canaan..... 176
Niemen, Poland..... 430	
Po, Italy..... 420	
Ebra, Spain..... 410	
Weser, Hanover..... 400	
Guadalquivir, Spain..... 360	
Dahle, Sweden..... 350	
Tornea, Lapland..... 345	
Glomme, Norway..... 340	
Maine, Germany..... 335	
Moselle, Lorraine..... 330	
Maritz, Turkey..... 330	
Inn, Bavaria..... 300	
Vardor, Macedonia..... 280	
Severo, England..... 280	
Xucar, Spain..... 260	
Thames (from Thames Head)..... 250	
Shannon, Ireland..... 250	
Trent and Humber, England..... 230	
Adige, Austrian Italy..... 220	
Neckar, Wurtemberg..... 190	
Tiber, Italy..... 190	
Schelde, Netherlands..... 180	
Tay, Scotland..... 180	
Spey, ditto..... 150	
Forth, ditto..... 120	
Ouse, England..... 174	
Swale and Ouse, Yorkshire..... 145	
Wye, England and Wales..... 140	
Barrow, Ireland..... 140	

ASIATIC RIVERS.

Length in English Miles.	Length in English Miles.
Yeneisy and Selenga, Sib..... 3550	Amazon and Beni..... 4000
Kianku, China..... 3290	Plate, Paraguay..... 2700
Hoang Ao, ditto..... 3040	Rio Madeira, Brazil..... 2300
Oby and Irtysh, Siberia..... 2890	Rio Negro, Colombia..... 1650
Lena, ditto..... 2550	Orinoco, Guyana..... 1600
Amour, Tartary..... 2500	Para and Araguay, Brazil..... 1600
Mecoa, Cambodia..... 2200	Parana, Buenos Ayres..... 1500
Burrampooteer, India..... 2000	Rio St. Francisco, Brazil..... 1500
Euphrates, A, Turkey..... 1930	Jupura, Columbia & Brazil..... 1480
Indus, India..... 1900	Puros, Brazil..... 1450
Thylunan, Burm. Empire..... 1860	Tapayoa, ditto..... 1360
Ganges, British India..... 1850	Ning, ditto..... 1250
Irawaddy, Burm. Empire..... 1280	Pilcomayo, Paraguay..... 1250
Gihon, or Oxus, Persia..... 1200	Jutay, Peru and Brazil..... 1200
Tigris, Turkey..... 1160	Uruguay, Brazil and Para..... 1100
Gurrah, North India..... 1060	Mendoza, Patagonia..... 1100
Godavery, India..... 850	Tunguragua, Peru..... 1000
Jumna, ditto..... 800	Magdalena, Colombia..... 900
Gogra, India..... 780	Essequibo, Br. Guiana..... 520

AFRICAN RIVERS.

Nile, Egypt, &c..... 3240
Niger, Nigritia..... 2400
Senegal, West Africa..... 1400
Zaire, South Guinea..... 1300
Zambese, East Africa..... 1150
Orange, South Africa..... 1070
Great Fish River, do..... 1030
Gambia, West Africa..... 1000

NORTH AMERICAN RIVERS.

Missouri and Mississippi..... 4300
Athapescow & Mackenzie's..... 2800
Sakashawan and Severn..... 2500
Rio Bravo, Mexico..... 2300
Arkansa, Louisiana..... 2070
Red River, ditto..... 1520
Ohio and Alleghanny..... 1480
St. Lawrence..... 1450
Kansas, United States..... 1400
Mississippi to its junction } with Missouri..... } 3650
Columbia, W. America..... 1100
Colorado, N. Mexico..... 1050
Yellowstone, U. States..... 972
La Platte ditto..... 850
Tenassee ditto..... 790
Sasquehannah, ditto..... 620
Delaware, ditto..... 420
Potomack ditto..... 420

SOUTH AMERICAN RIVERS.

Amazon and Beni..... 4000
Plate, Paraguay..... 2700
Rio Madeira, Brazil..... 2300
Rio Negro, Colombia..... 1650
Orinoco, Guyana..... 1600
Para and Araguay, Brazil..... 1600
Parana, Buenos Ayres..... 1500
Rio St. Francisco, Brazil..... 1500
Jupura, Columbia & Brazil..... 1480
Puros, Brazil..... 1450
Tapayoa, ditto..... 1360
Ning, ditto..... 1250
Pilcomayo, Paraguay..... 1250
Jutay, Peru and Brazil..... 1200
Uruguay, Brazil and Para..... 1100
Mendoza, Patagonia..... 1100
Tunguragua, Peru..... 1000
Magdalena, Colombia..... 900
Essequibo, Br. Guiana..... 520

LENGTH AND BREADTH OF THE GREATEST CATHEDRALS.

Feet.	Feet.
Length.	Breadth.
Salisbury, England..... 478	77
Peterborough..... 470	220
Ulm, Wurtemberg..... 470	160
Lichfield, England..... 411	153
Norwich..... 411	190
Chichester..... 411	131
Gloucester..... 444	171
Notre's Ark..... 547	91
Columbus Ship..... 300	50
Vespasian's Amphitheatre, Rome..... 581	481
Gt. Hall, Moscow..... 560	168
Gt. Hall of Prague..... 500	200
Westminster Hall..... 275	74
Guildhall, London..... 156	44

HEIGHTS OF SPIRES AND TOWERS.

Feet.	Feet.
Tower of Babel..... 680	Chichester Spire, England..... 297
Temple of Belus, at Babylon..... 668	Minares of St. Sophia, Const..... 290
The highest Pyramid of Egypt..... 520	Grantham Spire, England..... 288
St. Peter's, at Rome..... 518	Louth Spire, ditto..... 282
Ant-Tower of Halbes, Syria..... 500	St. Genesvieve, Paris..... 282
Tower of Strasbourg..... 474	Kauingburg Tower..... 284
Tower of Utrecht..... 464	W. Towers of Lincoln Cathd..... 280
St. Stephen's Spire, Vienna..... 453	Florence Cathedral Tower..... 280
St. Michael's Tower, Hambro..... 426	Illy Spire, England..... 270
Salisbury Spire..... 410	Castellan Tower, Valencia..... 260
Florence Cathedral Dome..... 380	Milan Cathedral..... 260
St. Peter's Tower Hambro..... 381	Lichfield Spire..... 368
St. Michael's Tower, Brussels..... 365	Seville Tower Spain..... 260
Landshut Spire, Bavaria..... 375	St. Bride's Spire, London..... 242
Crucifixion Tower, Italy..... 372	Potadam, Spire, Brandenburg..... 240
Arncliffe Tower, Bologna..... 371	Walsfold Spire, England..... 240
Mordhagen Spire, Bavaria..... 370	Canterbury Tower..... 235
Petersburg Tower..... 363	Spitalfields Spire, London..... 384
Heads Spire, Brabant..... 362	Porcelain Tower, at Nankin..... 228
Spionkops Temple, Pegu..... 361	Box Church Spire, London..... 225
Antwerp Cathedral Spire..... 360	Gloucester Tower, England..... 222
Had Wall of Herod's Temple..... 360	Glasgow Spire, Scotland..... 220
Frederick Tower..... 352	Ancient Tower, Nismes..... 215
Medwin Tower..... 350	Durham Tower..... 214
Chilis of Babylon..... 350	York Tower..... 213
St. Mark's Tower, Venice..... 344	St. Sulpice Tower, Paris..... 210
St. Paul's and Dome of Milan..... 344	Wellington Obelisk, Dublin..... 210
Freiburg Spire, Baden..... 330	Parish of Solomon's Temple..... 210
Newenham Spire..... 312	Notre Dame, Paris..... 204
Boston Tower, England..... 304	Monument near London Bridge..... 202
St. Michael's Spire, Coventry..... 303	Electral Tower Madrid..... 200
Leicester Spire, Coventry..... 300	Newcastle Tower, England..... 194
Canterbury High Tower..... 300	Ancient Tower, Bagdad..... 190
St. Ivan's Tower, Moscow..... 300	Leaning Tower of Pisa..... 188
	West Turret, St. Paul's..... 187

Feet.	Feet.
Wrexham Tower, Wales..... 185	Lynn Spire, Norfolk..... 176
St. Mary's Tower, Oxford..... 180	Edinburgh and Paisley Spires
Royal Exchange, Turret..... 178	each..... 161
Ant. Mexican Temple, Cholula 177	

HEIGHTS OF VARIOUS PLACES ABOVE THE LEVEL OF THE SEA.

Feet.	Feet.
Gay Lussac's Balloon Ascen. 22900	St. Ildefonso Pal. Spain..... 3790
Humboldt's Highest Travels 19400	Chamouny, Valley of, Savoy 3354
Antisana, Quito..... 13500	Baths of Mont D'Or, France 3237
Lake of Toluca Mexico..... 12200	Madrid City, Spain..... 2200
Devil's Bridge, Alps..... 11000	Laguna, Tenerife..... 2000
Quito City, Columbia..... 9621	Berne, Switzerland..... 1750
Santa Fe de Columbia..... 8615	Clermont, France..... 1700
Pineda (pass over) Pyrenees 8248	Logan House, highest in Brit. 1700
St. Bernard's Monas. Switz.	Killarney Lake, Ireland..... 1600
highest dwelling in Eur. 8040	Gibraltar, Spain..... 1400
Plains of Brazil, Quito, and	Geneva City, Switzerland..... 1207
Mexico..... 6 to 8000	Constance Lake, Germany..... 1163
Mexico City..... 7525	Geneva Lake..... 1096
Ezronia City, Armenia..... 7000	Isthmus of Darien..... 645
Convent of St. Gothard, Switz. 6960	Dover Castle, England..... 469
Queretara City, Mexico..... 6374	Shooter's Hill, ditto..... 446
Valladolid City, Mexico..... 6400	St. Paul's Cross (ab. the sea) 404
Simplon, passage over, Alps. 6000	Greenwich Observatory, Eng. 214
Popayan ditto, Columbia..... 5825	Cadiz, Spain..... 200
Brinaccon, Dauphine..... 4270	Paris, City of..... 116
Bargues Baths, Up. Pyren. Fr. 4185	London, (at St. Paul's)..... 64

HEIGHTS OF WATERFALLS AND CASCADES.

Feet.	Feet.
Ceresoli Cascade, Alps, Switz. 2400	Lidford Cascade Devon, Eng-
Evanson, near Mount Rosa,	land..... 100
Piedmont..... 1200	Tivoli ditto, near Rome..... 90
River Arve, Savoy..... 1100	Waterfall Mountain ditto,
Lauterbrun, near Lake Thun,	South Africa..... 85
Switzerland..... 900	Missouri Falls, North Amer.
Minzapet, Tibet..... 450	50, 80, and 90
Killarney Cascade, Ireland... 400	Potomack do. near Washing... 72
Evelino at Terni, near Rome 300	Poissack, New Jersey, U. S.... 71
Natchikin Fall, Kamakaka... 300	O'Sullivan's Cascade, Killarney, 70
Montmorency, near Quebec... 250	Mohawk Falls, New York, U. S. 68
Fyers, near Loch Ness, Scotl. 207	Narva, Ingria, Russia..... 67
Gatopada, near Ganges Head 174	Trolhetta, Sweden..... 66
Niagara Great Fall, Canada... 164	Dahl, near Escarby, Swed..... 64
Niagara Horse Shoe Fall,	Lauffen Falls, Switzerland..... 60
Canada..... 150	Mender ditto, Natolia..... 40
Cettina Fall, Dalmatia, Aust. 150	Cataracts of the Nile, U. Egypt 40

LENGTH OF PIERS.

Plymouth Breakwater..... 5100	Alexander's Mole at Tyre... 3500
Rochelle Mole..... 4482	Genoa Mole..... 3500
Palma Mole, Majorca..... 3300	Algiers Mole..... 2500

Malaga Mole..... 2100	Ryde Pier (Wood)..... 1400
Aberdeen Pier..... 2000	Brighthelm Pier..... 1134
Ancora Mole..... 2000	Yarmouth South Pier..... 1026
Whitby Pier..... 1800	Yarmouth North Pier..... 705
Palermo Mole..... 1400	Hamsgate Pier, each..... 800

WEIGHT OF THE PRINCIPAL EUROPEAN BELLS.

Great Bell of Moscow 452,000 lbs.	Great Tom of Oxford 18,000 —
Bells Godwin's ditto, 288,000 —	St. Paul's, London... 11,470 —
Navegrot Great Bell 70,000 —	Ghent, Flanders..... 11,000 —
Arbouse Bell, Rouen... 40,000 —	Great Tom of Lincoln 10,554 —
Vienna Bell, cast from	Worcester..... 6,600 —
Turkish Cannon... 40,000 —	York..... 6,384 —
Erfurt Press, Saxony 30,800 —	Gloucester..... 6,000 —

TABLE OF CLIMATES.

Climates	Latitude.	Breadth	Longest Day.	Climates	Latitude.	Breadth	Longest Day.
1	D. M.	D. M.	H. M.	15	D. M.	D. M.	H. M.
2	15 15	15 15	15 15	16	16 15	16 15	16 15
3	30 30	30 30	30 30	17	31 15	31 15	31 15
4	45 45	45 45	45 45	18	46 15	46 15	46 15
5	60 60	60 60	60 60	19	61 15	61 15	61 15
6	75 75	75 75	75 75	20	76 15	76 15	76 15
7	90 90	90 90	90 90	21	91 15	91 15	91 15
8	105 105	105 105	105 105	22	106 15	106 15	106 15
9	120 120	120 120	120 120	23	121 15	121 15	121 15
10	135 135	135 135	135 135	24	136 15	136 15	136 15
11	150 150	150 150	150 150	25	151 15	151 15	151 15
12	165 165	165 165	165 165	26	166 15	166 15	166 15
13	180 180	180 180	180 180	27	181 15	181 15	181 15
14	195 195	195 195	195 195	28	196 15	196 15	196 15
15	210 210	210 210	210 210	29	211 15	211 15	211 15
16	225 225	225 225	225 225	30	226 15	226 15	226 15
17	240 240	240 240	240 240	31	241 15	241 15	241 15

NATIONAL DEBTS.

The following statement of the public debt of the several European and South American Governments will be found interesting.

Prussia.....	225,000,000	Denmark.....	£1,150,000
France.....	225,000,000	Greece.....	£ 800,000
Austria.....	20,000,000	Portugal.....	£ 500,000
Holland.....	20,000,000	Colombia.....	£ 750,000
Spain.....	20,000,000	Mexico.....	£ 200,000
Britain.....	20,000,000	Brazil.....	£ 200,000
Norway (Old and New).....	20,000,000	Peru.....	£ 200,000
Prussia.....	20,000,000	Chile.....	£ 200,000
Spain.....	20,000,000	Paraguay.....	£ 200,000

There are 200,000 English, Dutch, and Spanish Banks deposits. Excepting Brazil, all the other American, African, and Greek, owe several years interest on their loans. Part of the Spanish debt is now paid, interest is waived. The United States' (a sensible and economical people) reduced the whole of their National Debt in 1894.

WHAT EACH COUNTRY PAYS TOWARDS GOVERNMENT.

The British people pay 2s. each per annum, to support their government, which is the most per head and least percent on their wealth in Europe; the Dutch, 3s. each; the Danes, French, and Irish, 3s.; Austrians, Portuguese, and Prussians, 3s.; the other Germans, Russians, Scandinavians, and Turks, 12s.; Hungarians, Poles, and Swedes, 12s.; Norwegians, Swiss, 12s. The inhabitants of Britain pay 12s. each; Saxons, Huns, and Persians, about 10s.; Anglo-Americans, 10s.; Brazilians and Mexicans, 10s.; Chileans, Colombians, Paraguayans, and Peruvians, 10s.; Egyptians and Syrians, 10s.; Armenians, Chinese, Japanese, Malays, Siamites, Abyssinians, and Bengalis, 10s. The Australians, including Tasmanians, are 10s.; the South Sea Islanders, 10s.; the natives, not having any regular government, are, or civilized religion.

WHAT EACH COUNTRY PAYS TO SUPPORT THEIR CLERGY.

The clergy of England, Ireland, Spain, Portugal, Brazil, and Mexico, receive as much in tithes and emoluments as all the other ecclesiastics in the universe. The Anglo-Americans and Chinese have no established religion, and the clergy are poorly provided for in many other countries.

It is calculated, that in every 100 Jews, Scots, and Swiss, that are 12 years of age, about 75 can read and write; in the same number of Dutch, English, French, and Italians, will be found 77 (but more in large towns than in villages); among the Germans, Danes, Spaniards, Portuguese, and Prussians, 85; Irish and Hungarians, 45; North Americans, 35; Poles, Russians and Turks, 30; Arabians, Chinese, Hindoos, and Persians, 15. Egyptians, Moors, and Spanish Americans, 5; the barbarous nations of Africa, America, Asia, and Australia, have scarcely 1 in 500 who can read and write, except those lately taught by the Missionary Society.

COMPLEXION OF THE HUMAN RACE, &c.

There are six or seven various complexions of the human race; but they imperceptibly approach, and are lost in each other. The white and brown complexions include the Europeans, Western Asiatics, Chinese, Tartars, Northern Hindoos and Africans, the Anglo-Americans, Spaniards, and descendants of Europeans in all parts of the Torrid or Middle Zone. Many of the higher classes in tropical regions, who are not much exposed to the sun, are of a brown olive complexion, particularly the females. The greater part of the Malatios, or yellow coloured people, live in China and Eastern Asia. The copper, or bronze coloured Indians, are nearly all in America. The Burmans, Malays, and Australians, are mostly dark brown or tawny; the central and southern Africans and Hindoos jet black.

By colour, religion, conquest, and emigration, all nations and hues are intermixed with each other, all mankind being the offspring of one common parent, the various shades originating in different modes of life, particular customs, and clothing; and hot climates produce the darkest complexions.

A TABLE

Showing the expectation of Life at every Age.

Age.	Expec.	Age.	Expec.	Age.	Expec.	Age.	Expec.
0	38.72	26	37.14	52	19.68	78	6.12
1	44.68	27	36.41	53	18.97	79	5.80
2	47.55	28	35.69	54	18.28	80	5.51
3	49.82	29	35.00	55	17.58	81	5.21
4	50.76	30	34.34	56	16.89	82	4.93
5	51.25	31	33.68	57	16.21	83	4.65
6	51.17	32	33.03	58	15.55	84	4.39
7	50.80	33	32.36	59	14.92	85	4.12
8	50.54	34	31.68	60	14.34	86	3.90
9	49.37	35	31.00	61	13.82	87	3.71
10	48.82	36	30.32	62	13.31	88	3.59
11	48.04	37	29.64	63	12.81	89	3.47
12	47.27	38	28.96	64	12.30	90	3.28
13	46.51	39	28.28	65	11.79	91	3.26
14	45.75	40	27.61	66	11.27	92	3.27
15	45.00	41	26.97	67	10.75	93	3.48
16	44.27	42	26.34	68	10.23	94	3.53
17	43.57	43	25.71	69	9.70	95	3.53
18	42.87	44	25.09	70	9.18	96	3.46
19	42.17	45	24.46	71	8.65	97	3.28
20	41.46	46	23.82	72	8.16	98	3.07
21	40.75	47	23.17	73	7.72	99	2.77
22	40.04	48	22.50	74	7.33	100	2.28
23	39.31	49	21.81	75	7.01	101	1.79
24	38.59	50	21.11	76	6.69	102	1.30
25	37.86	51	20.39	77	6.40	103	0.8

The above Table coincides with singular accuracy with the whole experience of one of the oldest and most extensive Life Assurance Establishments in London, THE EQUITY, the expectation of Life in no instance differing by one year, and in some instances coinciding within the hundredth part of a year.

DEATH, &c.

According to parochial returns throughout England, the average number of deaths per annum is as 1 to 37; consequently, taking the population of the British isles at 22,250,000, and calculating the mortality at the same rate, it will be found 44; i. e. will die every hour, 1070 every day, and 390,350 every year. By computing the mortality of the world at one in 40,237 will be dying hourly, 25,137 daily and 90,125,900 annually.

COMPARATIVE EUROPEAN MORTALITY.

At a late meeting of the Academie des Sciences in Paris, M. Moreau de Jonnes read an interesting paper, the object of which was to show the relative number of deaths in the different parts of Europe—one of the many instances of nice statistical calculations. The various neighbours are in the habit of making. From this it appears that in the Roman states and ancient Venetian provinces, 1 in 27 dies annually; in all Italy, Greece, and Turkey, 1 in 30; in the Netherlands, France, and Prussia, 1 in 39; in Switzerland, Austria, Spain, and Portugal, 1 in 40; in Russia, (in Europe) and Poland, 1 in 44; in Germany, Denmark, and Sweden, 1 in 45; in Norway, 1 in 48; in Ireland, 1 in 53; and in Scotland and Iceland, 1 in 59. Thus it appears that of the whole of Europe, in Italy there is the least chance of life or of its long duration. The average of deaths yearly in Europe, out of a population of 200 millions, is 5,355,000, which is equal to one-fourth of the whole. This, however, varies unequally between the north and south. The former have but one death in 41, while the latter have one in 36. Out of one million of inhabitants, the deaths amount to 23,701 in the countries situated north of France, and 27,800 south of France, or a difference of 5,000, equal to one two-hundredth of the population. M. Moreau de Jonnes thus shows that the northern climates favour the duration of human life. The author of the paper had also made calculations tending to prove that the proportion of mortality is diminishing, which fact is confirmed by the return in several great cities, proving intemperately the material ameliorations which have taken place in the great cities.

SIZE OF THE HUMAN RACE.

The Patagonians are said to be the greatest in stature of the human race, being mostly 6 feet in height. The Laplanders, Icelanders, and other inhabitants of the North Frigid Zone are the least, being rarely more than five feet high. The handsomest people are the Britons, Circassians, Hungarians, and Poles. The various nations of the earth speak about 88 different languages.

METEOROLOGICAL INFORMATION.

SHOWERS OF DUST, AND OF SOFT SUBSTANCES, BOTH DRY AND LIQUID.

We shall refer to this head all the observations which have been made upon these extraordinary showers, called showers of blood, of ashes, of manna, &c., and of the various meteoric substances, soft or powdery, which fall from the atmosphere. To give an idea of the circumstances which sometimes accompany these meteors, we will take for an example the red shower which fell on the 14th of March, 1813, in the Kingdom of Naples and in the two Calabrias. M. Sementini has given the following description of this phenomenon.

On the 14th of March, 1813, an east wind having blown for two days, the inhabitants of Gerace saw a thick cloud spreading itself from the sea over the continent. At 3 o'clock in the afternoon the wind lulled; but the cloud already overhung the neighbouring mountains and began to intercept the light of the sun; at first it was of a pale red color, but afterward deepened to a fiery red. At 4 o'clock in the afternoon the light was extinguished, that the inhabitants of the town were obliged to use candles in their houses, terrified by the darkness and by the color of the cloud, went to offer public prayer in the churches. The darkness increased continually; and to offer public prayer the sun, though at the distance of six miles from the town, thunder began to be heard, and large drops began to fall, which some supposed to be drops of blood, and others drops of fire. But, as night came on, the sky cleared up, the thunder ceased, and the people recovered their usual tranquillity.

The same phenomenon of a shower of red dust took place, with some slight modification, not only in the two Calabrias, but in the opposite extremity of the Abruzzi. This dust is of a brown color, and of a slightly earthy taste; so great is its tenacity, that it is unctuous to the touch, although, with a magnifying glass, small hard bodies are discovered resembling pyrites, but foreign to the dust, and accidentally mixed with it, when collected from the ground. Heat turns it first brown, then entirely black, and

usually red, if it is intense. After the action of heat, we perceive in it, with the naked eye, a multitude of small shining laminae of yellow mica; if no longer effervescent with acids, and is found to have lost about a tenth of its weight. Its specific gravity, when freed from the hard bodies, is 2.67. It is composed of

Silica.....	33.0
Alumina.....	15.5
Lime.....	11.5
Chromic.....	1.0
Iron.....	14.5
Carbonic Acid.....	9.0
	84.5

"The loss is due to a resinous substance of a yellowish color, obtained by treating the powder with alcohol, and by causing evaporation to dryness; the weight of the residue corresponded very nearly with the loss experienced in the analysis. This resinous matter gives the powder the property of agglutinating with fire."

M. Chladni has made a complete catalogue of all the meteorites of this kind which have been observed in various places; we shall give it here as published in the "*Annuaire du Bureau des Longitudes*" for 1836, omitting, however, several of the less important or less certain cases.

"In the year 472 of our era (following the chronology of Calixtus, Flavius, etc.), 5th or 6th of November. A great fall of black dust (probably in the environs of Constantinople); the sky seemed to be on fire." *Procopius* and *Marcellinus* attributed this to *Vesuvius*. *Mano*, *Molog*, *Ger*, *Zoarus*, *Codrenus*, *Theophrastus*.

632. At Constantinople, showers of red dust. *Theophrastus*, *Codrenus*, *Mattheus Erding*.

743. A meteor and dust in different places. *Theophrastus*.

... Middle of the sixth century. Red dust and a substance resembling coagulated blood. *Continental of Goss*, *Monachus*, *Ravennat*, *El-Mazar*.

860. Red shower for three days in the vicinity of Brixen. *Hairianus Bartolomaeus*. (Possibly this phenomenon was the same as the preceding.)

929. At Bagdad, redness of the sky, and fall of red sand. *Quatremère*.

1054. In Armenia, red snow. *Math. Erete*.

1119. In Armenia, province of Vaspouracane, in winter, during a dark night, fall of an Indian substance into the lake of Van. The water was stained a blood color, and the earth cleft open in various places. *Mattheus Erding*, *Notitia de Rebus de la Sol.*, T. IX.

1223 or 1219. Red snow in the vicinity of Viterbo. *Biblicus Italianus*, T. XIX.

1543. Red shower in Westphalia. *Stett. Chron. nunt.*

1548. 6th November, (probably in Thuringia). Fall of a globe of fire with much noise, after which a reddish substance was found on the earth resembling coagulated blood. *Senenborg*.

1547. In Pomerania, large plates of a substance resembling coagulated blood. *Mattheus Erding*, T. II, epist. 136.

1566. 3d Dec. At Verde (in Hanover) fall of much red and blackish matter with thunder and lightning, fiery and detonating meteor. This substance burnt the planks on which it fell. *Manuscript of Salomon*, senator at Bremen.

1592. In May. Venus mass succeeding a luminous meteor, between Vienna and Rome. *Museo. Acad. Nat. Curios.* ann. 2, 1592.

1679. 19th March. Red snow, near Genoa. *Falder*, *Trans.* 1678.

1686. 31st January. Near Rauden, in Courland, and at the same time in Norway and Pomerania, a great quantity of a membranous substance friable and blackish, resembling half-burnt paper. *Museo. Acad. Nat. Curios.* ann. 7, pro ann. 1686, in Appendix. (Hagen Thomsen de Grotthus has analyzed a portion of this substance, which was preserved in a cabinet of natural history, and found in it silica, iron, lime, carbon, magnesia, a very little chromic and sulphur, but no nickel.)

1711. 5th and 6th May. Shower at Orton in England. *Act. Lit. Societ.* 1731.

1718. 24th March. Fall of a globe of fire on the island of Java, India. A gelatinous substance was found there afterwards. *Borlase*.

1719. Shower of sand near the Atlantic Ocean accompanied by a luminous meteor. *Memo. de l'Acad. des Sciences*, 1719, Hist. p. 23. (This sand should have been more minutely examined.)

1721. About the middle of March, at Stuttgart. Meteor and red shower, very unusual, according to a report written 21st March by a countess. *Fischer*.

1737. 21st May. Fall of earth, capable of being attracted by the magnet, on the Adriatic between Monopoli and Luni. *Annuaire de l'Acad. de Calcutta*, T. XVI.

1741. In Silesia. White dust which was not attracted. *Gloss. 1790*, *Trans.* T. XXXII.

1792. 27th, 28th and 29th August. (without exception). A shower of a substance resembling ashes, in the town of Pisa, in Tuscany. This phenomenon could not be attributed to a volcano. Explorations had been made and the whole sky illuminated. Several small red bushes had been seen in many persons. *Mercurius Perennis*, T. VI, 1792.

1796. 6th March. A volcanic matter was found in Lusatia after the fall of a globe of fire. *Ann. de Gilbert*, T. LX.

1800. 5th and 6th March, in Italy. Fall of red dust, dry in some places and moist in others. *Opuscul. astron.* T. XXXII.

1811. In July, near the fall of a globe of fire. *Ann. de Gilbert*, T. LXVI.

1811. In July, near the fall of a globe of fire. *Ann. de Gilbert*, T. LXVI.

1813. 13th and 14th March, in Calabria, Tuscany, and Frioul. Great fall of red dust and of red snow, with much noise. Stones fell at the same time at Cutro, in Calabria. *Bull. Brit.* October, 1813, and April, 1814. (Sementini found in the dust: silica 33; alumina 15; lime 11; iron 14; chrome 1; carbon 9. The loss was 15. It seems that Sementini did not seek for magnesia and nickel.)

1814. 3d and 4th July. Great fall of black dust in Canada, with appearance of fire. This event was similar to that of 472. *Philos. Mag.* vol. XLIV.

1814. night of 27 - 28th October, in the valley of Oneglia, near Genoa. Red rain. *Annuaire de Paris*, T. I, p. 32.

1814. 5th November. In the Doab India. Each stone which had fallen, was found in a little heap of dust. *Phil. Mag.*

1815. towards the end of September. The sea south of India was covered to a great extent with dust, probably after a similar shower. *Phil. Mag.* July, 1816.

1816. 15th April. Red snow in different parts of the northern region of Italy. *Gloria di Pavia*, etc., T. I, 1816, p. 47.

1819. 13th August, at Amherst, Massachusetts. Fall of a gelatinous mass of an offensive smell, preceded by a luminous meteor. *Silliman's Journal*, II, 338.

1820. 26th September, at Studein, in Moravia, in the jurisdiction of Teitsch, between eleven and twelve o'clock, the sky being serene and tranquil, shower of small particles of earth proceeding from a small cloud, isolated and very bright. *Hesperus*, November, 1819; and *Ann. de Gilbert*, T. LXVIII.

1819. 3th November. Red shower in Flanders and in Holland. *Ann. generales des Sciences Physiques*. (Cobalt and muriatic acid were found in this shower.)

1819. in November, at Montreal and in the northern part of the United States. Black rain and snow accompanied by extraordinary darkness, shocks like those of an earthquake, detonations resembling explosions of artillery, and very appearances which were noted the phenomenon to the burning of a forest; but the noise, T. XV. Some persons attributed it to be a real meteor, like those of 472, 1792, and 1814 (in Canada). It would seem that the black and brittle stones which fell at Alais, in 1806, were very similar, but in a more advanced stage of coagulation.

1817. 3d May, at 9 o'clock in the morning. Red shower in the environs of Giessen. Professor *Zimmermann*, having analyzed the reddish brown sediment left by this shower, found in it chrome, oxyd of iron, silica, lime, carbon, a little magnesia and volatile particles, but no nickel.

1824. 13th August. Town of Mendoza, in the republic of Buenos Ayres. Dust fell from a black cloud. At fifty miles' distance the same cloud discharged itself a second time. *Gazette de Buenos Ayres*, 1st November, 1824.

M. Chladni, seems to suppose that most of the meteors described in the preceding catalogue, have the same origin with meteoric stones; but other philosophers are of opinion that the wind has sufficient power to sweep from the surface of the earth large masses of various substances, lifting them to great heights in the atmosphere. We shall cite a recent fact in support of this latter opinion.

In Silesia, in the province of Roms, not far from Mount Amarat, there fell, in April, 1827, a shower of grain, which, in some places, covered the earth with a layer, six inches in thickness. Sheep ate of it as grain, and the inhabitants afterwards took it and made it for bread of it. The Count de Soklen having received samples of this grain, and M. de la Peronnays, having sent some to Paris, Messrs. Desfontaines and Thénard were able to examine it, and subject it to various experiments. M. Desfontaines immediately recognised it as a lichen, belonging probably to the genus *leicidia*, and the chemical analysis also identified it as a lichen.

III. METEORIC STONES.

Meteoric stones are earthy masses which fall from the sky. Their origin still remains a mystery. Some suppose that they are thrown from volcanoes in the moon within the sphere of the earth's attraction; others, that they exist completely formed in the atmosphere, and that they move with great velocity after the manner of the planets, and that they consider them as fragments of matter which are thrown out by our volcanoes; and finally, some believe that they are again of a having described several revolutions about the earth. Although doubts still rest upon the origin of meteoric stones, it may confidently be affirmed that their existence has been fully established through Europe, from the remotest antiquity to the present century. We shall still quote from M. Chladni's chronology of meteoric stones which have fallen in different places; selecting the most remarkable ones since the year 1800.

1814. In March, from a communication made to the academy of Petersburg. Stones in the vicinity of Louisa, and Sawitpal, not far from Wiborg, in Finland. These stones contain no nickel.

(Mr. Murray mentions in the *Phil. Mag.*, for July, 1819, (p. 39,) the fall of a stone at Polono, in the Isle of Man, without giving any date; he merely says that the event was certain, and that the stone was very light, and resembled scorie. It was therefore like the stones which fell in Spain, 1438.)

1817, between the 24 and 26 of May. Masses probably fell into the Baltic sea. After the appearance of a great meteor at Gottenburg, a shower of fire was seen, at Odensee, descending very rapidly towards the S. E. *Danish Journal*.

1818, 15th February. A large stone fell at Limoges, into a garden south of the town. A mass, which fell after the explosion of a great meteor, made an excavation in the earth equal in size to a large cask. *Gazette de France*, and *Journal de Commerce*, 15th February, 1818.

(It is to be regretted that the mass was not taken from the earth and examined.)

1824, towards the close of January. Many stones near Arezzo, in the territory of Bologna. One of them, weighing twelve pounds, is preserved in the Observatory of Bologna. *Diario di Roma*.

1824, 14th October. Near Lehrad, circle of Beraun, in Bohemia. The stone is preserved in the national Museum at Prague.

The inhabitants of China, Japan, and the neighbouring provinces, have bestowed peculiar attention on the phenomenon of meteoric stones: they have also their catalogues of all these falls of stone; and this catalogue is much more complete than ours, extending back to the 7th century before the Christian era. M. Abel-Rémusat published in 1819 *Journal de Physique* a very interesting article on this subject. The Chinese observations are very remarkable, and we shall attempt to give an idea of them by citing some examples.

CHINESE OBSERVATIONS UPON THE FALL OF METEORIC STONES.

614 years before the Christian era, in the spring, the first moon and first day, ou-chia, of the new moon. Five stones fell in the kingdom of Soung, (Ho-nan.)

In the year 211 before the Christian era, the planet Mars being in the neighbourhood of Antares, a star fell at Young-kien which became stone on reaching the earth. On this stone were engraved six characters signifying, *The death of the emperor is near, and his empire shall be divided*. The Emperor sent officers to the spot, who seized and purchased the authors of this fraud, and burnt the stone.

In the year 32 before the Christian era, ninth moon, the day ou-tien, a globe of fire was discharged from the Great Bear. It was white and of great lustre. It was about 40 feet in length, and had the motion of a serpent. It extended itself to the length of 50 or 60 feet, and formed a spiral in the west of the circle of perpetual apparition, north-west of Scythia, and then rolled itself into the shape of a ring incomplete on the northern side.

In the 3d year of the Christian era, in the sixth moon, two stones fell at Kiu-lou. Since the time of Hoeha, eleven instances of the fall of such stones have been observed, and accompanied by light and a noise resembling thunder.

330. Tenth moon, day kong-tien, a star of fire fell with noise in the north-west region; it was sought for, and no fragments were sent to the Emperor at Ping-yang.

333. A star fell 6 leagues north-west of Ye; this was at first of a blackish red. A yellow cloud spread like a curtain several hundred feet. A noise like that of thunder was heard. It was on fire when it reached the earth; the dust rose into the air; the labourers who saw it fall, sought for it; the earth was still very warm. They saw a stone at least a foot through, blackish and very light, which resounded on being struck, like the instrument called ling.

1057. At Hoang-lai, in China, first moon, a stone fell with a great noise like thunder. This stone being sent to court, the president of the court of rites said that a stone had fallen in the time of Thsin, and that the same phenomenon had been observed from him to time under the dynasties of Tsin and of Thang; thus it was not a thing without precedent, nor could it be considered as hadomen.

1518. Twelfth moon, twenty-fifth day. At Chouking-fou, in the province of Sse-tchouan, neither wind nor cloud preceding, a peal of thunder was heard, and six stones fell, the heaviest weighing from 15 to 17 pounds. The smallest weighed from 10 ounces to a pound.

To complete these interesting records we shall add a number of instances of the fall of stones which have been observed each century in China, from the 7th century before Christ to the 16th after Christ.

7th century before Christ.

8th

9th

10th

11th

12th

13th

14th

15th

16th

17th

18th

19th

20th

MASS OF IRON TO WHICH A METEORIC ORIGIN MAY BE ATTRIBUTED.

We shall now give, from M. Chladni's list of those masses of native iron, which have been found in the interior of the earth, and which are considered by some philosophers to have been cast as they are found in very remote ages.

These masses of iron, which are probably meteoric, are distinguished by the presence of nickel, and by their malusability, and by their isolated situation. Some of them are also surrounded by stony matter, the stony substance being full of a stony substance resembling iron ore, and which is to be placed.

The stone found by Pallas, in Siberia, whose meteoric origin was known to the Tartars, was found between Krasnodar and Kalmukgenstadt.

One preserved in the Imperial cabinet of Vienna, brought perhaps from Norway.

A stony piece, weighing 4 pounds, now at Gotha.

These masses are also, in this case the iron is in rhomboids or octaedrons, composed of parallel fibres.

The enormous fall of this sort took place at Agram, 1751.

Similar substances have been found:

On the right bank of the Senegal. *Compagnon, Forster, Golberry.*

At the Cape of Good Hope. *Van Mourum and De Venkelmann.*

At Mexico, in different places. *Schumacher de Humboldt.* See also *Gazeta de Mexico*, T. I. N. V.

In Brazil, province of Bahia. *Wollaston and Mornay.*

In the jurisdiction of Saint-Jago del Estero. *Rubin de Collis.*

At Elbogen, in Bohemia. *Ann. de Gilbert, T. XLII. T. XLIV.*

Near Red river. The stone was sent from New-Orleans to New York. *American Mineralogical Journal.* Colonel Gibbs analyzed it and found nickel.

(Similar masses are to be found in other parts of the same country according to the New-York Mercury, 1821.)

Near Bihourz, not far from Trèves. (This piece weighs nearly 3500 pounds and contains nickel. The analysis, as made by Colonel Gibbs, may be found in the *American Mineralogical Journal*, vol. I.)

Near Krasin, in Poland. (These pieces, according to M. Laugier's analysis, contain nickel and a little cobalt.)

In the republic of Colombia, eastern Cordillera of the Andes. *Boussingault and Morisson de Ruzo, Ann. de Chimie, T. XXV.*

At some distance from the northern shore of Baffin's Bay, in a place named Sewallik.

Here are two pieces, one apparently solid, the other stony and mingled with portions of iron, which the Esquimaux use for knives. *Captain Ross.*

We ought, perhaps, to refer to this class a great mass about 40 feet in height, found in the eastern part of Asia, not far from the source of Yellow River. The Mongols, who call it *Khadamfiao* or Polar Rock, say that its fall was preceded by a meteor of fire. *Abel-Rémusat.*

There are masses of a problematic origin. Among these are:

One at Aix-la-Chapelle containing arsenic. *Ann. de Gilbert, T. XLVIII.*

One found in the Milanese. *Ann. de Gilbert, T. L.*

That found at Grosskamadorf, which contains, according to Edaproth, a little lead and copper.

(It appears that this has been melted, and that the pieces preserved at Fyrburg and Dresden are melted steel, which has been substituted for the fragments of the original substance.)

MIRAGE.

MIRAGE OBSERVED IN EGYPT.

It often happens when we look at remote objects under certain circumstances, that these objects appear as if they were images erect, oblique, or inverted, and always more or less altered in their position. It is the appearance of these images without any visible reflector to produce them, which constitutes the phenomenon of *Mirage*.

We will first give a description of this phenomenon as it presents itself in the plains of Egypt.

The ground of lower Egypt forms one vast plain which is entirely overflooded by the Nile at the time of the inundation. Along the banks of the river, and for a great distance towards the desert, both east and west, we see, at long intervals, little eminences, crowned with buildings or villages. Generally the air is calm and very pure.

At sun-rise remote objects are seen with perfect distinctness, a vast horizon meets the eye, which, though uniform, is by no means monotonous; but as the heat of the day increases, and the earth is parched by the sun, the lower strata of the atmosphere partake of the high temperature of the ground, numerous currents are produced with more or less regularity, and from these proceed a tremulous motion in the air, very perceptible to the eye; remote objects lose their distinctness of outline, and seem to separate and unite again continually.

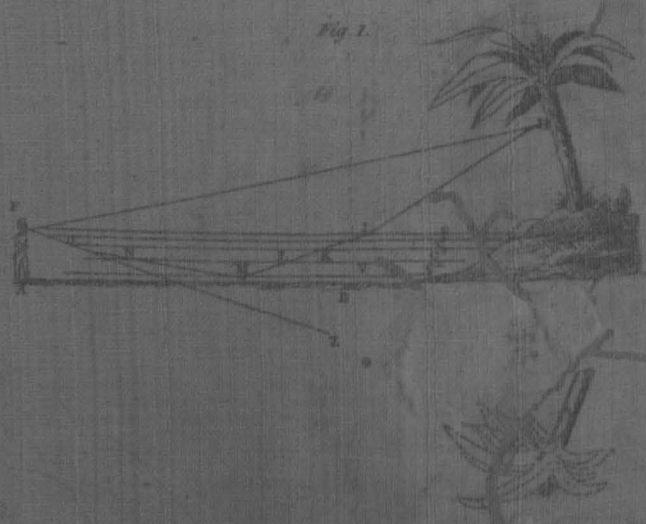
Thus all elevated objects appear as if in the midst of an immense lake, and the heavens, which look as if reflected from the surface of still water, resemble the sea. On advancing, the heated soil is seen where the observer supposed the rays of the heavens or some other object to be situated, and farther on, a similar picture presents itself on every side. This phenomenon was frequently remarked during the expedition of the French army to Egypt. It was at once a new spectacle, and a cruel illusion, to the soldiers. When they saw from a distance the images of all these objects thus reversed, they entertained no doubt that they saw them reflected from the surface of a lake. Exhausted by forced marches, under an intense heat, and in an immense plain charged with sand, they ran to the bank, but this bank did not form them; it was the heated air of the plain which caused this appearance of water, this collection of the sky and of all the elevated objects around them. The heated men who surrounded the army, shared the illusion for a moment; but Monge immediately discovered the cause of the phenomenon and explained all its circumstances. It is an optical see, a peculiar case of refraction.

EXPLANATION OF MIRAGE.

Let A B (Fig. 1.) represent the horizontal surface of the earth powerfully heated by the sun's rays; experience proves that the lower strata of the air have a density which increases as you ascend; at a certain height this density becomes nearly constant; afterwards it decreases, according to the ordinary laws by which the constitution of the atmosphere is governed. This being premised, suppose an elevated point H, and let us see how the light from it must be modified, in order to meet the eye placed at P; it is evident in the first place that the eye will see a direct image of the point H, by the rays P H; these rays, it is true, will not come in absolutely straight lines; since, between P and H, the air does not preserve absolutely the same density; but they will experience only very slight inflexions, the effect of which will be to produce some irregularity in the outline of the image.

But among the rays which the point H sends out in all directions, will be found some, which will take the direction H I K L M N O P, and which consequently

Fig. 1.



will give, in the direction P O Z, an inverted image of the object, like a reflection from a mirror. The ray, for instance, H I, passing obliquely into the stratum C', of a less refracting power than the stratum C, must be refracted, from the normal or perpendicular in the denser stratum. For the same reason it would depart from the normal in passing from the stratum C' into the stratum C'', and still more in passing from this into the next stratum. Thus, as the obliquity increases continually, it may happen that the ray, not being able to pass from the medium in which it is, into the medium of a less refracting power to which it is directed, will at length necessarily be reflected; and, continuing its course towards the eye, will reach it in the direction M N O P. The eye will thus see the point H in the direction P O Z, and in a position nearly symmetrical with the point H, when referred to the plane M V, on which the reflection is supposed to take place.

The course of the ray is here traced in a broken line; but as the density increases by insensible degrees from the surface, we may suppose that the ray also deviates by insensible degrees, describing a curved rather than a broken line.

Such is the principle on which the mirage depends, as explained by Monge on the very ground where the phenomenon occurs; the explanation was published in the Memoirs of the Institute of Egypt.

The following experiment does not exactly represent this phenomenon, but it may serve to make the theory intelligible.

Fig. 2.



C C' (Fig. 2.) is a box of sheet iron about 30 inches in length and 6 or 8 in. width and depth. Being filled with ignited charcoal, it is suspended nearly on a level with the eye, and by a visual ray, grazing the edges of the box, you look at a mark some distance off as M for instance. Then you see a direct image of the mark in the direction P M, and an inverted image in the direction P M'. This second image is analogous to the inverted images of the mirage; it is obviously produced by reflection of the light from the strata of heated air which surround the box, and not by reflection from the sides themselves. It is not material to the success of the experiment, whether the visual ray approach the side or the top of the box.

Wallaston, moreover, imagined another experiment, by which mirage may be produced in a liquid. Take a small glass vial, either round or square; put in it two liquids of unequal density, one above the other, with great care, so that they may gradually combine where they meet. Water and sulphuric acid, water and alcohol, water and strong syrup, will do very well for the experiment. When the combination has been effected very evenly in a stratum of sufficient thickness, place the eye directly opposite to this stratum and look at a small object upon the opposite side, and you will see an erect and an inverted image of this object.

MIRAGE OBSERVED IN DIFFERENT PLACES AND UNDER VARIOUS CIRCUMSTANCES.

A singular effect of mirage was observed at Ramsgate by Dr. Vince. In looking from Ramsgate in the direction of Dover, if the weather is favorable, the tops of the four highest towers of Dover castle are visible; the rest of the edifice is hidden by a hill at some small distance from the observer, half the space between being occupied by the surface of the sea. Dr. Vince, when at Ramsgate, near 70 feet above the surface of the sea, was much surprised, on the 6th of August, 1866, when looking towards Dover, at 7 o'clock in the evening, to see not only the four towers of the castle, as usual, but the edifice transposed to the Ramsgate side of the hill. "It was seen," says he, "as perfectly as if it had been suddenly transported to the Ramsgate side of the hill."

The same gentleman has since published other observations, taken on the same spot, and particularly some made with a good telescope upon vessels which approached or left Ramsgate. We shall quote the two following.

One day he perceived a vessel exactly in the horizon; he distinguished it perfectly; but at the same time, he saw its image inverted, very regular, and disposed vertically above the object, so that the top of the real vessel and that of the inverted image met in the same point.

Again, in the same month of August, and towards evening, he saw a variation of the phenomenon: the image of the vessel was still inverted, but below the object.

Captain Scoresby observed many similar phenomena in the Greenland seas. When the sun appears in these latitudes, the strata of air next the surface of the earth and sea rapidly attain a much higher temperature than those some feet above, and the most varied and fantastic appearances are produced by the extraordinary refractions consequent upon this.

Messrs. Biot and Mathieu made similar observations at Dunkirk, on the sandy beach which stretches out at the foot of fort Richeux. M. Biot has given the theory in detail, in the *Memoirs of the Institute* for 1809; he has shown that, beginning from a certain point T, at some distance in front of the observer O (Fig. 3), we may suppose a curve T Q B, such that all the points below it remain invisible, while all the points above, up to a certain height, present two images, one ordinary and direct, the other extraordinary, beneath its stratum, and inverted. Thus a person leaving the point T and going from the observer, would present the successive appearances represented in figure 3.

Fig. 3.



Messrs. Scerl and Jupin observed on the lake of Geneva, in September, 1818, at ten o'clock in the morning, the remarkable phenomenon represented in Fig. 4. The curve A B C represents the east bank of the lake; a boat laden with cargo, having all its sails unfurled, was at P, opposite the point of Belle-Rive, directing her course towards Geneva. It was seen by the observers with a telescope in the direction G P, from the shore of the lake, in the second story of Jupin's house, at about two leagues' distance. As the boat occupied in succession the positions Q, R, S, a lateral image was distinctly seen in G, H, K, advancing with the boat, but seeming to pass off to the left of G P, while the boat moved to the right. When the sun shone on the sails, this image was perceptible to the naked eye.

Fig. 4.



The direction of the sun's rays at the moment of observation is indicated by L Y.

From the position of the places, it is obvious that this is a case of *lateral mirage*; the air to the right of G P had remained in the shade all the morning; to the left, on the contrary, it had been heated by the sun, and the surface of separation between the warm and the cold air must have been nearly vertical to a small extent above the water; on one side and the other of this stratum a mixture of different densities must have taken place, increasing from the left to the right; and thus was produced in vertical strata what is usually seen on the ground in horizontal strata.

These examples will suffice to give some idea of the varied and singular appearances which may result from those extraordinary refractions which light experiences in strata of air whose density changes suddenly. We have supposed these changes to take place in plain, regular strata; but it is obvious that they most frequently, from innumerable causes, occur in curved irregular strata. When the images produced must be distorted every way, sometimes enlarged, sometimes indefinitely elongated, and sometimes dispersed as if the objects were broken into a thousand pieces. Doubtless, the phenomenon known under the name of *Fata Morgana*, a species of mirage. This has been observed at Naples, at Reggio, and on the seacoast of Sicily. Sometimes the people crowd to the seashore to enjoy this singular spectacle; far off in the air are seen ruins, columns, castles, palaces, and a multitude of objects which seem to displace one another and to change their aspect continually. All this fairy work is but the representation of terrestrial objects, which, invisible in the usual state of the atmosphere, become apparent and movable, when the rays of light proceeding from them move in curved lines through strata of air of unequal density.

HALOS.

Halos are bright and usually colored circles which are sometimes seen to surround the disk of the sun and of the moon. They are also called *coronae*. The luminary is in the centre, and the space comprised between its edges and the interior of the luminous circles forms the area of the halo. This space is of a deeper grey than the sky about it, if the atmosphere is foggy, and of a deeper blue, if it is clear.

The diameter of halos has been measured frequently, at different times, and in different places, and always makes to the eye of the observer an angle comprehended between 45° and 46° . The halo round the moon is a white luminous circle without decided color, except when a pale red borders the interior of the circle. The colors of that which surrounds the sun are usually very distinct, though less vivid than those of the rainbow. The red is innermost, marking decidedly the area of the halo; the indigo and violet are outermost, always very indistinct, and gradually blending with the tints of the sky.

Under some circumstances, a second halo is seen, much larger than the first, but concentric with it; its diameter usually appears to be of 90° , or nearly that; its colors are very faint, and its whole light much less than that of the interior halo.

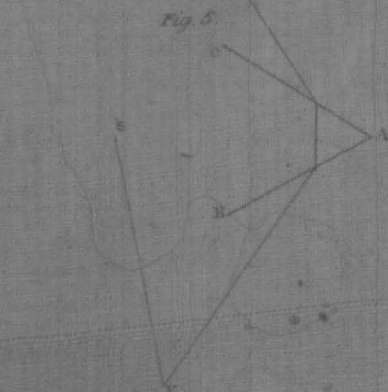
Descartes, Huygens, Mariotte, and many other philosophers have attempted an explanation of this phenomenon.

Descartes attributes it to rays transmitted through certain small stars, which are observed in snow, and which may become sufficiently transparent when the heat begins to melt them. "These stars," he says, "are always scelled out towards the middle, and their usual convexity doubtless determines the diameter of 45° exhibited by halos." According to this hypothesis, the exterior corona would be produced by rays traversing two rows of small convex stars.

Huygens imagines, that halos are produced by small transparent globules having an opaque nucleus, these globules being water or ice, and the opaque nucleus compressed snow, like that in fine hail. But, in order to give the constant diameter of 45° , there must always be a determinate ratio between the thickness of the opaque part and that of the transparent part.

Mariotte finds a cause for halos, in the form of those small, transparent, prismatic needles of which snow is composed. This last hypothesis is the most probable, and we shall attempt its development.

In congelation, water assumes very regular crystalline shapes, among which we often meet with those whose faces make angles of 60° , thus constituting prisms of ice whose refracting angle is 60° . These prisms are doubtless turned in the air all possible ways, and are thus receiving the solar rays under all possible inclinations. It is well known that, in certain positions of prisms, light experiences in passing through them a *minimum deviation*; this position is determined by the condition that the refracted ray makes an isosceles triangle with the two sides of the prism, or, what comes to the same thing, that the angle of refraction is equal to half the refracting angle. As the refracting angle is here 60° , the angle of refraction would be 30° , and, consequently, the angle of incidence about 41° . In this case, the deviation is equal to twice the angle of incidence, diminished by the refracting angle, which gives here $2 \times 41 - 60 = 82 - 60 = 22^\circ$, nearly half the diameter of the halo.



We may then conceive, that, the observer being placed at P (Fig. 5), when the direct rays arrive in the direction S P, all the small prisms of 80° floating in the higher regions of the atmosphere, and properly turned like the prism A C B, will reflect towards the eye a small but very bright beam, because this will be composed of rays sensibly parallel, on account of the condition of a minimum, and the same phenomenon reproducing itself in a conical surface making an angle of 80° about the line S P drawn to the centre of the sun, the observer will see a aureole of 43° in diameter.

The ratio of refraction in violet light being greater than that in red light, we shall have for this kind of rays a greater deviation, and consequently a somewhat larger aureole.

Finally, the sun's diameter, being 30', will contribute to increase the breadth of the colored bands.

This explanation might be subjected to a severe proof, were it possible to measure the diameters of halos as accurately as we do those of the colors of the rainbow; but unfortunately the phenomenon is seldom presented with sufficient regularity and distinctness for such a measurement.

Nevertheless M. Arago has made another kind of observation, which proves with certainty that the light of halos is refracted light; for, studying by a peculiar process the state in which this light is found with respect to polarization, he ascertained that it is always polarized by refraction and not by reflection.

The exterior halo may be explained in many ways, but we shall not hazard a theory, while so uncertain as to its true dimensions.

Without doubt, many interesting researches are still to be made on this phenomenon, but after the observation of M. Arago, we may affirm that the condition necessary to its production, is the presence of icy particles in the higher regions of the atmosphere. This conclusion is of importance, as bearing on the temperature of the air at a great height in different seasons of the year; and we would advise observers to attend to the temperature of the air at the time of halos, whether round the sun or moon. During the experiment of M. Arago, the surrounding temperature was 15° (centigrade) at the Observatory in Paris.

COMPARATIVE SCALES OF THERMOMETERS.

A fertile cause of error in estimating and comparing the statements of temperature is the very different manner in which they are regarded by scientific men of different nations. Wherever the English language prevails, the graduation of Fahrenheit is generally preferred. By the German authors (Reaumur) is used; and the French have, within few years, decided to adopt that of Celsius, a Swedish philosopher, calling it "Thermomètre Centigrade." To diminish this error, in some degree, the annexed diagram has been constructed, which shows, by inspection, the expression of any point of temperature in the degrees of either or all of the above mentioned scales; and the comparison of any degree of one with the equivalent degrees of the others. The Russians still use the graduation of De Lisle; but as Russian scientific authors are rarely read or quoted, it has not been thought necessary to do more than state its mode of graduation.

The two remarkable temperatures of the boiling and the freezing of water are thus expressed by the several thermometers mentioned.

	Fahr.	Centig.	Reaumur.	De Lisle
Boiling point.....	212°	100°	80°	0°
Freezing point.....	32°	0°	-8°	150°

So that the number of degrees of each included between these two points in each is 180° Fahr., 100° Centig., 80° Reaumur, 150° De Lisle; and of course 91 Fahr. = 50° Centig., = 40° Reaumur, = 75° De Lisle. Fahrenheit's is, therefore, the smallest degree, and Reaumur's the largest. The 0° is called the zero; all degrees below this are called *minus*, and are prefixed by a dash, thus, -20°. In the Reaumur and Centigrade scales, the degrees above zero are also called *plus*, and marked thus, +30°, to prevent one kind being mistaken for another.

Rules for changing the Degrees of any one of the Scales, into equivalent Degrees of another.

Fahrenheit into Reaumur.—Each degree of Fahrenheit is equal to 4-9ths of one of Reaumur. Multiply the number of degrees of Fahrenheit, when the given number is more or less than 32, by 4, and divide the product by 9. The quotient is the equivalent number of degrees on Reaumur's scale. If the given number was more than 32, the Reaumur degrees will be *plus*; if less, *minus*.

F.	R.
41° = +4°, for 32 - 32 = 9 9 × 4 = 36 36 ÷ 9 = +4°	
14° = -8°, for 32 - 14 = 18 18 × 4 = 72 72 ÷ 9 = -8°	

Reaumur into Fahrenheit.—Each degree of Reaumur is equal to 9/4 of one of Fahrenheit. Multiply the given number of degrees of Reaumur by 9, and divide the product by 4. If the degrees of Reaumur were *minus*, the quotient must be deducted from 32, and the remainder will be the equivalent degrees of Fahrenheit. If the given degrees were not *minus*, the quotient must be added to 32°, and the sum will be the equivalent sought.

R.	F.
-12° = 5°, for 12 × 9 = 108 108 ÷ 4 = 27 32 - 27 = 5°	
+18° = 68°, for 18 × 9 = 144 144 ÷ 4 = 36 36 + 32 = 68°	

Fahrenheit into Centigrade.—Each degree of Fahrenheit is equal to 5-9ths of one of the Centigrade. Multiply the number of degrees of Fahrenheit, when the given number is more or less than 32, by 5, and divide the product by 9; the quotient is the equivalent number of degrees on the Centigrade scale. If the given number was more than 32, the Centigrade degrees will be *plus*; if less, *minus*.

F.	C.
50° = +10°, for 50 - 32 = 18 18 × 5 = 90 90 ÷ 9 = +10°	
23° = -5°, for 32 - 23 = 9 9 × 5 = 45 45 ÷ 9 = -5°	

Centigrade into Fahrenheit.—Each degree of the Centigrade is equal to 1-4-5ths of Fahrenheit. Multiply the given number of degrees of the Centigrade by 9, and divide the product by 5. If the Centigrade degrees were *minus*, the quotient must be deducted from 32, and the remainder will be the equivalent degrees of Fahrenheit. If the given degrees were not *minus*, the quotient must be added to 32, and the sum will be the equivalent sought.

C.	F.
-15° = 5°, for 15 × 9 = 135 135 ÷ 5 = 27 32 - 27 = 5°	
+10° = 50°, for 10 × 9 = 90 90 ÷ 5 = 18 18 + 32 = 50°	

Reaumur into Centigrade.—Each degree of Reaumur is equal to 1-1-5ths of the Centigrade. Multiply the given number of degrees of Reaumur by 5, and divide the product by 4; the quotient will be the equivalent number of degrees on the Centigrade scale.

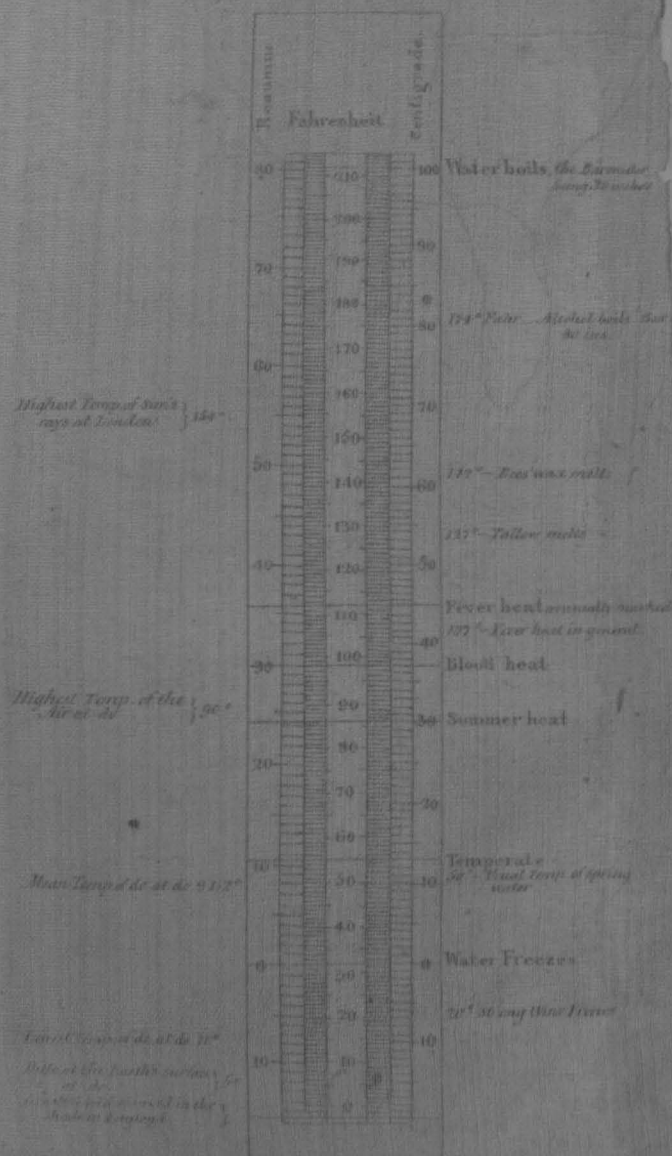
R.	C.
16° = 20°, for 16 × 5 = 80 80 ÷ 4 = 20°	

Centigrade into Reaumur.—Each degree of the Centigrade is equal to 4-5ths of Reaumur. Multiply the given number of degrees of the Centigrade by 4, and divide the product by 5; the quotient will be the equivalent number of degrees on Reaumur's scale.

C.	R.
60° = 48°, for 60 × 4 = 240 240 ÷ 5 = 48°	

Extensive tables of the correspondence of these thermometrical scales, and of some of the most remarkable temperatures, may be found in the *Treatise on the Thermometer and Pyrometer in the Library of Useful Knowledge.*

Comparative Scale of Thermometers



SIXTH CLASS NATIVE STATES,

TO WHICH PROTECTION IS AFFORDED WITH RIGHT ON THE PART OF THE

BRITISH GOVERNMENT

TO CONTROL INTERNAL AFFAIRS.

TRAVANCORE.

GENERAL REMARKS AND STATISTICS CONNECTED WITH TRAVANCORE.

BY LIEUTENANT HORSLEY, MADRAS ENGINEERS.

Situation and Extent.

The principality of Travancore situated at the South West extremity of Hindoostan may be considered as included generally between the 8th and 10th degrees of North Latitude; it is bounded on the North by the Territory of the Cochin Rajah, on the South and West by the Sea and on the East by the high range of Ghauts which divide this state from the districts of Tinnevely, Madurai, and Coimbatore.

The extreme length measured from Payrakoo Cottah in the North to Kunneakoomary (Cape Camorin) would amount to one hundred and seventy-four miles, while the utmost breadth from Cochin on the Coast to Dood-aval Peak on its eastern border is seventy-five miles; the Northern boundary however is so intersected by the territory of Cochin that the superficial extent is rendered very disproportionate to that, which these dimensions would give. The medium breadth inland is reckoned at about 40 miles and the area comprised within the total limit of Travancore will thus amount to about six thousand six hundred and fifty-three and a half square miles, but of this extent, the greater portion consists of Hills covered with dense and impenetrable forests and is lost to human industry. If so irregular an outline is referable to any particular figure its form may be called triangular, Kunnea Koomary being the apex. The following table conveys an almost correct distribution of its surface.

	Sq. Miles.
Rice Lands	741*
Slopes available for the temporary cultivation of Rice and various dry grains	1,000 (about)
Suparee and Coconut Trees chiefly along the Coast	3554†
Sandy extent covered with Palmyra trees chiefly to the South	115
Lakes, Rivers, Tanks	157‡
Site occupied by Buildings of every description	20 (about)
Pasturage and Superficies occupied by low chains of Hills	1961 (about)
Hills and forests scarcely any part of which is improvable	2302§

Total area of the Travancore principality 65,531 §

* In this extent of rice land is included Kootunad which may be estimated at about one-fourth of the whole extent.

† In this is not included the extent occupied by Coconut and Suparee plantations in the more interior parts.

‡ In this is included the surface occupied by rivers, small tanks &c which however is limited.

§ Of the Superficies of the mountains would comprize more than the base supposing the country to be level the above is the exact area.

It is thus seen that on a Subtraction of the mountains, Woody and Water parts something less than two-thirds only remains applicable to the purpose of profitable cultivation or pasturage. In general it may be said that the whole riches, population and cultivation of Travancore are confined to a narrow strip along the coast; in the South the breadth does not exceed sixteen miles, while to the North it expands to something less than double this measurement; two-thirds of this amount or about 24 miles parallel to the coast may be considered as including the inhabited part of Travancore.

History. The tract of Country extending along the Western Coast from Gokurn to Cape Comorin bounded by the sea and ghaats was formerly designated Kerala, and its Ancient History is in some measure preserved in a work called the Kerala Ooliputhee, but so intermingled with fable and romance, that it becomes difficult at this period to distinguish truth from fiction. It is now commonly known as Malayalam and includes the Collectories of Canara and Malabar, and the principalities of Cochin and Travancore. The whole or at least the greatest portion of this extent of territory would appear to have been originally the property of Brahmans and under their control.

Their rule, termed Adikalavuttum, continued for a considerable time and is stated to have terminated sixty-eight years B.C.

They then it appears either invited or submitted to the sway of Foreign Princes of the Kshetry caste, but their jealous policy still constituted it an Elective Government, which confined the reign of each Prince to twelve years and required that the vacant throne should then be filled up by a new choice. This system denominated Velakkuttum continued for about four centuries.

The Kerala Ooliputhee preserves the remembrance of eighteen Princes who preceded Sharun Permaul, with whom terminated the Malayalam Empire.* At his death the country was divided and portioned off among his descendants, subsequent to which its ancient History is very little known. It would however seem that this country in general, and Travancore in particular has escaped foreign conquest and control, together with all the attendant vicissitudes to which most other parts of India have been subject. At the commencement of the eighteenth Century, Travancore, or more properly speaking the space included within its modern limits, presented the same divided authority as the other parts of Malayalam, but from the imperfect state of its History, it is possible to enumerate a few only of the larger principalities. Nubjnad, an open and fertile tract stretching North from Kunnea Coomary to the Oodagerry range of Hills, was ruled by a Coraun Chief—Turovancode,† the capital of a Petty state included between Oodagerry and Aafengo. Yellavulloornad a small domain, the situation and extent of which is nearly marked by the present Neddoovencad District. North of this was Yellayedatnnaad, an extensive principality that included the two districts of Kotarakuray and Patanapoorum; to the west stretching along the coast between Quilon and the southern limit of Kottunad; was situated the state of Onand or Kayencalum a fine territory comprehending the districts of Kurovapully, Kartagapully and Maovellathoor. The Pundulum principality was defined by its present limits. The fertile tract bordering the large lake and now partly comprised within the boundary of Umbalapully constituted the Brahmin principality of Venboonaad, its chief being styled the Chemboogacherry Rajah. The Warrakenore and Tekkancoore Rajahs, whose territories, the rude fortifications or lines intersecting the country at Muattapully and Yathamanur both defined and defended, held a nominal control over the wide extent lying between Pundulum and Perumthoor and spreading Eastward to the foot of the Ghaats. This space was again subdivided into smaller states, viz. Kottum, Keedangoor Koyam, Peravann, consisting of a number of Sankarums,‡ Ponian, a Mountainous tract of Country, and M.enschel. The Champaign Country bordering the southern bank of the Perumthoor was ruled by a number of Mamam-beemats, feudatories of Cochin to which state, the district of Shazhully also owed allegiance. The fertile extent stretching south from the Perumthoor along the coast, now partly marked by the situation of the Puzhoor District consisted of two principalities under Brahmin control, the first Puzhoor or Pendenneyvuttum Raj, the second Yedupally or Yelungaloor Shripam. The little state of Alingual bordering the northern bank of the Perumthoor was ruled by a Saumundor Chuffain, a feudatory of Cochin, whose control extended over the woody tracts skirting it on the east. It is needless to attempt enumerating the number of

inferior states into which the above were subdivided; each state had its own petty chief who was constantly engaged with his neighbours in endless struggles for pre-eminence; thus hostility, became habitual and oppressions and misrule prevailed throughout.

The Sovereigns of Travancore are the real or supposed descendants of Sharun Permaul, a catalogue of the names of thirty Princes who ruled this state is still preserved, but very little information respecting the internal state of the country or constitution and manners of the people has been transmitted to us. Upwards of three Centuries are included in the period occupied by the reigns of the first twenty-three chiefs of this principality, they seem to have been constantly engaged during this interval in attempts to overcome and keep in subjection, a race of Petty chieftains, termed Yet-Uddu Pullaymar, who divided among them the country stretching east and south some distance from Trevandrum. The dates of the several conquests and acquisitions are all that can be collected from the ancient records.

Verramee Warma the twenty-fourth Prince of Travancore, whose accession may be dated about A. D. (1684) was so much engaged in domestic feuds, that no attempt was made in his time to extend the limit of the principality over which he ruled. He is said to have assassinated in the Pagoda at Trevandrum several of the feudatory chiefs, whom it was found difficult to subdue and a similar policy was pursued in crushing a Rebellion that ensued shortly after, though many of the sufferers were closely allied to the Prince himself. His reign terminated in A. D. (1717). The period occupied by the reigns of his two immediate successors was but short; they appear however to have been marked by the same internal strife and oppression, as the preceding one, with occasional attacks made upon the adjacent state.

Wunjee Marthanda who assumed authority in A. D. (1729) and held it for nearly thirty years, was one of the most successful in the subjugation of his neighbours, though at the same time severe and despotic in the Government of his people. He reigned himself entirely to the guidance of the Brahmans for whose benefit he established a system of most improvident expenditure. The southern parts of the Peninsula had already been subdued by his predecessors but this Prince, pursuing his conquests with greater vigour and aided by a large Military Establishment, added to these possessions in A. D. (1742) the district of Yella Eddutunad, which from the animosities of its own rival chiefs became an easy prey. The conquest of the important principality of Kayencalum was completed after a long and doubtful conflict in A. D. 1757, the year preceding that in which his reign terminated. Wunjee Baia, the successor of this chief, emulating his successes early avowed more extensive designs of conquest. A strong body of troops, disciplined and directed by an intelligent European,* encouraged his ambitious views and finally accomplished the subjection of the wide extent of country lying between Pundulum and the northern boundary. The small states that occupied this tract; too deeply engaged with their own feuds to be capable of union or defence, were successively overthrown and from the close of this reign may be dated the entire extinction of the authority of the Petty chieftains in Travancore. This chief hitherto so successful in extending his dominion, was soon however destined to experience aggression in his turn from a foreign power, Tippoo Sultan, pursuing the schemes of conquest that his Father had meditated, readily found an excuse for directing his arms against Travancore which offered much to allure and but little to resist his rapacity or ambition; so unequal a contest could not be of long duration. The rampart or barrier that runs along the northern frontier rather marking than guarding it was too weak to stay the progress of a less powerful Army than that headed by the Sultan and though defended with a gallantry, which in some measure checked his ardour and had nearly put a final stop to his ambitious career, it was soon overthrown (December 1788) leaving Tippoo at liberty to pursue his conquests or rather secure his prey almost without opposition.

Provoked by the resistance and difficulties which he had encountered, his successes were followed by the perpetration of the greatest atrocities.—Unmistaking devastation marked the course he pursued and in consequence the whole of the northern part of the country suffered the severest calamities that an unbounded military licence could inflict. The invading force however had not penetrated beyond Verraupalay, when the approach of the English Army under Lord Cornwallis obliged the Sultan to abandon his acquisitions and hasten to the defence of his capital. This reasonable interposition saved Travancore from the

* Some accounts describe his authority extending in 332, A. D. Konyy Thom's on reaching Cranganore in 365, found this Prince then reigning.

† The present name, Travancore, is derived from this ancient seat of Government.

‡ Independent possessions of Pagodas.

* D'Sanoy a Flemish adventurer of merit was long in the service of this Prince, his tomb is still seen in the Church at Oodagerry.

conquest and severities that awaited it. Relieved from foreign violence this Country soon became the theatre of domestic strife. The reigning Prince apprehensive of commotions, had recourse to the most rigorous precautions and the military force he employed, however insufficient to protect his dominions from without, was formidable when directed against his subjects, whom it was necessary to awe into obedience by such means.

The counsels of Ramah Wurina who succeeded to the Musnud in 1799 were guided by the same policy as those of this predecessor. Two insurrections agitated the early part of his reign and afforded the same excuse for ensuring submission by a rigorous and despotic rule. This Prince from his weakness and other causes appears to have had great difficulty in contending with his ministers, who, devoid of all gratitude, alternately abused or usurped his power. The first person who seized on the administration in the character of Dewan, stained his success by the death of his predecessor and a long list of adherents who had supported his cause. His power however, acquired by such violent means, seems to have been of short duration, as in 1801 we find him yielding to the superior address or fortune of another Candidate, and expecting and probably experiencing, the same treatment he had previously inflicted on others. This dangerous rank and position in the state seems always to have been held by a precarious tenure. The new minister in his turn soon found himself surrounded by a crowd of enemies, excited and supported by the Rajah, and thus pressed on every side, he must soon have fallen before some aspiring rival, had not the powerful interposition of the British Resident, Colonel Macaulay, saved him from the disgrace and death that probably awaited him. New commotions early disturbed the comparative tranquillity that followed his re-accession to Office. The licentious crowd of troops that formed the Military, exasperated by the reduction of some customary allowances, or instigated by leaders who concealed their views under this specious pretence, broke into open revolt (1804). The ferment was momentarily allayed by an admission of their demands, but this concession had the usual effect of confirming the rebellious spirit that it was meant to appease. The latent flame burst forth subsequently with greater violence, and the views of the disaffected, expanding with their increased numbers, were at length boldly avowed. The accomplishment of those views though postponed, would not appear to have been abandoned. We are unable to trace the successive steps that led to the war, or more properly, insurrection which took place in (1806) but it is perhaps to be attributed less to the people in general, who had every thing to lose from any change, which should extinguish British influence, than to the Rajah and his principal native servants, provoked as they were at a control that threatened to moderate their excesses. The Cochin Minister seems to have been implicated in those transactions. The character of this personage, and the cautious manner in which he conducted his measures, might counteract suspicion that he was one of the most zealous and artful promoters of the troubles that ensued. The leaders however found that their temerity had provoked contest which they could not sustain, the British force under Colonel St. Leger overcoming all resistance soon dispelled their illusive hopes. Of the Military operations that terminated hostilities, the detail is sufficiently known, the perfidy of those who excited them, experienced a clemency they scarcely merited, and could not have expected. The contest commenced by an attempt to assassinate the British Resident; a peridious design fortunately defeated by the fidelity of a domestic. This act of treachery was followed by some other murders by violence and cruelty that could have justified the severest retaliation, but a lenient Justice was satisfied with the death of a few of the most obnoxious criminals, and the banishment of some others, one of whom at least deserved to have been visited by a severer punishment. The state was called upon to defray the expenses incurred by the British Government in this expedition and a Brigade, consisting of 1 European and 3 Native Regiments with a detachment of Artillery, was left in Cantonment at Quilon as a subsidiary force agreeably to the treaty concluded in November 1795. The restoration of peace does not seem to have been followed by internal tranquillity. The late Dewan whose crimes had brought him to an ignominious death, was succeeded by a young Prince, who it would appear was equally unfit for this elevated situation. He sought to usurp the sole authority of the country and reduce the Rajah to the condition of a captive; thus the Government became in a measure divided and the administration of affairs left in a most disorganized and unsettled state. So far indeed did this state of things proceed that the British Government at length felt itself called upon to remonstrate upon the Non-fulfilment of the obligation, which engaged to liquidate a large amount of debt, for the failure of which, it has been offered from time to time.

The remonstrance was enforced by an intimation that further delay would render it necessary to assume the internal administration of the Country as the only means of ensuring the satisfaction of those demands. This step however was rendered unnecessary by the death of the Rajah which took place at this juncture (1811) and ushered in a new and better state of affairs. This Prince left a contested inheritance, but the claims of Ramee Letchmee superseding those of other Competitors, to her was adjudged the right of succeeding to the vacant Musnud. The reign of this Princess undisturbed by those disorders which a series of weak Sovereigns and corrupt Ministers had so long inflicted, is happily connected with the improvement of the Country, and amelioration of the condition of the people. Her Highness the Ramee, anxious for the dismissal of a Minister who had too long held and abused the power of the state, and solicitous also to testify her sense of the justice that had placed her in authority, gave an early and strong proof of her prudence and good sense in delegating the administration of affairs to a British Officer, Colonel Munro, who continuing to exercise the duties of Resident, assumed those of Dewan also on the accession of this Princess in 1811. The arduous task of raising the country from the state of declension into which it had sunk, was, after a successful administration of three years, fully accomplished, though not without opposition from some of the higher ranks, whose county was directed against a reformation incompatible with the wretched state of plunder and excess of all kind which they had so long enjoyed with impunity. The detail of the changes that gradually restored prosperity to this fine country is here unnecessary, the beneficial reformation which deserves, and receives the gratitude of the people has, it is hoped, established the name and authority of the British in their affections. On the resignation of the Resident, the Dewanship was filled by a succession of ministers extending up to the present time, their names and dates of assuming office are given below.* The short reign of the Ramee Letchmee terminated in 1814. This Princess left issue, but they being minors at the period of her death, she was quietly succeeded by her sister, who as Regent, conducted the Government of the country with the same successful policy till the year A. D. 1829, at which period the present Rajah, having attained his majority, was formally installed and placed on the Musnud by the British Resident Colonel Munro.

Yeddawaggays or Petty States.—There are still a few small states or Yeddawaggays allowed to exist, but the power of their chiefs is in most cases reduced to a nominal authority; the decision of all criminal and judicial questions belonging solely to the circle. To the south the little tract of Antungol constitutes the estate of the eldest female of the reigning family. In its vicinity is Kalliyannur, a small territory belonging to the Rajah of that name, commonly called Coi Pandula, who appears to hold it in consideration of his being connected with the family of the Ramee. The Pandulum state embraces a wide but woody extent within its limits; till lately times its prince enjoyed a comparative degree of independence, he however is now reduced to the condition of a pensioner, and his trifling stipend furnishes him with little more than a bare subsistence. In consequence of some debts due to the Travancore circle, it has assumed (since 1812) the entire administration of the country known as Pandulum. The Wariyapilly Yeddawaggay situated in the neighbourhood of Changanassery is the property of a Pote of high rank, who holds this possession in right of some spiritual dignity; its revenue however is trifling. The Yeddapully Rajah is to be considered as the family priest of the princes of Travancore. The territory of this chief is of all those small states, the most populous and productive; it is composed of several detached portions, Yeddapully being the residence of its ruler, a Nambudry who has a wide spiritual, but limited temporal control. Portions of the mountainous tracts are nominally held by the pagodas of Northward Tricarur, and Chenganassery, other parts are still shared amongst petty chiefs; some of the Kshetry caste, others of inferior origin. The mountaineers, who possess the southern parts of the Cardamum. Hills acknowledge the sovereignty of the Pandulum Rajah. The Mannars consider themselves the subjects of the Travancore Government, the chief of the clan as an acknowledgement of his fealty paying a trifling sum annually to the Thodunwilly pagoda. He some years since received a sword from the Rajah of Travancore, an investiture that implied an admission of his authority, in return for his allegiance. Of the mountainous

* Names of Dewan: { Devan Pulpanaban (Ramen Menon) Venkata Row Ranga Row Actg. 1837
1814 1816 1822
of Yeddawaggays: { Shuangoo Anaveel Reddy Row 1817 Soobrow 1830 Venchalarow --- 1838

+ One daughter who died July 1837 and two sons, the eldest of whom is the present Rajah.

domains, that of Pooniatu is, next to Pandam, the largest, its chief termed Pooniatu P-rimal has a doubtful and unprofitable sway over an immense hilly tract, peopled by a few migratory tribes. There are within Travancore two confined tracts belonging to the British—Anjengo, one of its earliest settlements and Changanacherry adjoining Quilon once a Dutch possession, they are both included in the Malabar Collectorate and in judicial matters are subject to the Court of the Assistant Judge at Cochin, an arrangement which has but very lately taken place. There is another small tract of country belonging to Travancore to be mentioned called Munnappath, situated near the coast to the north of Cochin, which is at present held in rent by a Dutch Gentleman.

Divisional Population &c.—Travancore is divided into thirty-two districts or Talooks and these again are subdivided into Pedanagars, Adangams or Provinces, all synonymous terms made use of in various parts of the country to designate the smaller divisions of a Talook. In Shenkottah the term mandalams is used for the same purpose. The following table exhibits the name, area and number of villages, and population of each district.

NAMES.	Area in square Miles.	Number of Villages.	Population according to the CENSUS 1836.				
			Men.	Wom.	Boys.	Girls.	Total.
Agusteshoor District	97½	59	21,306	22,486	12,847	10,873	67,512
Toovaula Do.	120½	51	7,471	8,322	4,283	3,652	23,728
Cucklam Do.	284½	98	12,480	13,286	7,085	5,730	38,581
Yeraneel Do.	145½	103	25,211	27,839	18,622	15,371	87,043
Velluvancherry Do.	145½	91	13,253	13,683	8,326	6,931	42,293
Neyyattenguzhy Do.	213½	104	18,089	17,859	9,182	7,489	52,619
South. ½		31	9,339	9,876	4,692	3,790	27,692
North. ½		33	10,322	10,570	4,677	3,681	29,341
Trevandrum.	339½	52	6,911	6,856	3,322	2,736	9,825
Nedloovencaud.	143	87	12,251	14,638	9,425	8,984	55,291
Sherankel.	153½	56	9,289	20,491	11,639	10,173	61,592
Kurimang Pully.	89	122	15,742	6,340	7,748	6,367	46,197
Kottiya Pully.	70	71	16,272	17,445	9,704	7,242	51,323
Ambala Pully.	124½	72	16,434	17,032	8,667	6,843	48,972
Kotarakuray.	634½	176	9,093	8,533	5,094	4,178	27,218
Patbanapoorum.	184½	70	6,861	7,265	3,876	3,141	21,043
Koonatur.	121	121	12,157	12,497	7,458	6,249	38,361
Mayallikuray.	1,106½	145	21,440	21,402	11,368	9,442	63,652
Changanoor.	124½	108	6,681	14,792	8,459	6,709	46,241
Tervowulla.	147	180	16,257	14,972	8,056	6,381	45,706
Kottiyam.	274	81	9,347	9,025	4,842	3,940	27,154
Meemichell.	312	63	11,764	11,477	6,866	5,635	35,742
Uduvulla.	544½	72	7,818	5,041	5,458	4,661	25,978
Yathenar.	140½	67	3,553	3,602	2,086	1,931	11,772
Santhulay.	125½	49	11,242	1,246	5,337	5,152	33,454
Vyakur.	82½	37	16,668	8,597	10,597	9,349	55,211
Petaram.	116	60	10,596	10,936	5,814	5,240	32,584
Mudatopallat.	89½	96	7,166	7,673	3,599	3,159	21,597
Koonstnad.	163½	140	10,969	11,119	6,718	6,050	35,156
Athangad.	28	109	4,492	9,427	5,042	4,492	29,453
Paroor.	104½	133	8,810	9,133	5,280	4,367	27,390
Shenkarai (Shenkottah) Do.	64½	139	9,040	10,774	5,674	5,168	29,656
Mullangalam.		47	6,356	7,758	4,040	3,556	21,710
TOTAL.	6,151½	2,965	1,171,118	1,276,777	728,080	609,171	3,785,146

Principal Towns and Villages.—In general the Towns and Villages in the south of Travancore have the same compact form, with regular streets as those commonly met with in the Carnatic, but proceeding north they become more straggling and cover a large surface of ground, each house being surrounded by its own garden or compound.

Shookoendrum.—The chief town in the Augusteshoor district, situated in Lat. 8° 9' 22", North and Long. 77° 30' 26" E. is remarkable for its pagoda, built in the Carnatic style and dedicated to Eshwar or Tana Moorthy. This town has a large Brahmin population and is the residence of the Tassildar, who there holds his Cutcherry. Axiaddy a considerable village near the base of the southern hills, contains the first Protestant Missionary Church built in Travancore in the year 1810, by the Rev. Mr. Kingdolph, who collected a small congregation of Native Christians, whose numbers have since increased under the zealous care and ministry of the Rev. Mr. Mault. Augusteshoor from whence the district derives its name is a place of small note, consisting of a few houses of Brahmins and a Pagoda dedicated to Anguteshwar. About a mile S. W. of the above there is another Village of the same name, but more extensively inhabited chiefly by Shanars or toddi drawers. Cannia Coomary is only celebrated for its temple dedicated to the Virgin Goddess of this name, there being but very few houses, and some straggling huts, inhabited by fishermen in its vicinity. Kotar is a town of considerable extent to which merchants from the southern parts of India resort it being the principal mart for exchange in articles of trade and money in the south of India. The streets are generally narrow and irregular extending 1½ mile from north to south. It contains some public buildings as granaries, and one in particular, a large tobacco Bazaar. The most regular part of the town is near the pagoda of Vaidaveshoor where the brahmins reside, their houses being well built and neatly arranged in streets. An English free-school has lately been established at this place by His Highness the Rajah, for the instruction of native youths in the English and Tamil languages. Contiguous to Kotar is Nagerool, once the seat of the Travancore Government. It is now the station occupied by the southern Zillah court and is likewise the residence of two Rev. Missionaries Messrs. Mault and Russell in connection with the London Missionary Society. Toovaula, a town, which gives its name to the district, is only deserving of mention, as having some public charitable buildings belonging to it. Arrahmunnee (literally a palace) is the frontier village in the vicinity of the fortified lines which formerly guarded the southern entrance to Travancore. Poodoocandy the head quarters of the Toovaula district, where the Tassildar resides, is an extensive town on the right bank of the Pullyar river with rich paddy cultivation all around. It is celebrated for its pagoda and Agarams. Udupampoor contains also extensive Agarams and was, in earlier times, the capital of the little principality of Nupjynad, but is now only a second rate town. Poodoocochy, or Oodagerry a fort of some extent, constructed by an European in the service of the Travancore Government, of the name of D'Laury to whose genius and military skill Travancore owes, most of its conquests; his tomb is still seen in a small church within the fort. Pulpanapoorum or Cuckkolim about a mile north of Oodagerry, has also an extensive fort, intended to defend the palace and celebrated pagoda within. The Tassildar's Cutcherry is held at this place, and outside the fort is an English Free School, established on the same principles as that at Kotar. Tiravancode the ancient capital of Travancore and from which the principality takes its name has now fallen greatly into decay, and presents but a poor appearance. Its population is chiefly composed of Lubbies and Shudras. Colachy a sea port town, in Lat. 8° 10' 43" N. Long. 77° 16' 50" E. known in the earlier ages of commerce is still a place of considerable resort for small native vessels and trades to the Cotomandel Coast, the indigo factory formerly established here is not now kept up. Yeraneel is an irregular, dirty town, with narrow streets where the Tassildar of the district resides. Tiruvuttar Tiruvanderry and Tiparapoor are all celebrated for their pagodas but are not, with the exception of the first, of any size or importance as villages. Coofatour, where the Tassildar of the Velluvancherry district resides, is a large Nair town, on the right bank of the Tembrapoor river, in the vicinity of the main southern road, and contains a cotarum or palace of the Rajah. Neyalengerry is also a large Nair town with the usual appendances of a pagoda and Cotarum. It is situated on the south bank of the Neyar river and contains the Tassildar's cutcherry and a public Agarum or alma-house, where a number of brahmins are daily fed. There was originally a fortification defending the pagoda but this is now fallen into decay. Valampoor three and a half miles W. N. W. of Neyalengerry is comparatively of recent date, having been founded by the Dowry Woomany Tamby about the year, 1806. It was his intention to have made it a principal

commercial town, and to have cut a navigable canal to communicate with the sea at Villinjum, the ground offering every facility for such an undertaking. The building of this town was commenced on a superior scale, artificers of every description, and also merchants were invited to settle there, but ere it could be completed, according to the original plan, its progress was arrested by the reverse of fortune, that befel Woomany Tamby, since that period, it has remained in its present unfinished state and is chiefly occupied by Oilmongers and Weavers with a tolerable Bazar extending down the centre street. Trevandrum or Timo Anandapuram situated in Lat. 8° 29', 3" N. and Long 76° 59', 6" E. is the present capital of the principality of Travancore. It contains a Fort, the form of which is nearly quadrilateral, the walls being 1000 yards in length from East to West and 810 from North to South,—built partly of granite stones and partly of mud well baked in the sun. It has no ditch and could not be defended for any time against an attacking force. There are five gates two on the East face, one of which is situated opposite the principal Pagoda and has an upper room in it where the Naubat is beat every day. The one on the West face is that through which the road to the Beach (distant 2 miles) passes. That on the north face opens to the Petta, in which direction the road to Gollor and Quilon passes, the south face has also a gate opening on that part of the suburbs. The Pagoda within the Fort is in many respects similar to those in the Carnatic, having an elevated Goporum or gate-way in front. It is held in profound veneration by the Sovereigns of Travancore, who consider it as the abode of their household deity. The festivals celebrated at this pagoda are too numerous to be here described, that which exceeds all others in splendour and profusion takes place annually, called Mooringubum, before described, at which feast it is calculated that at least 60,000 people assemble from all quarters to profit by the bounty of the Circar. Immediately in front of the Pagoda is a large reservoir of water for the ablutions of the Brahmans, who attend upon the Pagoda and adjoining this to the South is the Rajah's Cotarum or Palace, divided off into several compartments or Bungalows in the native fashion. In front of these facing the road and Dewans Cutchery, there is a long upperoomed house in which the Rajah has hitherto held his public Durbar.† The Dewans Cutcherry and the Appeal Court, with the various offices connected with them, occupy an open space in front of the Palace. There are several other extensive Cotarums as they are termed, within the Fort one of which is occupied by His Highness the Ellia Rajah and another by Her Highness the Ranees. The Dewan has also a residence of this description allotted to him as also one or two other persons of distinction connected with the Government. The Zillah Court which was formerly outside is now situated in the N. W. angle of the Fort. The population within the walls is almost exclusively Brahmans and no low caste person is permitted to enter at any of the gates. To the East of the Fort there is an extensive line of native shops called Lhala Bazar, through which the main road from the south passes after first crossing the Karra-munny and Kylyer rivers over rude stone bridges leaving this Bazar, the road takes a turn to the north and proceeds through Pootenshunday to what is called the Cantonment, though there are not at present any of the Honorable Company's troops stationed here. To the N. W. of the Fort lies an extensive Petta in a low sandy plain, thickly populated. The houses, surrounded with gardens and compounds in which the Coconut, Jack, Mangoe and other trees thrive luxuriantly, present a shady and cool appearance. The inhabitants of this part are principally descendants of Dutch and Portuguese families besides a considerable number of Native fishermen or Mookoovers and Shanars, who generally profess the Roman Catholic religion. To the South and West of the Fort there are also extensive streets, running between compound and gardens well stocked with trees, the upper part inhabited by Brahmans, and the lower by Nairs, Vellalans and Rajapouts. This part of the town extends in a S. Easterly direction to Muncaud, where there is a Bungalow and Garden called Singara Tope, built by the late Rajah about 30 years ago; but which is now very much out of repair; and the garden is also in a neglected state. The stables for His Highness the Rajah's body guard and private stud, are situated near the S. E. angle of the Fort. The whole length of the town, from N. W. to S. E. is about 2 miles and is calculated to contain a population of about 12,000 including all classes and castes. The British

* This refers to the Pagoda in the Fort, the new Observatory is in Lat. 8°, 39'.

† A new and more extensive edifice has just been completed, in which such ceremonies will in future be conducted.

Residency, a plain and moderate sized structure stands on an elevated spot, 2 miles East of the Fort commanding a view of the Tycaud valley and surrounding country. In its neighbourhood, a public Hospital has lately been founded by His Highness the Rajah for the accommodation of 75 Patients of all castes. The establishment of the Trevandrum observatory (which is also of recent date) is another instance of His Highness' liberality and desire to promote science and knowledge among his people generally and under the able and zealous management of the present Astronomer J. Caldecott, Esq. this observatory cannot fail to add greatly to His Highness' fair fame and produce results highly interesting to the scientific world at large. The Trevandrum public seminary is also a valuable institution supported by the Circar, and at which from 80 to 100 Boys (principally Natives) receive an excellent education, which will in time, fit them for holding Office in the various Departments of the state. The Barracks for 2 Battalions of Nair Sepoys in the service of this Government, are situated, half way between the Fort and Cantonment, at which latter the Officers and other European gentlemen reside. A Protestant Church has lately been erected in the Cantonment by subscription among that class of the European Community at which Divine Service will in future be performed by a Minister connected with the London Missionary Society. The only new Establishment that remains to be mentioned is the Printing Office, which it is hoped will be the means of communicating much useful knowledge among the people of the country. A Printing and Lithographic Press have been procured from England and are now in operation. Pootoray on the coast, is the sea port town of Trevandrum but of very minor importance as a place of trade. Anjeago, a British possession, situated on the coast in lat. 8° 39', 45" north and long. 76° 48', 15" east consists of one long street occupying the narrow beach which intervenes between the sea and back-water. It has some tolerable houses in it inhabited by the descendants of Portuguese and Dutch, but the generality of the people are in a very impoverished and wretched condition. To the south of the present town are the remains of a square fort, with bastions at the angles in the interior of which, the Commercial Resident and other civil servants of the Honorable Company connected with the establishment, formerly resided. The gate is on the east and a saluting battery in one of the angles of the west face looking towards the sea. On the north of the town there still exists a large Roman Catholic church, and several very ancient monuments, mostly Dutch; the inscription on one is dated A. D. 1704 on another slab is inscribed the name of John Toller first British Resident A. D. 1777. The total population is estimated at about 2,000 souls. SHERANKEEL the capital of the district is an extensive but irregular town situated east of Anjeago and on the opposite side of the back-water. It contains a Pagoda and Cotarum and comprises several streets of Nair-houses and gardens in which the Coconut, Araca nut, Jack, Mangoe, and other fruit trees, as usual abound. A free school for the instruction of Native youths in the English and Malayalam languages has been established at this place. Autengal the capital of the small principality of that name is situated about 4 miles N. W. of the above on the high road leading from Trevandrum to Quilon. It contains the Palace of the Ranees or eldest female of the reigning family; whose patrimony includes two Adigarums, consisting of 17 Dasums or villages. Quilon* or Kolam is rendered remarkable from the circumstance of the Chronological Era of the country being fixed by ancient tradition from the foundation of this town, which, by this account, is now 1013 years ago. It owes much of its present extent and importance to the large military force which was stationed here from A. D. 1809 up to the year 1830 when it was reduced to one Native Regiment as at present. It is still however a populous place and contains an extensive range of Bazar, and several Pursoes shops, which are supplied with articles from Bombay. The cantonment is to the east of the town and contains barracks and other public buildings sufficient for three or four Battalions of Native and one of European troops; together with a Protestant church, and several Bungalows for the accommodation of the officers. The British Residency is the most conspicuous building; situated on the north of the cantonment and commanding a beautiful view of the back-water and surrounding country. In its vicinity is an Antique Pagoda dedicated to Kistnawany. The Ariancoll road and pass leading out of Tinnevely, proceeds direct to Quilon and was, when first constructed, very much frequented, but such is not now the case owing to the bad state into which it has fallen and the comparatively few persons that travel this road since the reduction of the force. Prior to the year

* Quilon is situated in Lat. 8°, 53', 26" N. and Long. 76° 36' 34" E.

1829 the Huzzoor or Dewan's Cutcherry and the Appeal Court were at Quilon; these offices were removed to Trevandrum on the occasion of His Highness the Rajah ascending the Muzud and the Tassildar's Cutcherry alone remains. Facing the Cutcherry, at the distance of a quarter of a mile, is the sea custom house; a commodious upper roomed building under the charge of the Master Attendant, who usually resides at Tangumcherry. Tangumcherry, formerly a Dutch settlement, is now a British possession adjoining Quilon on the west. It was originally a Fort built on an headland of laterite, jutting into the sea; the length about 2½ furlongs east and west and the mean breadth 1 furlong; portions of the old walls are still visible as are also the ruins of an old Portuguese tower and belfry. The interior of one of the bastions is now occupied as a Protestant burial ground. The Master Attendant's house is situated at the foot of the Rampart leading from the Flag Staff, which occupies the N. W. angle of the Fort. The town is composed of few regular streets intersected by narrow lanes and divided off into compounds enclosing the houses of the Portuguese and Dutch families. The gardens are stocked with the usual fruit trees and in some, coffee is also grown. The inhabitants are mostly Roman Catholic and are under the spiritual charge of the Bishop of Cochin who resides at this place. In judicial matters the people here are subject to the Auxiliary Court at Cochin; the Department of Police has its separate Superintendent appointed by the British Government. The customs, port dues, and other revenues, derived from this settlement are levied by the Transacore Circar, an equivalent in money being paid by it for the same. By this arrangement much of the smuggling and contraband traffic, which formerly existed, is now prevented. Kotarakerry the Capital of the District lies in the direct road from Quilon to the Arian-Coil pass, it has nothing particularly remarkable connected with it, the public buildings in which the Tassildar's Cutcherry is held are but poor structures though dignified by the name of Cotarum or Palace. Palanapoorum 10 miles N. E. of Kotarakerry on the same road to the south is now formed into a separate Tassildar's station. A fine river runs by this place, which empties itself into the back-water N. E. of Quilon, it is navigable for large boats during the Monsoon and is crossed at such time by Jungas formed of two Canoes and a plat form and railing above. The town is famous for its Temple and Ootary on the west bank of the river, about 4 furlongs south of the Village. A small Bungalow is erected on the east of the town for the accommodation of Travellers. Ariancoil, is a temple of great antiquity dedicated to one of the five Mountain Deities, and stands in a hollow surrounded by hills about a mile from the summit of the pass to which it gives its name. The Pagoda lies E. S. E. 26 miles from Kotarakerry in a direct line. In its vicinity is a frontier Chowkey or Custom House with a Havildar's guard of Nair Sepoys. The whole of this pass, which may be reckoned about 18 miles in length, presents a succession of jagged and grand forest scenery; the road is excessively bad owing to the rocky nature of the country through which it is taken and the continued rain that prevails for six months in the year, which has gradually washed away the abutment soil of which the road was originally constructed, leaving little else than the bare rocks and masses of stone to mark its direction. The town of Sheemottah situated to the east of the above pass, is compact and neat in appearance and at the same time tolerably extensive. Two small streams from the adjoining hills unite below the town, over one of which the main road to Madura and Tinnevely passes. The Tassildar's Cutcherry is held in one of the public buildings of which there are several, as well as pagodas, in various parts of the town. It is distant about 40 miles from Tinnevely and immediately to the south is Courtallum, the general place of resort during the hot months for all those who usually reside at Palanacottah or Madura and who can find time to repeat thither to enjoy the fine climate between the months of June and October. Ariancoil, another ancient hill temple which gives its name to the pass north of Sheemottah, is situated in an exceedingly wild part of the hills; the road or rather footpath, passes close to it and then proceeds in a westerly direction to Pundalum and the adjoining districts. Kurnagapully a Tassildar's station lies 3 miles N. N. W. of the Residency at Quilon and 3 miles from the coast and is inhabited principally by Martenager Moormen who have an extensive mosque on the west of the town. On the north and to the east of the road are the ruins of a small square fort and Cotarum. About a mile to the south is the pagoda of Puchettan Kotamkurrye and some public buildings in which the Cutcherry is held. Kistapoorum N. N. W. five three-fourth miles of Kurnagapully is a place of note and contains a large population, chiefly Nairs. It has an extensive fort, forming almost a square and defended without by a strong bamboo hedge; in the interior is a cotarum of modern date, a powder magazine and

granaries. The inhabitants reside principally on the east of the fort; at the N. E. angle is a pagoda dedicated to Kistnaswamy, at which a thirty days festival takes place annually. This is one of the five zillah court stations, the proceedings of the court are conducted in one of the public buildings outside the fort on the west. Kurnatoor the capital of the district N. N. E. 3 miles from the Residency at Quilon, is a scattered Nair village and only noted from its being the head quarters of the Tassildar. A branch of the Saumunder race of Kallikote (Calicut) reside here. Two and a half miles to the north at Kuddumbanad is an ancient Syrian church, now falling to decay supposed to be one of the first structures of the kind erected in the country. Manvillykurray the capital of a district lies north 25 miles from Quilon and 8½ miles from the coast and bears signs of having once been a place of some consequence. It has a large and regular fort built of red stone and mud and about 2 miles in circumference with 24 bastions, each side having a gate-way in the centre. The interior is laid out in neat streets crossing at right angles and lined with compounds and houses of the Nairs whose numbers amount to something considerable. In the centre of the fort stands an ancient pagoda, surrounded by a Brahmin Agarum and having a large reservoir to the north, faced with stone. On the east side are several public buildings occupied by the Tassildar's Department and other public Officers. On the south is a spacious Cotarum where some connections of the present Rajah reside. To the N. E. a short distance from the Fort there is a long street of houses inhabited by Syrian Christians, who have a neat church at the Eastern extremity. Chenganoor, formerly included in the Manvillykerry District is now the capital of a separate Tassildar's charge. It is an extensive and populous town situated on the west bank of the Kukkoooley, a small river or canal connecting the Achincoll and Paumbay rivers. There is another town of the same name about 5 miles to the N. E. on the south bank of the Paumbay river which is famous for its Pagoda dedicated to Mahadaven. The population here also is extensive and consists principally of Nairs and Brahmans, the country around is open and well cultivated and the scenery exceedingly picturesque and beautiful. The Pundalum principality, originally called the Iroor Soorabam, was subjugated in M. E. 1837 or A. D. 1756 and finally assumed in 1812. It is now included in the Manvillykurray District. Pundalum the capital is composed of 12 villages contiguous to each other and containing a large population, chiefly Nairs and Brahmans whose dwellings lie scattered along the banks of the Achincoll river, and are enclosed as usual by their separate gardens containing the customary fruit trees and vegetables. There are several Pagodas of celebrity with their Ootparaes for Brahmans attached. Kartigapully, another Tassildar's station, lies in the main road from Cochin to Quilon and is situated 27½ miles N. N. W. of the latter place; on the west of the town is the general Bazar forming a long street and kept by Moplays and Chetties, at which a daily market assembles. About the centre of the town is a small Syrian Church and to the west a Bungalow for the accommodation of travellers. There are several well built native houses on the North scattered under groves of Coconut plantations, &c. The population consists of Brahmans Nairs and Moplays and is tolerably extensive. Uripaad situated in a fertile and populous part of the Kartigapully District is held in great estimation by all classes for the sanctity and celebrity of its temple dedicated to Soorabrammy, a superior edifice of its kind. The Dome over the interior above the image is covered with copper plates, and in the walls are fixed a number of brass lamps to illuminate it. There are spacious Caravauseries and other large apartments attached encompassed by a high wall. Around and within its vicinity, are a few Pagodas and other edifices, the latter being occupied at the annual festival in April which lasts for 10 days in which interval immense crowds assemble to witness the ceremonies. The Brahmans reside in Muddams, and detached houses surrounding the Pagoda and the Musicians and dependants about the margin of the fields under groups of coconut plantations. The Cotarum or Palace a neat building is situated on the border of a fine tank, immediately north of the temple. During the festival Putter Brahmans and merchants resort here and traffic in cloth, and other saleable articles. The expenses of this Pagoda defrayed by the Circar, amount to a very great sum annually. The taunah choultry is to the West on the high road near a canal. Shirrutunny Tek Annary, Ayrumperumboo, and Poomlamperumboo Nadduvet, are subordinate villages; at the three former are Pagodas, and the latter is venerated for its Surpa Cavoo (Serpent Grove.) The whole of the villages are densely scattered under Coconut tops, divided at intervals by long and narrow arms of rice lands. A portion of this subdivision comprises an extent of delta lands of Kootanaad, intersected by canals, most of which are na-

vigable, the greater part of the year. The population consists of Brahmans and Nairs, also Shanars, Pollars, or Padiar states, the latter confined to remote situations in the fields. Kayencolum the capital of the Pattom subdivision of the Kottigapilly district is a large compact town with extensive Bazar kept by Kookanias. It is situated about 3 miles S. E. of Kottigapilly on the edge of the back-water and a short distance, only from the coast. A considerable quantity of rice, coconuts and other articles are exported from this town, to which Pattamars and other small craft have easy access over the bar, or outlet from the back-water to the sea, nearly all the year round. Larger vessels anchor outside in the open roadstead. Tiruvallur the capital of the district of this name lies 9 miles N. N. E. of Mauvillikketray and derives some celebrity from a large antique Pagoda which for magnitude and sanctity is perhaps only exceeded by that at Trevandrum. The foundation of this temple is traditionally carried back to 83 years. B. C. Previous to the year 1796 this town was a place of commercial note but in this respect it has gradually declined since the establishment of Changanacherry, as the general mart for this part of the country the large Pagoda encompassed by a high wall nearly 1 furlong square, forms the centre of an extensive and tolerably regular town inhabited principally by Brahmans and Nairs. The chief buildings are the Cotaram and Cutcherry, in front of which is a tank or reservoir faced with stone, having bathing apartments jutting out into the water on the four sides. On the N. W. and contiguous to the high road are two ranges of Konkany and Mapallah Shops separated from the capital by a deep and broad Nullah crossed by a wooden bridge, the private dwelling houses of the inhabitants being disposed in enclosures on either side of the road. The Syrian Christians have erected a church about half a mile on the N. of the Pagoda in place of one that was formerly burnt to the ground. The other public buildings at this place consists of a Police Choultry, custom house, and Tobacco Godown, beyond these there is nothing remarkable.

Automously situated 9 miles E. S. E. of the capital is an extensive village noted for its Pagoda on the south bank of the Pambay river. This temple is as usual surrounded by a high wall and has its roof covered over with copper plates with a high column of brass raised in the interior court before the gate-way. The population consists chiefly of Nambhoory and other Brahmans who, besides the subsistence they derive from the Orparay, carry on a small trade in cloths. A considerable part of the village stretching east from the Pagoda is inhabited by Nairs and a few chetties connected with the Calicut family. About 5 furlongs N. E. of the Pagoda at Maaramun is a Syrian Church surrounded by its congregation of Mapalla Christians. Ambappullah the principal town of the district to which it gives its name is situated on the western confines of a broad street of cultivation and was up to the year 1754, the capital of the Chemboogacherry Rajah's country. The temple is a small but neat and costly edifice erected on the centre of a mound of earth two furlongs square having an entrance on each side. The interior apartment is covered with plates of copper and on the top are three gilt spiral ornaments with a large brass pillar in front of the gate. A few yards to the south is the Cotaram surrounded also by a wall and divided into numerous apartments, all substantially built. To the west is a street of bazars with the Tannah Choultry in the centre and the Cutcherry to the south. The usual Agarums and Mudiums for the accommodation of the Brahmans are found here also, on an extensive scale. The Annual festival takes place in April, the expense of which is estimated at 5,000 galls fanams or 2143 Rupees, and 12,000 Parabs of Paddy is delivered by the Cicer. Poraculum lies on the Coast and was once the Sea port of the Country and a place of considerable trade, but has declined in proportion as Alleppey (the present port) has increased in importance; it is still however a populous town consisting of a broad street of Bazar with other narrow lanes, branched off to the right and left. The buildings of note are the Cotaram of the Rajah of Travancore and Changanacherry, (the latter is now made use of as a depot for Tobacco,) the large Kookanay Pagoda, Brown Syrian Church and a few spacious houses of merchants. Small country crafts with Circar Tobacco from Jaffnapattinam touch here occasionally to deposit their cargoes. A line of fortification to the north, called Kottigapilly Vunday, originally raised to prevent encroachments on the part of the Travancore Rajah's troops, is now in ruins. A skirmish is said to have occurred at it when the latter became victorious in the year A. D. 741. There are also the remains of a Portuguese Fort and factory in the sea which can be seen at low water. The population of this place consists of Kookanias, Mapallas, Mooshoorams and Shanars. Alleppey or Arakkunay situated in Lat. 3° 30' N. and L. 76° 21' E. is now the best sea port town in Travancore. The town itself lies scattered between the beach and an extensive tract of paddy cultivation bordering the back-water which here stretches Eastward to a considerable distance forming an extensive lake. A canal leading from the back water to the Sircar timber yard on the coast, passes through the centre of the town and is crossed by six wooden bridges about a third of a mile from each other, having streets leading from them at right angles to the canal, by means of which every facility is afforded to the merchant in conveying his goods from one side of the town to the other. The southern portion is divided into compounds containing the dwelling houses of Arab and Parsee merchants as well as of the better classes of the inhabitants contiguous to the coast at the end of the canal are the pepper and salt Bank, the sea-custom house and a private dwelling house for the accommodation of the commercial Agents. A Protestant Mission connected with the Church Missionary Society, has been established at this place for many years past under the superintendence of the Revd. Mr. Norton. The church together with the Mission house and premises lie on the north side of the Canal, a short distance only from the coast. The town of Alleppey was of little or no importance 50 years ago, but from the encouragement held out to merchants and settlers of all classes, it has by degrees become most populous and a place of vast trade. It is here that the chief produce of the interior, such as teak timber, pepper, cardamoms and other export articles, is collected from the scale of which the Travancore Sircar derives a considerable revenue. The whole of this Department is under the superintendence of a British officer in the capacity of commercial agent. A flag staff has been erected by the Sircar near the custom house in the main topmast cross trees, on which a double lantern with plain lights is fixed, and these are kept burning regularly at night as a guide to vessels passing up and down the coast or wishing to make this port.

Changanacherry is the capital of a district and lies 15 miles east of Alleppey and 38 miles N. of Quilon. The town is built on a rising ground on the eastern border of that extensive delta called Kootamad and is both populous and flourishing, being from its situation well adapted for trade, and having roads to the interior communicating with the Dindigul valley across the hills and good water communication to the west towards Quilon, Alleppey, and other intermediate places; a market is held here twice a week, which is attended by crowds of people from the interior and from the west, these latter are at times so numerous that the canal is quite blocked up with their canoes and boats. The population consists of the usual proportions of Brahmans, Nairs, Syrian Christians, Lubbays, and other lower classes each portion of the community having its own streets and places of worship. A Chetty Prince connected with the reigning family of Travancore, resides at this place. Koonjarapally the capital of a subdivision of the Changanacherry district is situated on the east bank of the Chittaur River 19 miles N. E. by E. of Changanacherry. It has a considerable population of Lubbays, and Nasserany, Syrian Mapallays with a few Veilalah Chetties, but there is nothing very remarkable connected with the town itself. Shareetulla, the capital of the district bearing its name, is situated at the southern extremity of an inland branch of the back-water by means of which it possesses free communication with Alleppey, Cochin, and the interior districts. It has an extensive population consisting of Brahmans, Nairs, Konkanyes, Syrians, and Shanars. Their houses are considerably scattered with the exception of that portion of the town called Moodum which consists of a street of bazars running south for about 3 furlongs the side next to the water being occupied by Syrian or Mapalay merchants and the southern part of those of the Kookanay caste. This town is a place of some trade, a market assemblies at it every evening, where fish and other articles of daily consumption are exposed for sale. About the centre on the west side of the town is a Syro Roman Church one of the largest in the country and is said to have been built about 370 years ago. A colony of black Jews once settled at this place but the stagnation of trade and want of employment induced them to quit it, their synagogue a short distance from the church on the opposite side of the street has now fallen to ruin. The Kookanias have their dwelling to the east in compounds around their pagoda, a few of the families of this Caste are in affluent circumstances. The houses of the Nairs are dispersed under groves of coconut trees bordering their fields, which run in long narrow valleys and depend on the periodical rains for water. To the S. E. is a neatly built small pagoda dedicated to Bagavade with an Agarum and several buildings for Brahmans attached. This is one of the main places of celebrity in the province: the annual festival occurs in April and continues for successive days during which time the place is thronged with spectators, chiefly Nairs, from the neighbouring districts Kottam, though a place of some note, is not a very large or regular town, it extends for some distance along the edge of the river and at the northern extremity near a

small fort, is a small square of bazars, where a weekly market is held, and some little trade carried on, chiefly by the Syrians, amongst whom there is here perhaps more wealth and property than they are generally found to possess. The population of Kotham is principally composed of Syrian Christians, who possess several large churches in the neighbourhood and consider this as the principal seat of their religion. The usual district authorities also reside here. The scenery around is exceedingly picturesque, there are many ponds and are seen dispersed here and there amid the rich foliage of fine forest trees that skirt the river in its course through a beautifully undulating country, vegetation also is most luxuriant and the addition of a few neat and well constructed European houses gives the place an air of novelty and interest. The Church Missionary Society has long occupied this spot and Missionaries have been sent out from time to time to instruct the Syrian population generally in the truths of Christianity but more especially to educate the youths intended for the ministry. With a view of aiding this laudable institution, a college was erected and liberally endowed by the late Rancee during the administration of Colonel Munro, which is still in existence, though the students at present are but few in consequence of the opposition of the present Melim who is averse to any species of improvement or reform. Yachamanur the capital of a district lies about 30 miles S. E. from Cochin, it is only remarkable as having a large temple (the usual point of attraction) dedicated to Vishnu, where various returns, together with the officers of the district cutcherry, constitute the chief part of its population. An annual fair is held here at the period of the festival. Latham, or Paillypatt, the capital of the Meechachal district situated S. E. 75 miles from Cochin on the bank of a fine navigable stream. It is a tolerably large town with some bazars and inhabited almost entirely by Christians many of whom are merchants engaged in the Areka trade, which here forms the chief article of traffic. Three several bazars are enumerated as adapted to the different markets for which they are prepared, in the first case, the nut is split, coloured and dried, in the second, coloured and dried, and in the third instance dried only. A portion of this product finds its way to Palghat being transported by water to Chowghat and from thence by land carriages. The southern part of Travancore and the inhabitants of the Dindigul valley are in part supplied with this article from Latham, and this town receives in turn several imports such as cloth of various textures, coarse combies, iron, dry grain, &c. The Meechachal District authorities reside here and in its immediate neighbourhood is a small Fort now in ruins, within which, a Cotaram and other wooden buildings, built after the usual native fashion, are to be seen. Munnappath, the town which gives its name to a district, is situated at the junction of two rivers and in the vicinity of a third, (whence its denomination) and is in some measure the mart for the Sugars (Areka nut) of the neighbouring Districts and receives likewise a portion of the imports brought by the Thodhewully and Neeressumangalam passes. There is a small pottah, here, inhabited by Mupalaya and Christians, and the usual Officers of the district authorities occupy the banks of the river, beyond which there is nothing deserving of particular notice. Thodhewully, Centrally situated in the district, bearing the same name, was once the seat of an extensive trade carried on chiefly by Lubbay merchants originally from the Eastern Coast, who form the principal part of the population of the town. The pass between Thodhewully and Cumbar, in the Dindigul Valley leads through a wild mountainous tract, densely covered with large forest trees, (among which the Teak is now flourishing) and is traversed by bullocks, in ten or twelve days. The export trade is confined to the Areka nut and some little pepper and salt fish, all which articles find a ready sale on the Eastern side of the Ghats and the imports consist of cloth, combies, iron in bars, a great variety of dry grain and a long list of household and other less important articles. The town itself is in no way remarkable, but the scenery around is of a strikingly grand and romantic character. The fine river, the Perassur flowing through this district is of extensive service in the transport of teak timber to the Coast. Anywhere situated on the southern bank of the Perassur River and may be considered as the watering place of Cochin from which it is distant about 15 miles. Several bungalows have been built on the banks of the river, which are in great request during the hot months of March, April, and May, both on account of the cool temperature of the place compared to Cochin and the wonderful salubrity of the water, which induces all who frequent the place to enjoy the luxury of bathing. Indeed in general such bungalows are furnished with a temporary covered way leading down the bank to a comfortable bath jutting into the river and screened off by mats. The Native town is not so very extensive, there are some temples connected with it. Perassur the chief town of the District of this name lies north 13 miles from Co-

chin, and is esteemed one of the principal towns, of the northern parts, although by no means remarkable for either size or regularity it was however at no very remote date of greater importance, having been one of the Chief Military Stations; its decay may be dated from the invasion of the Sultan, who after his usual manner plundered and partly destroyed, the town and suburbs. It still possesses numerous bazars, and some small trade, and is a principal mart for cloth; the traders are generally speaking of the Konkani Caste. There is rather a large population here, but of a mixed character. Christians occupy part of the town, there are also a few Jews and considerable number of Vellans, inhabitants of the other Coast, who formed part of the Sepoy rabble once stationed here. This town has two Churches, a Pagoda, some small Cotarams, the usual Officers of the District authorities and some few buildings of European architecture, now becomes store houses of Tobacco, Pepper, Salt, &c. The Zillah Court of the northern district is held at this place. The estate of Munnappath, or as it is more generally called of Paillypuram, was purchased from the Dutch by the Travancore Government, at the period that the Fort of Kodungalore was sold by the former. This tract is now held by a Dutch Gentleman (Mr. Verneke) who rents it from the Circar, and is highly cultivated, and extremely fertile on the ordinary produce of the country. It has a very large proportionate population and in some measure belongs to the Purraur district, a guard from the Police Establishment of that place being stationed in it, or being called on for aid on all occasions where coercion is necessary. The Circar servants do not interfere in collecting the revenue, defaulters however are amenable to the Purraur Zillah Court, within whose jurisdiction it is included. The Gentlemen holding those lands exercises some civil authority within their limits and is not interfered with, by the Government Officers, in fact he resembles in every particular an ordinary Zemindar. The fortified lines that now mark and were originally intended to defend the northern frontier of Travancore pass for 34 miles through the district of Purraur, terminating near Jacolay, a name commonly given to this portion of the fortification. Correspondingly is a small work on the line, probably intended as a Magazine, the whole however has now fallen to complete decay, and it can no longer be considered as a defensive barrier. The stream passing from the last mentioned place to Munnappath, is too shallow to serve as a further defence to those lines, it affords however an easy passage to the smaller class of boats. Close to Munnappath is a small but strong built tower, evidently of European construction, raised most probably to defend the passage of the river, within it is a well yielding the best water in the vicinity.

Government.—The administration of affairs in Travancore has of late years undergone great reformation, and the present system of government is in many respects similar to that of neighbouring countries. The reigning Prince enjoys every possible consideration and exercises independent power throughout the country. To the chief minister or Dewan is confided an extensive executive authority over all the Departments of Government and by his means, aided by the advice and counsel of the British Resident, the whole of the important business of the state is transacted. The country is divided into thirty-two Mundata, Weddikals or Districts, having a Tahsildar at the head of each and under him a Sompuray-pullay or principal accountant, and two or three Keelcoorum-pullays or assistant accountants. In addition to these are one Cashkeeper, six or eight peons, employed in collections, and two or three Vallishundacars, who act as horkarars. Each district is divided into smaller divisions managed by a Provurthy, who has under him a chudracar or cashkeeper, and an accountant. The villages, of which these divisions are composed, have their own proper officers, exercising a domestic jurisdiction. The large establishment forming the Huzzar or Dewan's cutcherry is composed of various officers of which the Dewan Paishgar, Huzoor and Tannah Sheristadars, the Valliamale Yallatu Pullay or accountant general and under him the Malevaintu pullay mars, and gomostas, or various ranks of accountants, Unehull-pullaymars or post masters, and two Moudubuddies or treasurers for receipts and disbursements. The above form the principal revenue establishments of the Circar. Justice is administered by a separate department. At the head of it is the Appeal Court at Trevandrum composed of four Judges three of whom are Hindoos and one Christian with a Shastree and a Moottee as law officers of the court. Under its jurisdiction, there are five zillah courts each having one Hindoo and one Christian judge, assisted by a shastree. The zillah stations are Nagercoil, Trivandrum, Krishnapooram, Aleppey and Paroor. The Dewan is the chief magistrate of the country, or head of the police and under him are the Tahsildars and Provurthyars of the several districts, who in addition to their revenue duties, also conduct those of the police under ser-

tain limitations and restrictions. A Tannah Nain and ten or twelve peons form the regular police establishment of a district; but in addition to these, every town or village of any extent has its own caretakers or watchmen to serve as a protection against robbery or violence of any kind.

Religion and Religious Establishments.—The southern shore of Malaya, unexposed as it has been to Mohammedan conquest, preserves the Hindu religion in all its strictness of forms and ceremonies. The Brahmin population present in this country is divided into two great classes; the first in importance and of the highest caste is the Nambiar, and second, the Pottir or Canna Brahmins; these two classes take precedence of all foreign Brahmins, enjoy many privileges and are looked up to with great reverence by the people of the country in general. The number of Hindoo temples is estimated at nearly 4,000, the greater part of them however are but small compared to those in the Carnatic, and very many are fast going to decay. Upwards of 300 are consecrated to the worship of the superior divinities Vishnu and Siva, a considerable number are dedicated to Bhagavathi, (Boddhakali of the eastern coast) at whose shrine, buffaloes, sheep and poultry are sacrificed. During the festivals in honor of this goddess it is common for her votaries to pierce the muscles and flesh of the back with hooks and suffer themselves to be suspended and swung round a pole till their strength is quite exhausted. The long catalogue of pagodas which yet remains belong to the lower orders and are dedicated to local or Sylvan deities which latter are considered to preside over the business of rural life. Padmanabha or Vishnu may be considered as the patron deity of Travancore. His principal shrine termed Asanta Sharyanam is at Trevandrum where his worship is supported with great profusion and splendour. Among the other pagodas of celebrity that of Ayappa at Chovvimala attracts particular attention; vast numbers tend thither even from the eastern coast flocking to it at the period of the festival in January to present their vows and offerings notwithstanding it is situated in the wildest country possible. Canara Coomary at the extreme point of the peninsula is a celebrated place of pilgrimage. The ceremonies of the pagodas are almost always performed by the two classes of Brahmins beforementioned who are changed in their office every three years. The principal, and they may be called the national festivals, are those of Visnu and Womun the former being in April and the latter in September. The Womun is the first most generally observed throughout the country; during its progress the houses are adorned with flowers, lamps are kept burning and the eating is put in requisition, in fact a general jubilee is kept by all ranks and classes of society. It would be impossible almost to enumerate the several festivals that occur in the various principal pagodas in the country but there is one grand feast called Monajabum celebrated every sixth year at Trevandrum that is worthy of notice. It occupies forty days and generally collects the whole Brahmin population of the surrounding country who are entertained at an immense expense to the Circar, a liberality or rather profusion that has acquired for this state the epithet of Dhuriah Sum-nustannam. The Sircar have within the last 20 years resumed the whole of the pagoda lands yielding an annual revenue of 3 lacs of rupees. The expenses of the religious establishments are now defrayed from the general treasury and arranged on a liberal footing that allows the performance of every ceremony consistent with the established customs.

Produce, &c.—The chief produce of the land is rice, of which there is always more than sufficient for home consumption. Dry grains, such as millets, cotton, castor, (horse gram) jute, raggy, cottonseed, (a species of pea) and rapeseed are also produced but not in any great abundance. The pepper vine grows luxuriantly and is found in almost every garden as far south as Cankulam and the forests yield a considerable quantity of cardamoms besides cane, blackincense and other aromatic drugs. Conium is very plentiful except in the south or Nairn road where the palmyra tree abounds. Vegetable oils are extracted from the fruits and kernels of several trees and shrubs. Of these may be enumerated, oil (or rape seed oil) annamulche (castor oil), coconut oil, pumaykut (or lard oil), mirbane, blapoe, veggie, the three latter oils being extracted from the fruit of large trees. Sugar and salt are manufactured in the country but to a small extent only and by no means sufficient for the wants of the people.

Cattle and other animals.—The nature of the country notwithstanding its general fertility, is too much too new and woody to be well adapted for pasturage. The domestic cattle with few exceptions present a most wretched appearance being very ill taken care of by their owners and the supply of grass during the hot months furnishing but a scanty subsistence. The black cattle do not thrive well on this coast; their size is very diminutive and their strength is scarcely sufficient

for agricultural purposes except in very light loamy or wet soils. The climate and localities agree better with buffaloes, which are more than proportionally numerous and possess considerable bulk and power and are of essential service to the ryot. The hill people do not possess or breed cattle but this is chiefly on account of the number of wild animals that infest the jungles and to whose ravages they would be exposed. Goats are found in tolerable number but there is great room for increase and improvement in the breed. For sheep, the climate of Travancore is decidedly unfavourable, and the same may be said in respect to horses, of which there are very few to be seen in the country. Among the wild animals it would be sufficient to enumerate those most commonly known and met with, though the recesses of the hills probably harbour a great variety of different species. The royal tiger, panther, chetab, and tiger-cat are very numerous, but it is from the voracity of the first named that both men and cattle chiefly suffer. Immense herds of wild buffaloes are met within the remotest parts, they do not however venture beyond the shelter of their woods. Elephants exist in great numbers and are a source of much trouble and annoyance to the cultivator upon whose fields they frequently commit great depredations, trampling upon and destroying more grain than they actually consume. They are sometimes taken in pits for the purpose of being tamed and made use of in the timber and Maranrut Departments of the Circar. It would be very desirable if a better plan could be adopted for their capture, both on account of the value of their labour as well as more effectually to reduce their numbers, which appear to be increasing rapidly. The wild hog, deer—and porcupine are very common, as is also every species of the monkey tribe, the chingalam or sphinx-faced monkey, one of their varieties almost peculiar to Travancore, is small, short-tailed, and might perhaps be imagined to bear some resemblance to the fabulous animal from which it takes its name. Both lizards and squirrels of the flying kind are met with in the jungles, in the former, thin membranes, extending along its sides, form the wings, its flight however never exceeds the distance of some neighbouring tree; the back is striped with a great variety of brilliant colours. Of the amphibious animals the alligator is the most conspicuous, consisting of two species large and small; the backwaters and canals are completely infested with them. The other is also an inhabitant of those waters. There is every variety of the reptile species to be found in the country, from the little golden snake that lies concealed within the folds of the Kuldeva flower to the immense rock snake or boa which is found in the wilder parts and would appear to be of great magnitude. Calculation gives the number of black cattle as equal to (29/377) that of buffaloes at (914/5) the total giving on an average 57 to the square mile, which number will be increased to 88, if we deduct the hilly and uninhabited extent of country.

Climate.—From the variety of aspect and extensive range of territory some diversity of climate might be inferred; dampness is perhaps amongst its most sensible qualities. The hills present every degree of temperature from beyond fever heat, to near freezing point; this rapid transition however is only confined in the mountains, the climate of the low country being much more regular. The natives divide the year into six seasons. The Wussuntakalum commences with the new-moon in March and continues to May; during this period it is hot, with rain at intervals. The Gresmakalum sets in with the new-moon in May, continues to July, the periodical rains are considered as commencing with this period and continue throughout it. The Praveri or (Vurrashakalum) begins with the new-moon in July, continues to September, the rains for this period being more moderate. The Sharalkalum commences on the close of the previous season and continues to November; the North East monsoon is partially felt, and the one peculiar to this coast now subsides. The Kaimantakalum next succeeds and lasts till January, it is marked by strong winds and heavy dews. The Saserakalum is the last season it commences as the other closes, and continuing till March, is distinguished by its excessive heat; but more generally speaking, the seasons may be separated into wet and dry, their vicissitudes being the same as the other parts of the western coast; the monsoon commences about the beginning of June and ends in September, it is ushered in by frequent thunder and lightning; and a constant succession of showers; during its continuance, the rains are heavy and incessant. The three months following their partial cessation are perhaps the most agreeable and salubrious in the year, the air being cool and refreshing, and the face of the country, clothed with a luxuriant verdure. The borders of the lakes always afford an agreeable climate. The cultivated parts, particularly the more western, enjoy a favourable degree of

lidity; receding from the coast, the country becomes less healthy, and the villages along the foot of the hills feel the baneful effects of their vicinity. In the interior of those wild tracts from December to May, both months included, the climate is quite pestiferous, nor do the mountaineers escape its effects; to Europeans and indeed to natives of the plains it is highly injurious nor is it easy to say to what cause the fever, common to the hills during this season must be attributed, though the sudden change of temperature (often varying 40° during the 24 hours) and excessive dews doubtless give action to it; the climate of the hills for the remaining portion of the year is very salubrious, from June to September particularly so, the only inconvenience experienced for this period being the torrents of rain that deluge them, and the multitude of leeches that are generated thereby. In the neighbourhood of the Cape the S.W. monsoon is but slightly felt, and the southern districts are in consequence often quite parched and dry, while heavy rain perhaps is falling not twenty miles to the north of the very same time, thus Oodogherry may experience all the severity of the monsoon, while Mylady has a comparatively dry climate. Notwithstanding the favourable character of the climate of Travancore the ordinary infirmities of life are more common, at least the less fatal diseases are more numerous than in the eastern parts of the peninsula, attributed possibly to the warm humidity of climate, constant use of spices which are easily obtained, and largely indulged in, a wretched diet and scanty clothing. The term of life does not equal perhaps the duration common on the other coast, those who have reached the middle point of life (and perhaps the number is proportionally greater amongst the Christians, more especially the younger part of them) are however numerous, the advanced age of eighty and ninety is but seldom met with, and at this period the faculties are always impaired, if not entirely annihilated. A change of climate is always injurious and eventually generally destroys a native of Travancore, such is not the case however with an inhabitant of the eastern coast who emigrates with safety and is not in the least incumbered by the transition. The natives have but little skill in physic or in the virtues of plants; medicinal simples and combinations of herbs, (and to the imaginary benefit of incense) are their only remedies; many Brahmins possess some knowledge of medicine, but are quite devoid of any science. Empirics are numerous, but their medicines are only remarkable for their absurdity, the prescription is frequently directed against some minute demon who is supposed to cause the disease, and the last resource is to invoke the aid or propitiate the wrath of some minor deity (particularly Bagavathi, who is the Pandita of those parts) the petition being always strengthened by an offering.

Aspect of the Country.—The face of the country presents considerable diversity although its general character, with the exception of the southern portion is extremely abrupt and mountainous. The line of coast is generally flat, but receding from it, the surface immediately becomes unequal, roughening into slopes which again gradually combine and swell into the mountainous range which bounds the west on the East. Nunjerad with its collected villages, waving plains, palmyra trees, and extensive cultivation, resembles in some respect the neighbouring province of Tinnevely, except that in no wise partakes of its sterile and barren appearance, approaching northwards this fertile plain is succeeded by the woody and rugged surface of the genuine Malayan country. The rich and variegated tract extending along the coast flanked by its mountainous barrier is finely contrasted with the sombre magnificence and desolitude of those wilds of which the elephant seems the natural master, and though the landscape may be too much made up of this wild scenery, it still presents many striking localities and peculiar beauties. The eye is arrested by the wild rocky and precipitous acclivities, and fantastic forms assumed by the mountains in the more southern parts, but proceeding north the bold and elevated contour of this alpine chain is less sharply defined, a few rugged cliffs and craggy summits alone breaking through the sameness of its rounded and sombre outline. The high range again dissolves into clustering hills and fantastic precipices, at the foot of which wind innumerable valleys, presenting (particularly in the middle parts) the most delightful landscapes, embellished and diversified by the prospect of Churches and pagodas, indeed the endless succession of houses and gardens emitted in picturesque disorder over the face of the country gives it entirely a different appearance from the Eastern coast.

Sea Coast.—Travancore is bounded on the west by an ample extent of Sea coast, which measures in its whole length one hundred and thirty-eight miles, but is not intended for a single harbor or even a bay of any capacity. It offers however a safe and clear roadstead from October to May not in its during this period

liable, generally speaking, to any sudden squalls or storms, except in the neighbourhood of the Cape, which has always been remarkable for continued violent winds. Munnagoody, Colachy, Villavay, Pootentary, Veyly, Anjengo, Quilon, Kayenculum (or its bar) Poracaul, and Alleppy are reckoned as Sea-port towns. The last mentioned, is by far the most important of the whole, the remainder being frequented only by small native craft and having comparatively but little trade. A ledge of rocks is stated to strike out from the coast for some distance in the vicinity of Pullipooram. A mud bank lying about three miles out at Sea parallel to the shore and stretching formerly from beyond Alleppy to Poracaul formed a good anchorage where ships to twenty fathoms water rose secure in all seasons from the dangers of a lee shore, any heavy Sea being repelled by the soft bank; much of this (which has always been subject to some fluctuation) has been carried away, but a portion yet remains near Poracaul, which furnishes a safe retreat to vessels in heavy blowing weather, some even remaining there (dismasted) during the monsoon. The waters of the Rivers and Lakes escape into the Sea by several embouchures. The Pollayoor having pursued its fertile course through the Nunjerad valley forms a small Lake at Munnagoody, and disemboques itself by a narrow opening which is closed however during the dry season. The Tambrapoorney (formed by the junction of the Coday and Paralay, Rivers) Neyoor, Kuranthy, and Bhavatapooram Rivers discharge themselves at Tangaputnam, Poonoor, Pootentary and Anjengo respectively. The mouths of the small back-waters at these places are opened only in the rains. The Kulladsee river after spreading into a fine lake escapes by the outlet of Eywika (or Ulymoogum) these embouchures are generally narrow and shallow, admitting only the passage of large chonies. Immediately at the Cape (Kunnea Koomary) the coast is bold and rather rugged, and from it the breakers, are seen dashing over a few precipitous rocks. Cuddeaputnam and Villingam are little jutting promontories, whose abrupt bases are constantly washed by the Sea. Workfully presenting for a distance of six miles a series of rugged headlands; and Tangancherry, are the last portions of the coast where the highest grounds extend to the Sea, with these exceptions the coast is low and flat; a narrow strip of land rarely more than a furlong in breadth, intervening between the Sea and the commencement of coconut groves and gardens, that every where fringe its margin. It is only during the violent intervals of the monsoon that the surf is boisterous; at other times it admits of an easy debarkation. It would appear that the Sea had made slight inroads within the last seventy or eighty years, as at Poracaul, the remains of a fort and factory, and at Tricacappally &c. those of pagodas are seen at times amidst the breakers, but the encroachments have only been partial, and the low sandy surface of the more northwestern districts might rather excite the belief that they had at some former period, emerged from the Ocean, but no marine remains have been found that would tend to substantiate this supposition.

Mountains.—The high chain of Ghats that forms the eastern boundary of Travancore is composed of a succession of bluff ridges and conical Peaks, presenting in general a very irregular outline, the height of which at the greatest estimation, cannot exceed four or five thousand feet; amongst the most remarkable eminences are those of Myandragery, Augusteshuer, Koostanaad Nedumpara, Papanapuram peak Umurtamalay Kodiatu Martamannalay Peermode, Chokkanad, Pagaraymala Thairathemda, Shoolamalay, and Anneyamalay. Some of the above lofty mountains are seen entirely detached, except near their bases, from the neighbouring heights; falling precipitously and followed to the westward by a succession of low hills which continues to diminish in altitude as they approach the coast. From Quilon southward these secondary ranges are softened down into undulating slopes intersected by innumerable gorges and valleys which dilate in width in proportion as the elevation of the hills diminish, and are cultivated invariably with paddy and found to be most productive. Amongst the labyrinth of mountains there are some rough elevated table lands to be found; but the transition from hill to dale is in most cases too rapid to allow of any large extent of plain surface. The above remarks refer to the country west of the Perreear river, between which and Dindigul is an immense mass of hills, crowded together in endless confusion. They are however distinguished by similar characteristics, their gloomy summits, either broken into projecting cliffs or thickly sheltered with wood, fall generally with precipitous abruptness and present a variety of wild but magnificent forest scenery.

These mountains enclose within their recesses some elevated plains occupying about 1/4 of the whole area, which afford fine pasturage for the cattle of the neigh-

bouring country and enjoy a good climate for a portion of the year. It is in these parts that the principal cardamum gardens are met with, the produce of which is annually transported to Alleppey, and sold by contract for the benefit of the Travancore Government. The finest wax timber is also to be found in this mountainous tract, but cannot be felled to any purpose except when in the vicinity of the Perreear or any other large tributary stream by which they could be floated down to the coast.

Principal rivers.—The line of coast included within the limits of Travancore is intersected by fourteen rivers besides numerous subsidiary streams and rivulets, of which the most remarkable are included in the following enumeration.

The Pulay, rising in the secondary range of mountains north of Kulkulam, flows in a direction S. E. and S. S. E. for a distance of 23 miles, passing in its course the towns, Poodspandy, Cottaur and Shoocheendram, and discharges itself at length into the Maungoody back-water. The banks are in general low and the breadth of its sandy bed varies from twelve to thirty paces. This river, possessing but a shallow stream of its own, receives a supply of water by means of an artificial channel from the Paadien Ana thrown across the Paralyaur near the village of Loppinna and is thus of essential service in the irrigation of Nanje-naal. Several large channels are taken off from it at intervals in its course to the south, one of these, the Poodenaur, commencing a little above Poodspandy, waters a space of 17 miles and supplies a considerable number of Tanks along its borders, the last being within half a mile of Cape Comorin.

The Paralay river rises in the mountains north of Myandragerry and flows (for the first part through a wild tract) in a S. W. course for 23 miles entering the plains at Trivintaur, shortly after which it is joined by the Coday river. The junction of these two streams forms the Coolatooray River, which discharges itself at Talagputnam on the Coast after a further course of 14 miles. This latter river is navigable during the rains for small boats as far as Coolatooray, above which the bed becomes rocky and precipitous.

The Coday River descends from the Malachy mountains and flows S. S. W. through a wild and woody country, the banks being in general steep and the bed rocky, causing several falls and Cataracts the last of which is seen near Pippappan Pagoda, from whence it proceeds in a more tranquil course till it unites with the Pulay, before mentioned 20 miles from its rise.

The Neyyar issues from the foot of the Augustachiar hills and is precipitated in its early course by a succession of small falls, which, as it escapes the wilder tracts, swell into a Cataract of considerable magnitude. Confined by bold banks, this river flows over a partially rocky bed in a S. W. course 33 miles till it discharges itself into the sea near Poonool. It is navigable for boats as far as Neyatongerry a distance of about 8 miles, but this only during the rains at which season also timber is floated down from the Hills.

The Carumunni river has its course on the north west side of the Augustachiar mountain and flows in its early course through a very woody and uneven country over a partially rocky and narrow bed confined by high banks. The total distance traversed by this river in all its windings is about forty-one miles, its course being generally S. and S. W. till approaching Poonooray on the Coast, after receiving the waters of the Killyaur, it runs parallel to it and unites with the sea at the foot of a little head land termed Covellum. The Carumunni is crossed by a rude stone bridge at the village of the same name, over which the main road to Trevandrum passes. Boats can ascend this river for 8 or 10 miles during the monsoon and it is serviceable likewise for floating down Banboos and Timber of all descriptions from the Hills.

The Killyaur may be considered as a branch of the above rising in the Nedduveend forests. It has a short and devious course of fifteen miles to the point of junction. The water of this river irrigates a small tract of Rice land by means of canals and Channels taken off from them, one of these also supplies the large reservoir in the Fort, immediately in front of the Pagoda.

The Barampoom River springs from the foot of the Parumbacode hills and after running over 23 miles, through a hilly tract of country, reaches the town whose name it bears, and from thence flows five miles further to the Anjengo Estuary. Timber, Banboos, &c. are easily conveyed to the Coast by this river during the monsoon.

The Eru-Karia issues from the low range of hills east of Cheddis-mungalam and flows N. W. by W. thirty miles with a rapid, though in general shallow stream. The waters of this river are discharged into the Purrarooy Estuary.

The union of five large streams issuing from the high range of Ghats, form the Kulladay river. Its course is generally N. W. passing by the towns Patanapoom, Mulanddy, and Koonatoor and the total length is estimated at 70 miles,

about one third of which will admit the passage of boats. The breadth of this river varies considerably but in some parts it expands to nearly three hundred yards. The high road to Quilon through the Aarankoi Pass meets it at Patanapoom, where it is crossed during the rains by means of rafts formed of a couple of Canoes with a flat form and railing above.

The Achucoll or Kollacudda river springs from the foot of the Pass of the former name and in its course to the west traverses a wild tract of Country for some distance. Its bed, generally sandy but interrupted at intervals by rocks gradually widens to near three hundred yards, the elevation of the banks diminishing at the same time and passing the towns of Fundalum and Manvellykerry at length united with the Pumbay river, after flowing a distance of seventy miles N. W., of which forty miles may be reckoned upon as navigable for small boats the greater part of the year.

The Pumbay river, of which the Kullaur and Kulkander are branches, rises in the mountainous country, stretching east of Rancee and pursues its course with a rapid current over a rocky and precipitous bed till it merges into the plains where it finally unites its waters with those of the Achucoll river and discharges itself by two embouchures into the Alleppey or Vembonad Lake. The Pumbay is one of the finest rivers in Travancore, several islands are formed during its winding course to the westward, the whole extent of which will measure about ninety miles, fifty-two being navigable for boats the greater part of the year.

The Manaymulla river issuing from the Kodamoor hills also connects itself with the Pumbay near Shambancolum below which, again separating, it flows by several Channels into the large lake. Kulkorpanree and Trivulla are situated on the banks of this river, thirty-five miles of whose course are navigable.

Numerous mountain streams descending from the Koonatur and Kodamoor mountains unite at Berattapetta and form the Moenachel river. Pallakeedunoor and Kotium are situated on its banks. The course of this river may be about thirty-five miles in length, twenty-six of which are navigable for small boats during the greater part of the year. On leaving Kotium its waters are discharged by various channels into the Vembonad lake.

The Mudatpully river is composed of three branches, which have their rise in the mountainous tract stretching east of the town of the same name and which derives its own appellation from the circumstance of their streams uniting in its immediate vicinity. This river after leaving the town of Mudatpully has a further course of twenty-eight miles when it discharges its waters into the Vembonad lake by several embouchures. Boats can in general ascend as far as Kindamungalam and Thedhunnally.

The Perreear is the finest river in Travancore and most probably the principal one throughout the whole of the western Coast. It has its source in the high range of Ghats and flows first in a northerly and afterwards a westerly direction, a total distance of one hundred and forty-two miles till it mingles its waters with the sea at Pullipuram near Kodungaloor. In its course to the low country this river is increased by innumerable tributary streams of which the Mulla, Soodhoney, Perungootay, Moodrapully, Kundaupara, Yeddamate, are the most considerable. Its progress is often impeded by rocks and narrow gorges in the hills, with occasional falls, rendering the passage quite impracticable for boats above Neeremungalam. The greater portion of the tank wood which is cut down annually in the mountains is floated down this river to the Coast. On reaching Alhwyre the Perreear separates into two branches, the northern one proceeding as before mentioned to Pullipuram and the southern branch after leaving Veerapalay, again separates into two, one of these however is speedily lost in the grand estuary to which it flows through numerous channels and the other continuing south, falls into the lake south of Tirupponooray. Sixty miles of this river may be considered as navigable, small craft ascending as far as Neeremungalam and on that branch of it which is formed by the Yeddammulla river, boats find a ready passage to Idiermand. With the exception of the last thirty-five miles the course of this fine stream lies through a complete wild, the populated tracts not extending beyond the town of Mollatoor.

Lakes and Canals.—It will be seen by the Map of Travancore that a succession of lakes or backwaters connected by navigable canals extend along the coast for a very considerable distance and are well adapted to promote the comfort and convenience of the people. The extreme length may be reckoned at nearly 200 miles that is from Chowgh to Trevandrum inclusive, but between the latter place and Quilon there still exists a high promontory of land of about 8 miles in breadth which it would be necessary to cut through to make this line of water communication complete. The total area occupied by the surface of these lakes amounts to 227 square miles of which 157 are within Travancore, 53 belong to Cochlin, and

161 to the British province of Chowghat. The principal lake in point of extent is that stretching east of Alleppey and known by the name of Vembanad, but except perhaps during the monsoon, its depth in most parts is very trifling. A narrow strip of land, of a width varying from 7 miles to something less than 1 mile, serves to separate these backwaters from the sea. There are however several outlets, those at Thettayr, Kodungalure, Cochlin, Kayencodem, Ivekka, and Punnar are the principal ones, by which the surplus waters from the hills find their way into the sea. As may be supposed every description of merchandise as well as the whole produce of the country is conveyed up and down the coast by the cheap and speedy transport afforded by this water conveyance and in consequence good carriage roads are very seldom met with in the country. The boats in use on these waters are of various sizes but in most instances they are formed from a single tree, the stem of which is hollowed out for the purpose. The ordinary size is about 20 feet in length and 2½ feet in breadth; those intended for carrying rice to any distance are larger every way, and made to close in towards the top or gunnel of the boat. The teak, angley, and cotton trees, are those generally selected as being more durable and admitting of greater size.

Principal Tanks and Irrigating Channels.—It is in the south of Travancore only that the necessity for tanks and artificial works of irrigation exists and accordingly it is there alone, (with the exception of the Shencottah Tallook, which may more properly be said to be in Tinnevely) that any large reservoirs or irrigating channels are met with. The Agasthesur district contains about 130 tanks of all sizes, of these the tanks of Shupahendrum, Putrakay and Taimoor are of the greatest extent and capacity being supplied by channels from the Pully river. The number of tanks in the Toovank district is estimated at about 120, the largest are those at Pottaiy, Tanlagoody Vainabadoor and Uliya-Pandy-pooram. In the Cullukolam and Yaranad districts, the tanks decrease in size though the actual number is greater than in the two former districts; the only one of any capacity being that near Chellanpattam called by way of distinction the Peria-Culam. In the Vellamood district, which is still further north, the reservoirs, estimated at about 475, become less and less in extent of land, the generality being formed simply by an embankment thrown across the heads of the numerous valleys which intersect the country in every direction. The same may be said of the several districts immediately to the north of the one last mentioned. The Shencottah Tallook in Tinnevely contains several tanks of considerable extent supplied generally speaking by channels taken off at intervals from the Annamooday and Carimooddy rivers. The large tank at Yallatoo, when full, presents a fine sheet of water and serves to irrigate 317 Kottah of paddy cultivation. The Saamburakerry Iyecoody and Chingal tanks are also worthy of notice, each yielding a large revenue to the Circar. Channels of irrigation have been formed to great advantage in the southern districts, denominated Nujenand. The chief supplying source is from the Pottaiy and Pottaiy Anicut on the Paralay river near the village of Poomulla. The former sends off a channel of supply to the Pully river which takes its rise in the secondary range of hills east of Poomulla and flows through a rich fertile valley, composing the Toovank and Agasthesur districts till it reaches the backwater at Mannagoody near Cape Comorin into which it discharges its surplus waters. This river in its whole course is crossed by eleven anicuts, of these we may mention the Appandan, Shatapoodoor, Pottaiy, and Verranamungalum anicuts in the Toovank district, and the Moodoor, Shupahendrum and Achy-raman anicuts in the Agasthesur district, as being of the greatest utility in supplying numerous tanks and extensive tracts of cultivation by means of their respective channels. From the lower or Pottaiy anicut near Poomulla a channel is drawn off for the supply of the Cullukolam district. This extensive work was executed about 60 years ago and considering the natural difficulties to contend against, (the excavation in some places amounting to 70 and 80 feet and frequently through granite) it certainly displays great enterprise and energy on the part of the state in those days. The Rapak's palace within the Pulpavayam Fort is known supplied with water from this channel the total length of which in all its windings is about 18 miles. It is now a contemplation to connect the Coday with the Paralay river above the Pandam Dam so as to turn the water of the former (which now runs waste to the sea) to amount in giving an additional supply to Nujenand and the Cullukolam and Pervanad districts, by which means a considerable extent of land will be brought under cultivation and failures in the present crops rendered far less frequent.

Principal roads and Communications.—The ruggedness of the soil is

passed by sixteen communications of very various character. That of Bodinai-Kenoor is the most northern, it is ascended with considerable labour from the valley below, the declivity on which it rises measuring about two miles, it continues rugged and confined till passing the Moodrapully twenty-six miles, thence it is still difficult, running through a rugged country to Neeracannungalum, twenty-three miles, beyond this place is Koodhamungalum, twelve miles, in reaching which it experiences less embarrassment. This road traverses a complex wild, there not being a habitation for nine tenths of the whole distance amounting to sixty one measured miles, in accomplishing it with cattle, twelve days are consumed.

The Thaywarram pass reaches the top of the ghaut after an exceeding steep ascent for two miles, from thence it proceeds to Pervanagoody twelve miles, continuing its course to the Kasi Peresaur fourteen further, and reaching Udimanoor, the first village in Travancore, thirteen miles beyond that river. This, for much of its distance is a difficult path, traversing a wild and mountainous region and now little frequented.

The ascent from Cumbam, though rugged for one and half miles, is favorable, the declivities it ascends render the passage of it in some measure laborious, the road however may be considered otherwise as good to the Kurrungkulam, where some difficulty is experienced in crossing its rocky bed and impetuous stream; from thence it is much of a similar character to the Peresaur twenty three miles and three furlongs, having passed that stream it gradually ascends meeting Peermode seven miles from it, thence crosses the Sirdhoney at thirty-three miles, and reaches the top of Madganni ghaut seven miles beyond that river, the whole distance from Peermode being over undulating steep open slopes. The above pass is well chosen, descending gradually from the elevated table to the lower country reaching Velliamutham fourteen miles from its summit, and the town of Thodhunnally, eighteen further on, the road for this last stage is comparatively level and good, the whole distance from Cumbam to this place measures fifty-two and half miles upwards of five-sixths of which is through a mountainous country; merchants frequently pass this route their cattle surmounting it in eight days. This communication is one of the best across the hilly tract separating the two countries, it is however very susceptible of, and deserves improvement.

The Goodooloor pass has an ascent of equal length and difficulty with the previous ones, the road crosses the Manjamullay Peresaur at the distance of sixteen and half miles, and reaches Terrataw chuukull eleven and a half miles further, it is in both instances tolerable, considering the nature of the ground, the last stage however is marked by a steeper rise; for this the road has a gradual though sharp descent to Perumundannam, three and three quarter miles, which continues, but gentler, to the river four and a quarter miles, beyond which eight miles, is Chumrapully, at which town it arrives without any material difficulty, making a total of forty-three and three quarter miles of a tolerable route.

A more northern road strikes off from this at Cupecherry Tavallum, three miles west of the Manjamullay Peresaur, and proceeds by the Kodamoorry ghaut a steep and difficult declivity, to Erralpetta this route excepting the pass is tolerable, though running over a rugged surface. The facilities which this road offered to smuggling, rendered it necessary to prohibit the traverse of it.

A path ascends the hills south of Goodooloor and leads to Chowrymullay, but it is not of material consequence, and is only frequented by cattle during the festival held at that place.

The Shawageryghant, the route from which connected with that of Goodooloor is now prohibited. A road leads up it from Rajampolliam, while one from Shetapaloor ascends by the Shantoorghat, but both these communications are difficult and serve only now for the purpose of giving access to the pasture lands above.

The Achimcoil pass has a difficult ascent for a mile from the plains that stretch along its eastern foot, quitting the summit, the road descends partly through the bed of a stream (for it is crossed by it ten times) to the Pagoda six and half miles, thence passing over swelling ground and following the right bank of the Kollavacundum river, it reaches Goney at twenty-nine miles, having crossed in the course of this last distance nine powerful streams, the passage of which during the rains constitutes the chief difficulties of this route. The communication leading from Shencottah, via this ghaut through Goney, Pandalam and Mavelikkuray to Kirti-

* A halting place.

gappally a populous town in the vicinity of the coast, measures in its whole distance sixty-four and a quarter miles.

The Ariencoil is amongst the principal passes of Travancore, it has an easy ascent from the open country on the east, reaches Maambaloray at twelve miles Patuapuram at thirteen beyond it, the road pursuing its course over waving ground through thick woods, it is passable for cattle, but difficult for wheel carriage, it is the most immediate communication between the southern provinces and Quilon, from which to the town of Shancottah measures sixty-two miles, the distance from the former place to Tinnevely may be estimated at one hundred.

South of this is the Shanar ghaut, difficult and but little frequented, it ascends four and descends eleven miles to Kollathoppilly thence to Yairour measures nine more, the whole through a thick forest.

Moonyamantur, this is a tolerable good road and runs through an easy pass intersected by several streams, it is at present much overgrown with forest, from the ascent in Tinnevely till reaching Kollathoppilly the distance is twelve miles, this route is frequented by Cloth Merchants who return with the Araka of these parts.

A road, now in a great measure shut up, rises from the plains on the east, to the top of the Oorumpoorie or Arianaa pass, quitting this it gradually descends through a thick forest to the village of this name, this road is spoken of as having been at one time a very good one.

A road leading from Punnayoodi to Tirunellymattum five miles, thence to Anandawaram ascends a small ghaut of rugged character but is passed by cattle, the southern wall terminates close to this latter place.

The Arambur road leading direct to Travandrum, forms the best entrance into the country, and is almost the only one adapted to the passage of guns, of heavy baggage, it is the chief one through the southern lines.

Yedamullay a small and easy pass by the Ramasherrum gate.

Punnayaram and Kottarum gates: two of the most southern roads passing by those entrances.

The northern frontier presents no difficulties of entrance, it is crossed by five principal roads and a numberless paths in a space of twenty miles in length. The lines through which these communications pass are not generally of sufficient strength to offer any material impediment, they run through a populous and well cultivated country, nor do they offer any peculiarities that it is here necessary to notice, they will be found minutely detailed. The mountainous part of the northern boundary stretching east from Kuthu is crossed by some lesser roads, none deserving particular description except perhaps that entering at Andrum pally, this communication (now shut,) at one time connected Mullattoor with Anna Mullaysherry, a large town in Combaroor; it might without much difficulty be improved into a good bullock road, (it is now only traversed by smugglers) the distance between the two plains measures fifty-seven and three quarter miles.

Of the ghats above enumerated, only a very limited number are now generally frequented, indeed it may be generally said that the established communications throughout the country are few, indifferent, and reach their object by long detours, in the more western parts the rivers (whose navigation will be rendered still more beneficial by the formation of towing paths) and lakes perhaps in some measure supersede the necessity of roads, but receding from it, communication becomes more embarrassed, and frequently even the most thickly inhabited tracts are only penetrated by native paths, skirted by hedges; the difficulties of communications increase on approaching the hills, the country at whose foot is very imperfectly intersected by communications and these even are steep, narrow, barely accessible and almost always impracticable for cattle. To these impediments must be attributed the little general intercourse between the different parts (particularly the interior) of the country, and the timid and jealous policy of the native chiefs would appear to have been directed to their increase rather than diminution, but the period when such a system could have been useful has passed away, and their improvement or rather the formation of good roads (for which the nature of the soil offers every facility, indeed in many places cutting through the forest would be sufficient) seems to deserve attention, facility of transport would necessarily quicken commerce, and the increase of frontier might more than repay the expenditure that would be incurred, even in the present state of the roads, the addition of bridges would be a material advantage which they now want, in the interior the chains and valleys that intersect them, are often crossed on the trunk of a tree, or a rustic bridge of canes, supported by branches that overhang the stream, which affords a dangerous passage.

The natives estimate the greater distances by time, the smaller ones by sound. A waly (something less than half an hour) may be considered as a mile and

half in the level country, but in the hilly parts the estimation must be reduced by one third; a Villaypad (or call) means about a quarter of a mile. The summons is communicated in a peculiar tone of voice, enforced by the utmost effort of the lungs, and answered after the same manner, to the woodpecker must be attributed the generality of this practice, and to the same cause is probably ascribable the practice knowledge of the compass possessed by every one, and employed upon the most trifling occasions.

In connection with the above it may be as well to mention that it is in contemplation to open a new line of communication for wheel carriages throughout the interior of the country from south to north, commencing at Colachy on the coast in the Ernel district and passing through the principal towns of the interior in a direction nearly parallel with the line of coast, and about midway between it and the foot of the ghats. It will ultimately join the Trichoor road leading direct through Palghat to Combaroor.

To facilitate communication it is also intended that cross roads should be constructed at convenient distances connecting the principal road with the back water which stretches along the coast for a distance of about two hundred miles and (with the exception of an interval of six miles across the Warkully hills between Travandrum and Quilon) affords convenient transport for merchandise and goods of every description.

Of Weights, Coins and Measures.—The system, if indeed there ever was any here, of weights and measures appears always to have been very imperfect, a more regular one has lately been established, and those now used at the several Chowkies, &c. are regulated by a fixed standard. The following tables will show most of the weights and measures in ordinary use.

WEIGHTS.	THE WEIGHTS USED QUILON.	GRAIN MEASURE IN NUNJENAAD.
16 Gold fanams 1 Callengia.	3 Pullums	1 Seer.
2 Callengies 1 Pullum.	2 Seers	1 Pound.
51 Pullums 1 Rantel.	20 Pounds	1 Toolam.
18 Rantels 1 Toolam.	28 Pounds	1 Kutch.
99 Pullums* 1 Toolam.		1 Maund.†
		280 Grs. of paddy 1 Chawdie.
		5 Chowdie 1 Oolock.
		8 Oolocks 1 Puddy.
		8 Puddies 1 Marcal.
		31 Marcalis 1 Kotay.

LIQUID MEASURES.	GRAIN MEASURE.
4 Thodums 1 Nauty.	4 Nanleys
4 Nauties 1 Edungally.	16 Edungallies
16 Edungallies 1 Poray.	20 Porays
12 do. 1 Shodany.‡	
3 Shodanies 1 Codum.§	
	1 Edungally.
	1 Poray.
	1 Werray.

Land Measures.—Poray, in the northern and central parts is the universal term used in land measure, particularly as refers to the low land on which rice is grown. The Perumbloo grounds that border the ghats are also estimated by Porays but are more commonly called moories, meaning the divisions into which they are formed by hedges, thus in stating the extent of his property, a Ryot

* Sometimes one hundred pullums. † Thirty pounds equal to a Pucka maund. ‡ This measure is subjected to great varieties, varying from three to twelve edungallies. § Or a large pot full. This means to Moondray or stamped edungally. In the sale of grain the Ryot has two other edungallies Udayany and Odilucander of small measurement.

The following are the measures there used.	square feet.
1 Veyracole	1 square foot.
4 do.	1 Dinna.
8 do.	2 do.
16 do.	20 do.
1 Edungally	1 Edungally 280 square feet.
10 Edungally	2800 square feet.
1 Poray	3862 square feet.

would say he possessed so many Poray Gundum (rice lands) so many Moorie Perumboo fields on low slopes, so many coconut trees, &c. The Poray is understood generally as the space upon which their Edungallies of seed can be sown, but the grain lands never having under gone measurement, the area implied under this term is as much diversified in point of extent, as the seed is in quantity, it being influenced by the character of the soil; from various measurement it would appear that the Poray of the Poonjay lands is smaller than that of the valleys or Varrup lands, the former may be taken at one eleventh of an acre, the latter is about one-seventh; but perhaps we shall not be wrong in estimating the general area of the Poray at one-eighth of an acre* the uncertainty of land measurement might perhaps be received as a proof of the little value of this kind of property, but the inference would be incorrect. The area being ascertained by estimation, lies arbitrary, perhaps often unjust, but the measurement is may generally be considered is in favor of the Ryot, a more regular system might be more advantageous but the attempt might possibly create alarm. A measurement was begun in Pundalam,† but the native did not seem to relish the innovation. The land measure in Nangunad is termed Kotay, it fluctuates in extent with the varieties of the soil; on the lands bordering the valleys the Kotay is equivalent to one and half acre on the waying uplands occupied by palmyra tree, it expands to three and three quarter acres, on low paddy lands, its superficial measures one and three quarter acres; when the term is applied to these lands on which salt is made, it means an area of two and one eighth acre.

Coins.—One current throughout Travancore are of small value, the largest is the gold Anandria Pannum, the Cullian also gold now only seen in the southern parts is in great measure a nominal coin, it is however much used in calculation, and is that in which the Sircar, Revenue accounts are kept. The Chackrum is silver. The Nishie worth ten Chackrums, and Kutcha rupee one-quarter of a pagoda (are nominal coins, but commonly used in accounts. In Cochin the coins are somewhat different, there are several kind of copper ones, the rase, the smallest of them is a nominal coin; the Pootam is silver, fifty per cent quarter in value than the Chackrum. The Vir Rai is a gold coin of the same value as the Anandria Pannum, the devise is only different. The following are the ordinary coins in Travancore and Cochin.

CURRENT IN TRAVANCORE.		CURRENT IN COCHIN.	
16 Copper cash	1 Chukrum.	2 Rai Shelles	
4 Chackrams	1 Cullian Pannum.	2 Shelles	1 Doodie.
2 Cullians	1 Anandria.	2 Doodie	1 Pic.
3 Anandrias	1 Madras rupee.	2 Pic or	
All the coins of the eastern coast have currency in the more southern parts.		11 Shelles or cash	1 Pootam.
		51 Pootams	1 Virpai Pannum.
		31 Virpai Pannums	1 Rupee.

Gold mohars, Surat, rupees, gold and silver dollars, are current in Cochin, their value in the market is subject to great fluctuation, being raised or depressed by the acts of the native shroffs (Koutanias), who are numerous, clever, and unprincipled, and subject to no check. The Sircar however have an established standard at which they are received and paid. The public accounts are kept in gold, Vir Rai Pannums, and Surat rupees, which are valued as Company's rupees though generally six per cent. less.

			Foot.
* The average of fifteen different measurements gives	the Poray at.....	5,733	
Do. sixteen do.	do. at Pundalam.....	5,473	
Do. do. do.	do. at Kullioor Pannam.....	5,495	
Do. thirteen do.	do. at Yeldapally.....	5,395	
	Do. in Pundalam gives	5,308	
In the same district along the borders of the lake.....		5,324	
The average measurement at Pannam.....		4,724	

The amount of cultivated lands in seventeen districts as given by the survey would amount to 190,730 supposing the acre to be equal to 9 Porays, the registered lands would give 390,853 acres, being a difference of only one-twentieth.

Statement of the average Receipts and Disbursements of the Travancore Government.

RECEIPTS.		DISBURSEMENTS.	
Amount.	Rupces, Reas	Amount.	Rupces, Reas
Land Revenue	18,96,280	Devasams or Religious institutions	318,012
Custom Department	299,160	Ottocapras or Charitable institutions	266,737
Country Arack	48,185	Palace expenses	366,424
Sale of Tobacco	10,42,994	Horzawa Cutcherry and districts	376,476
" of Pepper	353,896	Judicial Establishments	71,998
" of Salt	211,069	Police Establishments	40,523
" of Cullambo Arack	394	Nat Troops	199,523
" of different Articles	130,765	Elephant and Horse Establishments	6,604
" of Timber	18,909	Pensions	82,478
" Profit derived from the Mint	8,616	Public Works	82,636
Petty State of Eddapally	1,082	Tacavy advances for Cultivation	2,216
		Purchase of tobacco, pepper, salt and other goods.	617,834
		Contingent charges	199,856
		Subsidy to the British Government	811,336
	3,724,741		3,514,982
		Abstract	396

*Abstract Memorandum of the Population of Travancore
according to the Census taken A. D. 1836.*

1 Malayallum Brahmins.	9,543	
2 Foreign Brahmins	18,751	
3 Chettrees	1,311	Caste of the Cochin Rajahs.
4 Umbalavahsees	27,231	People who work in Pagodas.
5 Samanders	44	Caste of the Calicut Rajahs.
6 Vyshiers	17	Chiefly Shroffs and Shopkeepers.
7 Shoodras	365,470	All kinds of Nairs.
8 Chettrees	14,19	Foreign or Carnatic Shoodras.
9 Konkarnies	4,563	A kind of Brahmins who came and settled here from Goa and other parts of the country, and they are chiefly traders.
10 Neyeteecars	6,046	Weavers.
11 Yeedayers	13,27	Herdsmen.
12 Odurs	6	Tankdiggers.
13 Europcans	8	
14 East Indians	1,48	
15 Chindycars	477	A kind of Mussulmen Merchants who come from Bombay and Cutch.
16 Romo Syrians	56,181	
17 Syrians	118,382	
18 Mussulmans	60,291	
19 Parsees	2	
20 Jews	89	
21 Malay Vellans	16,22	Hill people.
22 Corravars	31,891	Chiefly beggars. If they meet opportunity they will certainly commit theft.
23 Ullavars	734	Salt Manufacturers.
24 Chinnadliens	24,193	Carpenters.
25 Kalahshurys	2,956	Stone-cutters.
26 Kollens	10,771	Black Smiths.
27 Thuttans	11,174	Silver or Goldsmiths.
28 Kunnans	2,046	Braziers.
29 Shemboothies	196	Copper Smiths.
30 Vanaies	22,686	Oilmongers.
31 Pannens	1,961	Tailors.
32 Mochens	1,472	
33 Coshavens	4,307	Potters.
34 Vunnauns	11,631	Washermen.
35 Unburtans	12,536	Barbers.
36 Kunnies	4,960	Chiefly Astronomers and Enchanters.
37 Shannans	108,815	Teddy drawers in the southern parts of Travancore.
38 Moovers	180,836	Do. do in the northern Travancore.
39 Pullars	8,736	
40 Parayars	38,614	
41 Pollayers	90,308	Soil Slaves.
Grand Total	12,80,688	

THE GEOGRAPHY AND STATISTICS OF

RAMNAD.

BY

J. KELLIE, ESQ. MEDICAL ESTABLISHMENT.

I.—SITUATION AND EXTENT.

A large Zemindary in the Southern Carnatic situated between the parallels of lat. $9^{\circ} 8'$ and $10^{\circ} 2'$ and long. $78^{\circ} 0'$ and $79^{\circ} 24'$. It forms the south and eastern portion of the Madura Collectorate and stretches out in a southeasterly direction towards the Island of Ramisseram, from which it is separated by the Pambam passage. It covers an area of upwards of 1300 square miles, of which one half is cultivated and the remainder is composed of sand, wasteland, water, &c. It is bounded on the north by Shevarganah, south and east by the sea and west by the district of Tanjore.

The Ramnall pulam or zemindary was granted to the ancestors of the present family, with the title of Saidoo-budde, for the defence of the road and protection of the Pilgrims resorting to the sacred Pagoda of Ramisseram. The founder of the family was Wodys Taven who it appears exercised authority over a small district, covered with jungle and infested by robbers. On one occasion he escorted a relation of the king of Madura, when on a visit to the sacred shrine, and who was so sensible of his good offices that he procured for him an additional grant of territory and had conferred on him the title of rajah.

II.—PHYSICAL ASPECT AND SOIL.

The face of the country exhibits the appearance of an extensive plain, and does not contain a single hill or conspicuous eminence or wood of sufficient size to obstruct the view—large trees and those in small numbers being only found in the vicinity of villages. The zemindary as far as the unfavorable nature of the soil will permit appears well cultivated, but vegetation here is so entirely dependant on the periodical rains, that with the exception of the wet months the general appearance of the country is naked and uninteresting. The interior of the zemindary is entirely free from jungle, but the Babool tree abounds in the vicinity of the sea and along with the Palmyra and coconut forms almost a complete belt of vegetation along the coast side of the Zemindary.

The South coast abounds with rugged rocks which extend for some distance into the sea rendering the passage dangerous for coasting vessels. The neck of land which runs towards Ramisseram is nearly entirely composed of sand, but is covered with a low brushwood and grass sufficient to afford scanty pasturage to herds of cattle. This Promontory terminates abruptly, and the present appearance of the break or chasm, which separates it from the Island, and the shattered state of the rocks which form the dam betwixt them, renders it pretty evident, that Ramisseram constituted at one period a portion of the continent of India, and that it was separated by the sea bursting through the chain of rocks which connected them. The rock is a soft sand stone, resting on a bed of gravel and a continuation of the same geological formation can be readily traced from the main land across the ridge of Rocks forming the dam (and through which is bequeathed the Pambam passage) to the Island of Ramisseram, a distance of 2350 yards, preserving exactly the same direction and the same geological features. The above supposition is borne out by a tradition current amongst the Brahmins of Ramisseram, to the effect, that about 350 years ago the Island was connected with the continent and the Seamy of Ramisseram was carried to the main land three times every year along a causeway which partly remains on either side of the passage, but that a breach in the rock was caused by a violent storm, and that it has been increased in size by every succeeding one.

The soil is of a very variable quality the black or cotton ground prevailing in the interior and western Talooks, but in the Eastern Talooks and as we approach the Coast the ground becomes light and sandy and even at a distance of 15 Miles from the Sea, the ground appears chiefly composed of sand, with the assistance however of a liberal quantity of manure a large quantity of this otherwise waste land is brought under cultivation, and during the wet season yields tolerable crops of dry grain. Indeed even the most favourable portions of the country are not entirely unproductive, as the valuable plant from the root of which is extracted a beautiful red dye, in extensive use among the Madura weavers, springs up spontaneously in the sand and is found in great abundance, and in the greatest perfection on the east Coast, and least sterile portion of the Zemindary.



III.—DIVISIONS, POPULATION AND CONDITION OF THE PEOPLE.

Rannad is divided into 17 Talooks, their names, the number of villages in each and population will be seen by the following Table.

Talooks.	Villages.	Males.	Females.	Children.
Rannad.....	190	10447	11476	11654
Keelaraad.....	53	6737	6554	6596
Chekal.....	140	3250	4732	3636
Moudacooloor.....	12	2928	3839	2329
Papancolum.....	114	4607	4586	4573
Camoothi.....	148	8744	8800	5415
Aberamam.....	185	543	500	5846
Vindonai.....	87	6166	5723	2702
Camencotay.....	191	7515	7853	6327
Salygramam.....	87	5975	5327	421
Rasingamangalam.....	78	474	3294	2150
Arucotamangalam.....	191	5553	5459	3307
Ancomentapoor.....	181	5009	5142	4111
Googaganad.....	86	3510	3572	2543
Ooor.....	107	354	342	275
Catabastai.....	25	877	829	847
Pulimudubam.....	243	7594	6733	1978
	2165	102361	105653	98189

In the interior of the Zemindary the population is composed in a great measure of Hindoos, who are generally poor and engaged in agricultural pursuits. And there are a few engaged in the manufacture of Cotton Cloth chiefly for domestic use. In every town there are a few Mahomedan families usually employed as warriors. A Bugar See. The inhabitants of the Towns on the coast are mostly Mahomedans and Roman Catholic Christians the former amount to about 1850, and the latter to 1000. The latter are an active and enterprising race, were possessed of considerable wealth and are comparatively rich, their houses are generally speaking larger and appear more comfortable than those of the Hindoos, and the dwellings of the more respectable at Killeway are two or three stories high. They are considered in their disposition haughty and insoluble, but if treated with consideration they will be found kind and obliging and in their conversation communicative and intelligent. They are engaged in trade both by land and sea, and a few practice the mechanical arts. Many are acquainted with Arabic, and the Tamil language is in universal use amongst them. The Christians are employed as fishermen and are apparently very poor, their houses consist of a number of small houses, erected on the beach, with usually a small church placed in some conspicuous position.

It is generally admitted that the condition of the people is far less favourable now than it was 20 or 30 years ago, when a large portion of the inhabitants were actively engaged in the manufacture of Cotton and Silk Cloth for exportation as well as for domestic use but the free importation of cheap English cotton cloth into India and from the inhabitants being unable to compete with the manufactures of Europe of America, has seriously injured the commercial and manufacturing community. The former are now comparatively idle and impoverished, and the latter have in numerous instances been reduced to the condition of cultivators of the soil.

IV.—TOWNS.

The principal Towns in this Zemindary are Rannad, Keelacary, Deepolam, Poracooly, &c.

1. Rannad, the capital of the Zemindary is situated in Lat. 8° 24' N. Long. 78° 16' E. The town is of a rectangular form about 2½ miles in circumference, fortified by a wall and ditch and defended by numerous small bastions. The wall and bastions are now in a ruinous state and the ditch is almost entirely filled up.

The Fort was built about 160 years ago by Muzumdar Ragonada Raja Mudali who also constructed a large tank situated on the north side of the Fort.

Near the centre of the Town stands the Zemindar's palace, composed of four square buildings two and three stories high, surrounded by a wall, and surrounded by a wall having on the outside a large tank, and as the principal entrance. It is an ancient structure ornamented in the Carnatic Style, and in some places appears to be going to decay.

On the East side of the reservoir above alluded to and adjacent to the Palace is a large and handsome Bengallee which belonged to the late Col. Martin, who resided here for many years in Command of the Garrison and District. At a short distance from Col. Martin's house is a small Protestant church, and vestry in good repair. On the opposite bank is the burial place of the Rajahs, containing several granite Tombs erected to the Memory of the late Rajahs and their families. A small Roman Catholic church near the South East corner of the Fort and a Pagoda in the centre of the Town are the only other objects worthy of Notice.

The Fort contains about 5000 Inhabitants chiefly dependant on the Zemindar, their houses are moderately well built, generally of mud and thatched. The streets, with one exception, are irregular and narrow, but are kept tolerably clean.

A large portion of the inhabitants of Rannad reside beyond the walls, on the east side and at the principal entrance to the Fort. The population of this portion of the town amounts to about 6000 chiefly Hindoos with about 100 Mahomedan families—the former are engaged in agricultural pursuits, and as grain merchants, and a few are occupied in the manufacture of coarse cloth, the latter are workers in iron, brass, &c. There are two rows of bazaars regularly built, with tiled roofs, and the houses of the inhabitants appear also of a superior description. A market is held here every Wednesday.

Rannad is garrisoned by one company of sepoy under a European officer and is the head quarters of an assistant to the Collector of Madras. The sepoy possess an separate lines, but occupy houses indiscriminately with the inhabitants. The place of arms, and a small building forming the hospital and dispensary are within the Fort, and are built of brick and chomam, and in tolerable repair, and sufficiently large and convenient for the small number of men composing the detachment.

In the vicinity of the town, in an open plain, and on sandy soil are the houses of the commanding officer and the Head Assistant to the Collector built in good repair, and in their neighbourhood are the ruins of several others which belonged to the commercial residency.

The climate is hot, but tempered towards evening by the sea breeze, and has hitherto been very healthy.

Rannad is rendered memorable from having been stormed by General Smith in A. D. 1772 and likewise from an affray that took place in 1777 and in which Lieutenant Clark was killed when endeavouring to seize the celebrated Poligar Oottham Nair.

2. KEELACARY.—A populous Seaport and commercial town situated nine miles south by west from the capital. It is inhabited by about 7000 Mahomedans, who are extensively engaged in trade. Several of the houses are two and three stories high but the great majority are built of mud, with thatched roofs. The inhabitants follow almost every trade and carry on a considerable manufacture of long cloths, but both the trade of the town and it's manufactures have lately declined.

There are several mosques and Mussulman tombs in the town, and a Roman Catholic church is situated on the east side and near to the ruins of a Dutch factory.

The coast abounds with treasured rocks which are seen above water at low tide.

3. DEEPAUTAM.—A seaport and populous town chiefly inhabited by Lakkans, and well known by the name of the nine stones. The history of these stones are connected with the legend of Ramaswamy's expedition to Lanka, they are placed in the sea at some distance from the land, and form a bath, which has been held sacred from the most remote antiquity, and a visit to which is considered essentially necessary to give efficacy to the holy waters of Ramesswaram, &c. and is consequently visited by all pilgrims on their way to that sacred shrine.

About the centre of the town stands a pagoda, and adjoining it is a large and well built chattrum for the convenience of travellers, and where alms are bestowed daily.

The houses are of moderate size, built of mud and thatched—the streets with the exception of the one around the pagoda are narrow, sandy, but tolerably clean.

4. DEEPAUTAM.—A populous Village situated on the north bank of the Venarashayam. The houses are mean looking and covered with thatch, the streets are irregular, narrow and filthy, but notwithstanding it's unattractive appearance it is one of the most important places in the district, on account of it's trade and from the numerous and wealthy Narottah Chetties who reside there. They live in a stately style but are generous in the dispensation of their money for charitable purposes.

They refuse to submit to their superiors but make their compliments by rubbing their hand on their bellies.

5. MOOTABETAN, a fishing village, situated 10 miles south east of Rannad and inhabited by Roman Catholic Christians, a church is erected in the centre of the village, and the priest who officiates, a native of Goa, resides in its neighbourhood at a short distance from the town and on the margin of the sea are two thatched bungalows erected for the convenience of the Europeans in the district and occasionally resorted to during the rainy and oppressive months of March and April.

6. ACHENKOTTA.—A seaport and situated eleven miles east of the capital at the mouth of the river Veyar. It is inhabited chiefly by Fishermen who supply Rannad and the town adjacent with fish. Small vessels enter the river at certain seasons of the year and receive paddy, chanks and other exports from the district. This place is distinguished for the excellent Tobacco it produces and which is considered superior to any in the southern provinces.

165

It has a spacious and substantially built Chattrum, erected and liberally endowed by the late Zemindar. Ams are daily given to the pilgrims on their way to and from Ramisseram.

6. ARNOOTAMUNGALAM. This town is inhabited by a peculiar tribe of Vellalars, who according to tradition established themselves there about 400 years ago. They also inhabit about 12 villages in the Talook, which lie north of the Collypenny River and South of the Munnammootoo. Their women are prohibited covering their breasts and are strictly forbidden going beyond the boundary formed by the two rivers.

These Vellalars will hold no situation under government, or any other authority, but employ themselves as cultivators of the soil, refusing to pay obedience to any one, farther than rubbing their right hand on their bellies.

7. PURNAGOODY.—A large and straggling town situated on the south bank of the Vagay river 22 miles northwest of the capital and through which passes the high road from Ramnad. It contains upwards of 1000 houses, many of them large and commodious, built of brick and covered with tiles. The streets are narrow and irregularly formed, but clean. The inhabitants, amounting to about 5000, are principally weavers and carry on a considerable trade in cotton and silk cloths.

There are several ranges of Barans well stocked with the usual necessities of life.

The decayed state of the greater number of the houses and the inattention paid to the cleansing or repairing of the pagodas indicate a declining state of trade.

8. ABRAMAM, a populous town and Cutchah of the Talook of that name, situated on the high road to Madura. The inhabitants are Moormen, Chetties and Vellalars. The two former are extensively engaged in trade and the latter are occupied in cultivating the ground. From the abundance of water afforded by the Vay, which is supplied from the adjoining river Vagaynat, paddy is cultivated in great abundance and the ground yields two crops a year.

The town is long and straggling and divided by two narrow but well formed streets, containing a few good houses, but generally speaking the houses of the town are small and of mean appearance.

9. VERASHOLEN, a village lying about seven miles north west of Abramam. It has been anciently the residence of some native rajahs, in whose days it was very populous, and it still abounds with remains of antiquity which corroborate the statement of the people of its having been once a place of grandeur and magnificence and the residence of Vogan and Sholen Rajahs, from whom this village derives its appellation. The present population is very inconsiderable and consists of Moormen, Chetties and Marattas.

V.—RIVERS.

The streams which flow through this Zemindary and assuming the appellation of rivers are very numerous but few of them are of sufficient magnitude to warrant distinction and particular notice. In their general character, their beds are very broad and would indicate the flow of a large body of water, but such is not the case and arises from the physical character of the country and the water running on a flat and almost level surface. The freshets occur in the months of October and November and occasionally water comes down in the month of April, and on both occasions is directed in its course into numerous tanks in the neighbourhood. A small supply of water is also procurable, even in the driest months of the year by digging in the beds of the rivers and penstocks are erected along their banks for the purpose of irrigation.

The Zemindary has of late years been but scantily supplied with that element and which from the arid nature of the soil is so essential to the well being of the people and prosperity of the country. This has arisen partly from the failure of the accustomed rains, but in no small degree from a larger portion of water being now withdrawn from the streams, before their entrance into the Zemindary, for the purpose of irrigation.

The principal streams are the Pambay, Verashalayam, Mussey Moortoo, Vay, Cottayam, Kichanmudde and Triamangalam.

VI.—LAKES, MARSHES, TANKS.

A large collection of salt water forming a lake or marsh according to the quantity of rain is situated in the southern extremity of the Zemindary, extending over a space of ground about 50 miles in circumference, and existing during the 12 seasons a most barren waste.

The Zemindary abounds with innumerable tanks, and when we consider the difficulty of collecting water in such a level country, and of making a substantial dam from the nature of the materials at hand, it may be pronounced as an instance of the attention paid by the native rulers of the country, to a subject on which they knew the prosperity of their subjects depended, and of skill and industry on the part of the inhabitants.

From the nature of the country the tanks are very shallow, and contain only a small supply of water and even that from the extensive surface exposed to the heat of the sun is rapidly dissipated by evaporation. Several of them are very large and are supplied from the rivers, while others of smaller magnitude are filled by the local rains.

The principal Tanks are the Ransingamagalum, Periacolum, Chackramottab, Abromam, Culbary, &c.

Roads.—There are no made roads in this Zemindary, and the bandy tracts are so soft and sandy, that the traffic betwixt the coast and towns in the interior is nearly closed through the imperfection of the means of intercourse.

Climate.—The general character of the climate is hot, but all that portion of the Zemindary lying within 12 miles of the coast is tempered in the evening by the sea breeze. The weight of the monsoon falls in October and November and is over by the middle of December, but the weather continues cool and agreeable till February, during that month however and the two following the heat in the interior of the country is represented as being excessive, but tolerably cool on the coast, and accordingly Mootapettah, where there are two hospitals, is occasionally the residence of the Madura Civilians, during the sultry and oppressive months of March and April.

From the absence of Hills or collections of trees to obstruct the free circulation of air, the arid nature of the soil, and small quantity of decayed vegetable matter, we might have anticipated a salubrious climate, and such is the fact, their being few diseases endemic to the country and the Zemindary having been for a series of years singularly free from a general visitation of epidemic disease. Cholera attacked the inhabitants in the years 18-23-32-33, and 37—its effects were very partial. Fever and Diarrhea prevail during the wet season, but they are mild in their attack and tractable in their nature, and readily yield to the simple treatment pursued by the Native Medical practitioners. Ulcers are common amongst the Sepoys, but they do not appear to prevail amongst the permanent residents to any extent.

During the last Ten years out of a Detachment averaging 90 strong, stationed at Ramnad; only 6 Deaths, exclusive of Cholera, have taken place.

VII.—COMMERCE AND MANUFACTURES.

The commercial transactions of this Zemindary were at a former period very extensive. A commercial resident and assistant were for many years established at Ramnad by the Company for the purpose of procuring cloth for the English Market. A large portion of the inhabitants were manufacturers and the Mahomedan portion of the population carried on an extensive and valuable trade in piece goods with the Eastern Islands and Persian Gulf, &c. but the manufacture and export of piece goods have to a great extent been superseded by the piece goods of Europe. Cloth is however still the staple manufacture and is made in considerable quantities, but chiefly for domestic use.

The chief imports are Spices, Long Cloth, Ghee, Oil, Beetle nut, Wood, Iron, Sugar, Pearls, &c. The Exports are, Choy root, Chunks, Salt, Saifish, Tobacco, Cotton, Silks, Paddy, Coarse cloth, &c.

VIII.—NATURAL PRODUCTIONS.

Antelope and wild hog are found in the Zemindary but in small numbers.

The shark may also be included amongst the natural products, about one million are collected on the coast annually and forwarded to the Calcutta market.

The fishery is rented for about 5000 rupees per annum.

Domestic Animals.—This province is well stocked with cattle, but from the scanty pasturage they are able to procure, are of small size and in indifferent condition.

They are of Cows.....	47,710
Bullocks.....	47,498
Calves.....	21,478
He Buffaloes.....	8,468
She Buffaloes.....	28,470
Sheep.....	2,75,072

THE GEOGRAPHY AND STATISTICS OF POODUCOTTAM.

51

MR. J. TURNBULL, ASSISTANT SURVEYOR.

I.—SITUATION AND EXTENT.

Pooducottam, a province under the rajah Tanjore, is bounded on the north by the provinces of Trichinopoly and Tanjore, south by the Shevaroy and Mysore mountains, on the east by Tanjore, and on the west by Trichinopoly and Trichinopoly. It contains an area of nearly 1,500 square miles, of which one-third is fertile (rice and rocky ground), with small detached hills about the country, and the remainder plain, partly cultivated and partly barren. It lies situated 31 miles N. E. of Trichinopoly and 36 miles south by west of Tanjore, and is almost in the western part of the district surrounded with thick and impenetrable forest.

II.—DIVISIONS AND SUBDIVISIONS.

The province is principally divided into five Talooks viz. 1st the northern or Colator, 2d eastern or Allengoody, 3d southern or Carvencand, 4th western or Banavansal and 5th Keelamally Talooks. The Abstract of the divisions and villages in each Talook respectively is as follows.

ABSTRACT.

1ST NORTHERN TALOOK.

Number.	DIVISIONS.	VILLAGES.					REMARKS.
		Principal.	Subordinate.	Inhabited.	Ruined.	Total.	
		or					
		Mouza.	Muzra.	Bustee.	Bachrank.	Jomala.	
1	Colinoor Cusba	1	..	..	..	1	
2	Keornoor	..	1	..	..	2	
3	Nattinungalam	53	..	..	..	53	
4	Odakott	1	..	..	..	1	
5	Arumalayputty	32	1	..	..	33	
6	Paynamboor	30	..	..	..	30	
7	Nearyyney	19	3	..	..	22	
8	Lachemanputty	15	..	..	..	15	
9	Mungadevampatty	28	..	..	..	28	
10	Pillayoor	14	..	..	..	14	
11	Keelayoor	16	..	..	..	16	
12	Shingaloor	5	..	..	..	5	
13	Undancom	35	1	..	..	36	
14	Vailavangalam	4	..	..	..	4	
15	Shembatooch hotopanley	20	13	..	..	33	
16	Kilbooray	5	3	..	..	8	Jaghire.
	Total	277	42	..	..	319	

2D EASTERN TALOOK.						
1 Aulangoody Cusab.	7	1	..	..	8	
2 Kellanthoor.	6	..	..	..	6	
3 Vuddacand.	1	..	..	..	1	
4 Maungaud.	1	..	..	..	1	
5 Carakancoorhy.	7	14	..	..	21	
6 Papisoorvunnayallacoody.	16	..	..	..	16	
7 Kollanthracolay.	7	5	..	..	12	
8 Mauncotay.	3	..	..	..	3	
9 Mooloor.	10	1	..	..	11	
10 Parungaloor.	16	10	..	..	26	
11 Baurapoor.	19	37	..	..	56	
12 Vuddacaloor.	13	..	..	..	13	
13 Keilangaud.	12	..	..	..	12	
14 Pulliveramputtay.	17	..	..	..	17	
15 Kurumbagoody.	2	..	..	..	2	
16 Theatherpillauverdy.	21	..	..	..	21	
17 Vullaneu.	19	14	..	..	33	
18 Meentamsey.	3	..	..	..	3	Jaghire.
19 Arcomallu.	5	..	..	..	5	
20 Vuddavallu.	13	1	..	..	14	
Total....	200	83	..	..	283	
3D SOUTHERN TALOOK.						
1 Carvencand Cusab.	35	..	..	..	35	
2 Verayanchelay.	28	3	..	..	31	
3 Lumbelagoody.	25	..	..	..	25	
4 Thacanthoor.	25	12	..	..	37	
5 Malloor.	17	26	..	..	43	
6 Tholayanoor.	40	3	..	..	43	
7 Kurnanoor.	6	..	..	..	6	
8 Coileverray.	4	..	..	..	4	
9 Shavaleor.	3	..	..	..	3	
10 Ponamarsandee.	20	..	..	..	20	
11 Callampatty.	12	..	..	..	12	
12 Vaurpett.	19	..	..	..	19	Jaghire.
Total....	235	45	..	..	280	
4TH WESTERN TALOOK.						
1 Paramanand.	60	..	..	..	60	
2 Banavansal Cusab.	19	..	..	..	19	
3 Punnayoor.	9	..	..	..	9	
4 Coranoor.	5	..	..	..	5	
5 Makaniputty.	1	..	..	..	1	
6 Kanrayoor.	9	..	..	..	9	
7 Thainoor.	3	..	..	..	3	
8 Aulavial.	11	..	..	..	11	
9 Murraya Madura.	6	..	..	..	6	
10 Yeddayanoor.	7	..	..	..	7	
11 Maia.	6	..	..	..	6	
12 Keela.	6	..	..	..	6	
13 Perrumboor.	23	..	..	..	23	
14 Verallimally District.	122	..	..	..	122	
Total....	287	..	..	..	287	
5TH KEELAMALLY TALOOK.						
1 Madanally Cusab.	6	1	..	..	7	
2 Athanaud.	9	2	..	..	11	
3 Pothupatty.	9	1	..	..	10	
4 Vailvamsaikom.	9	2	..	..	11	
5 Keorungaloor.	9	5	..	..	14	
6 Coombengoody.	7	..	..	..	7	
7 Taguoor.	7	1	..	..	8	
8 Vainble.	9	2	..	..	11	
9 Kumbanand.	16	13	..	..	29	
Total....	81	27	..	..	108	

Comprising altogether 1099 Principal, and 197 Subordinate Villages.

III.—FORTIFICATIONS TOWNS AND VILLAGES.

The Principal fortresses are at Tenaseem and Keelamellipottah. The first is a strong fortification 104 Miles South of the Capital situated on the high road which leads from Tanjore to Shevaganer and to Madurai, via Poodoocottah. It is of a circular construction, consisting of 21 Bastions built upwards of 130 Years ago by the great Maravatt of Ramanud Vayath Rajanatha Radoobaddy, encloses a fortified rock, and has an outer ditch the walls of the South East angle is washed by the large lake which is contiguous to it; there are several houses in the Fort inhabited by Peons, and other people depending on the Pagoda, which stands below the rock, a small stonebuilt reservoir is opposite the Pagoda, on the Eastern side. The Manufacture here is only Gunpowder, which is for the Rajah Tondiman's use. The Fort is commanded by a K-saladar who has 150 Peons stationed under him. A small village to the West about 800 yards is called Shunday-pattah where a weekly Market had been formerly held.

Keelamellipottah 15 Miles South East of the Capital on the road towards Ramanud, appears to have been a place of some importance and is well known by the History of the Carnatic. This fortress is of a circular form built of stone and brick, and defended by 32 Bastions. It lies situated near the skirts of the Boundary between Tanjore and Shevaganer, the present site of this fortification is much elevated, and it is inhabited by a small establishment of Peons under a Shairvagan, for the Tahsil-dar's escort of treasure and Records. The Catcherry of the Tahsil-dar is held in the Fort. A reservoir of excellent water is dug from a rocky ground situated on the North West side of the Fort, two sides of the Tank are built with regular steps; and the two other sides show the formation of a rocky strata. The Nagazine in the Fort is in ruins, but the Granaries are still in pretty good order.

Purumacottah, the ruins of a fortress situated 24 Miles East of the capital, is covered with thick jungle so that there is not the least possible access to discern anything further than its ruins several other small forts in the Province are in an entire ruined state, and raised almost to the level of the ground.

Poodoocottah, a populous Town and capital of the country to which it gives name, situated on a low site and surrounded with thick jungle. It has three entrances to it through the wood; one on the North about three Miles from the Town, one on the South about two Miles, and the other on the West half a mile, these entrances are well guarded and commanded by a Cacah (a Native Portuguese) in the Rajah Tondiman's Service. The Town is almost an exact square divided into four regular and principal streets; in the center is the Palace the residence of the Rajah Tondiman Behander which is a structure of two stories with a spacious area surrounded by a wall. On the West of this is another building of a similar construction without the enclosure. These edifices with the other beautiful structures, and a handsome Pagoda on the East, give a striking magnificence to the general appearance of the city. The houses in this important place are large and commodious with tiled roofs several among them being covered which for their regularity and elegance add much to the salubrity of the air, and renders the Town more comfortable than it has been for past years. The whole of the town has been in the beginning of last year ruined to a considerable extent by fire, but the objects are well formed, and it nearly six furlongs in length, and thirty five feet wide. In the southern part of the town is a fine Church, and a reservoir built of stone by Mootooch a Commandant in the Rajah's Service. In the town and south east of the Talook is a grand high Mosque, and a few tanks and wells of excellent water dispersed to the south and east suburbs of the town are diversified with Gardens. The Deemah Poocha Festival is annually celebrated here with pomp and grandeur, when time the Rajah displays his liberality to the Brahmins who assemble from the remotest parts of the country by many thousands and are entertained as guests for ten days during the festival, and latterly every individual receives from one to five Rupees according to distinction; the annual distribution on this occasion is never below ten thousand Pagodas, many other instances of the Rajah Behander's liberality is particularly extended to Pilgrims and Travellers in the charitable Choolities situated on the public roads established for that purpose.

Tairavampoor a populous town situated two miles south west of the capital on the skirts of the jungle lying on the road towards Trichinopoly is noted for the extensive weekly market held on every Tuesday, and the only place where there are numerous houses in which cattle of various qualities and the best in the Province is sold together with other commodities, and almost great conveniences to the neighbouring villages of large.

Tirkorum a small town celebrated for a great Pagoda, one of the principal objects of Hindu veneration in the Province, where the Rajah Behander occasionally resorts for public worship. It is chiefly inhabited by the Brahmins who are dependent on the Pagoda, and is situated in the confines of the wood about 14 mile north west of the capital where a flat rock the Tahsil-dar of the southern Talook holds his catcherry here.

It is worthy of remark that the wood Tirkorum signifies Sacred Cow, where the Brahmins observe to him that within the compass of this forest no cattle will attack or give any pain, they are very tame and multiply exceedingly well.

Hannawusel, a populous town 10 miles west of the capital and 64 miles south east of Ellipoor. It is situated on the declivity of a rising ground on the road to Verallemally, has a small Pagoda on the east, and is chiefly inhabited by Moormen and Palliers; the former are people of traffic and the latter are labourers employed under Brahmins for the purpose to cultivate the lands. The Tahsil-dar of the western Talook has his Catcherry here, a weekly market is held on every Friday. It is well stocked with Cinnamon trees which thrive remarkably well, and the town towards the N. and west exhibits a pleasing prospect of Paddy Fields.

Terrucolumboor a populous village between the confines of Shevaganer near Prawnulay lies situated 25 miles south west of the capital; it is inhabited mostly by Calaries and Chetties. The general Boundary runs adjacent to this, which has been upwards of 200 years in controversy between the parties, the extent of this dispute is nearly 20 miles the settlement of which has at length been terminated by Lieutenant Colonel Blackmore, Resident of Tanjore, and Rous Peter, Esq. Collector of Madurai in Sept. 1812, when an amicable decision passed in favor of both parties, and boundary stones were fixed with the Honorable Company's mark which for its object has subdued the frequent tumults and disturbances invariably contested by the borderers.

Culutoor a village situated on the high road towards Trichinopoly, lying 15 miles north west of the capital is the Cashah of the northern Talook. This village although much reduced had been formerly the capital and residence of Rameswamy Tondiman, the ruins of the ancient Palace are still seen, a beautiful small Pagoda head of a mile south of the village contiguous to the north extremity of a large lake about 1 mile north of this lies Keer-noor a small village situated on the road which has a fine Pagoda on the east, where the Tahsil-dar's Catcherry of the Northern Talook is held.

Pattuivas a small village in the Verallemally district, a weekly market is held here on every Monday; it lies situated 34 miles north of Verallemally.

Tirruvenetum, a village in the confines of the wood, on the road towards Allangoody, lies situated 44 miles east of the capital. It has a remarkably high Pagoda and a large substantial Choultry on the east and a reservoir on the west, the Pagoda is surrounded by a large street which is inhabited only towards the north and south.

Paratooor a small village 48 miles south west of the capital situated on the south bank of the Vellar. It has a beautiful Pagoda built on a low and flat rock and is remarkable for the Fountain that is within the confines of the Pagoda, cut in a rocky bottom towards the east is a Choles marked on the stone, and the people affirm that when the water dries up to the mark the sound of music is heard below for three and three quarter Indian hours but this only happens once every year within the months of February March or April, when it is visited by the Rajah Tondiman and a numerous concourse of people who report here to witness its curiosity.

Anvoor, a Christian village on the high road from Trichinopoly to Ramanud via Ellapoor situated 22 miles N. W. of the capital, near the confines of the northern frontier, it is remarkable for the Grand Roman Church that is built here; this place is pretty thickly inhabited by Christians, the greater number of whom are Germans and Malabarians; a Danish Priest resides here, who has the superintendence of all the other converts in that neighbourhood.

Komandah Coril, a Braminary village lying eight miles on the East of Pootoor. It has an ancient Pagoda built on the declivity of a pretty high rock, exhibiting a pleasing romantic appearance. The image stands in a spacious excavation in the rock somewhat like a dome. It is considered as one of the chief places of sacred worship in the Province.

Korramangoody situated almost East of the Capital and very near the line of frontier though formerly a small village, has of late become pretty populous from the Indigo and Soap Manufactures which are carried on here.

IV.—RIVERS.

The Vellar which takes its rise from Vadumally has a narrow and rapid stream among the Hills of Murrungampoor in the Province of Dindigul. It enters this Province on the Westward, and falls in the Mainavelly Tank; discharging the superabundant waters from the Gollingah constructed at the Southern extremity of the bank, and takes its course North East dividing the general limits of this and Murrungampoor to an extent of two Miles, from whence it glides South East embracing a small tract of the Murrungampoor Country in the North. It re-enters the Province west of the village Goodenoor, and widens considerably in its way, crosses the high road by Pinnangoody; and continuing its course S. East 12 Miles is joined by the Koombar, which flows from an outlet of the Marava Madra like supplying in its course the Tanks of Yeddiannoor, Chettyoor and Nerrenjagoody &c. from this junction the River winds North East to Paratooor.

The other Villages in the Province are small and thinly inhabited.

where is the first stone Calingula across it for supplying the Cuvanas Lake, then it proceeds East by South six miles where it is met by another rivulet termed also the Kovodur, which flows from the Northern Calingula of the Cuvanas Lake. At this junction a water course is branched off to the Vallaband Lake, whence the Vellar meandering in a South East by South direction passes by the Villages Mooneyumbham, Gundahoor, Pandayan and Kothamungalam. About 1 mile East of the latter village it flows the general limits to about one and half mile, and then runs into the Tanjore Country, and ultimately discharges into the Bay of Bengal.

The Pambayan is a narrow and rapid stream which has its source from the Surpanadur reservoir at the village Peintheer; it pursues an easterly course three miles, and supplies the Cotayan lake, thence winding south east about seven and a half miles to Neddingopoly it turns to the east about a mile north of Keelachelly fort, above the village Kodichemburam, from whence continuing its course again to the south east three miles, runs east about 2 miles and crosses the general boundary below the village Umbraney in the Tanjore country. It enters the Shevanga country close the Moogoodon and runs south about two and half miles in the latter province, after which it takes its course through the separate land of Brumbanad (appertaining to the Keelichelly district) at the same time supplying the Brumbanad lake and the other tanks adjacent to it, continuing its course south about six miles and crosses the general boundary where it enters the Namahad province.

The Carreroor is a shallow and rapid stream taking its rise from the high lands, and crosses the high road which leads from Trichinopoly to Madras via Verallimall district, it proceeds in a north easterly direction and communicates in its course with all the large tanks contiguous to it a small rivulet joins west of Rajahmundry where it assumes the name of Carreroor, and turning east about one and quarter mile, winds northwardly and forms a part of the general boundary between this and the Ellipally country, for the distance of two and half miles. It continues its course northwardly through a plain and open country and crosses the limits opposite the village of Pandour, where it enters the Trichinopoly country, and finally supplies the Moogoodon lake. The superabundant waters discharged from the north east Calingula falls into the Veermandam channel.

Shoomeer, a small rivulet, rising from the high lands below Shanmuttally, proceeds northerly about eight miles and supplies the adjacent tanks in its course - falling into the Sundrum lake contiguous to the north west boundary of the Veermandam district.

The Umbayan, a small stream which rises from the eastern jungle in this province takes an easterly course and waters the tanks of Caviloor, Allangoody and a few others in its way, then it crosses the general boundary about one mile and a quarter east of Shanmuttally, where it follows the boundary, for about two miles, then turns south east about one mile into the Tanjore country embracing a small tract to the north and proceeds east two miles along the boundary again, after which it runs into the river east of Ammay Chutrum.

The Talamyemmotheemudde is a narrow stream which issues from a pond called the Anagha gunga situated below the hills of Naurtamalli in the province. It takes a north east course three miles and falls into the Colaboor lake, thence running from the outlet constructed on the north extremity easterly for five miles, waters Vadamungalam tank, glides on south east three miles above Shoogoody watering the lake, then crosses a road where it separates in two branches, and is united about one mile and a half east of Whidy covil, continuing its course south east three miles and crosses the high road that leads from Tanjore to Poodocottah, about one mile south of the village Parunadur; still pursuing its course four miles, it disposes into three branches and crosses a road that leads from Chidamb Chutrum to Buragoor, joining about one mile south of the latter, thence taking an easterly course for six miles it touches the general boundary, where it bounds in the north east about two miles, and gets into the Tanjore country four miles. It re-enters this province on the west of Kuraabegoody and winds in a south east direction about four miles where it crosses the general boundary and runs into the Tanjore country, taking its course easterly till it discharges itself into the Michrajahshumdrum channel near the village Rajahmudde.

The Michrajahshumdrum channel is a narrow and rapid stream taking its rise from the high lands at Yellam in the Tanjore province. It has originally been a branch of the Veermandam river flowing into the Pambayan. South of the Tanjore country and has been available for small trading vessels about three miles in the interior of the country from its communication with the sea; it has been from ages past shut in a total state of decay. West of Yellam the ancient bank and its flow had been traced for several miles, but to the eastward it is not discernible till it enters the province on the north east and runs four miles whence it proceeds to the Tanjore province again and widens considerably in its course the wayward for several miles, and then discharges into the sea below the village Pandayan, a small fishing village on the coast situated four or five miles South of a Mangalam.

Tanks.—The tanks in this province are almost numberless, the principal of these are in a north from east to west miles and the best of which extend from half to three quarters of a mile in length from the Eastward by which so large a body of water is supported; these are supplied by the Vellar and other rivulets each irrigating a large sheet of paddy lands below their banks, some of which in good years yield two crops annually. For the purpose of preventing an inundation which often happens in an heavy

monsoons several of the tanks and lakes have calingulas or sluices constructed of rough stones at either of the extremities of the bank, which drains off the superabundant waters by a channel leading from one and supplying another, until they at last discharge into some lake, the lesser tanks are called Tanudels which also are kept in good order and are filled by the local rains and cultivate but a small extent of paddy land, yielding annually but one crop.

Springs.—Of these there are none.

Mountains and Rocks.—The Naurtamalli, presents a small range of hills lying west of the high road from Trichinopoly to Poodocottah south of the village Ammaychutrum. The Naurtamalli of itself is an entire solid rock on its summit and declivity are still to be seen extensive ruins of a fortification which exhibits some relics of its ancient grandeur; of Pagodas and stone images are discernible, which, the people affirm to be dedicated to the Cuddumbers or Hermits who resorted to this place, and it is still held in veneration of past events. Contiguous to this on the north stands the Auloortimall a lofty rock, which has a quite perpendicular declivity to the south, and a very gradual sloping ascent on the North. This rock is said to have been so denominated from a tradition that in former times the criminals were rolled down from the precipice. The Vel-terminall is also a Hill among these which rises by a steep and rugged ascent, till it forms a fountain of excellent water, and a few yards to the south on the declivity stand the ruins of a Pagoda, near this it forms a sort of natural amphitheatre of solid rock in which sit the statues of twelve men. Pilgrims still resort now and then here in order to gather some peculiar medicinal herbs that grow about these hills and which is only known to themselves.

Hannahwassel Hill is a detached rock lying east of the village about 2 miles, on the south bottom of the hill, the road from Poodocottah to Ellipoor leads through Hannahwassel. Kodemashmalli hill has a small Pagoda on the summit, and another large one on the eastern declivity of the rock, situated about half a mile from the northern bank of the Vellar at the skirts of the jungle.

Verallimall is a very rugged rock on the summit of which stands two fortified Pagodas, and lies situated 18 miles from Trichinopoly on the road leading to Madras. Shanmuttally is a pretty high hill whose sides and summit are covered with jungle. It lies near the Moogoodon between this, Murranganpoor and Luckianai's the country about here is hilly and interspersed with stones, some of which are very bulky. Shanmuttally is a small flat rock, on which the station is made, but the one to the north of it is very lofty and inaccessible, another small rock in the village has a small Pagoda on it, and lies about four hundred yards east of the road that leads to Trichinopoly.

Piawmally, the only remarkable high hill situated on the South West Skirts of the Province. It bounds and occupies only the North East ridge of the Hill on this side, and the whole of the other part and the Western range of Hills appertain to Shevanga; the height of this Hill is about one thousand eight hundred and forty-three feet. It is well cultivated with dry grain both on the declivity and declivity. The soil produces a prodigious quantity of Honey. Notwithstanding the rockiness of the soil, the grain thrives well, and the cliffs of the Rocks produce an immense number of trees whose foliage adds greatly to the beauty of the place.

Shavaloor Hills divides the general limits between this and Poodamcoorchy, and is covered all over with jungle.

Perom Hills are low craggy ridges almost entirely covered with jungle and extends about 6 miles from North to South several other Rocks and Hills are scattered in the Province, which are but small and not worth any notice.

Buildings.—Of these principally are the Hindoo Pagodas which are all built under one general plan of the ancient mode of structure; the several substantial Choultries built of heavy stone which are situated in the different high roads, and a few Mosques, the Roman Church at Auvoor, the Palace at the Capital, and a few Pagodas that stand on the summits of the Rocks some of which are enclosed with a fortified wall. The whole of these constitute the grand Buildings in the Province; the places where the large Pagodas are, is the Capital, Tirukonam, Tiruvencolum, Coviloor, Pandur, Allangoody, Terumacholoor, Keernoor, Teruvangavassal, Whidy-Covil, Konandah-Covil, Sattumungalam, Tirumam, Veerayanchellay, Neddingopoly, Vairamaneekum, and Eumaband. The Pagodas that stand on the summits of the rocks are at Verallimall, Kodemashmalli, Vyan-tan, and Thaanthimall; in several other places are situated small Pagodas which are too numerous to mention. Of the Mosques there are two of note, one at the Capital, and the other of a very grand appearance of modern structure is situated near the confluence of the Southern Frontier, on the high road to Shevanga, built upwards of 180 years ago to the memory of one Canthava a pious Fakier, who was murdered here by the brutes with great solemnity.

Woods and Jungles.—The face of the Country exhibits a rough and irregular appearance of high and low lands and abounds with Woods and Jungles; first, that jungle

surrounding the Capital extends to the East as far as the general limits containing an area of nearly 170 Square Miles. This extensive Jungle does not consist of any valuable Timber, but the principal kinds are Vandy Family Foresta Vunney and Curuvallat and mostly a kind of thorn trees and which are chiefly used in making the different implements of husbandry, &c. It is inhabited by Stags, Bares, Fallow deer, Hogs, Porcupines, Hares, Guanas, Civit Cats, Jackals, and also Wild Cattle of the Buffalo kind of an enormous size which are very ferocious. Of the Bird kind there Peacocks, Partridges, Wild Powl, &c. which render it extremely agreeable for the hunting season. Second, the Porum Jungle commences from the South bank of the Vellar along the low range of hills, whose sides and summits are thickly covered and extends to the Southern Boundary. This Jungle towards Royapooram on the West is infested with game. It contains a superficies of about 45 Square miles. Third, the Thevayanga Boundary, contains an area of about fifty square miles. Fourth, the Kottor Jungle is a small tract South West of the village and is within the superficies of ten square miles. Fifth, the Shavallour Jungle among the hills dividing the Province is enormously thick; its area is nearly ten square miles. Sixth, the Vaypet and Teracolethoor Jungle is within an area of eight square miles, the former touches the North East part of the Praxamallayhill. Seventh, the Aina menagorey Jungle extends along the Western Boundary and contains an area of eight square miles. Eighth, the Kodemamallit Jungle extends along the Northern bank of the Vellar river to the bounds of Elipptor, and West of about 40 square miles. Ninth, the Nartamallit Jungle, and that of Hannawusel are now considerably diminished owing to the inhabitants clearing the Jungle to supply wood for Trichinopoly. Tenth, the Paramallor and Ganatathe Jungle is also rather extensive and impenetrable including with these Shengamud Vuddacaloor and Harupoor, the whole of which contains a superficies of about 120 square miles. Veralamullay Jungle lies South of the limits of Murungapoor to the West of Shanmugam, and is scattered with large trees called Ponnaband and Pongad, from the leaves of the former, the leaves of the latter trees about these parts are used, and from the roots of the latter trees oil is extracted and used by the people for various diseases. It is within the superficies of about 60 square miles. Small tracts of low brushwood are interspersed in several parts. There is in general much excellent pasture in the high grounds and on the hills, and the plains and level tracts contain much well cultivated fields.

Roads and Passages.—Several Principal Roads leading through the Province from the neighboring Towns and Districts, the first is a high road from Trichinopoly to Madurai, which enters the Province by Elipptor, touches at the villages Verillipalay, Vaypet, and Collemannoor and quits the District by the village Lingamud, where it immediately crosses the Cantarant and enters into the Murungapoor Zemindary of Dindigul. Second, a high road from Trichinopoly to Ramnad via Elipptor. It enters the North by Anvour, touches at the village Payrambore Pichavaram, and crosses the boundary by the village Shuttacottay whence it leads to Elipptor in the Trichinopoly country, and about two miles South of it, re-enters the Province by Unnamputty, and lead through the village Paramallor and Shavallour, entering into the Zemindary of Shavangura, by the village Teracolethoor. Third, another road also from Trichinopoly towards the Capital, enters East of the village Poothiputty, and leads through Nallur and Collemannoor Shutturam, crosses the village Kottor and Colletour, and thence leads through the Jungle to Annab Shutturam situated below the Hills of Nartamallit, continues to Kongara Southam, (where it is intersected by the high road from Tanjore) down to Adipacavay Shutturam and Thiruvapoor where it enters through the South entrance into the Capital. Fourth, a high road from Tanjore entering by Gumbacottit and touches at the village Paramallor, below which it crosses a rivulet and leads to Chinnak Southam. Fifth, a road that leads also from Tanjore, touches at the village Chinnak Southam, and enters the Province East of Madalliputty two miles, and South of Kottor, touches at the village Chinnak Southam and Shanmugam, and enters Kottor Southam at about a mile on the South it quits the District at the village Teracolethoor and enters the Capital a distance of 26 miles touches at the village Teracolethoor (above which it crosses the Vellar) by Madalliputty, Maravaputty, Pooniputty, and Malliputty, and then leads through a thick Jungle by Pannicottit to Allangooda thence it leads to Colletour, and through the Jungle to Teracolethoor touches at the village Teracolethoor Pooniputty, and leads through the South entrance to the Capital. Seventh, another road that separates at about half a mile from the South entrance towards Ramnad; it crosses the Vellar opposite Chinnak Southam, and after a short distance and touches at the village Madalliputty, and thence leads to the Capital. Eighth, a road that leads from the village Curuvallat and leads off towards Aranthangy. Ninth, a road that leads from the Capital to Shavangura passes the Kodemam below the South entrance to the Capital, about a mile and a quarter further it crosses the Vellar near Madalliputty, after following at the village Nartamallit Shutturam and Trichin, it leads through a thick Jungle to Parallee and Gathava, and quits the Province on the South about two and half miles; enters the Shavangura Zemindary, passing Trichinopoly in its progress to Shavangura, North another road from the Capital towards Praxamallay a distance of 18 miles, separates from Adipacavay Shutturam and leads to Paramallor, and thence, on the South of which it crosses the Vellar about one and a half mile, touches on the way at the village Gumbacottit and Vaypet, and crosses the high road between Shavallour and Nartamallit, and continues to Madalliputty, Collemannoor, Vaypet,

marandee and Vaypet; then quits the district enters the Shavangura country, whence it leads through Allangooda pass to Praxamallay, several other roads in the province which lead from one place to another, in all directions, being no more than common footpaths and some among them running through uneven and rocky tracts extremely bad, are unworthy of notice.

Mines and Minerals.—No mines of Precious metals or stones are in the province, but only iron ore is dug from the earth in the following villages, viz. Tiruvencolun had within the circumference of 2½ miles; at Aroonathum within the circumference of 1½ mile, at Malaney it is gathered from the space in extent of one mile in length, and fourteen feet wide. At Parangaloor, iron ore is had at two places, the one on the east of the high road within the circumference of 1½ mile, and the other on the west of the road within the compass of three quarter of a mile. At Menantoor it is had within the circumference of 3 miles, these places are rented, and the manufacture of iron is carried, but not of the best quality.

Within the precincts of the village Shenkeray is a mine of Curuvallor or red ochre, which is dug from the earth at a depth of about fifty or sixty feet. Previous to the undertaking to gather this substance, the Vullambars a class of people who are usually employed for the purpose, fast for four days successively, and whet themselves in a temporary hut near the spot; after performing several ceremonies and an oblation to their deity, they commence with the labour when the ochre is discovered and gathered with facility; otherwise they affirm that on the least deviation in these ceremonies, it will actually disappear; others with more probability allege that it is liable to be dissolved into water, and occasion the disappointment of the adventurers in search of it; this is said to be the only spot where this article is productive, and which is exported to distant countries. The same is observed with respect to yellow ochre at the village Cannapoor.

Soil and Productions.—The soil in this province, is of various kinds, the most fertile of which are the black and red, and that on the elevated grounds which is sandy and stony, the brackish soil consists of barren grounds, and the soil on the south and west of Veralamallit is mountainous and woody, there and here interspersed with plains, which is however fruitful in dry grain, and pasture feeding. Multitudes of cattle. The productions consist chiefly of paddy, several sorts of dry grain, Indigo Plants, Horse gram and a few varieties of Pulse Cotton, Rape Seed and Oil nuts. The garden productions consist of Mango, Beetle, Sugar Cane, Plantains, Pumpkins, Saffron, Tobacco, &c. The south eastern parts of the province abounds with groves of Jack, Mango, Tamardine, Nargosa, and Illapay trees, many of them very extensive and of great advantage to the country. From the seeds of the two latter kinds oil is extracted, which is useful in many respects, particularly the Illapay oil which is essential in the manufacturing of soap recently established at Kurrambagody. Extensive tracts of coconut trees growing along the banks of the Vellar river, towards the South contribute somewhat in the produce of that part of the country, and adds considerably to the fertility of the scenery. The Brumhanad and part of the Kechanally country is richly productive of Palmira, from the toddy of which a good quantity of Jagery is manufactured.

Manufacture, Imports and Exports.—Thiruvapoor, is distinguished by its spacious harbor, and noted as the principal place for its manufactures, particularly of the finer kinds of cloths, as also of silk, printed cloths, and chintzes, notwithstanding an extensive manufactory of coarse cloths is carried on at almost every village in the Province. Black and white cumlins or coarse wollen blankets are made at Hannabwusel, Nartamallit. The wool of which they are made is the produce of a species of sheep which breed numerously in this country, and are termed the Coorumba sheep, earthen salt is produced in a few places, and by the industry of the people a small manufacture of that commodity is carried on which however is of no great benefit, being taken only to the markets, and not exported. The bangles which the women wear are made from the fuller's earth, as also small glass vessels at the following places, viz. Vytheoor, Shembannoor, Shadaganatty, Hannabwusel and Kodemamallit. The lidge and soap manufactory has been lately established at Kurrambagody; formerly of a coarse nature, is manufactured at Tirumun which is for the use of the Rajan; but the inhabitants of the country are allowed to purchase small quantities (by obtaining a special license) for their hunting diversions. The country arrack is distilled in several villages in the province for traffic, but which is consumed within their respective limits. The commodities imported hither, are long cloths from Illapoor, superfine silk and coloured cloths for women, chintzes, red coloured turbans and Doo-pastans from Madura, Parambagody, Coombacannam, and Nagore. From the eastern coast, salt and fish are brought to Thiruvapoor, from whence it is carried to the other markets in the district; wheat, pepper, nut, nutmeg, cinnamon, and other spices fine and coarse sugar and Masal (or ingredients used for culinary and medicinal purposes) are brought from Trichinopoly. The exports are scarcely any, but the chief trade consists in the red and yellow ochre, tamardine, jagery, gingerly oil, and the coarse wollen blankets and bangles to the neighboring district.

HISTORICAL GEOGRAPHICAL AND STATISTICAL

OF THE

CEDED DISTRICTS.

BY

LIEUTENANT NEWBOLD, A. D. C. TO GENERAL WILSON.

Adoni.—Tradition states that Adoni was founded upwards of 3,000 years ago by Chander Shah, the reign of Shih Ning ruler of Babel. Its ancient boundaries were the Tumbrin on the north, the hills of Sahadour and Kuppithat on the south, the jungles of Padkonda and Hindeonda on the east and the Mogri River on the west. It was built on five hills. It subsequently fell into the possession of the Bijanugger Rajas, who looked upon it as impregnable, and formed part of the Jaghira of a female relation of Kishan Rajah Ram Raj, the last independent sovereign, if Bijanugger received it as a dowry with his wife the daughter of Kishan Rajah and nominated his brother Kanam Raj as its governor. Kanam Raj and his brother Govind Raj rebelled against Ram Raj who marched against them, but desisting of reducing the place, called in the aid of Adil Shah of Bijapur and Kutub Shah of Golkonda. After a resistance of nine months the two brothers gave themselves up to Ram Raj who generously pardoned them.

After the death and defeat of this sovereign and the fall of Bijanugger, Adoni was again taken possession of by the Bijapur sovereigns and placed under one of his Emirs Sadi Rehan Khan an Abyssinian, in A. D. 1594, who died here and was buried on the hill. He was succeeded by Shih Musad Khan in whose time the tower fort was built. The upper works are said to have been constructed by the Rajas of Bijanugger and to have comprised eleven lines of fortification. The great mosque was also erected by Musad Khan at an expense of 3 lacs of rupees, he was two years in building it and the adjoining suburb of Bahadurgar, so called in honor of his son. The country flourished and grew populous under the rule of this chief; the revenue is stated to have amounted to 5 lacs and 75,000 pagodas; the military establishment consisted of 4,000 horse and 8,000 infantry.

During the administration of Musad Khan, Adoni was besieged and taken by Aurangzeb's general Zohab Khan and Munas Jung after a determined resistance. After the death of Aurangzeb's empire, Adoni remained under Mahomedan governors appointed by the Hyderabad chief. In 1760 A. D. Basalet Jung brother of Shih Jung Musad of the Deccan held it together with Raichoor and Guntur. He made Adoni his capital and attempted to establish an independent principality. In 1770 A. D. he sent an Army under Saif Jung and Husay Lally to take the fortress of Bellary then held by the Poligar Chief Dadasa Nair. While thus engaged they were attacked and defeated by Hyder who pursued them to Adoni; but on expectation of the payment of 15 lacs of rupees desisted from further hostilities. In 1778 Hyder defeated the Marhatta chiefs Hari Pandurao Purneyon Shive Nair Adoni. Basalet Jung died about 1782 A. D. succeeded by his son Dada Jah son-in-law of Nizam Ali Khan; about this time Hyder died of a cancerous sore. His son Tipu in 1786-7 A. D. besieged and took Adoni after a month's siege. He left a garrison under Kutubuddin Khan which not being able to maintain their position abandoned the place and retired to Gangy. Adoni at the close of the Campaign was restored with other towns taken by Tipu during his campaign. After his death it was ceded with the rest of the Bahadurgar to the English. Travelling distance from Madras to Adoni 399 miles from Bellary 100, 2 far.

Cannannur.—A small village in the Cannannur valley Cuddapah Collectorate 68 miles N. by E. from Cuddapah & 225 N. W. from Madras. Here is a small fort, built on the summit of the adjacent hills in good position. The cultivation is principally rice. The soil is reddish partly alluvial and partly the result of the disintegration of the adjacent rocks. Between Cannannur and Adinogger the surface is strewn with angular quartz pebbles.

Adinogger.—Vide Bijanugger.

Aurangabad pass.—Vide Nandl Cannannur pass.

Bijanugger pass.—Vide Shihdhi Madras Journal of Literature and Science.

Bellary.—A small village in the Chittur taluk Bellary Collectorate on the military road from Bellary to Bangalore 302 miles travelling distance from Madras and 35 miles and 500 paces from Bellary. This place is interesting to the zoologist being situated at the southern margin of that vast sheet of cotton soil which overspreading most of the Coles district the southern Malabar country, the Dush and General, extends northwards to an unknown distance producing these valuable crops of cotton, wheat, and other dry grain from which the immense population of these extensive districts principally derive subsistence. It is here interspersed with the red alluvial and detrital soil and cotton guano and its associated strata of mica and hornblende. The superstratum of soil varies from 1 to 5 feet in thickness.

Bellary.—In the reign of Kishan Rajah of Bijanugger a chief named Timmapa from the hill of Sana Jebba in the Concan emigrated with all his household and settled at a place called Rais on the banks of the Tumbrin. He sent many presents to Kishan Rajah who bestowed upon him the four Taluks of Bellary, Kurgode, Tekunkota and Hundi Anantpur. Timmapa having sent some of his relatives to take possession of the three latter, selected Bellary as his own place of residence and built a small fort which he and strengthened, 1000 Rupees annual Peshkosh were paid by the Nairs of Bellary to the Rajas of Bijanugger. Rangapa died about A. D. 1539 succeeded by the rightful heir Deopa Nair in whose time Bijanugger was taken by the Mahomedan Kings of the Deccan. A. D. 1564 Bellary first became tributary to the sovereigns of Bijapur and subsequently to Aurangzeb. Deopa Nair died about 1600. His son Hanappa succeeded and assumed the title of Raja. He defeated the Raja of Bijanugger in the plain of Kumply, but was compelled to raise the siege of that place. He died about A. D. 1650 succeeded by his brother Chick Ramappa. This chief defeated Venka Rajah of Bijanugger who had over-run and ravaged the plains of Bellary. Ramappa died A. D. 1681 after installing his son Hanappa who continued the family feud with the chiefs of Bijanugger, Anantpur and chief of Anantpur and all his family prisoners to Bellary; he died A. D. 1716. In the besiege Bellary, but retreated on finding Hanappa fully prepared to receive him. The Bussy Lally were sent by Basalet Jung to take Bellary. While their army was before the place they were attacked by Hyder Ali and defeated 1760, A. D. The hill after withdrawal of the rock with all his women and treasure and fled to Solapur. Hyder after having left a strong garrison at Bellary. Hyder and Tipu held Bellary until 1793 when it fell to the Nizam by the treaty of Seringapatam and to the Company with the rest of the Muzaffar Khan the ex-Newab of Kurnul has been for many years a state prisoner in the upper fort.

The rock on which the fort of Bellary stands as well as the adjacent rocks are of granite, with both mica and hornblende, in some places intersected by green stone dykes. Granitic gneiss sometimes imbedding quartz constitute the prevailing rock in the plain from which at the distance of 5 or 6 miles west from the cantonment rises a range of hills composed chiefly of a chloritic slate crested with angular masses of a rock composed of a jaspery clay highly impregnated with iron and a chert-like quartz in alternate laminae. The highest of the range is known by the name of the copper mountain from its containing that metal. The ore which is the green carbonate of copper is found in the slate clay at the base of the crest of the southern extremity of the hill. Excavations are still to be seen said to be the remains of mines excavated by order of Hyder Ali, but which were given up in consequence of the expense exceeding the produce. The soil in the vicinity of Bellary is generally Regur or the black cotton ground based on a calcareous deposit of kanker except in the neighbourhood of granite elevations of protruding beds of gneiss and large permatitic veins of quartz and felspar where it is found by the debris of these rocks which decompose into a light red soil termed mussab by the natives. The Regur produces two kinds of crops known to the natives by the terms Munasab and Hinnari. The Mussab is capable of producing the former only. This soil is sometimes extensively deposited in low situations by the force of streams or torrents of rain when it becomes a "terre de transport" or alluvial soil. The garden soil of Bellary generally consists of Regur and Mussab soils mixed with manure of decayed animal and vegetable matter.

The springs and wells as well as the soil often impregnated with muriate of Soda and Carbonate of Lime; these sometimes occur in the immediate proximity of a spring of fresh water a phenomenon probably to be ascribed to the almost vertical strata through which they rise. It is a curious fact that many of the gardens at Bellary formerly extremely productive have lately fallen off and now yield little or nothing comparatively speaking this is possibly owing to the practice of constantly irrigating them with water drawn from brackish wells, the fluid evaporating leaves the saline matter disseminated in the soil which by constant and progressive accumulation diminishes and in the end totally destroy the powers of vegetation.

Bijanugger.—The legend of the circumstances to which the place owes its reputation for sanctity runs as follows:

Rama Chandra the incarnation of Vishnu came from the city of Ayodha in search of his wife Sita who had been carried off by Ravana. He traced her to Bijanugger where she had been concealed in a cave called Sita Serwar near Chakir Thiri, a well and now a whirlpool in the river, which then did not exist, near Humply, here he was met by Hanuman the monkey God, son of Anjuni who was born and resided on a hill at the other side of the river called Anjuni Dowa Parwat. At this time the cities of Anantpur and Bijanugger were ruled by a gigantic tyrant named Walt, or Ball who resided at the former city whence he had driven out his brother Segria the lawful monarch, who had taken refuge with the holy Rishi Marung on a lofty hill on the south bank of the river.

overlooking Hampa called Matsya Purvat. On the summit now stands a temple to Vair Bhagya, tenanted by a painted Hindu devotee of uncouth and shaggy appearance with an immense profusion of matted hair piled up over his head. Sugra descended the hill to Chakr Thirt and informed Rama that he would assist him in his search for Sita, provided that he would stay his Cousin Ball who had taken his wife. Rama accordingly slew Ball whose ashes may be seen to this day at a place about a mile E. of Nivahapur called Ball Dahamur Stadium. Rama then retired to the summit of a hill on the Kumply street called Mailla Vunta Purvat, and performed tapas during four successive monsoons. Thence accompanied by Hanuman and Sugra he pursued his march towards Senca.

Regarding the foundation of the city other legends relate that Vidyanaya, a Brahmin from the north came to the banks of the Tungabhadra to worship the Devi Hampa whose idol had stood erected here for 1,000 years, after a long term of penance and prayer at the holy shrine of the idol the goddess appeared to him one day and told him that whatever he wished should be granted. The Brahmin requested gold sufficient to build a city which was immediately produced. A city and fort of 12 parasangs in extent were accordingly built on the north bank called Anangudi. The government of which the deity entrusted together with countless jewels and treasure to a shepherd an inhabitant of the spot who had been accustomed to supply him with milk and during the time of his penance. The city on the south bank was subsequently built. The shepherd's name was Baka to which the Brahmin added the title of Rayel. Such is the origin of the Bijanagar dynasty.

Mr. Taylor gives the following account:

The origin of the Vijayanagar kingdom is not without attendant obscurity both as to manner and date. A distinguished scholar named Madhava with the titular appellation of Vidyanaya (a forest of learning) according to the Mythological part of the statement propounded the legend of the goddess Phuvanesvari, (a form of Parvati) and was in consequence directed to the discovery of a hidden treasure which he bestowed on two brothers, named Bahubala and Bahubala. These last two persons appear to have been sons of Sangama, most probably a Hindu chieftain of Talava, under the Belala Rajas but they themselves were, apparently soldiers of fortune who had been in the service of the Warahal kings; and on the overthrow of this state by the Mahomedans, all accounts agree that the two brothers carried with them a remnant of military forces, who were Telugus; and by their means, aided by the counsels and wealth of (howsoever) of Madhava Vidyanaya, founded a new city on the south bank of the Tungabhadra or Tungabhadra river, which afterwards became very extensively connected. Subsequently being on the north bank. The date usually given for this location is S. S. 1325, A. D. 1326; and the building, according to the best plan, is said to have been finished S. S. 1350 or A. D. 1351. This date Mr. Wilson supposes may be too early, because the earliest of the grants of Bahubala dated A. D. 1370 and the latest 1375. But this might very well be of Bahubala's reign in chief, down to A. D. 1350 and Bahubala's reign downwards to 1375. And if, as Colonel Wilson has stated the capture of Warahal in A. D. 1324, i.e. to the formation of this more southern kingdom which was destined for two centuries to check the progress of the Mahomedans, then it would seem that the foundation must have been as early as A. D. 1325. Mr. Wilson indeed admits that the traditional chronology is probably not very far from the truth. A hint from Pervasi, it may be noted here that foundation as early as A. D. 1315. A hint M. S. in the Madras collection No. 3114, countermark to reported on by Mr. Taylor has the following account of the origin of Bijanagar which assimilates more to the local legend first mentioned. "A shepherd of the Corumba tribe did service to a rich or ascetic, who discovered to him hidden treasure with which the shepherd quitting that occupation raised troops, and laid the foundation of Anangudi (Anangudi) and afterwards of Vijayanagar (Bijanagar). He was named Pervada demayar."

A Telugu M. S. in the same collection written on palm leaves No. 42 countermark 254 entered the Krishna-rajah-Vijaya or the triumph of Krishna-rajah presents us with the following legend.

The name of the author of the legend is Vengayana, son of Cail, who invokes his gods, and the poets of antiquity such as Valmiki and others. He wrote by direction of his kinsmen in a dream. Hari-had-Chanda Vengayana was his kinsman who directed him to write the history of Krishna-rajah. He first celebrates Vijayanagar and the praise of Narasimha-rajah (father of Krishna-rajah) he states that Narasimha-rajah demanded of him an account of the primitive state of the Vidyanaya (land of Vijayanagar) and of the worship of Virupakshi (a form of Siva) and of the proceeding of Virupakshi (a Siva) before the town was built. These are narrated to the following effect. Isvara assumed the form of Vidyanaya afterwards called Sagarabharata; he demanded and received from Lakshmi the privilege of having a town built in that wilderness bearing his name, when she (Lakshmi) that is plenty might always reside. She directed him to go and choose some place. He went to the banks of the Tungabhadra river and there seeing the face of Virupakshi, when he inquired into the origin of the place, which those around him could not tell, he inquired into the origin of the place, on a hill from the Rameswara Sugra ascended this hill, but Vair could not do so.

* Oriental M. S. S. Vol. II. P. 92.

+ Madras Journal No. 18 P. 28.

There are five hills called Melvatam, Yemacutam, Basura, Stringam hadhanga-purvatam, Kish kindi. They told him that this sacred land was suitable for his abode. At the same time he perceived a hare chasing a lion at which being surprised, he remarked that this name Vidyanagar.

BEDEVALL.—The capital of a taluk of the same name in the collectorate of Cuddapah travelling distance from Madras by Cuddapah 108 miles and 4 furlongs and from Cuddapah of the Nalla Mulla range and is a place of some antiquity. The lands about it are irrigated by two tanks and the soil is extremely fertile if one may judge by the extent and profuseness of the cultivation. Barren spots occur however without a single blade of grass; this appearance I have found on examination to be caused by saline impregnation, from the disintegration of the subjacent schistous rock, mixed with a proportion of lime and oxide of iron, it lies on a bed of kanker varying in thickness from an inch to 7 or 8 feet.

Bedwell was formerly under a Poligar tributary to the Bijanagar Rajas from whom it was taken by Nekkann Khan of Cuddapah and annexed to his territory.

CAMLAVUR.—A large village, in the Ceded districts, about 33 miles direct distance N. W. from Bellary is the environs of the ancient city of Bijanagar of which it formerly was a part. It has a large tank, a fort with a ditch and glacis, but the majority of the houses are outside the walls. The ruins of many magnificent temples are seen in the neighbourhood. In 1326 the raja of Bijanagar used to live here, but the family have since quit the place and now reside on the opposite bank of the Tungabhadra. Iron ore brought from the neighboring hills is smelted here. The surrounding formation is granite. A large lake contains above 2000 houses principally of the Pakathi and Maorthari castes, a few Brahmias, Seders, and Musalmans.

CHILLANACOOPE.—Is a small village 193 miles travelling distance N. W. from Madras. It lies in a plain bounded on each side by low ridges of hills and surrounded by raised walls. It said to have been built by Saneri Yagashappa, a Brahmin. There are two or three ancient looking temples here dedicated to Iswara and inscriptions on slabs of red compact sandstone lying on the ground. The inscription near the temple to Iswara is dated in the year Dindari Anno 1305. Sathabanna testifies that the temple was endowed by Huriyur, Raja of Bijanagar with 10 Kroths of land in the townships of to a Hanuman according to the inscription was erected in 1670 A. S. by Ram Reddi of Chintaleonda and Chinapa Reddi of Velpipulam.

The inhabitants are principally Kanbis pursuing agriculture. The village comprises about 80 houses built of house stones, four or five of which are occupied by Musulmans. The rocks observed in the plain here are limestone, sandstone, and globular rocks irrigated by numerous wells and produces abundant crops of Raggi, Juar, Indigo, and cotton. Deposits of marl of soda are found in the soil; the mountains of the old of a rivulet crossing the plain. There is a bungalow here for the accommodation of travellers, and a small indigo manufactory.

CHATTYWARAPALLY.—A miserable village situated in a valley between two ranges of hills of the claystone and sandstone formation, crossed by greenstone dykes. There is a bungalow for the accommodation of travellers. The travelling distance from Madras is 215 miles N. W.

CONDOR.—A small village in the collectorate of Cuddapah 108 miles travelling distance N. W. from Madras. Near this village the Badipally hills open out into a delightful plain with cultivation of Indigo, Bajra, Raggi and Cult, watered by a clear stream on the banks of which Condor is pleasantly situated. The inhabitants are mostly Kanbis speaking the Telugu language and in general cultivators and shopkeepers. The females are handsome and well dressed in cloths dyed of a fine rich blue by the indigo produced on the spot. This beautiful dye is made up into little cakes about two inches square and dried on charpans in the street. There are small enclosures in the vicinity of the village occupied by the Wudras (stone cutters), Dhairs, and Chambers, who are not permitted to reside within the village. Clay slate, argillaceous limestone and sandstone occur in the vicinity. Here is a bungalow for travellers.

COMARASWAMI.—A celebrated shrine on Soudur hill. COURTNEY.—A large decayed village 11 miles travelling distance W. by N. from the fort of Bellary and 227 miles 5 furlongs from Madras, surrounded by a wall of mud and stone of some extent with stone gateways. Courtney is a place of considerable antiquity; it derives its name which implies a seat from the tradition of Comaraswami the Hindu Mar, having sojourned here previous to his expedition against the Rakas or Grant Takasura. It was formerly held by a Despanchi name sect. Outside the western gate is a naked image, the lower extremities partly buried in the soil, which from the sculpture, attitude, the lower extremities partly and mutilated state in which the statues of this Sect, are now usually found. I

immediately concluded to be one of the Jaina Thistankars. The testimony of the old inhabitants of the place corroborated this supposition adding moreover that this image was formerly placed in a Jaina Bosti within the village walls, but had been thrown out and defaced by the Jungsom many years ago. This Bosti is now converted into a Math and occupied by a Jungsom priest. Pillars and altars of the Jaina religious deities destroyed by the fury of their persecutors, are to be seen in the walls of the Comaraswami, Parvati Bosti has been converted into a mosque, another into a temple which is said to have Ganesa, and the Ling. A niche is shown in this temple which Comaraswami ascended to form the entrance to a cavern now blocked up by which Comaraswami ascended to the summit of the Soudur hills. Numerous inscriptions on stone in the Hala Comares character chiefly headed by representations of the Lingam, the Sun and Moon and unfluted sculptures are seen scattered about the ruins of the old fort. Two monuments dedicated to Arjuna or Krishna slain in battle stand on each side of the entrance to the enclosed compound; the temple from which they were taken are still visible in the enclosure. That on the left exhibits a rude bas-relief of two warriors grasping each other in a struggle. That on the right exhibits a figure of a hero, who became a female figure said to be that of the wife of one of the departed heroes, who became entitled to immortality by performing Suttie on the occasion of the death of the figure on the right was probably a personage of some rank, denoted by the crown over his head held by an attendant. The sun and moon on the right and left are emblems of eternity, symbolical either of the combatant's glory, or as a mark to signify that the stone is to be preserved un-injured for ever.

Salt-petre is found in the old earth about the town and manufactured—the principal occupation of the inhabitants is agriculture. They are chiefly Lingayets of the Sain, Silevant, Panabam castes. The number of houses now inhabited in Courtney amounts to about 200. The ringing stones in the vicinity of Courtney are the globular and angular masses of a large greenstone-like ringing sound on being struck by a stone the phonetic nature of the rock emits a sharp ringing sound which must have had a considerable sum in constructing, to the S. W. of the village.

Cuddapah.—Was formerly a place of considerable consequence under the sway of the Hindu Rajas of Bijanagar and Chittavil and long famous for its ancient and sacred temple. It was taken from the Hindus by Mahommed Kun Kutub Shah the Sovereign of Golkonda, A. D. 1589, who according to Ferishta, broke the celebrated idol and sacked the city. It was afterwards ruled by Afghan nobles under the Adil Shahi and Kutub Shahi Sovereigns of Bijapur and Golkonda who made them independent after the fall of their powers. The founder of the Mahomedan city of Cuddapah was a noble named Neknam Khan who accompanied Mir Jumla on his expedition into the Balaghat and Carnatic. He was left in charge of the Chinnor taluk and annexed to his territory the lands and fortresses of Gandikota, Sidhout, Badwal, Cummum and Zummur madge which were taken by conquest from the Poligars tributary to the Bijanagar Rajas. He built the present city on the site of the encampment of Mir Jumla's army. It was at first called Neknamabad but subsequently took that of the ancient Hindu village adjoining, viz. Kurpah Koll.

Cuddapah was taken by Hyder Ali about 1779 A. D., who carried the Nuzah, Halim Khan, with all his family as captives to Seringapatam, leaving Cuddapah and its dependencies under the Government of Mir Sahib. Halim Khan is supposed to have died a violent death at Seringapatam. His son-in-law Syed Mahomed who had escaped to Paurtoor subsequently made an effort to regain his father-in-law's dominions and took the forts of Cummum and Badwal, but was defeated near Purnamawala by Kammar ud-din Khan; and escaped with a few horsemen to Paurtoor; thence he repaired to Hyderabad where he died leaving his son under the protection of the Nizam's spouse the Bakshi Khan. Cuddapah remained under the sway of Hyder and Tipu until the first siege of Seringapatam, in 1792 when it fell to the Nizam. After the rest of the Balaghat Ceded Districts. The fort which is in ruins is principally of mud with round brick and stone towers. It includes the ruins of the palace and out buildings of the Afghan rulers of the district. Cuddapah now used as the civil katcherry, treasury, jail, and post office. The town formerly the headquarters of Nuzah Mazid Khan a low minaretted building and the mosque in front of which stood a Jet. Tree in the middle of the site is occupied in the best repair; and few traces remain of the old palace part of the site is occupied by the jail. The principal fountain has been filled up, and the Derosa Khan has been converted into an hospital. The present post office was formerly the residence of the Pathan chief Masood Ali Khan. The street leading from the principal gate to the cattle choultry was the scene of a dreadful murder perpetrated on the person of Mr. Macdonald of the civil service by an enraged set of Mahomedan dregs. The town of Cuddapah is populous and dirty, the houses generally of mud, and badly constructed, some are tiled, but the majority are thatched.

The formation around Cuddapah is an argillaceous limestone of a dark slate blue colour imbedded with pyrites. It occurs in strata nearly horizontal and as far as observation has extended is now fossiliferous. The hills in the neighbourhood are of sandstone, in some parts associated with conglomerates. At the base of the northern range washed by the Pennar about 6 miles from Cuddapah are situated the celebrated

diamond mines of Chinnor, Orasampally and Condapetta. They have latterly proved an unprofitable speculation, to the contractors who used every means to prostrate the spirits that were supposed to guard the treasures of the earth but in vain. Large accumulations of calcareous tufa, hematite and pisiform iron ore occur on the surface of the limestone in the plain surrounding Cuddapah. Springs are abundant, and the soil is fertile and well watered. Among the hills to the south of the town are two waterfalls situated in some picturesque scenery. The present population (1888) of Cuddapah and its environs is said to exceed 50,000. That of Cuddapah proper is 10,800 principally Hindus, speaking Telugu. Most of the Pathans left the place subsequent to the example that was made of Mr. Macdonald's murderers. They still amount to about 1,500.

Cummum.—Is the capital of a subdivision of the Balaghat in the subah of Cuddapah and is to the present day a place of some size, and importance. It stands in lat. 15° 34' and long. 79° 11'.

The fort is situated distinct from the town and is now in a ruinous state. It is commanded by the high ground north of the town; but otherwise the position is strong, being surrounded by paddy fields and water courses supplied by the adjacent tank. The town of Mr. Sahib a new connexion of Tipu, who fell at Raichuty, a neat erection covered by a small tomb, is seen here. One of the finest artificial lakes, in this part of India irrigates and fertilizes the land around the forest and town. It is almost surrounded by picturesque hills, contains several rocky islets and is about 3 miles long by 3 to 4 in breadth. A singular tradition is related regarding the formation of the lake which is much admitted by natives. The King of Golkonda Mahomed Huthb Shah on his march to invade this part of the country sent ambassadors to the Raval of Bijanagar to say that he had quitted his own dominions, solely to see the celebrated lake at Cummum.

The fort is garrisoned by a detachment from the corps at Cuddapah and consists of a company under a British officer. Cummum is about 56 miles N. W. from Ongole and 26 miles 2 furlongs travelling distance N. by E. from Cuddapah and 261 miles 7 furlongs from Madras. It was formerly governed by a Nair Poligar Tributary to Bijanagar from whom it was taken by Neknam Khan of Cuddapah and subsequently by Hyder. It was ceded to the English in 1806 by a treaty with the Nizam.

Darohi or Darozeh.—Near this place the granite rises to a considerable elevation from the schistose range of the copper mountain the eastern spur of which terminates a little beyond the village a deposit of sulphate of alumina is seen between the laminae of the latter rock at the bottom of an excavation in one of the smaller eminences connected by the embankment of the tank.

Desamur is a small fertile island in the Tambuddra about 34 miles travelling distance N. from Bellary. It is formed by the river splitting into two channels and again uniting at some distance to the E. It is 5½ miles long about 2 of a mile broad and consists of a nearly flat plain rising to the W. and S. W. having a gentle inclination to the northern branch of the Tambuddra. The western or lower part of the island is covered with a thick stratum of alluvial soil mingled with sand, which as the land rises towards the middle is succeeded by regur, resting in many places on the debris of the adjacent rock agglutinated by a calcareous deposit. Granite is seen in the upper part of the island, but the prevailing rock is gneiss and its associated schist. The island is irrigated by a fine ancient thrown across the river to the north. It produces Sugar Cane, Coconuts, Rice and Juar; the yearly revenue is estimated at 4,000 pagodas. There are two villages on the island viz. Desamur and Ilapur comprising about 250 houses.

DEVASANDREM.—Is a small village 26 miles travelling distance N. W. from Bellary. Its inhabitants are principally Lingayets of the Buljawar division, speaking Canarese and occupied in cultivation. It contains 4 small pagodas about 80 houses and 12 wells of sweet water.

DURANAYER.—A small village on the north bank of the Pennar in the Cuddapah Collectorate, a little to the East of Zummumudge. It was formerly a place of some importance inhabited by the Jain sect, but has sunk into insignificance. Passing through in order to cross the river to Chinnamacoor my horse struck his foot against some hard substance, which on examination by torch light proved to be part of a ruined building, a Jaina temple it is said now covered by a dune formed by the sand transported by the wind, from the bed of the river. A Jaina inscription is still to be seen here.

GIDRATORE.—Is a large village at the eastern bank of the Nalla Malls hills between Cummum and the Nandi Cummam pass. It is situated on the banks of the Saggeelavi stream which runs to the Pennar surrounded by pleasant shady tamarind topes and is well supplied with water. The soil generally is a fine rich regur lying upon clay slate and mingled with calcareous matter deposited by infiltration; besides other dry grain it produces Wheat in tolerable abundance. Chinnalore is 14 miles travelling distance S. W. from Cummum.

GOLLAR.—A small village and ruined fort in the Chinnalore taluk Bellary Collectorate on the military road from Bellary to Bangalore travelling distance from Madras 292 Miles 2 furlongs from Bellary 45 Miles. Here is a small tank and Bangalore built by Government for the accommodation of Travellers Nair or native soda is seen encasing the stones in the beds of some of the nullahs in the vicinity. Iron ore (hematite) is also found at the same locality and smelted at an adjacent village.

NALLA MULLA HILLS.—Vide Ceded Districts. And Nandi Canna pass.

NENDALOO.—A large village in the Cuddapah collectorate on the military road from Madras to Cuddapah 157 miles 5 furlongs travelling distance from Madras and 29 from Cuddapah. It is situated on the left bank of the Bangarudi stream which flows northwards to the Pennar river, east of the hill and is here 3 furlongs broad with a bed of coarse sand. The surrounding formation is clay, slate, lime and sandstone—the soil is sandy and produces among other articles Indigo and a considerable quantity of rice. The rice lands are irrigated by a large tank situated a little to the west of the village which derives its supply principally from the rain water that rushes down during the monsoon from the top and sides of the hills lying to the westward. Palmyras appear to thrive in low situations in the sandy soil. There is a Government bungalow here.

NANDI CANNAMA PASS.—Across the Nalla Mulla chain which separates the Ceded Districts from the parts on the Eastern coast north of Madras are twelve passes the principal of which commencing southerly are those of Sidhout or the Auloprah, Janderimam, Janderimam, Yeddegoon, Gouda Cannama, Nandi Cannama, Cota Cannama, Gouda Cannama, Korti Cannama, and Muntra Cannama. Those of Sidhout, Janderimam, Yeddegoon and Nandi Cannama are most frequented; the three first are travelled by bundles, the last by bullock loaded bullocks. The Nandi Cannama pass lies in the direct line of commercial communication between the Ceded Districts, Coorg, the southern Malabar country and Keral, and the East coast including with the Cannama district Nellore, Mangalore and Cochin and if rendered practicable which could readily be done, for instance, would tend greatly to increase the trade and intercourse now carrying on between these parts. At present according to native information obtained on the spot, about 1,000 bullocks laden with the produce of the Ceded Districts, iron implements of agriculture made at the foot of the Nalla Mulla and quantities of valuable timber, teak and blackwood cut on its slopes pass over to the Eastern coast returning chiefly with cloth and salt articles to the heavy or munitary bullocks are compelled to take the circuitous route of Coimbatore or the Yeddegoon pass. The following are a few notes on the pass taken when crossing the range from Cannama in 1856.

Metta, a police station is merely a cleared spot in the low jungle at the eastern base of the hills. Encamped here on some ground on the right bank of the Segala stream and found it a good supply of water. Banks steep, bed shaly and narrow. The soil to the foot of the hills appears to be rich and is generally under cultivation. From Metta to the foot of the pass, the distance I conjecture to be about 4 miles, the ascent three quarters of a mile and the descent 1½ miles from the bottom of the descent to Pachera our next encamping ground about 6. The road, which is miserably bad for bundles, but through a low jungle over rocky even ground to the east of the pass covered with loose stones, slate and sand. Here and there are wells now dried up. To this point the road seems to wind up a sort of declivity with wooded hills on the right and left and also in front. The only inconvenience hitherto experienced was by the elephants and camels from the low boughs of trees which however were speedily cut through. The actual ascent, which commences near the well is steep and rough, with loose stones and projecting beds of slate. The jungle from its being principally of upright and lofty clumps of bamboo presents fewer obstacles than the approach. The descent appears to be steeper for the first half mile than the ascent and thus for the greater part parallel to the side of the hills. After ascending and descending another small hill, the ascent terminates as it commenced, at a well, near which are the ruins of a small temple sacred to the hill Nandi, from which would seem the pass owes its name. The road from this to Pachera is quite practicable for bundles, lies through a bamboo jungle, and which moreover has some palm and other timber trees fit for building and is generally sandy and stony.

Pachera like Metta is merely a police station in the jungle with the advantage of well. The surrounding ground is good, an supplies. The road for the transit of loads, camels and elephants should be cleared of the overhanging branches to the bottom of the pass, and the animals themselves ought to be light, laden. For bundles the pass is a rough ascent and descent, would require clearing of the loose stones on its surface. The surface formed by the shales of slate should be filled up by levelling the projecting ridges, and considering the fragments for this purpose. For guns the pass is at present, is not practicable with a little care and assistance. The whole course of the road might be cleared to a considerable advantage and put upon a better slope. For bundles the hill only requires to be cleared of the loose stones on its flanks and a few clumps of bamboo.

PACHERA.—A. Tharun in the Nandi Cannama pass.

PACHERA.—A small village situated in the Cuddapah collectorate about 10 miles S.W. from Cuddapah between it and the Nalla Mulla hills. The road from Cannama is rough and steep leading through a rocky valley studded with palm trees. Numerous hills intersecting the country afford an abundant supply of water. The inhabitants speak Telugu.

PALLAPUR.—A village in the taluk of Cuddapah, Bellary collectorate about 100 miles travelling distance S. from Bellary on the Bangalore road and 231 W. N. W. from Madras. It is situated near the northern frontier of Mysore and contains about 50 houses principally inhabited by Kshatriyas speaking Kannara. Madras, a few Ling Bhattas, Mahomedans and Christians of the Bangalore sect. The surrounding formation is granite and gneiss intersected by trap dykes. The soil is the Musah or red soil, producing rice, &c.

bulls, culis, juari and a small quantity of moong. Sugar cane is seen to thrive well in the sedimentary soil in the bed of a tank which contains both oxide of iron and a proportion of Carbonate of lime. I was informed by the village people that two years ago cotton had been tried in the Musah but without success. Magnetite iron sand is procurable a few miles distant in the beds of Nallaba and smelted in a village called Paupreddy about 5 miles distant. This place and the next stage beyond it in Mysore, Bangalore were the terror of the frontier in the time of the native government. Thieving is often taken up as an hereditary profession, and like Thuggee is not considered disgraceful: the surrounding wild and rocky country affords ample scope for its safe practice.

PENROD.—A walled village in the Taluk of Cuddapah Bellary collectorate on the road from Bangalore to Bellary travelling distance from Madras 272 miles 5 furlongs, and from Bellary 64 miles 5 furlongs. It is situated on the right bank of the Pennar river between the river and a tank. There is a Government Bungalow here.

PIAPALLY.—A village in the taluk of Chennampally; Bellary collectorate, situated on the post road between Gooty and Kurral and about 10½ miles N. from the former place and 27½ miles from Madras. In the middle of the village there is a Bungalow in the native style. The ruins of a fort on a hill command the whole place. The face of the surrounding country is bare and encumbered with granite rising in convex bosses and clustered hills; and with globular masses of greenstone, debris of dykes passing through the subjacent rock.

PELODRAIPALLY.—A village in the Cuddapah collectorate about 68 miles travelling distance N. by E. from Cuddapah. There is a large tank to the west of the village and a species of stork that have resided here for many years under the especial protection of the inhabitants, who regard them with feelings akin to veneration. The young ones are exceedingly voracious and quarrelsome and make an incessant chattering; the solemn attitude of the old bird standing over their nests with curved necks and their great beaks resting on the breast is remarkable. Their food is fish principally from the neighbouring tanks. This is the only place I have seen in India where the Pelican breeds in flocks. Like other birds of the Totipalmata family though having webbed feet they walk on trees; and moreover build among the branches, a curious fact of this bird is described by Gayer and other naturalists as breeding among marshes, and building of its nest on the ground.

PERMAWALA.—A large village in the Cuddapah district on the road from Cuddapah to Cannana and about 44 miles travelling distance N. by E. from the former. It has a mud fort with stone towers in ruins, a large tank between two hills, and a manufactory for whom there are about 200 Mussulmans.

PYROT PERUTTA.—A small village in the Banganpally jaghite on the banks of Zuraicon rivulet. There is a pleasant spot for encampment close to the stream. The adjacent hills are of sandstone and limestone. About 3 miles to the S. W. of this village lie the old diamond mines of Munimuddagoo. The excavations are about one-koss from the town on the inner side of a basin-shaped depression formed by a range of low sandstone hills bushes having been deserted according to the accounts given by the villagers for the last 50 years. The matrix of the diamond here is similar to that of the Cuddapah and Bangalore Pyrot Pispula lies part of the way through a wooded pass, winding through picturesque hills to the table-land on the summit, (vide Munimuddagoo.)

RATHNOD.—This fortress was founded about A. D. 1371 by Rhojat Row who was entrusted with the management of this part of the country by Hiri Chund Rayel of Bijanpur; it was originally of mud. In Kishan Rayel's time it was given to the Ruler of the hills. It remained under the Ruler of the hills till the fall of the latter place in 1564, when it became tributary to the Mahomedan sovereign of the latter place. It was first an annual peshkush of 12,000 rupees to the Bijapur ruler Daulat Khan Timur ul Omra. It subsequently was governed by the Telugu Raja of the Venkatapur succeeded Timmapa. He died leaving three sons Kalliti Nair, Gopal Nair, and Timpa Nair, and 2 daughters, viz. Nikaji Amma, and Rudherma. Kalliti succeeded, but was assassinated by his brother Gopal, who died through remorse shortly afterwards. Parpat of embroilment threw him into prison. On this the Parpati convicted his Hyder Ali, inviting him to come and take the place. Hyder accordingly wrote secretly to army for this purpose under Jehan Khan and Makdum Sahib who took the chief and which happened some years subsequent. Rathnood was entrusted to Timmapa's death of the late chief's brother Gopal Row. This chief having offended Timmapa Nair, son of his father when the latter marched against Adoni, was thrown into prison at Sultan's orders. Timmapa also caused many of the fortifications on the hill of Rathnood to be demolished. After the fall of Serimapatnam in 1792, Raj Gopal Nair, nephew of the preceding chief Timmapa and son of Nikaji Amma who had been imprisoned, and being released repaired to Rathnood where he was well received by the inhabitants and regarded as their chief, but a month had scarcely elapsed when Mahomed Amin Khan &

place in the Sidhout hills at no great distance and also near the village of Durjipully. At the eastern base of the Bandy Cunnama pass between Cuddapah and Sidhout, limits used by the Cuddapah Nabobs were formerly dug, they lie near the surface in flatish ragged masses imbedded in red soil and angular gravel. The subjacent rock is sandstone.

The Sidhout hills are a continuation of the great claystone and sandstone range of the Nalla Mullu that commences to the north in the Nizam's dominions north of the Kistnah, and appears to terminate to the S. E. at Naggery. The Pennaur here flows through them towards the sea by a gap or pass similar to that by which the Kistnah finds its way through them farther North to the Bay of Bengal. Sidhout is situated in this pass on the left bank of the river; along which the road from Cuddapah after crossing the rocky belt of Bandy Cunnama lies. This delightful valley is irrigated by the Pennaur and full of cultivation, shade trees and Mahomedan Mekans are interspersed throughout its extent. About a mile east from the rocky ridge just mentioned the river which hitherto flows on the travellers left hand takes an abrupt turn across the valley to the south. It is here crossed to the left bank and is about half a mile broad, the water shallow and beautifully transparent runs over a bed of fine sand, the banks are silty.

The flat bed of the river near Sidhout is verdant with melon gardens and a variety of culinary vegetables. The melons of Sidhout are celebrated among natives for their superior flavor.

SIRAGUDA.—A large village in the Bellary collectorate and taluk of Bellary situated on the S. bank of the Tumhaddra 55 miles travelling distance N. from Bellary. There are the remains of a stone fort built by the Mahomedans on the river margin enclosing among a number of ruins a temple to Iwara with a Sanskrit in the Telugu language on a slab of greenstone. In the Kutchery in the village a dark coloured stone bearing some lines of Persian poetry, the date of the Inscription 1085 A. H. There is also one in Maratta, Canarese, and Persian, let into the wall of the fort near the river. Siraguda was given by Ram Raj the last independent Sovereign of Bijanagar to Baswan Gaudha of Keuchengudi on payment of an annual Nuzzer (vide Keuchengudi).

Soogoor.—A village on the S. bank of the Tumhaddra in the taluk of Bellary 27 miles direct distance, N. by W. from Bellary, comprising about 100 houses. The population is principally of Lingayets with a few Brahmins and Mussulmans. Near this place an ancient crosses the river to Banole in the Nizam's territory, constructed by one of the Bijanagar Rajas.

The prevailing rock in the vicinity of Soogoor is a chloritic schist. Numerous rock basons are seen in the river bed. The soil is principally cotton, producing large crops of Bajra and Juar.

TANTRETT.—A town on the right bank of the Pennaur river in the Collectorate of Cuddapah 231 miles travelling distance N. W. from Madras. Here are two handsome temples dedicated to Chinai Raya and Rameswara elaborately adorned with sculptures representing the adventures of Krishna, Ram, and other mythological events. Among the bas-reliefs is a figure holding a Greek bow rarely seen in Hindu sculptures. There is a bungalow and post station here. An argillaceous pot stone is found at Mussulmatal and Kalladoor near this place and cut by a native to represent the avatars of Vishnu and other figures of the Hindu Pantheon. This stone is also used by the natives to grind the sandal-wood which they apply as tikas to their foreheads, &c. The population consists (1858) of 1256 Hindus, and 2133 Mussulmans employed principally in trade and weaving turbans, &c. The language prevailing among the Hindus is Telugu.

Tekuradova.—Formerly capital of a taluk given by the Bijanagar sovereign to the British of Bellary, but now included in the Bellary taluk. It fell into the hands of the Maratha conquerors of the Deccan in the sixteenth century was taken by Hyder when he overran the Bellary and ceded to the British government in 1800 direct distance N. from Bellary 20 miles. There is a watch tower on one of the hills and the remains of an old fort built by the Poligars here, also one in better condition constructed by order of Hyder and an old temple to Iwara containing an inscription on stone in the Malia Canarese character. According to the inhabitants it now comprises about 100 houses of Hindus and about 40 of Mussulmans.

WELLAVAPUR.—A small village in the taluk Hoobu Tandigully Bellary collectorate travelling distance from Madras 161 miles 5 furlongs from Bellary about 51 miles. It is pleasantly situated on the south bank of the Tumhaddra the waters of which are expanded in a lake-like sheet extending beyond Balahoonny, by the confining influence of a large ancient one of those great and useful works executed by the Hindu Rajas of Bijanagar and which entitle them to far more glorious place in the pages of history than the vast pyramids of Egypt have gained for their mighty founders. That part of the river crossed by the ancient is apparently about a mile in breadth. Timber floated and rafted down from the forests in Mysore is here landed.

SOME ACCOUNT.

HISTORICAL, GEOGRAPHICAL AND STATISTICAL

OF

MYSORE.

BY

LIEUTENANT NEWBOLD, A. D. C. TO GENERAL WILSON.

Baitungalum.—A small village in Mysore on the high road from Bangalore to Madras, distant 61 miles 5 furlongs from the former, and 47 1/2 from the latter place. The Mysore frontier is crossed a little to the east of Ochoor, a village between this and the last stage Veeraraghery. There is a Bungalow here for the accommodation of travellers. Baitungalum is about 2,435 feet above the level of the sea.

The surrounding formation is gneiss and granite which appears to be auriferous if we may judge from the gold dust found in the soil arising from the decomposition of these rocks. At Marcupam, a village about 12 miles S. W. from this are some old gold mines which were worked by Tippoo without success. According to Lieutenant Warren who examined this district in 1802 the whole tract impregnated with gold, comprises an area of about 180 square miles and extends 45 miles from north to south, commencing near Bodirota and ending near Ramasandra. The places where this officer found the gold to abound most are this Bateria hill and its vicinity north of Basaracotapilly, Corapenhully, Shapur, Baksagur (a village on the Palur 5 miles east from Baitungalum) on the southern bank and in a thin jungle close to the west of Worigan a village about 10 miles to the S. W. of Baitungalum. Lieutenant W. noticed that a sort of red earth generally two feet deep, and succeeded by a white calcareous [porcelain earth?] earth of equal depth the under stratum of which consisted of large white decayed stones, seldom failed to contain an ample proportion of metal. The average proportion of gold to earth is as one grain of the former to 40 lbs. (avoirdupois) of the latter. The two mines he examined at Marcupam were 30 and 45 feet in perpendicular depth respectively. The upper stratum of the first is one and a half feet of a deep brown earth, of the second three feet of a black argillaceous earth mixed with gravel. Then succeeds a foot of grey argillaceous earth mixed with gravel.

FIRST MINE.

- 1 Deep brown earth.
- 2 Grey argillaceous earth with gravel.
- 3 Deep brown earth (No. 1.)
- 4 Hard grey and yellow clay.
- 5 Hard whitish argillaceous earth.

SECOND MINE.

- 1 Black argillaceous earth with gravel.
- 2 Dark brown earth with stones.
- 3 Hard clay streaked black and yellow.
- 4 Hard large black stones argillaceous.
- 5 Black earth with gravel.
- 6 Hard black clay.

The stones found in the hard whitish earth No. 5 of the first mine are described as of a siliceous nature black changing to a deep rust colour where they seem to decay, a few parallel streaks about which is a green and yellow substance marks their value to the native miners. The metalliferous stones in the second mine differ from the above as they also differ in the matrix. They are of two kinds, viz. hard, black, and argillaceous, and hard white and siliceous, a deep orange soft substance adhering marks their value. This substance appears, however, to be superficial, marking the surfaces into which the stone splits on being struck. The process of extracting the ore from the stones, is simply by pounding them, and washing the powder in water; the gold dust sinks to the bottom. An equal proportionable quantity of gold was extracted from the powdered stones as from the earth. The gold dust extracted yielded on assay at the Company's mint 94 parts in 100.

Balapur.—There are two towns of this name in Mysore distinguished by the terms, Chick and Pedda—Little and Great Balapur. The first is situated at about 100 furlongs N. by E. from Bangalore in Lat. 13° 25' N. and Long. 77° 47' E. Sugar-cane and potatoes are the principal articles of cultivation in the surrounding country. Both sugar, and sugar candy of good quality, have been from time immemorial manufactured here, and it is a place of considerable trade having been absorbed that of the neighbouring pottah of Nunddroog. It is also called Chick Bel-laveram. Pedda Balapur is about 23 miles N. from Bangalore, and was formerly a place of considerable importance but now much decayed. There are the remains of a large mud fort and a palace. It contained in 1800 above 2,000 houses protected by a hedge and mud wall. Granite, gneiss, and talciferous hornblende are the principal rocks in the vicinity.

According to tradition Chick Balapur was founded by the eldest, and Pedda Balapur by the fifth of seven Baljiwar brothers who emigrated at an early period from the banks of the Godavari. Regarding the selection of the site of the former, a story is told of a courageous hero resembling the Harponbully legend: it was named after the infant son of the eldest brother Chick Balji, whose head had been carried by the head of a snake. The seven brothers assumed the title of Gours by the permission of the Hindu sovereigns of Bijanuggur under whom they and their descendants ruled the adjacent country until 1641, A. D. when Bhairi Gours the ruler of Pedda Balapur assumed the title of Rajah. In his time the Bijanuggur princes under the Amir of Oudra overran the country. The Amir, as a reward for Bhairi's ready submission, invested him with the government of Chick Balapur, Devalhully, and other places under the Nairs of Sera.

About 1761 after the fall of Sera and Ooscotta Hyder, besieged Chick Balapur and met with a vigorous resistance losing near 1,000 men, but reduced its ruler, Appa Sami Gours, to terms. These terms not being fulfilled, Hyder returned, took the place by storm in ten days, and put most of its garrison to a cruel death. The Gours, who had previous to this betaken himself to Nunddroog, was after a close investiture reduced to capitulation by Mir Sakib and taken prisoner with all his family to Bangalore, where two of his sons were compelled to renounce their religion and embrace Islam.

Bangalore.—The formation around Bangalore is principally granite and gneiss, the latter predominating. Trap dykes are found intersecting the gneiss; the main courses having an east and westerly direction. Large veins of quartz, and quartz and felspar traverse the gneiss in every direction. A little to the N. W. of the entombment a bed of lateritic rock is seen resting upon the gneiss—the extent of which connexion with the subjacent rock, and any changes in its mineral structure should be carefully traced and noted. The soil about Bangalore is principally Musab, and arises from the decomposition of the subjacent rock—in some situations it affords excellent clay for the manufacture of bricks and tiles. The staple article of cultivation and food among the natives is Ragi, the Cynodorus, Coracanus of Linnaeus. (Buchanan, Fallerton, Wilks, Lord Valentia, Col Lambton, Hamilton.)

Bangulilly.—A village situated on the military road from Bangalore to Bellary, within the Mysore frontier, and sixty-nine miles four furlongs N. by E. from the former place. There is a public Bungalow, and Post office. It is a populous place; the inhabitants principally Kumbis. There are a few Mussulmans and Brahmans; the latter, mostly of the Smarthal sect. The neighbourhood is infested with thieves, the remnants of the old border marauders under the Poligars who formerly held the hill forts of this turbulent district.

Bellary.—A town in Mysore fifty-eight miles three furlongs westerly from Bangalore and situated on the road from it to Mangalore by the Boley Ghat. Granite, gneiss, hornblende, mica, and a chloritic slate, are the principal rocks met here. The town consists of a fort and a village adjoining—the houses have both tiled and flat roofs. It contains a Janaki and a number of neat white-washed houses situated between the inner and outer walls of the fort inhabited by Jains. The rest of the inhabitants are mostly Kumbis with a few Mussulmans and Brahmans. To the north of the town stands a fine grove of Cocca and Arca trees.

Boley Ghat.—A mountain pass through the western Ghats situated on the direct road from Bangalore to Mangalore on the western coast. It is one hundred and sixty-two miles and six furlongs nearly due west from the former sixty-

eight miles and one furlong from the latter place, and about four miles in length—the ascent is easy and comparatively small from the western side, but after gaining the ridge the fall on descending the western facade is great and of considerable length. The road towards the bottom of the pass, shaded by large forest trees, lies along the north bank of the Udhulla stream which washes the base of the lofty Subramani, whose peak, the highest of this part of the western cordillera of peninsular India, attains the estimated altitude of 5611 feet above the level of the sea. The summit was hidden in the mists, but the shoulders were visible—rising with a magnificent sweep from the forest-clad elevations that conceal the base. The sides are steep, and, as they ascend, become barren, and present ravines and naked surfaces of rock of a grey colour resembling the masses of sienitic granite seen precipitated in the streams below. The road over the Ghat appears to be susceptible of much improvement in its direction, but I speak from a cursory examination. The pass was taken possession of and stockaded by the Mangalore insurgents in 1837.

Bovalhully.—A small village in the Mysore territory thirteen miles north east from Chittledroog, on the road from the latter place to Bellary. The houses or huts are built of mud and stone; some are thatched, but the larger proportion has flat mud roofs. The prevailing caste is the Bedur, and the language usually spoken Telinga. Near Naikenhully I observed a good deal of garden cultivation and a fine crop of tobacco. The surrounding country is an undulating plain, the hollows of which are studded with palmyra trees—the soil the red musab often gravelly.

Chinnampalam.—A town in the Mysore province, on the western road from Bangalore by the Holey ghat to Mangalore, eighty-four miles and five furlongs travelling distance from Bangalore. It consists of a fort, and a pottah outside the fort, comprising about 250 houses. Within the walls are about 150 houses. The fort is of stone with a double gate way—the curtain is flanked with both square and round bastions, overlooked by several cavaliers. A dry ditch, with an outer wall and covered way, surrounds the whole. It is said to have been originally erected by a Jaina prince—rebuilt by Hyder, and completed by Tippon. An outwork facing a rising ground near one of the angles with embrasures for 18 guns, was pointed out to me by the old Killadar as having been built by Hyder, who personally superintended the work in one day, and that 1200 Karnatis were employed. Among other antiquities is a small Jain temple dedicated to Ardrenath, Perswanath, and Padmawurti, also a Sassanian or inscription on stone in the Bala Casara character. The Hindu sculptures inside the fort are executed on potstone which is found in the vicinity.

The prevailing castes are the Kumbi or Wakli, Lingayat, Brahmans of the Smarthal and Madwa sects, a few Jains and Mahomedans. A Killadar and 250 Kandachars constitute the garrison.

Chittledroog.—Chittledroog contains about 8,000 inhabitants; the prevailing castes are Kumbis, Lingayats, Brahmans, Beders, Kumbi, weavers, and Mussulmans. The surrounding cultivation comprises raggi, juari, baira, wheat, bengal grain and tobacco, besides oil plants and articles of garden cultivation. The garden attached to Tippon's palace is laid out in the oriental style a Jet d'eau near which a cypress casts its melancholy shade cooled the approach, while elephants carved in stone guarded the entrance. Among other curiosities is shown the tooth of a Rakasa or Giant who was said to have been slain in olden times near Bellary and whose funeral pile is the hill of ashes seen on the Hospett road. I was not permitted to take a minute inspection of the sacred relic, but judging from the distant view one might be led to suspect that it once formed the molar of some peaceable elephant.

Chittledroog was founded by a race of Poligars who ruled under the title of Naigue. During the reign of Kishen Rayal of Bijanuggur the then Poligar, Muthi Timma Naigue, formed an alliance with Douria the Poligar of Harponbully against those of Buswapatan and Tirikara, and the Rajah of Bednore, and bestowed on him his daughter in marriage together with the talook of Huchinghydroog. The poligars of Chittledroog and Ruidroog were perpetually engaged in feuds until the Bijanuggur invasion of the Deccan after the fall of Bijanuggur in 1678 when the latter became tributary to the Amirs of Sera. It was captured by Hyder after a desperate resistance of six months; the Poligar Bherma Naigue was taken prisoner, and perished in the dungeons of Seringapatam. Hyder strengthened the place considerably and added the outer wall and glacis. The

battery called the Sultan's battery was erected by Tippee, who, I was informed on the spot, forced his English prisoners to work at it in the heat of the sun like common labourers. It is also believed by some of the inhabitants that the Mah-ratta chief Morari Row of Gooty was strangled here in prison by order of Hyder. [J. Grant, F. Buchanan, Stuart, Public M. S. Document, Peshawar, Margao.]

Chuloor.—A village in Mysore on the road from Madras to Burybur 271-7 furlongs distant from the former, and 124 from the latter. Chuloor is situated in a fine champagne country studded with clumps of shady trees among which are the mango, guler, and jamun. The wild date so abundant around Sera is here almost lost sight of, but the blue hedge rows becomes more common. Gneiss is the lowest rock seen in the plain. There are a few Jains and Hingajis in the village and outside a Jungum Math.

Colar.—A fortified town in Mysore on the high road from Madras to Bangalore distant 166 miles and 1 furlong from the former; and 43 m. 3 f. from the latter place. It was formerly the capital of a Pergunnah of Sera and is situated near the base of a rocky hill and has a bazaar in which I observed woollen cloths of European manufacture together with the coarse native blankets or rumbies. The fort is of mud and of considerable extent. Ponderous wooden gates studded with iron knobs stand the entrance. At a little distance stands the mausoleum of Hyder's grandfather. It is a small white, unadorned edifice, constructed in the usual Moorish style shaded by several tall cypresses, whose dark foliage and unobtrusive contour impart a solemn and beautiful aspect to the cemetery. On entering the narrow portal a solemn and beautiful tomb presented itself in front of which was placed a censer and lamp. A large chaplet of sweet-scented flowers hung from the ceiling. Hard by stands a small mosque where prayers are recited for the dead; balsams and a few marigolds here have the sombre appearance of the enclosure.

Hyder's grandfather is by some said to have been of low birth, but, by native historians favourable to his pretensions, is averred to have been a man of rank whose ancestors held the hereditary office of Cazi at Kohir a town between Culburg and Hyderabad. His name was Ghulam Dost Mahomed. He left his native place on account of some family dispute and repaired to Sera, where he entered the service of the Hakim of that place, married the daughter of Parsa Munshi, a person of rank residing at Colar here he subsequently settled and had two children, a boy and a girl. The first, Futtch Ali, the father of Hyder, commanded 1200 matchlock men in the service of the Governor of Sera and was hence called Futtch Naigue. He married the widow of Mir Ali, a Zemindar of Sera, Maziah Begum, by whom he had a son Hyder Ali, a Zemindar of Sera, Maziah Begum, but resided during his childhood at Colar. Colar was notorious for its vicious breed of horses. Poppy cultivation formerly prevailed to a considerable extent. It is cultivated not only for the opium it produces but on account of the seed which is used by native confectioners in sweetmeats. The revenue of the pergunnah of Colar was formerly valued at 1,09,215 Mahomed Shahi pagodas. It was granted to Dilawer Khan, governor of Sera, in Jaghure, on Sera's being given up to the Marhattas in 1756.

Columbella.—A village near Sera in Mysore on the road from Madras to Burybur 286 m. 27 from the former and 108 m. 5 f. from the latter place. It contains about 500 houses and appears a thriving little place. The inhabitants are Lingayets and Brahmans. There is a large tank close to the village but now dry (May 1839). There are several fine groves of Areca and Coconut trees, the dried kernel of the latter forms an article of export. The produce of the surrounding country is raggi, jutti, wheat, and garden stuffs.

Curlah.—A large walled village in Mysore under a Kilidar one march from Columbella, containing about 800 houses, and a temple to Sri Kungas-Brahmins constitute about one-eighth of the whole population. Coconuts and Areca trees are abundant in the surrounding plain.

Dandhully.—A fortified town in Mysore on the road from Bangalore to Bellary twenty-four miles and five furlongs from the former place. Latitude 13° 14' N. Longitude 77° 47' E. It contains about 800 houses, potatoes, and poppies are cultivated in the neighbourhood. It is famous as having been the place in the reduction of which Hyder gave the first decided proof of that military talent and sagacity which distinguished his future career.

Gorismudrum.—A mud walled village in Mysore on the road from Bellary to Shikarpur, forty six miles and four furlongs distant from the former and one hour

died and sixteen miles and two furlongs from the latter place. This place is situated on a plain diversified with scattered hills and was in a ruinous state when I passed it in 1837. The cultivation around is principally raggi and bajra: the raggi fields are irrigated by bories.

Gram or Gramm.—A village in Mysore on the road from Bangalore to the western coast by the Bisley ghat ninety-eight miles and two furlongs from Bangalore. It is defended by a quadrangular fort of considerable antiquity, but of little strength. Square towers connected by a high curtain of stone, with a mud parapet constitute the fortifications. It is situated on a slight ascent and surrounded by a dry ditch of inconsiderable depth. At the foot of the descent is a tank. The place contains upwards of a hundred houses inhabited principally by Kumbis, Woklis, Brahmans of the Sri Vaishnavam sect, a few Lingayets, Julais or weavers, and Mussulmans. In the plain a little distance on the road from Bisley ghat to this place I observed small heaps of stones scattered about: from some human skulls, and half devoured bodies, had been dragged forth by the ravenous jackal or hyena. On enquiry from the natives of the adjacent villages I was informed that the Wokli or cultivating class are not permitted by the Brahmans to bury their dead in the usual mode, lest rain should cease to fall in the land! In this, as well as other parts of peninsular India, it is the custom thus to pile heaps of stones on the bodies of those who die of leprosy (*kar*) or have been killed by tigers, Brahmans and Jains and other classes who burn their dead, are exempted from the observance of this superstitious custom. The Hindus, unlike the Chinese, are often careless of the remains of their relatives. The places set apart for their burial grounds, and the burning of the dead afford numerous and loathsome examples of this reckless feeling. The former may be seen strewn with the grave cloths and gnawed remnants of the exhumed inmates of the violated tomb.

Even the village pariah dogs and hogs join in the horrid repast, and the scared vulture rises reluctantly from the banquet of putrefaction. Around the pits of burning charcoal in which the bodies of the castes that burn the dead are consumed may be seen the larger bones that compose the human frame burnt and blackened, when a little more charcoal and labour expended in the deepening of the grave placing heavy stones over it or mingling a few thorn bushes with the earth in filling it up would have obviated such revolting spectacles.

Hostan.—A fortified village in Mysore on the road from Bangalore to the western coast by the Bisley Ghat one hundred and nine miles and five furlongs distant from Bangalore. The fort is large, built of stone, but in bad repair. It is provided with a fausse braye, dry ditch and glacis: it was originally erected by the Hindu chief of the place and strengthened subsequently by Tippee. There is an old Jain temple here dedicated to Perswanath decorated with couchant Singhas. A small bas-relief of Ardeswanath is seen in the usual sitting posture over the entrance. The place contains about 200 inhabited houses.

Horrior.—There is a Jaina busti here now deserted as well as some Maths of the Jungum sect. Travelling from the north Naganhutti and Bomanhully are the last villages where Telugu is spoken. Here Canarese commences as the prevailing language. (Fullerton, &c.)

Hirasaye.—A small village in Mysore seventy miles and three furlongs westward from Bangalore on the road thence to Mangalore by the Bisley ghat. The cultivation on the high grounds is chiefly raggi—a little rice is grown under the bund of the tank by which it is irrigated. The plough used here resembles the small plough of the Ceded districts; the share is made of Babul wood, and on its inner surface is armed with a bar of iron. The cattle are small but said to be of a hardy, useful breed. There is a small fort, the upper part of which is built of mud, surrounded by a deep ditch. The place contains about 160 houses inhabited principally by cultivators, Wokligars.

Hussainpur.—A small village in Mysore on the old road from Seringapatam to Periapattam 17 miles 7 f. westward from the former place. It is situated on the right bank of one of the tributaries to the Cauvery, viz the Lachmi Thirth. Here are the ruins of a bungalow said to have been built by the Honorable Mr. Cole formerly Resident at Mysore. The surrounding formation is a micaceous gneiss with veins and bed of quartz. Brilliant hornblende rock veined with quartz, and a pale flesh coloured felspar occur interstratified. Trap dykes intersect both rocks.

Kannurkotah.—A village and fort in Mysore on the road from Bangalore to the western coast by the Bisley ghat, 113 miles 5 fs. westward from Bangalore; it is situated in the Munj-valley, and under the authority of a Shikdar. The present fort, it is said, was built by Hyder; it contains a temple to Iswara and Purkati, and one to Agini. The village consists of about 100 houses inhabited principally by Jangayis, a few Brahmans of the Smaral and Sri-Vaishnavam sects and Himmagurs. Springs of good water are usually found in the vicinity at depths of from 12 to 18 feet. The road from the Bisley ghat to Kannurkotah for the first four miles lies over ascents and descents covered with forest. From the little temple dedicated to the Lingum at Comardevasthanam, on the walls of which are seen some bas-reliefs of the fish, serpent, and elephant and others indicative of the dispassionate qualities celebrated in honor of the preservative attributes of Siva, the country descends from the western ghat by gently undulating sweeps, and is intersected by a number of small, whose surface is pleasantly varied by belts of wood, and clumps of umbrageous trees. On the shady margins of the rice fields, the cultivators. The Hemavathi about 50 yards broad is crossed about half a mile west of the village by a canal. The banks are steep and composed of a clay and sand glittering with particles of mica.

Kootal.—A village on the road from Bangalore to the western coast by the Bisley ghat about eighteen miles from the former place, situated on the right bank of the Arkavati river. There are furnaces for smelting iron ore, each furnace producing from one and half to three mounds of metal per diem. The ore, a magnetic iron sand, is brought in baskets from the beds of the neighbouring nullahs by one and half mule. One labourer rarely collects more than a basket full per diem. I was informed by the smelter that the produce is from half to one mound of metal from one and half of the ore. The iron is generally beaten on the spot into dubbas, or bars, for sale and exportation. The iron is inferior to Sweden, being softer and containing more iron impurities in working up; it is used principally in agricultural implements, harrows, hoes, plough shares, &c. Iron ore is abundant in this vicinity, and I was told that there are also furnaces at the villages of Khat, Kanchakumbully, Timander and Naitenpully.

Moppy.—Mysorepattana, situated about 50 houses, inhabited chiefly by shopkeepers, Brahmans and a few Mussulmans. The fort is said to have been built by one of the former Poligars Kappya Gaur; the petah is regular and well built. (F. Buchanan, Fullerton).

Merchantully.—A village defended by a wall built of stone and mud in Mysore on the road from Bellary to Seringapatam by Raidroog; twenty-four miles and five furlongs distant from Bellary. It is situated on a plain at the north-west extremity of the rocky cluster of Raidroog and contains about twenty or thirty houses. The formation is granite, with black and brown scales of glittering mica, and a granitic gneiss.

Nagavangal.—A walled village and tank in Mysore on the road from Bellary by Chittidroog to Seringapatam, Lat. 12° 48' Long. 76° 48' E. The prevailing rock is gneiss with numerous spangles of black mica veined both with white and reddish quartz. Beds of mica slate alternate with the gneiss and in some places rise into low and smoothly undulating ridges. The soil in the neighbourhood formed by the disintegration of these rocks is a fine reddish loam. The travelling distance from Bellary is 180 ms. 2 fs. from Seringapatam 20 ms. 3 fs.

Narasipura.—A village in Mysore on the road from Madras to Bangalore 175 ms. 4 fs. distant from the former and 54 miles from the latter place. It stands at the foot of a rocky hill; near it in the midst of a large plain, almost concealed by large masses of rock, is a small Hindu temple, the interior of which is covered with rude fresco with dogical paintings.

Nandidroog.—The fort of Nandidroog was originally built by the Poligars of Balapur and subsequently added to by Hyder. The old pagoda, on the summit of the hill, is supposed to have existed long prior to the erection of the fort, and to have been founded by Chid Raya Pratapa. At the foot of the hill is a handsome temple to Iswara, a superb tank clustered round with flights of stone steps to the surface of the water, a large Math facing a quadrangle, a bungalow used by travellers still in tolerable repair, the tomb of a Mahomedan saint at which miracles are supposed to be wrought, and the remains of the British cantonment now fallen in ruin. Large quantities of excellent potato and sugar cane are still cultivated here, but lately Chalk Balapur has almost monopolized the culture of, and

trade in these articles. The potato fields are irrigated with water drawn up from small wells by means of the yeltum. The upper fort is almost uninhabited. Subtended principally by Hindus.

The force employed under Major Gowdie during the siege in September 1791 consisted of one regiment of Europeans, six battalions of sepoys, six battering guns and four mortars. A battery was first constructed on the top of the adjacent hill but the guns had little effect, from the distance, even on the outworks; it was therefore abandoned. After fourteen days hard exertion in dragging the guns up the principal rock, two breaches were speedily made in the re-entering angle of the outwork and in the curtain of the outer wall. The inner wall however could not be touched by the shot. This it was determined to escalate and in case of failure to effect a lodgment behind a cavalier between the walls; accordingly at midnight the advance of the storming party consisting of the flank companies of the 36th and 71st moved out of the advanced parallel within a hundred yards from the wall. The garrison were on the alert, the fort was instantly illuminated with blue lights, enormous stones were rolled down the steep, and a heavy, though ill-directed fire opened. The breaches were stormed and the assailants advanced with such rapidity that the fugitives had barely time to close the gate of the inner wall which was speedily forced, and the place fell with the loss of only two men killed and twenty-eight wounded, principally by the stones rolled down the wall. [Fullerton, Dirom, F. Buchanan.]

Ocklingy.—A village in Mysore on the road from Bangalore to the western coast by the Bisley ghat one hundred and fifty-one miles and five furlongs distant from Bangalore. It is situated on the eastern skirt of the ghat and comprises about thirty houses inhabited by Brahmans, Kumbis, and Lingayets. The prevailing rocks are granite, gneiss, hornblende rock, greenstone and a lateritic raggi. The soil is red, moist and clayey. The cultivation is principally rice and

Ooscotte.—A village in Mysore eighteen miles north-east from Bangalore on the Madras road. There is a small fort here, on whose bastions are two or three dismantled pieces of ordnance. It was founded by the sixth of the seven Poligar brothers who founded the Balapurs, Deenhully, Hamati and Yellavankah, and became capital of a pergunnah of Sera. It was besieged and taken by Hyder Ali and Baileet Jung in 1751.

Ootradroog.—Which forms the hollow of this saddle-shaped elevation. Two parallel walls between which the village is situated, connect in some measure the walls on both sides of the rock. A bluff precipice fissured by vertical clefts, its summit bristling with fortifications, terminates the northern extremity of the hill, at the foot of the precipice is a short table formed by precipitated masses of rock. The view from the summit is extensive and commanding—turning towards the north the conical peak of Siva Gunga, supposed to be the highest mountain in Mysore, is seen in the horizon, and to the eastward the vast dome-shaped rocky mass on which stands the celebrated fortress of Severadroog. The ascent is by rude steps cut in the convex plateaus of granite, and passes, in some places, under impending rocks. The fort is said to have been originally founded by the Poligar chief Kempe Gaur and improved by Sirdar Dilaver Khan. The rock is of granite and less porphyritic in structure than that of Nungadroog and Severadroog. There is a village and choultry at the foot of the rock.

Ootradroog was taken in December 1791, previous to the first siege of Seringapatam, by the detachment under Colonel Stuart. The Killadar, who, when summoned the preceding year had replied "I have eaten Tippoo's salt for twenty years and will not surrender until you have captured Seringapatam," fired on the flag determined to listen to no terms. On the lower fort being escalated he requested a parley, which was granted; but the men suspecting treachery, he re-immediately recommenced the assault—the people of the place to bear upon them, burst open and the heights gained. Many of the garrison to avoid the carnage threw themselves headlong from the northern precipice and were dashed to pieces on the rocks below. The Killadar and a few others were taken prisoners. [Fullerton.]

Pallim.—A village in Mysore on the road from Bangalore to Mangalore and the western coast by the Bisley ghat, distant from Bangalore 121 miles 3 fs. It contains about 100 houses, inhabited principally by Kumbis, Brahmans, and a few Jains. There is a small Jaina temple dedicated to Perewanath, having three

figures of the Singha over the entrance, and one of considerable antiquity to Jinnah Swami. The language most spoken is Canarese. The dwarf date and aloe are seen in the undulating plains around. Gneiss occurs in mamillary masses.

Periapatam.—The country between Periapatam and Seringapatam is a succession of smooth rocky undulations, covered on their convexities with a soil arising from the disintegration of the subjacent gneissiferous gneiss, and its associated schists. In the hollows, however, we find a blackish soil, partly alluvial, and partly formed on the spot. The water resting in these hollows produces successive crops of vegetation, which dying decompose into a black mould. This is constantly mingled, during the monsoon, with the red soil of the higher ground, washed down by the rains, and the numerous rills. Springs too, not unfrequently find a vent in the sloping sides. In these little Oases flourish groves of the wild date, and the elegant palmyra, and here the Ryot carries on with greatest success the simple process of cultivation. [F. Buchanan.]

Purniochatram.—A small village in Mysore on the road from Bangalore to Bellary situated between Nunddroog and Warralcondah. Topes of trees and mandaps are scattered in the adjacent plain built and planted by the celebrated Purniochat.

Sera.—Sera in 1837, did not contain many more than 1000 inhabited houses, built generally of a red clay and tiled. The fort was occupied by a Killadar, and a body of 700 persons with a small party of Mysore horse. The buildings within the citadel, which is surrounded by an extensive though broken down Shahr pahn having three gates, viz. the Palace, Haran, and Kacherry, where all in ruins—the remains of gardens and fountains were still visible, but flowerless and dried up. The country between Harnoor and Sera is a succession of high plains, the base of which is principally of gneiss and mica slate, penetrated by numerous trap dykes. The villages of Taverlykaira and Maninghe are surrounded by luxuriant groves of agra, coconut, and palmyra, while the hollows are filled with the dwarf date, plantain gardens, and wet cultivation.

Sera was founded in the reign of Yerbhadder Rayel of Bijanogger by two shepherds named Serpa and Deopa, who built a wall of mud around their houses. During the reign of Ram-raj, Raja Mubainque the son of Kasuri Kishna, a Seder chief, who, by order of Narain Rayel had founded the forts of Hattengherry, Harni, (Arnee?) Tawurkega, Condarippy and Hukapattan selected the shepherd village as the site of a future fort, but died before the royal assent arrived. His son Runga Naigue of Harni carried his father's plans into execution and built the citadel of Sera having its gate to the north, also some shops in front of the gate, and called the place Diwan Sirgi about 1629 A. D. The fort was not completed when the famous Bijapore General, Rendowlah Khan, took the place by storm, and put its defenders to the sword. Rendowlah built a mosque and fountain, on the site of the old Hindu temple, which the Mahomedan invaders pulled down, erected a Palace; and, after subduing the surrounding Poligars, made Sera the capital of a Subah under Bijapore, comprising the following six Peratomahs whose annual revenues were subsequently fixed in the time of Cassim Khan, at the same specified opposite each respectively.

Mahomed Shahi pagodas.

Fern and Basihal.....	185,123
Colar.....	1,09,206
Oscotta.....	85,824
Balapur.....	54,089
Busrapatam.....	1,27,806
Pennaconda.....	1,66,081

The Poligars of the following places are enumerated as tributaries of Sera.

Baidroog.	Yellapnaikpalah.	Devanahally.
Sunkotah.	Sankaladroog.	Ankaghirri.
Jerrimlah.	Hahulwari.	Dechurty.
Nagloor.	Solidroog.	Paugum.
Karkotah.	Oscotta.	Morghini.
Mattoor.	Bodnora.	Chuk Balapur.
Kuttanghirri.	Coorg.	Vencatghirri.
Davidmangalal.	Dindigul.	Muddenpilly.
Anical.	Chindroog.	Rongundah.
Panganoor.	Harponhully.	Kartkara.
Nagar.	Seringapatam.	Sundah.
		Calicut.

Malek Rihan Khan, Rendowlah's successor, built the wall with three gates around the fort, and added a ditch and glacis. He lies buried under a mausoleum of granite erected during his life time, with a small mosque attached, and which is pointed out to the traveller, to this day, as the Gumbaz of Malek Rihan. It has a handsome dome which is said to have been so much admired by Tipoo, that he ordered a similar one to be constructed for himself at Seringapatam.

When Aurugzebe invaded the Deccan, Sera fell into his hands about 1687, A. D. and was annexed to Hyderabad, under Zual Fikar Khan Nazim of the Deccan about 1695. It continued under the Subahdars of the Deccan, who deputed nobles for its government from Hyderabad, one of whom, Kuli Khan, was assassinated by an Afghan, and lies buried before the western gate of the outer wall where his tomb and a holy Mukam are seen at the present time—scarcely any trace remains of the garden that surrounded it.

Sera was taken by the Mahrattas under Bambahi Bhoria and Hindu Row Ghopara of Gajunderghur and the governor, Cassim Khan, who refused to pay the Chout, slain. The Mahrattas under Futteh Sing again attacked and burnt the place.

Mahomed Khan, the governor, fell after a gallant defence. In the time of Amin Khan Hyderabad, Kargia, Dalwai of Mysore, invaded the Subah; but was defeated and slain. On the assassination of Kuli Khan the Killidar, the father of Hyder Ali, Futteh Mahomed a chief in the service of the governor of Sera, refused to acknowledge Tahir Khan, who has been deputed by the Nizam ul Mulk to succeed Kuli Khan. They were both slain after a vigorous resistance. This took place about 1728. Dilawer Khan, who succeeded Tahir Khan about 1740, added much to the beauty of the place, was the last governor deputed by the viceroys of Delhi, being ordered by Salabet Jung to give up the fort and province to Balaji Row who had obtained a sunnud of this part of the Nizam's dominions in lieu of 17 lacs of rupees. Dilawer Khan reluctantly complied with the mandate, but was in some measure compensated for his non-resistance by the pergunnah of Colar, which the Mahratta chief bestowed upon him in Jaghire in 1756. In 1761, Sera was taken from the Mahratta chief Jumnaji Punt by Hyder and Basalet Jung, after a siege of two or three months. The Mahrattas, however, repossessed themselves of it, and appointed Bobaji Hindiah as Killidar, from whom it was taken by Tipoo, and the outer works partly demolished. In 1791 Tipoo's Killidar, Ghulam Mohiuddin, after removing the guns and stores to the fortress of Mudghirri, gave it up without resistance to the Mahratta leader and British ally, Hurry Punt. After the fall of Seringapatam in 1799 it was ceded to the British by the Nizam. The following is a list of the rulers of Sera.

HINDUS.

1 Sirpa and Deopa.	3 Runga Naigue.
2 Kasuri Kishna.	4 Runga Sami.

SUBAHDARS UNDER BIJAPORE.

1 Rendowlah Khan.	3 Abdul Halim Khan.
2 Malek Rihan Khan.	

HAKIMS UNDER THE VICEROY OF DELHI APPOINTED AND RECALLED AT PLEASURE.

1 Siddi Mullah.	11 Amin Khan Hyderabad.
2 Cassim Khan.	12 Ghulib Khan.
3 Atash Khan.	13 Najib Khan Ahrari.
4 Mamar Khan Kirara.	14 Kuli Khan.
5 Mir Kummeruddin Asaf Jah.	15 Abid Khan.
6 Rustam Jung Kifayel Khan.	16 Matakhir Khan.
7 Pridi Khan Dilazak.	17 Kuli Khan (re-appointed).
8 Mahomed Khan.	18 Abdur Russul Khan.
9 Dazod Khan.	19 Tahir Khan.
10 Abdallah Khan.	20 Dilawer Khan.

KILLADARS UNDER THE MAHRATTAS, TIPPOO AND HYDER.

1 Bulwant Row.	4 Madhu Row.
2 Jumaji Punt.	5 Babaji Hindiah.
3 Mir Raza Ali Khan.	6 Ghulam Mohiuddin.

The principal gold coins current in the Subah of Sera during the Delhi ascendancy were the Alungiri pagodas, and Shah Jehani fanams. [Falleron, F. Buchanan, Heyne, Moore.]

Seringapatam.—The geological formation around Seringapatam is granite and gneiss intersected by trap dyke-beds of a siliceous slate, petrographically speak-

ing, resembling quartz, may be seen in the fort ditch traversing the gneiss and in some situations overlying it in tubular masses. The brilliant hornblende rock composing the dykes has been supposed by some geologists to be identical with that composing the columns of the mausoleum of Hyder and Tippon; but I have reason to think that the two rocks will be found, on careful examination to differ essentially. The gneiss in the bed of the river opposite the Sally port, where Tippon was slain is crossed by a bed of beautiful red porphyry containing circular crystals of tourmaline. The direction of the dyke is S. 50° W. The waters of the Cauvery contain a large proportion of carbonate of lime as evinced by the numerous and extensive depositions of *Kanker* on its bank. — [Fullarton, E. Buchanan, Dirom, Lord Valentia, Hennell.]

Secrecding.—After the siege of 1791, Tippon improved the fortifications at great expense and erected several batteries completely commanding the former line of attack. One of them is called the "Sultana battery," a second, "Hyder," and a third from its mischievous, the devil's battery. In 1837 there were twenty guns lying about the fortifications, but all nearly unserviceable. On the dome-shaped rock stood the ruins of a mosque built by Tippon, a powder magazine and a few other buildings—an effigy carved in granite of ganesha, the elephantine god of sagacity and watchfulness guarded the gate of the upper citadel, assisted by a duffadar and five armed peons. The divided rock on which the fort stands is an enormous mass of porphyritic granite. The Bellary rocks owe its light appearance to a species of Lichen that overspreads the surface. — [Dirom, Fullarton.]

Shennam.—A small village in Mysore on the banks of the Lockany river 21 miles 1 fur. north of Seringapatam.

Sravan-Belgola.—The ascent to the temple and colossus on the summit of the principal hill, lies over the steep convex surface of the rock, which is rendered slippery by the bare foot of the priests and pilgrims that frequent the place. I observed several inscriptions in Canarese on the surface. The temples and porticos are of simple and massive, but elegant architecture, particularly the entrance to the quadrangular enclosure in which stands the Jaina colossus the effect at first is singular and imposing, but a close inspection of the statue can hardly be gratifying to the eye accustomed to the exquisite proportions of the statues of Europe. It is entirely divest of drapery, in an erect position, facing the north and has the curly hair, large pendulous ears, and thick lips so peculiar to Jaina images; the placid expression of the features reminds one of the head of Memnon: the legs are wreathed with *Rattinull* leaves sculptured in the granite and together with the hands are clumsily executed. The opinion of the Duke of Wellington that the rock had been cut down until nothing but the image remained. I found corroborated by the statements of the oldest priests and a personal examination of the base. Two black slabs bearing long inscriptions copies of which are lodged in the library of the Literary Society of Madras, stand on each side the entrance into the quadrangle.

The village lies between the two hills—it contains besides temples, a handsome Jain college, a large bouri the white houses of the *Shravaks* or Jain laity and the dwellings of a few Hindus and Mussulmans. On the Chick Bosta is printed out the cave of the Rishi-Maha Mani. The local tradition asserts that the statue was sculptured about 1,500 years ago by order of the ruling prince—Chamant Row. [Colobrooke, F. Buchanan, Fullarton, Col. Mackenzie.]

Taverkai.—A village in Mysore thirteen miles and four furlongs distant from Bangalore. Iron ore in the form of a magnetic sand abounds in the neighbourhood and is smelted into tolerable iron.

Wardecodah.—A village in Mysore on the road from Bangalore to Bellary, fifty-eight miles and two furlongs distance from the former, and one hundred and thirty miles and three furlongs from the latter place. Between *Purniah-Chattrah*, and *Wardecodah*, on the right of the road, is one of the monuments erected in commemoration of a *Salt*, which are scattered over the whole province of Mysore. In a receptacle near the top, having a square aperture, were deposited a few stones benumbed with red and yellow paint, and a few shells. The relatives of the deceased offered oblations at stated periods on the spot. Red paint is often used in the temples of the Hindus, by whom it appears to be considered a sacred colour as also by the Egyptians, who use it in decorating the fossil sphinxes, &c. that lie between the paws of the great Androsphinx in front of the pyramid of Cephrenes.

Yellandah.—A large village in Mysore on the road from Bangalore to Bellary, twenty miles and four furlongs distant from the former and one hundred and seventy-eight miles and one furlong from the latter place. It was founded by the squad of the seven brothers who founded the *Belagur*, *Deorhahy*, *Saxtar*, *Hamat* and *Ousectah*.