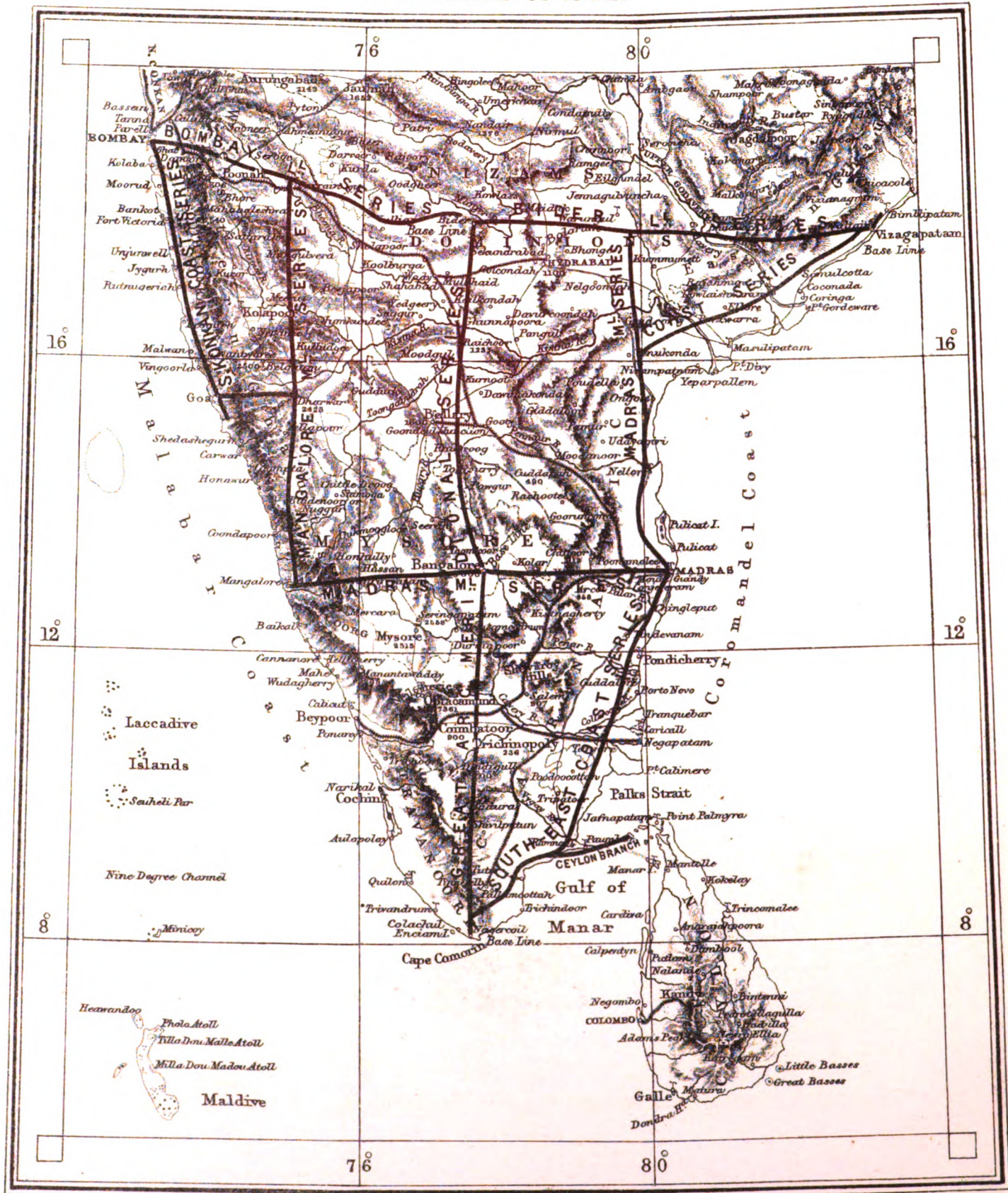


DIAGRAM
OF
THE SOUTHERN TRIGON
OF THE
G. T. SURVEY OF INDIA



Photocircographed at the Office of the Trigonometrical Branch, Survey of India, Dehra Doo, January 1891.

SYNOPSIS OF THE RESULTS OF THE OPERATIONS OF
THE GREAT TRIGONOMETRICAL SURVEY OF INDIA

VOLUME XXV.

DESCRIPTIONS AND CO-ORDINATES

OF THE

PRINCIPAL AND SECONDARY STATIONS AND OTHER FIXED POINTS OF

THE SOUTH-EAST COAST SERIES

OR SERIES F

OF THE

SOUTHERN TRIGON.

PREPARED IN THE OFFICE OF THE TRIGONOMETRICAL BRANCH, SURVEY OF INDIA,
COLONEL G. STRAHAN, R.E., DEPUTY SURVEYOR GENERAL, IN CHARGE.

PUBLISHED UNDER THE ORDERS OF
COLONEL H. R. THULLIER, R.E., SURVEYOR GENERAL OF INDIA.



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ERRATA, ADDENDA ET CORRIGENDA.

PAGE		<i>for</i>	No. 2	<i>read</i>	No. 1
xii— <i>F.</i>	in line 17 from bottom				
11— <i>F.</i>	„ „ 25 „ top	„	10 feet	„	11 feet
13— <i>F.</i>	„ „ 7 „ „	„	rectangular	„	original circular
21— <i>F.</i>	„ „ 6 „ bottom	„	8° 16'	„	9° 16'
	„ triangle 119 and elsewhere	„	Përumukkal s.	„	Përumukkal h.s.
35— <i>F.</i>	„ triangles 146, 147 and 148	„	Kaniyanúr	„	Kaniyanúr Hill
36— <i>F.</i>	„ triangle 155	„	Árni Fort Mark (heliotrope)	„	Árni Fort (heliotrope)
40— <i>F.</i>	„ „ 272	„	5° 143023	„	5° 143022
	„ „ 354 and elsewhere	„	Andikui h.s.	„	Andikui s.
59— <i>F.</i>	„ col. 3, line 22 from top	„	Pötakoiltédal h.s.	„	Pötakoiltédal s.
63— <i>F.</i>	„ „ 5, „ 19 „ bottom	„	Yëlambalúr Pillar	„	Yëlambalúr Hill Pillar
74— <i>F.</i>	„ „ 6, height of Anantapuram Hill Temple	„	484	„	466
76— <i>F.</i>	„ „ 6, opposite Chidambaram s. <i>insert</i> 173—	which is the height of the ridge of the N. gopuram above mean sea-level.			
81— <i>F.</i>	„ „ 6, height of Karnátakgarh h.s.	<i>for</i>	296	<i>read</i>	3180
83— <i>F.</i>	„ „ 6, „ Kúdalai Áttúr Temple (helio.)	„	117	„	106
84— <i>F.</i>	„ „ 6, „ Kulayanallúr, LXXXV	„	$\frac{356}{1}$	„	$\frac{354}{1}$
99— <i>F.</i>	„ „ 6, „ Sënji Kunnattúr Hill Mark	„	507	„	494

December, 1891.

J. ECCLES,
In charge of Computing Office.

REFERENCES.

The abbreviations employed in the text are as follows:—

h.s. denotes hill station (secondary),
s. „ station „

These abbreviations are only placed after stations where a theodolite has been set up and observations taken to surrounding points.

The latitudes and longitudes of all points shown on the Charts at the end of the volume will be found in the text. The latter exhibits numerical values of triangles only to points of a superior class, to which alone, if exhibited on the Charts, lines are drawn: the lines are either continuous throughout, or dotted for half the length and continuous for the other half: the dots indicate that the bearing was not observed. For other points difficult to identify or of comparatively less accuracy, numerical values of triangles and azimuths are not given.

December, 1891.

J. ECCLES,
In charge of Computing Office.

P R E F A C E .

The South-East Coast Series forms the eastern boundary of the Southern Trigon, or that section of the triangulation of India which embraces the portion of the peninsula lying south of the line joining Bombay and Vizagapatam: its details, as well as those of the branch series to Ceylon are given in this volume. The general principles of the simultaneous reduction, and the procedure followed in carrying it out, are explained in Volume II of the *Account of the Operations, &c.*; and full details of the whole of the triangulation appertaining to the Trigon will be found in Volumes XII and XIII of the *Account of the Operations, &c.*

As however the entire contents of the volumes of the principal triangulation are not needed by geographers and surveyors, and moreover as these volumes give no details of the secondary triangulation—which is of considerable value for local requirements—it is obviously desirable that synopses of the final results of the whole of the operations, including the secondary as well as the principal triangulation, should be published for general use in such a form as to be most suitable for convenience of reference. This has already been done as follows:—

For the several Series forming the North-West Quadrilateral,

- I. Great Indus Series.
- II. Great Arc, Section 24° to 30° .
- III. Karáchi Longitudinal Series.
- IV. Gurhágárh Meridional Series.
- V. Rahún Meridional Series.
- VI. Jogí-Tíla and Sutéj Series.
- VII. North-West Himalaya Series.
- VII A. Jodhpore and Eastern Sind Meridional Series.

For those forming the South-East Quadrilateral,

- VIII. Great Arc, Section 18° to 24° .
- IX. Jabalpur Meridional Series.
- X. Bider Longitudinal Series.
- XI. Biláspur Meridional Series.
- XII. Calcutta Longitudinal Series.
- XIII. East Coast Series.
- XIII A. South Párasnáth and South Malúncha Series.

} Already published.

For those forming the North-East Quadrilateral,

- XIV. Budhon Meridional Series.
- XV. Rangir Meridional Series.
- XVI. Amua and Karára Meridional Series.
- XVII. Gurwáni and Gora Meridional Series.
- XVIII. Huriláong and Chendwár Meridional Series.
- XIX. North Párasnáth and North Maláncha Meridional Series.
- XX. Calcutta and Brahmaputra Meridional Series.
- XXI. East Calcutta Longitudinal and Eastern Frontier Series, Section 23° to 26°.
- XXII. *Assam Valley Triangulation, E. of Meridian 92°.

} Already published.

And for the following Series of the Southern Trigon, *vis.*,

- XXIII. South Konkan Coast Series.
- XXIV. Mangalore Meridional Series.

The present is the 27th Synoptical Volume in order of publication, and the third of those appertaining to the Southern Trigon; it gives the results both of the principal triangulation executed exclusively with theodolites having azimuthal circles of 24 inches in diameter, read by five micrometer microscopes, and of the secondary triangulation in which other instruments besides these were used.

By the process of reduction which has been followed, the principal triangulation has been rendered perfectly consistent both internally and externally; internally, so that if in any one of the several polygonal figures of which the chains may be composed, calculations are carried from one station to another in every possible direction, the same results will be inevitably deduced; and externally, so that the values of the co-ordinates of any station, when computed from the given co-ordinates of any other station, with the final linear and angular data, will be the same, whether the calculation is carried directly through the series, or circuitously through any of the other chains of triangles comprising the Southern Trigon. All secondary triangulation emanating from one side of the principal Series and closing on another side thereof, or on a contiguous Series, have also been made consistent throughout.

As regards the general arrangement of this volume, it may be pointed out that the Introduction, and the Names and Descriptions of the Principal Stations, were originally prepared for Volume XIII of the *Account of the Operations, &c.*, and when a sufficient number of copies had been printed for that work, additional copies were struck off for the present synopsis. The Introduction was printed in the year 1885; it gives a historical and descriptive sketch of the progress of the whole operations in the field—both principal and secondary—from year to year, mentions the Officers by whom they were conducted, the theodolites with which principal angles were measured, and indicates the work done by each of the Assistants. The adjustment of the secondary triangulation was taken in hand in the year 1885, and finished in 1891 when the printing of the volume was resumed.

The data given in this volume are the following:—

First (page 1—*F*), an alphabetical list of the names of the principal stations, showing the numbers assigned to them.

Second (page 3—*F*), a numerical list giving the names corresponding to the numbers.

Third (page 5—*F*), descriptions of the structure and positions of the principal stations as taken from the original records of the observations.

Fourth (page 25—*F*), the angles and sides of the principal triangles, numbered and arranged in order from north to south.

* This is an offshoot of the Assam Longitudinal Series, and falls entirely outside of the limits of the North-East Quadrilateral. The volume is issued in a preliminary form, and therefore only a limited number of copies are available to meet any immediate demand for data: the final publication will be hereafter made on the completion of the triangulation in Burma, into the general reduction of which this Series will enter.

Fifth (page 34—*r.*), the angles and sides of certain secondary triangles. The numbering is here made consecutive to that of the principal triangles, in order to facilitate references which are made in other sections to the place where the length of a side is to be found.

Sixth (page 56—*r.*), the azimuths of surrounding stations and points at principal, principal-auxiliary and secondary stations, the latter arranged in alphabetical order.

Seventh (page 72—*r.*), the co-ordinates and descriptions of all stations and points arranged in alphabetical order.

It has not been considered necessary to publish the whole of the details of the secondary triangulation; the sides and angles of 554 triangles, which were selected as most likely to be of future use, and the azimuths of all these sides, have been given; but for a number of other points the co-ordinates only have been given. With the aid of Tables Nos. XXVI, XXVII, XXVIII, XXIX and XXX of the *Auxiliary Tables to facilitate the calculations of the Survey of India*, Dehra Dún, 1887, local surveyors, working on a system of rectangular co-ordinates, can readily transform the spheroidal co-ordinates here given to suit their own requirements.

The heights above mean sea level of the stations determined trigonometrically are well controlled by spirit-levelling along the entire length of the main Series and its branch to Ceylon. All particulars of this will be found detailed on page 72—*r.* and in the footnotes to the subsequent pages.

The longitudes depend on an astronomically determined value of the longitude of the Madras Observatory, deduced about the year 1815. The longitude of the Madras Observatory has however been re-determined by the Electro-Telegraphic method, from observations made at Greenwich, Mokattam (in Egypt), Suez, Aden, Bombay and at certain stations of the triangulation in India.

This value of the longitude of the Madras Observatory is equivalent to $80^{\circ} 14' 51''$ E.; and as the originally adopted value, on which the longitudes of the whole of the stations of this Survey are based, is $80^{\circ} 17' 21''$ E.—see page 135 of Volume II of the *Account of the Operations, &c.*—the following precept may be accepted with considerable confidence:—

**All the values of longitude in this volume require a constant correction,
probably of $-2' 30''$.**

The orthography of Indian names in the present volume is in accordance with the provincial lists of spellings constructed under the immediate orders of the Government of India. The newly authorised spellings were adopted for all names and other words contained in these lists; but for words for which there was no specific authority, the spellings have been framed in accordance with the methods followed in the preparation of the published lists, reference being made in the present instance more particularly to the Gazetted List for Madras. As a general rule the pronunciations of the vowels are as follows:—*a* has a variable sound as in woman, rural, paltry; *á* as in tartan; *i* as in bit; *í* as in ravine; *u* as in bull; *ú* as in rural; *o* as in note; *ó* as in cot; *e* as *a* in say; *é* as in bet; *au* as *ou* in cloud; *ai* as *i* in ride. Final vowels and those in well-known terminals are unaccented. When the popular spelling of a name has been accepted by Government, its correct orthography is generally given in parenthesis where the name occurs for the first time.

The charts accompanying this volume show all the principal stations and triangulation, the positions of all secondary points, and portions of the secondary triangulations of which full details of the angles, sides and azimuths are given. With the aid of the charts it is hoped that little difficulty will be met with in finding out any of the data which may be required. The descriptions of the secondary stations are in some cases not as full and clear as might be desired: this arises from the inadequacy of the information entered on the spot by the

PREFACE.

surveyors in their field books; every effort has been made to supplement the field books, whenever it was found practicable to do so, in order to facilitate the future identification of the stations, and all the information which is forthcoming has now been given.

The general arrangement of the volume is in accordance with that adopted in previous Synoptical Volumes. The data which it contains have been prepared chiefly under the superintendence of Mr. J. Eccles, M.A., Deputy Superintendent, the Officer in charge of the Computing Office. The Introduction to this Series was written by Mr. W. H. Cole, M.A., Deputy Superintendent. The volume like its predecessors has been printed at the Trigonometrical Branch Office at Dehra; Mr. Peychers and Mr. H. G. Shaw have rendered valuable service in the examination of the press proofs generally, and Mr. Peychers more particularly in regard to the numerical details which require the utmost care in supervision through the press, and in this respect from his natural aptitude and experience his assistance has been most valuable.

DEHRA DUN, }
November, 1891. }

G. STRAHAN, COLONEL, R.E.,
Dy. Surveyor General,
In charge Trigonometrical Surveys.

SOUTH-EAST COAST AND CEYLON BRANCH SERIES.

SOUTH-EAST COAST AND CEYLON BRANCH SERIES.

INTRODUCTION.

The South-East Coast Series of triangulation runs southwards from Madras along the coast to Ramnad (Rámnáthapuram), and thence along the parallel of $9^{\circ} 30'$, till it meets the Great Arc. The portion between Madras and Ramnad was formerly known as the Madras Coast Series, and the remaining portion between Ramnad and the Great Arc as the Ramnad Longitudinal Series, but when the reduction of the Southern Trigon was commenced, it was decided to combine the two into one, and designate it the South-East Coast Series. The triangulation connecting the Indian peninsula with the island of Ceylon emanates from a side of one of the polygons of the series under review, and its details are therefore included with those of the main series; it is known as the Ceylon Branch Series, and does not enter into the simultaneous reduction of the Trigon.

Triangulation had been commenced in the southern portions of the peninsula by Colonel Lambton, at the beginning of the present century, and had been carried down the coast from Madras to Negapatam (Nágapatnam); but it here consisted simply of a narrow chain, following the coast-line, and avoiding the interior, which is flat and covered with trees, and which was found to be altogether too difficult to be touched during those early days of the trigonometrical survey, when as yet no method of taking the operations through tracts of forest had been devised. From Madras to Tranquebar (Tarangambádi) this chain consisted of a principal series, which Colonel Lambton had carried out for the purpose of measuring an arc of meridian and thus determining a value for the radius of the earth. Contemporaneously with this series the sea-port towns of Pondicherry (Puducheri), Cuddalore (Gúdalúr), and Porto Novo (Farangipetai) had been fixed by secondary triangulation, and a minor series had been carried south from Tranquebar to Negapatam, which was also connected by further secondary work on the parallel of $10^{\circ} 50'$ with Tanjore (Tanjávúr). The triangulation on this parallel was produced west to Trichinopoly (Tiruchinnapalli), where it joined the general net-work, which was spread over the interior of the country and from which the Coromandel Coast Series had originally emanated in the neighbourhood of Madras. A complete circuit was thus formed and a base-line of verification measured at Tanjore in 1808, but no triangulation was commenced on the coast-line south of Negapatam, till

Lieut.-Colonel Walker became Superintendent of the Great Trigonometrical Survey. Unfortunately the greater part of Colonel Lambton's operations on the Coromandel Coast are valueless, owing to the stations not having been preserved. A few out of the vast number, he observed at, have been identified and are now incorporated as secondary points with the modern triangulation. In 1873 Lieut.-Colonel Walker decided to commence a principal series at Cape Comorin, which was to follow the line of the coast to Madras, and from which a branch series to Ceylon was to emanate, and he issued orders for the execution of the work to Major Branfill who was about to complete the southern section of the Great Arc. This officer after closing the Great Arc triangulation on the Cape Comorin base-line in February 1874 took advantage of the remaining clear weather by reconnoitring the Straits of Manar with a view to ascertaining the practicability of a trigonometrical connection with Ceylon. The straits were first examined at Adam's Bridge, where they are narrowest; but the islets composing the bridge were found to be sand-hillocks, which for the most part were covered by the sea at high-water, and were only accessible at low-water during fine weather; they were thus most unpromising positions for the construction of suitable stations, and it was soon found necessary to abandon all idea of crossing them. Higher up, on the line between Ramesvaram and Jaffna, are several islands, composed of coral and sand-stone; these were next visited, and found suitable for the erection of stations. The nearest to the Indian coast was Kachi Tivu, a small island not more than a mile in diameter, but standing well

Season 1873-74.

PERSONNEL.

Major B. R. Branfill, Dy. Supt.,	2nd Grade.
Mr. G. Belcham, Asst. Surveyor,	1st "
" C. D. Potter, "	1st "
" J. Bond, "	3rd "
" E. W. Lasseron, "	3rd "

out of the water, and visible from the island of Ramesvaram on one side and from that of Neduvan Tivu on the other. Here Major Branfill decided to construct two stations at a distance of about a mile apart, and to fix their positions by observations at them, and at the Ramesvaram stations: finding that no difficulty would be experienced in connecting them with the island of Neduvan Tivu, he returned to the mainland and took up the work of the southern portion of the South-East Coast Series on the parallel of $9^{\circ} 30'$. In December 1873, Mr. Belcham had been sent to reconnoitre the country, and to commence laying out the approximate series. He found the line would have to run through an unbroken plain of black soil, generally under cultivation, with high standing crops, and plentifully wooded with groves of mango, tamarind and palm trees, the view being everywhere obstructed by long lines of high banks of tanks and irrigation channels, and after a very careful and detailed examination he reported the country unsuitable for the great triangulation. It was evident that every ray must be tediously traced and cleared in the regular manner, and that high towers would be required even for comparatively small triangles. It was impossible to lay out and prepare any stations of the new series in time for observation before the end of the field season; Major Branfill therefore abandoned the intention and sent the large theodolite into store; he then proceeded to lay out the series himself, directing the assistants to build the new stations, as soon as selected. After a careful examination of the country, he found that, following the most favorable line, namely that bordering the sea on the parallel of $9^{\circ} 15'$, where advantage of the coast-line sand-hills could be taken, he could not reach Ramnad, distant only 64 miles, by less than 16

triangles, forming a single series. By the addition of three stations, he was enabled to convert this into a double series, and thus concluded the approximate work. The party returned to recess at Bangalore (Bēngalūr) on 26th May.

In the next field season Major Branfill's party was deputed to commence the southern

Season 1874-75.

PERSONNEL.

Major B. B. Branfill, Dy. Supt., 2nd Grade.
Mr. G. Belcham, Surveyor, 4th Grade.
" C. D. Potter, Asst. Surveyor, 1st Grade.
" E. W. Lasseron, " " 2nd "

portion of the South-East Coast Series, which had been approximately laid out the previous season. The party took the field at Bangalore on the 9th of November, reached Trichinopoly on the 6th of December, Madura (Madurai) on the 12th, and the scene of operations on the 20th. A week was occupied in building the stations and clearing the rays, and it was not till the 29th of December, that observations were commenced. The first stations visited were those of Kulayanallūr and Koilpati, forming a side on the east flank of the Great Arc, and by the 20th of January final observations at the six stations forming the first two quadrilaterals were completed. Mr. Belcham, who had been hitherto engaged in continuing the approximate series, was then recalled to the main party to take up the observations, whilst Major Branfill himself proceeded to carry on the approximate work. Mr. Potter and Mr. Lasseron were occupied in building stations and clearing rays.

The stations of the north flank and centre of the series were hollow masonry pillars fifteen to twenty feet in height, banked up with earth and gravel as high as practicable to prevent vibration, with a timber scaffolding to support the observatory tent and run up to a much greater height for the signal. The south flank lay along the series of sand-hillocks and ridges, that skirt the coast, enveloped for the most part in dense palm forest. The shifting hillocks of drift-sand were not suitable for permanent principal stations; but by means of temporary stations composed of wooden piles, all the permanent buildings on the coast, which could be observed, were fixed, and the series rendered double throughout. Large mark-stones were buried deep in the sand, which will be recoverable for many years to come, as a pile of coral stones was placed over each to mark the site more permanently in case the sand shifted.

It was found by experience that a considerable reduction of expense might be effected by the adoption of only low masonry pillars and platforms, no larger than absolutely necessary for the sake of permanence, in place of the usual high towers. The South-East Coast Series was commenced by building scaffoldings, ten of which with a mean height of 21 feet cost Rs. 1,750; in addition to this the cost of the observatory platform was Rs. 40 at each pillar, so that the average expenditure amounted to a total of Rs. 215 per station, exclusive of supervision: a different plan however was adopted after the series had been extended for 30 miles, and log or pile stations were constructed for the sand-hills, and low masonry piers for the ordinary soil, with lofty scaffolds for the signals. The average cost of eleven observatory signal scaffoldings with a mean height of 27 feet was found to be only Rs. 30, and that of low masonry platform stations about Rs. 20, making a total of Rs. 50, and shewing a saving of Rs. 165 per station. The station, that was found best adapted for this series and most economical, consisted of a masonry pillar, 3½ feet in

diameter—in which were placed two mark-stones—surrounded by an annular wall from 13 to 18 inches thick: outside the annular wall three pillars of masonry were built for the support of a portable wooden stand, strongly braced, and 17 feet high, to carry the instrument: at the level of the top of this stand, the first platform was built, 10 feet by $8\frac{1}{2}$ feet, the platform was supported at its four corners by scaffolding poles, 40 feet high, on the top of which a second platform was constructed to carry the signal lamp. One disadvantage of these lofty scaffolds was the difficulty of plumbing the signal apparatus in a high wind; this was obviated by using heavier plummets supported by fine brass wire, and by protecting the plumb-line by a long strip of cloth or matting spread on the windward side. The stations at which the braced tripod stand was used have been designated “trestle stations.”

By the end of the first week in March the approximate series on the south flank and centre was complete as far as Ramnad. The south coast from the land's end (Toniturai = “boat ferry”) opposite Pámban, for 50 miles to the westward, was fringed with a belt of dense palmyra forest, intermixed with groves of cocoa-nut trees, through which it was very difficult indeed to carry on the series, but there was no alternative feasible. To traverse or “trace” each ray through the forest was possible, but to “clear” it quite impracticable; to overlook it was the only thing to be done, although the palms grew to a height of 60 feet and the ground was generally quite flat. At a distance of a mile or so inland from the sea-shore there was a ridge or series of hillocks, rising from 10 to 50 feet above their base, formed probably by the constant action of the sea breezes blowing the dry surface sand of the beach inland, and depositing it in the palm forest, where it is sheltered from farther action of the wind. The most promising of these sand-hillocks having been selected for stations and high flags having been erected on them, the line between them had to be traversed, and the height of the intervening hillocks and palm trees carefully noted. This, it was found, could only be done by climbing the highest palms and examining the height of the forest in the direction of the ray. About midway the most prominent palm in or near the line was sought for and marked with a flag, whence the flags of the two station sites at the ends of the line could be seen; a sextant was then used to measure the angle contained by the rays to the station flags, which, with the traversed distances, gave the approximate position of the true ray, and by examining the top of the forest, it could be then judged, whether the ray was likely to prove practicable or not, and where most clearing was necessary. The direction of the ray having been found apparently feasible, a trial line had to be carried from one or both ends over the palm-tops, the leaves of which had to be cut off, so as to make a clear gap of 10 or 12 feet in the forest. If the trial line proved all right, it had to be widened by cutting down some scores of trees, the price of which (from one to four shillings each) was settled and paid to the owners. As the sand-hillocks did not attain the height of the palms by 15 or 20 feet, the eye and signals had still to be raised, and for this purpose Major Branfill prepared the portable braced stand of wood, which has been already described. The long scaffolding poles which were required to support the upper platform, so as to give the additional height to the signals, that was necessary, were easily obtainable, and the stalks of the palmyra leaves furnished the rope, by which the scaffold was put together and made fast.

In one instance Major Branfill met with a great disappointment and the loss of several

days. The lofty gopuram, or entrance tower, of the Tirupullani temple, a sacred Vishnu fane, offered a tempting site for a station, 80 feet above the ground, by which five rays to adjacent stations over the palm forest were well commanded. He visited the place and was allowed to mount and observe with a small theodolite from the summit of the tower without demur, and was informed, that he might use it as a station, if he engaged to do no damage, that he would not make good. When however he came subsequently to prepare the station, and had taken the necessary measurements for the platform, &c., the brahmans attached to the temple, and the inhabitants of the village, that profit by the temple funds, turned out to the number of some hundreds, and surrounded his tents in a state of much excitement, protesting against his again entering the tower, unless he was prepared to pay many thousands of rupees for its purification, whilst some of them demanded money for the pollution that had already occurred through his presence. Major Branfill, describing this incident, writes:—"I tried for
 "sometime to conciliate them but without effect; they refused me further access, locked the
 "door, and kept a watch to prevent by force any attempt on my part to effect an entrance,
 "which of course I did not make, though it was with much reluctance that I felt obliged to
 "abandon so advantageous a site. I afterwards learnt, that on the day of my first visit a
 "subscription was made and a sum of one or two rupees collected to enable the priests to
 "perform certain purification ceremonies on account of my visit. On hearing this I sent
 "word to the temple manager, that I was ready to pay a rent equal to the amount of any
 "such expiatory sacrifices, as they deemed absolutely necessary, for as long as we occupied
 "the tower, but they refused. They added, that they had already caused the unhallowed
 "Government telegraph wire to be removed from passing too near their holy building to a
 "distance of some hundreds of yards, and that they could not let me use their tower at any
 "price. No anger or ill-will was displayed on either side, but I was not prepared for such
 "persistent obstructiveness, considering I had already established a station on the unfinished
 "gopuram at Uttarakoshamangai, a celebrated Shiva temple only a few miles distant, with-
 "out any difficulty. The gopuram, or entrance tower, of any Indian temple, is perhaps of
 "less use, from a religious point of view, than the ordinary tower of an old English church;
 "and in this instance, as is common in Hindu temples, the tower, being only the resort of
 "monkeys and bats, and seldom or never cleaned, was in a most filthy state, and so disgust-
 "ingly loathsome as to be almost unendurable to any one passing through it. That my
 "presence should be thought a greater pollution to the temple than that of these unclean
 "beasts and birds reveals a state of mind, that is somewhat remarkable. I lost no time in
 "searching for another point, but the delay caused by the abandonment of this cost me about
 "a week in the busiest time of the season".

Major Branfill's next occupation was to extend the series to Ramesvaram with a view to the Ceylon connection. After a careful examination of the country to the south-east of Ramnad, he found that the increasing density of the palm forest and the rapid narrowing of the land would make it necessary to utilize the islets of the coral reef, which lie parallel to the shore of the main-land at the distance of 4 or 5 miles. He accordingly threw out a quadrilateral to the southward based on the south-easternmost side of the triangulation, which lay convenient for the purpose, and found no great difficulty in extending the series by a succession of quadrilaterals as far as the land's end.

The islands were scarcely above the sea at high-water of spring tides, and were composed of coral and sand; they were devoid of fresh water or any thing to live upon, but were covered with grass, bushes and trees, the last being planted by the fishermen who resort there from the main-land: several of them were densely covered with high tangled shrubs, that caused much trouble in clearing the rays. Labor, material, food and water had to be transported thither by boat, and as constant communication by open boats or canoes had to be maintained, there were only about three months, February, March, and April, between the monsoons, during which this work could be carried on. High scaffolds were required at all of the island stations, and in building these only one accident occurred throughout. This was a matter of congratulation, as all the party were inexperienced in the kind of work, and their materials and implements were of the most unwieldy and roughest description. An ordinary palmyra freshly cut down weighs about $1\frac{1}{2}$ tons, and each half tree, over 40 feet in length, probably $\frac{1}{2}$ a ton, to raise which there was only a working party of from 12 to 20 common coolies, and 3 or 4 klassies. A few stout bamboos for sheers, props, &c., a set of tackle and plenty of cocoa-nut fibre rope were all the implements available, but they proved sufficient for the purpose. The one accident, alluded to, occurred by a faulty beam, injured in the felling of the tree, having been inadvertently used on the top of the scaffolding to support the signal platform: whilst it was being removed, it gave way, and two klassies were precipitated to the ground from a height of 30 feet, but neither was seriously hurt.

Major Branfill completed these stations and cleared all the rays by the middle of April, when he found it necessary to desist, as it was useless to prepare the remaining stations in advance, some of which, being situated on hillocks of drift-sand, were necessarily temporary stations. He then visited the islands of Kachi and Neduvan (or Delft) and ascertained that there would be no great difficulty in any of the remaining rays.

Mr. Belcham meanwhile had been pushing on the final observations with vigour and success and except for one or two days, when he overtook the building parties, had experienced no interruption. He closed work on the 1st of May, as the entire party was much exhausted, and a large portion of it sick.

The district passed over is as flat as possible, with a slight slope downwards towards the sea of a few feet per mile. Inland the surface of the country is generally deep black soil which is immediately succeeded near the coast by deep sand. The black soil is extremely rotten, and becomes impassable in wet weather: it is covered with dense woods, and intersected by a net-work of bunds, dykes, supply-channels, and tanks; crops of corn growing to a height of ten feet are to be seen in all directions, and every tank bed is overgrown with a dense thicket of thorns of a kind of hard and matted "bábul" (*Mimosa Arabica*), that is exceedingly tedious to clear. Except for the occasional sand-hillocks, the vicinity of the coast offers no advantage over the inland tract, being overgrown with palm forest, thorn jungle, and cocoa-nut groves.

Compared with former work, when hill stations were available, the signals were diffused and the observations wild. Excepting the first few, nearly all the rays were unavoidably low, grazing within ten or fifteen feet of the ground, and a few much closer still. Eleven of the rays were more or less clear over the land, giving a mean factor of

positive refraction = + .023 of the contained arc. Thirty-six rays grazed the surface more or less badly, giving a mean factor of negative refraction = - .111; the largest of these was - .289, and there were several others about one-fourth of the contained arc. Of sixteen rays over the sea, some clear and some grazing, only one gave negative refraction, - .037, the rest were all positive, and generally lay between + .020 and + .040, the mean being .032 of the contained arc, or about half that of an ordinary series of hill stations.

Work was resumed in the next field season. The main body of the party to the number of 70, under the Tindal and Daffadár, left recess quarters

Season 1875-76.

PERSONNEL.

Major B. R. Branfill, Dy. Supt., 2nd Grade.
 Mr. G. Belcham, Surveyor, 4th Grade.
 " C. D. Potter, Asst. Surveyor, 1st Grade.
 " E. W. Laseron, " " 2nd "
 " A. Bryson, " " 3rd "

at Bangalore, and marched by the usual route for Madura on the 13th of October 1875, but on entering Salem (Selam) on the 22nd, were put in quarantine by the District Collector in consequence of cholera of a virulent type having broken out amongst them, three cases proving fatal. On hearing this, Major Branfill at once proceeded to join the party by train with medical aid, and found the men in a state of panic and deserting rapidly. All those newly engaged refused to go on, demanding their discharge or to be taken back to their homes and families at Bangalore at once. Cholera being very prevalent in the Dindigul (Tindukal) and Madura districts ahead, and worse in rear on the route by which they had come, it became absolutely necessary to take them by railway to Mysore territory, as they positively refused to remain where they were; no fresh cases occurring after this, the party obtained a clean bill of health, and was marched into Bangalore under Mr. Bryson on the 2nd of November. On the 15th November, the entire party, recruited in numbers and re-established in *morale*, again left Bangalore for the field, proceeding by rail as far as Madura, and commenced operations on the approximate series at Ramnad on the 1st of December, having left the 24-inch theodolite in deposit at Madura until actually required for the final observations. The remaining portion of the island series for the Ceylon connection could not be begun till the end of January, when the violent wind of the north-east monsoon moderates. Before this open boats, the only craft that funds admitted of, were not able to ply between the islands of Palk's Straits to the east of the Pámban Channel and Adam's Bridge, and keep the signal and observing parties furnished with water and supplies. The following arrangements and disposition of the party for the prosecution of the work were therefore made:—The country to be traversed being low, flat, and much wooded, like that of the last season, and very few stations and no rays being ready for observations, the entire party was placed upon the approximate series, and divided into five equal working detachments. Mr. Belcham kept to the east flank stations and rays, Mr. Potter to those of the west flank, while Major Branfill, Mr. Laseron, and Mr. Bryson prepared the centre of the Series.

From the unusually heavy rains of the autumn the country was at first barely passable, causing great hindrance. On the east flank and centre however work proceeded fairly well; but on the west Messrs. Potter and Laseron were greatly delayed on their first rays, although they were between stations which they had themselves selected and built at the close of the last season. By the end of January, after two months incessant hard work, only two hexagons were completed, and on the 9th of February Major Branfill commenced

the final observations. He next proceeded to the centre station of Manēgandi, and observed the usual azimuth of verification, in which he found no inconvenience, want of stability, nor any unusual tendency to dislevelment in the theodolite from the use of a tripod stand, 17½ feet high. Mr. Belcham was then called in to take up the final observing on the Ceylon Branch Series, leaving Messrs. Potter and Lasseron to continue the approximate series on the south-east coast in advance for the next season, whilst Major Branfill proceeded to Rámesvaram island to complete the approximate work for the Ceylon connection, which he found no difficulty in doing during the month of March. The two stations on the small island of Kachi Tívu served as a base to determine the positions of the two next stations which were erected at the extremities of Neduvan Tívu, an island seven miles long belonging to Ceylon. The Ceylon Government constructed towers of a sufficient height to overlook the dense growth of palm trees with which the island was covered, and to command the requisite view all round and serve as stations of triangulation. The positions of these towers, as well as the stations on the island of Kachi Tívu, were fixed from the side of India by Mr. Belcham with one of the first-class theodolites of this Survey: the acuteness of several of the angles involved in the triangulation, necessitated the employment of the best instruments which could be provided for the measures of the angles: in this respect the instrumental equipment of the Indian Survey was much superior to that of Ceylon. Colonel Fyers, R.E., the Surveyor General of Ceylon, evinced great interest in the operations, and heartily co-operated with the Superintendent of the Great Trigonometrical Survey of India, Lieut.-Colonel Walker, R.E., in the matter. Mr. Belcham was considerably delayed by contrary winds and foul weather, but succeeded in completing the observations of the final angles by the 25th of April: at one station he obtained the first night's observations, but could get no more for some days, until he had raised the instrument on piles about 8 feet higher, because the setting in of an unusually high southerly wind caused the waves of the intervening sea to obstruct the view. The station on the sand hill near Rámesvaram, which was observed in the previous season, could not be found, having been buried deep in the shifting sand, and it was necessary to establish a new one. This station caused much anxiety, and a great deal of time was spent in watching it during the observations lest it should be blown away or buried again. It consisted of a long 10-foot pile of hard wood driven into the sand at the top of the highest hillock, where there remained just below the surface some of the moisture of the preceding autumn's rains: but as fast as the sun evaporated the moisture the wind, which was uncommonly high for the season, blew away the surface sand daily to the depth of 4 or 5 inches or more; and it was only by continually replacing it, and by freely watering and beating it to a smooth and compact mass, that the pile and mark were preserved.

After seeing the completion of the island series Major Branfill, having obtained furlough to England, proceeded to Bangalore to make over charge of the party to Captain W. M. Campbell, R.E. The work performed during the season consisted of two hexagons on the South-East Coast Series, and of a hexagon and quadrilateral on the Ceylon Branch, forming in all a chain of triangles 80 miles in length, and including observations at 21 principal stations. An azimuth of verification was also observed at Manēgandi station.

During the following recess Captain Campbell took steps for obtaining greater elevation

at the stations in order to gain clearer rays. Hitherto the height of the telescope of the theodolite had been about 30 feet from the ground, and that of the signal platform 40 feet, and it seemed better to raise the latter, if possible, than to alter the tripod stand. Accordingly a trial signal platform was erected to a height of 58 feet without serious trouble. Mr. Belcham watched the behaviour of this platform by observing the lamp on the top through a theodolite at a convenient distance, and found that under a strong breeze blowing in gusts the extreme deflection was not above an inch, the platform recovering itself when the wind dropped. This shewed that such a platform might well be trusted for rays averaging 10 miles in length, on which one inch subtends an angle of about 0·33 of a second.

One point in the reduction of this work called for special notice, *viz.*:—the remarkable and rapidly increasing difference between the sea level and that deduced from the trigonometrical heights of the triangulation running along the coast with one flank on islands and latterly entirely on islands, for the purpose of the Ceylon connection. By spirit levelling connecting the tide-gauge at Tuticorin (Tútugudi) with the Cape Comorin base the error of the trigonometrical heights there was —7 feet. In the season 1874-75 when the series first struck the coast 110 miles from the base-line, the error was found to be —10·7 feet, increasing to —12·4 feet in a farther distance of 30 miles. In the season 1875-76, this error of —12·4 feet, after two figures extending 40 miles over sea and islands, had increased to —14·7 feet. The progression is by no means regular, as there were cases of —18·7 feet and —17·2 feet between the initial and closing errors of —12·4 feet and —14·7 feet respectively. These facts tend to show, that the refraction affecting grazing rays over the sea is so irregular as to make vertical angles untrustworthy.

The charge of the South-East Coast Party was taken over by Captain Carter on

Season 1876-77.

PERSONNEL.

Captain T. T. Carter, R. E., Dy. Supt., 3rd Grade.
Mr. G. Belcham, Surveyor, 4th Grade.
" C. D. Potter, Asst. Surveyor, 1st Grade.
" A. H. Bryson, " " 3rd "

his return from furlough, on November 20th 1876, from Captain Campbell, R. E., who had held it as a temporary measure during the preceding recess. As soon as all arrangements were made the party left Bangalore and arrived at Tanjore on December 1st. Work was commenced on

the Ökkúr polygon: the angles at the two stations of continuation had been already observed during the preceding season, but the scaffoldings which formed the platforms for the observer and signallers at the three next stations required considerable repairs before they could be used: the platforms for the remaining three stations of the figure had to be constructed, and the rays finally opened out. With reference to the Merpanaikád or second hexagon selected in advance, there was still some uncertainty as to whether the two last stations would be visible from the central station, and Mr. Belcham was directed to proceed there and at once satisfy himself that mutual visibility could be obtained and if not to select other sites. Mr. Belcham set to work with his usual zeal and luckily it was found that there was no obstacle to obtaining rays between these stations.

Owing to the famine prevailing in Southern India there was a difficulty in procuring provisions; rice was selling at five seers for a rupee, the people had migrated in large numbers to Ceylon, and those that were left seemed little inclined to part with their grain; moreover there was a threatening of a water famine, the tanks by the middle of December

being nearly dried up. However, by suitable arrangements, the difficulty of feeding the camp was got over; and when on the 23rd of December heavy rain fell continuing for three days all fear of a water famine was over.

Observations were begun at Sembalavayal Station on the 27th of December, and completed on the 30th. By the end of January the final angles at six more stations had been observed, Captain Carter and Mr. Belcham working together. On arriving at Merpanaikád Station, the latter was deputed to continue the approximate work on which he was employed till the close of the field season. His progress was greatly retarded by the unfavourable nature of the ground and the heavy cutting that had to be got through, and from the 5th of February to the 14th of April he only succeeded in completing the selection and building of three stations and the clearing of the rays between them: the aspect of the country consisted of paddy fields hedged round with *bábul* trees very difficult to get through, and the ground was much cut up with watercourses.

As the triangulation was approaching that of Colonel Lambton's executed in the year 1800, Captain Carter endeavoured to find out if any marks were to be seen on the different pagodas shewn on the old chart, which were evidently used by the Colonel as stations of observations. The pagodas of Manárgudi, Álangudi, Kumbakonam, and Tanjore were examined for this purpose, as well as the *gopuram* or "gateway" leading into the enclosure in which the pagoda stands; the general description given of these stations in the old records, is "on the pagoda," though in all probability the instrument was placed on some part of the *gopuram* which is usually a far loftier structure than the pagoda or temple. In no instance was a mark found. An endeavour was also made to discover the terminal points of the Vellum base-line in case it was thought desirable to connect it with the new triangulation, but without success: as far as the work had been carried this season the only station of Colonel Lambton's triangulation, the exact position of which could be identified, was that at "Boodilloor," the mark-stone of which was protected and kept in repair by the Civil authorities.

Troughton and Simms' 24-inch Theodolite No. 2 was the instrument used during the season; it gave good results, though there was a tendency for the readings to diminish on the return to the same point, and this whether the telescope was moved from right to left or left to right; it was particularly perceptible when the azimuth at Pátharankota Station was being observed, where the referring mark was constantly intersected. Captain Carter attributed this to the expansion and contraction of the $17\frac{1}{2}$ feet tripod stand which had in this Series taken the place of the ordinary masonry pillar. In the beginning of the season the stand was protected from the prevailing wind from the north-east; the extremes of temperature were not so great, and it was not till March that this peculiarity became apparent. By protecting the stand on all four sides, though there was still a tendency for the readings to diminish, the decrements were much less. The most curious feature in the case was that the levels attached to the body of the instrument, (and one of them was a particularly sensitive one) remained very constant. The triangular errors were large, but this could be accounted for by the rays being grazing and often passing over tanks and rice-swamps; the signals were steady, and only on one occasion had work to be stopped on account of unsteadiness, and then it was due to the lamp-man neglecting to isolate his lamp from the part of the platform on which he sat.

During this field season Captain Carter extended the principal triangulation from the

south, to the edge of the great plain of Tanjore, which is commonly known as the Cauvery (Káveri) delta, and selected the stations for another hexagonal figure in advance; he was relieved on the 1st of June by Lieut.-Colonel Branfill.

Work was resumed in the following November, and for the first month the whole

Season 1877-78.

PERSONNEL.

Lt.-Colonel B. R. Branfill, Dy. Supt., 2nd Grade.
 Mr. G. Belcham, Surveyor, 4th Grade.
 " C. D. Potter, Asst. Surveyor, 1st Grade.
 " A. H. Bryson, " " 3rd "

strength of the party was brought to bear on the operations for the selection of additional stations in advance. Heavy rain fell at this time and the country became a vast paddy (rice) swamp, which, though bright and green, and a glorious sight for the eyes of persons just arrived from the dried-up and famine-stricken province of Mysore, was deplorable from a Surveyor's point of view; the ground was saturated with water, and thus to quit the high roads without sinking deep in mud was practically impossible; every square yard moreover excepting only the surfaces occupied by the villages, towns and roads, was under rice cultivation.

The triangulation was carried over the Cauvery delta and into the valley of the Coleroon (Kolladam) river; but this was done with great difficulty, and only after much careful examination of the ground, with a view to finding the lines which presented fewest obstacles and greatest advantages; for the country was much wooded and intersected by numerous water-channels. Colonel Branfill writes:—"But for the existence at Kumbakonam of a lofty tower, appertaining to the Provincial College, which afforded a sufficient height (72 feet) to overlook most of the cocoa-nut and other trees—of which there are dense groves in and around the tower, and which are so valuable as to make their removal prohibitory, even were their proprietors at all willing to allow them to be cut down at any valuation—the passage of the delta might not have been effected". Further on at Tirupanandál, a "mandap" or detached open temple was met with, the flat roof of which was also found to be a suitable site for a principal station. In all other cases stations had to be specially constructed on the general level of the ground; and the selection of suitable sites, with the minimum of trees and other obstacles on the lines between them, was a most difficult and trying operation.

The out-turn of work by the close of the field season, whether measured by the area covered or the length of line spanned by the final triangulation, was in consequence small. The number of principal angles measured with Troughton and Simms' 24-inch theodolite was 38, fixing ten new principal stations, arranged so as to form two hexagonal figures, which covered an area of 408 square miles.

The operations of this season were mainly confined to the tract of country, known as the Cauvery delta, which consists of an even plain of alluvial deposit, containing a comparatively large proportion of sand, and having a good slope of 3 or 4 feet per mile. According to the levels of the South India Railway the bed of the Cauvery from Karúr to within 30 miles of the coast has a pretty even fall of near 4 feet a mile; in the next 10 miles the gradient decreases to about 3 feet a mile, and in the vicinity of the coast it does not exceed 2 feet a mile. Continuing this examination of the declivity by means of the Government Marine charts, the fall out at sea increases in the first 14 miles to 5 or 6 feet per mile, to 8 or 9 feet per mile for the next 9 miles, to 24 feet for the next 6, and

to 38 feet for the last 10 examined up to 37 miles from the coast. This rapid deepening of the sea is a noticeable fact, but it seems only natural, if the present coast-line is of purely fluvial formation. The character of the alluvium alters and generally deteriorates in fertility as the distance from the head sluices of the Cauvery channels increases. It varies from a rich red or black loam to a pale sandy clay, the sand increasing and the clay diminishing from west to east, and but for the annual fertilizing floods would be anything but rich and productive. Without artificial manure the land usually bears but one crop yearly.

The sea-board flats are well raised above sea-level, and further protected from high tides and storm-waves by a high sand-ridge along the coast. Cyclones have been frequent, but have never made any great devastating inroad. The formation of this coast-ridge appears to be explained by the strong sea breezes which prevail in the hot and dry season, and, blowing strongest at the hottest part of the day, when the sand of the sea-beach is driest and most easily raised, continually drift it up inland to accumulate under the shelter of the coast vegetation. It is thus formed into a ridge, or line of hillocks, parallel to the shore-line at the inner and upper edge of the beach, frequently standing at a steep slope on both seaward and landward sides. The sand-drift does not appear to extend far inland, being kept down by the fringe of palms and other vegetation that usually grows near the coast. This advanced vegetation equally protects the sand-ridge from being blown out to sea in the violent winds of the south-west monsoon.

As to whether the coast-line of the Cauvery delta is altering, it may be well to consider the elements of change at work. The first to be noticed are the silt-bearing floods of the autumnal rains, which are doubtless yearly raising the level of the land generally and tending to make it encroach on the sea, extending the coast-line eastwards and shoaling the sea-bed, a slow but unceasing process, which may wax and wane and seem even sometimes to contradict the effects which must inevitably occur sooner or later. The process of new land-formation may be much slower now than it was before the great irrigation works were begun, but so long as fresh silt is brought down by the annual floods, it cannot cease altogether. The heavier sand is dropped first as the current slackens, while the lighter is carried on till the river current is lost in the quiet depths of the open sea.

The next element of change is the wind, which acts both directly and indirectly, and in various ways. First there is the north-east monsoon, acting indirectly by means of the southward, long-shore current which carries the silt-bearing floods more or less down the coast and causes them to deposit their heaviest burden to the south of the river outlets, thus commencing the sand-banks, which help to shift the river mouth northwards. This wind cannot act directly on the shore sand to the north of the river mouths, because the sand is then moist by the recent autumnal rains, the heaviest rain of the year. But the southward set of the rollers and beat of the surf must tend to drift the shore-sand, loosened by its violence, southward across the river mouths, which it shoals, helping to form the bar of sand-banks and islands usually found in such situations.

In January and February the north-east monsoon gradually changes into land- and sea-breezes, which increase as the spring advances with clear weather and a hotter sun. The sand of the sea-shore rapidly dries and is drifted by the sea-breezes to the top of its slope, as long as there is loose sand to drift and nothing to shelter it. The sea-breezes veer gradually

to the south-east and southward until in May they become strong 'long-shore winds from the south, directly transporting northward much of the blown sand collected along the coast-ridge, in clouds which settle in the hollows and tend to fill up and choke the southern edges of the river out-falls and so to shift them northwards.

With the change of wind from the north-east in January to the south-east and south in April and May, the 'long-shore current changes from south to north, latterly running rapidly northwards and bringing in the heavy sea-rollers obliquely to the coast from the south-east, to dash in lines of roaring surf on the shore, washing the sand of the beach northwards at every stroke. This double action drives the river mouths northwards.

Whether this is the right explanation or not, the fact remains that the mouths of the rivers of the Coromandel Coast are continually shifting northwards. This is best seen in the Mahánadi and Cauvery, but is also noticeable in the Pénner, Nagari, Körtalayár, Kuam, Pálár and Baigai. It is not so prominent in the Godávári, Bellar and Tamrapani, the first of which has one outlet apparently to the south of its delta, and the Kistna (Krishna) seems to contradict this tendency; but these apparent exceptions probably admit of some explanation. On the west coast the *débouchement* of the Nētrávati exhibits a similar tendency to shift to the north; this is probably due to the set of the current, and the violent beat of the breakers during the south-west monsoon which has nothing to counterbalance it. The same tendency of the river mouths to shift northwards may be observed in Ceylon.

After shifting to the north for an indefinite period, during which it seems probable that the bed of the river must be silting up, especially near the outfall where the current is less, some unusually high flood may be expected to top the bank and thus form a new outlet to the south. This may possibly occur near the head of the delta, and the new channel may take its course along the southern edge or border and recommence the process of shifting its mouth northward again. This may be the explanation of the Kistna apparently flowing along the southern border of its delta; it also points to a possibility of the Cauvery doing the same thing some day.

When a river has opened a new mouth and abandoned the whole or a portion of its course, especially that which ran parallel to the coast, it seems only likely that a lagoon or back-water will be formed, which will sooner or later silt up and eventually be entirely reclaimed from the sea.

Having thus considered the causes of the northward shifting of the river mouths on the Coromandel Coast, to which the Cauvery has been subject continually during the formation of its delta to the east of Trichinopoly, the probable history of its more recent inland course offers itself for consideration.

Dr. Burnell of the Madras Civil Service states, he has met with no mention of the Coleroon, which is now the principal bed of the lower Cauvery, by the early geographers, and thinks that the channel which passes by Kumbakonam and Májavaram and enters the sea at Káveripatnam having retained the name of Cauvery throughout its course, was the main channel of the river till the 10th or 12th century.

From Ptolemy's map of the coast of India it would appear that 2,000 years ago there was a spit of land jutting out into the sea at the Cauvery mouth near "Chabin's Emporium" (Káveripatnam), of which there is now no trace, either above or below the

sea-level contour line. Such a spit or shoal would, however, naturally disappear, if the river mouth shifted, or if any thing stopped the deposition of silt which formed it; and this must have happened, when the great irrigation works at the head of the delta were constructed.

At present the Káveripatnam mouth of the Cauvery is nearly silted up, and the principal outlet of the surplus flood-water is now by the mouth of the Coleroon, where according to recent maps, a new deltaic projection and shoal are forming. The great irrigation works are supposed to have been constructed in the 10th and 12th centuries, but local traditions represent them as early as the year 200 A.D. In any case the delta has been under irrigation from time immemorial. The story of the Cauvery main channel would seem to be somewhat thus:—After some long period of silting up from the deposit left by the annual floods, the river in some unusual inundation must have overflowed its banks, and found a new and easier course.

The survey operations in this district were resumed in November, 1878, at the Cole-

Season 1878-79.

PERSONNEL.

Lt.-Colonel B. R. Branfill, Dy. Supt., 2nd Grade.
Mr. G. Belcham, Surveyor, 4th Grade.
" C. D. Potter, Asst. Surveyor 1st Grade.
" A. H. Bryson, " " 3rd "

roon river, a few miles north of Kumbakonam in Tanjore, where the work of the preceding season had been concluded. Passing through the north-east corner of the Trichinopoly district, the principal series traversed South Arcot, running parallel to the coast-line at a distance of 15 to 35 miles inland through a country hitherto devoid of trigonometrically fixed points. During the field season the direct distance spanned by the principal series was 77 miles, and the area covered by triangulation was 1,887 square miles. 17 principal stations were fixed, and 1,900 square miles in advance were reconnoitred for the triangulation remaining to complete the series. Two azimuths of verification were observed.

The country actually operated over lay in the alluvial flats of the Coleroon, Bellar and South Pénner rivers, and the upland plateaux between them. One of these plateaux presented an undulatory surface covered with low bush and devoid of any prominent elevations; it was very difficult to traverse and necessitated a long and careful examination before a system of mutually visible points could be discovered suitable for stations of the great triangulation.

In the following season, 1879-80, the South-East Coast Series was completed. The clos-

Season 1879-80.

PERSONNEL.

Lt.-Colonel B. R. Branfill, Dy. Supt., 2nd Grade.
Mr. C. D. Potter, Assistant Surveyor 1st "
" A. H. Bryson, " " 3rd "

ing operations lay in the plain of the Carnatic (Karnatik), which, being studded with hillocks and mounds of rock, was eminently favourable for the triangulation. Lieut.-Colonel Branfill commenced the final observations with the 24-inch theodolite at Kaniyanúr on the 5th of December, and continued without interruption, except the long round-about marches obliged by want of roads and two or three bouts of rainy weather, until the work was finished at St. Thomas's Mount, the fifteenth station visited, on the 26th of February. In the interval he had fixed 13 new principal stations, and closed upon two other previously fixed stations, Mávandúr and Malaipedu, which appertain now

to the Madras Longitudinal Series. Two sets of observations for azimuth were taken at Injambákam and St. Thomas's Mount Stations.

The greater part of the districts of the south-east coast of India was taken charge of by the British Government in 1836, and since then the land has undergone but few changes owing to the great regulating works that have been constructed for keeping the floods under control. Near the coast and more especially at Point Calimere (Kalimiyar Munai), there are extensive salt-swamps with patches of jungle and desert. The Kudikarai salt-marsh covers nearly 100 square miles, being about 20 miles long east and west and 5 miles wide north and south. It is used as a vast salt-pan under Government supervision. The two highest spring tides of May and June (called by the natives 'Chittrai Parvam' 'full-moon of May' and 'Visakha Bellam' 'June flood') overflow the sea-wall and fill the swamp with brine, which is, in favourable seasons, soon crystallized under the evaporation from the sun and the dry west winds. The south-east and southerly breezes that prevail in May probably combine to make the spring tides of this season unusually high.

A considerable degree of sanctity is locally attributed to Vedáranyam (veda-forest) and to Kudikarai (promontory-shore) from a tradition that here, as subsequently at the Rámesvaram promontory, the mythic hero Ráma tried to make a causeway to Ceylon. There is now daily postal communication by open boat between India and Ceylon at this place.

An impression exists that Palk's Bay is silting up, but this process must be exceedingly slow, as no large rivers now discharge any great proportion of their silt into this receptacle. The Vegavati outlet scarcely ever discharges, and as more irrigation works are introduced, the proportion diminishes. Still this is to a great extent an inland sea surrounded by a sandy shore from which the land-breezes and strong southerly and westerly winds must bear some drift to deposit. Moreover the northward beat of the surf along the north-east coast of Ceylon from April to September, and the southward beat along the east coast of Tanjore from November to January, must tend more or less to shoal the entrance to Palk's Bay from the Bay of Bengal.

This sea was known to the old Geographers as *Sinus Argaricus*, or, according to Colonel Yule's map of ancient India, as *Sinus Argalicus*. The early Arabian voyagers called it '*ma abar*' i.e., the ford, ferry, or passage, and thence the country beyond, now known as Malabar, received its name.

It is an interesting question, whether the line of sand-banks and islets forming Adam's Bridge, between Rámesvaram and Manár, is undergoing any permanent change. There exist traditions, that at one time it was possible to walk across at low-water dry-shod, but this does not seem to have occurred within modern historic times. On the other hand it appears that there was a considerable trade carried on between Arabia and China through these straits, and one can hardly suppose that it could have been done in such small vessels as can have alone passed through the passages in Adam's Bridge previous to the excavation of the Pámban channel by the British Government, unless there were passages that have silted up since. In a Portuguese manuscript of 1685, by a Captain Ribeiro, which Colonel Branfill believes to be reliable, it is stated that there was then "no passage, except two narrow

“canals, one by Ramanacor and the other by Manaor”, and that “a small ‘sumaca’ only can pass by either at high-water.”

At the present time there is a single channel at Manár answering this description, and none elsewhere, except the new passage at Pámban, which has been cut artificially through the rocky reef at a place where, in quite recent times, the old stone causeway had been breached by storm-waves, which also destroyed the adjacent town on the spit of land west of Pámban between Toniturai and Bettilai Mandapam. The surf beats heavily along Adam’s Bridge during both monsoons, and a strong current sets constantly the same way as the wind; at other times the current varies with the tide, and one would suppose that no sand-banks could withstand the violence of the wash over them at every change of tide. Still the islets and sand-banks do remain as a whole, albeit probably in a state of frequent change individually. The growth of coral is active here, and new islets are said to be forming where there were none, and old ones increasing.

Tanjore appears to have been occupied from very early times by Tamil people, over whom the Cholan or Soran dynasty held sway for many centuries prior to the 16th, and whose country was known as the “Choramandalam” (Coromandel). The Cholan capital was at different times at Conjeeveram (Kánc hívaram), Uraiyúr near Trichinopoly, Tanjore and Kumbakonam. The Telugu Nayaks succeeded the Cholan kingdom and ruled in Tanjore for more than a century up to 1675, when the Mahratta princes superseded them, and reigned there until they were themselves superseded by the British Government.

Secondary Triangulation.

South of the parallel $10^{\circ} 30'$ but few secondary points or land-marks could be fixed owing to the flat and wooded state of the country; in a few cases ray-traces had to be carried between contiguous principal stations, and whilst these were being executed, observations were taken to all visible points in the vicinity that might be useful hereafter for topographical purposes.

In the field season of 1876-77 a considerable number of masonry buildings, chiefly temples, were fixed by a theodolite and chain traverse to serve as points from which the position of the principal stations could be recovered in case the pillar and mark-stones above ground should at any time have been removed; these points being known would also be useful in any future survey of the country, as they were buildings likely to endure for a considerable time.

In 1877-78 the plain of Tanjore was reached, which was known to have been triangulated by Colonel Lambton in the year 1800. The country was not so thickly wooded and therefore more suitable for secondary work, than it had been to the south, and several points were fixed, including the great pagoda at the town of Tanjore. Unfortunately, though this very place had formed one of Lambton’s principal stations, and a base-line had been measured in its vicinity, the original mark could not be found, and Tanjore was thus useless as a connection between the ancient and modern survey.

In the two following years a great deal of secondary work was carried out, the country becoming more open after the Coleroon river had been crossed. The original design of making the series follow the trend of the coast being abandoned, the principal work was carried between the old Coromandel Coast Triangulation and the more general net-work to the westward (shewn on Colonel Lambton's chart), and thus several points of this old triangulation were able to be connected on either side by secondary work. Moreover a tract of country previously devoid of fixed points was now well covered and a great gap was filled up, which had baffled the efforts of the earlier Surveyors.

The coast-town of Porto Novo on the eastern flank, and the two hill stations of Tiyága Drug and Tiruvannámalai on the western, were observed and fixed from principal stations; but the positions of the light-houses of Pondicherry and Negapatam were too far away from the main series to be thus determined, and secondary chains had to be carried westward for the purpose. The work was entrusted to Mr. Potter who first occupied himself with the Pondicherry connection. This he found a matter of no difficulty necessitating only the introduction of three secondary points. He then moved on without delay to the larger and more important work of laying out the minor series to Negapatam. Kumbakonam—Álangudi was chosen as the side of origin, and a chain of eight single triangles was required to complete the connection. This series passed over a thickly wooded country and could not have been executed at a moderate cost, had it not been that there were lofty temples—commonly called gopurams—in some of the intermediate villages, from the summits of which mutual observations could be taken. These temples are tall, ricketty brick structures, consisting of an oblong basement, usually of stone, pierced for the gateway, surmounted by a pyramidal spire of many storeys tapering up to a narrow ridge and profusely covered with stucco ornaments. They are seldom or never used except by bats and vermin, and the many floors and stages within them have been allowed to fall in, so that access to the summit is dangerous, and when attained, is quite unsuited to observe from with a theodolite. Mr. Potter overcame these difficulties by means of temporary staging, long ladders, and a portable striding platform, which he devised and carried with him, and with which he was able to set up the 8-inch theodolite on seven gopurams and thus complete the series.

By means of this minor triangulation three points were fixed in Negapatam, and four others on the coast to the north, including the spire of the Roman Catholic Church at Kárikal. By observations from three stations on the north of the series the position of the Máyavaram gopuram was also determined.

S. G. BURRARD.

July, 1885.

Addendum to Introduction.

On the completion of the Simultaneous Reduction of the Southern Trigon it was found that the errors which had actually been dispersed over the South-East Coast Series, between the origin Mávandúr-Avirimodu and the terminus Koilpati-Kulayanallúr, were as follows:—

	"				
In Latitude of Koilpati	...	...	...	+	0·174
„ Longitude „	...	...	...	—	0·472
„ Azimuth of latter side	...	...	...	+	8·882
„ Side	{	Logarithm of latter side	...	...	+ 0·000,0042,3
		giving a ratio of about 0·62 of an inch per mile.			

The trigonometrical heights above sea level are checked at sixteen stations by Spirit-levelling operations, the average correction applied to each section being 1·4 feet.

The Ceylon Branch Series forms a pendant to the South-East Coast Series and therefore did not enter the general reduction. The corrections which it has received in latitude, longitude, azimuth and side are only such as are due to the change produced by the reduction in the side of origin, *viz.*, Kánjarangudi-Yervádi. The trigonometrical heights above sea level are checked at three stations by Spirit-levelling operations, and at four stations by noting the level of the sea at certain times for at least two days at each station while the trigonometrical operations were in progress, the average correction applied to each section being 1·3 feet.

December, 1887.

W. H. C.



SOUTH-EAST COAST SERIES.

PRINCIPAL TRIANGULATION. ALPHABETICAL LIST OF STATIONS.



Álangudi	XXVI.	Kulayanallúr	LXXXV.
Annapúnáyakanpati	LXVIII.	(of the Great Arc Meridional Series, Section 8° to 18°).	
Arapoth	LXII.	Kumbakonam	XXIII.
Arasapat	XXVIII.	Mallipat	VII.
Avirimodu	XXXIX.	Manēgandi	XLVIII.
(of the Madras Longitudinal Series).		Manikamkota	XLVII.
Ayyampet	XVI.	Mánúr	XLI.
Chēdamangalam	VIII.	Mávandúr	XXXIV.
Gingee	V.	(of the Madras Longitudinal Series).	
Kachipērumál	XX.	Melakalúruni	LXXII.
Kadaládi	LXIII.	Merpanaikád	XXXVIII.
Kakkrákota	XXXII.	Mínákshi	LXXIV.
Kallakota	XXXV.	Mötúruni	LXXI.
Kallapat	VI.	Mutupatnam	LII.
Kalúrunikád	XXXVI.	Mutúruni	LXX.
Kánád	XLIV.	Mutuváncheri	XXV.
Kánádaköndán	XIV.	Nambudalai	XLIX.
Kaniyanúr	II.	Narasingapuram	III.
Kánjarangudi	LIX.	Náyanárkoil	LV.
Kárakkurchi	XXXVII.	Nayinipiriyán	XXII.
Kidátirukai	LXV.	Ökkúr	XLIII.
Kiliyúr	IX.	Öpilán	LXIV.
Ködikulam	LIII.	Pallathivayal	XLII.
Koilánkuppam	XII.	Parutikota	XXIX.
Koilpati	LXXXIII.	Pátharankota	XXXIII.
(of the Great Arc Meridional Series, Section 8° to 18°).		Patukota	XXXIV.
Kuchúr	XVIII.	Pērumukkal	IV.
Kulamangalam	XL.	Pödaiyúr	XV.
Kulattúr	XIX.	Pönnúr	I.

PRINCIPAL TRIANGULATION. ALPHABETICAL LIST OF STATIONS—(Continued).

Pöragudi	LIV.	Supalápuram	LXXIII.
Pulápati	LXVII.	Súrangudi	LXIX.
Putagaram	XXIV.	Tanichanthai	LXI.
Púvatúr	XXXI.	Taraigudi	LXVI.
Ramnád	LVI.	Tirupanandál Mandap	XXI.
Ráramutiraikota	XXX.	Ulundúrpet	XI.
Rětavayal	XXXIX.	Úrannankudi	LI.
Salpai	XVII.	Úttarakoshamangai	LVIII.
Sambuttiyendal	LVII.	Vallam	X.
Sembalavayal	XLV.	Vënniyúr	L.
Seppalánattam	XIII.	Víramangalam	XXVII.
Sirukambúr	XLVI.	Yervádi	LX.

CEYLON BRANCH SERIES.

Ámanakamunai	LXXXVIII.	Përiyapatnam	LXXVII.
Appa Tívu	LXXVI.	Pisásu Mundal	LXXXIV.
Gandhamána	LXXXIII.	Púmurichán	LXXXII.
Kachi Tívu, N.	LXXXVI.	Púvarasanhalli Tívu	LXXV.
Kachi Tívu, S.	LXXXVII.	Rámaswámi Madam	LXXIX.
Marakayárpattam	LXXXI.	Úrimunai	LXXXIX.
Masánam Karai	LXXXV.	Válai Tívu	LXXVIII.
Musal Tívu	LXXX.		

SOUTH-EAST COAST SERIES.

PRINCIPAL TRIANGULATION. NUMERICAL LIST OF STATIONS.



XXXIV	. . . . .	Mávandúr.	XXVI	. . . . .	Álangudi.
(of the Madras Longitudinal Series).			XXVII	. . . . .	Víramangalam.
XXXIX	. . . . .	Avirimodu.	XXVIII	. . . . .	Arasapat.
(of the Madras Longitudinal Series).			XXIX	. . . . .	Parutikota.
I	. . . . .	Pönnúr.	XXX	. . . . .	Ráramutiraikota.
II	. . . . .	Kaniyanúr.	XXXI	. . . . .	Púvatúr.
III	. . . . .	Narasingapuram.	XXXII	. . . . .	Kakkrákota.
IV	. . . . .	Përumukkal.	XXXIII	. . . . .	Pátharankota.
V	. . . . .	Gingee.	XXXIV	. . . . .	Patukota.
VI	. . . . .	Kallapat.	XXXV	. . . . .	Kallakota.
VII	. . . . .	Mallipat.	XXXVI	. . . . .	Kalúrunikád.
VIII	. . . . .	Chëndamangalam.	XXXVII	. . . . .	Kárákkurchi.
IX	. . . . .	Kiliyúr.	XXXVIII	. . . . .	Merpanaikád.
X	. . . . .	Vallam.	XXXIX	. . . . .	Rëtavayal.
XI	. . . . .	Ulundúrpet.	XL	. . . . .	Kulamangalam.
XII	. . . . .	Koilánkuppam.	XLI	. . . . .	Mánúr.
XIII	. . . . .	Seppalánattam.	XLII	. . . . .	Pallathivayal.
XIV	. . . . .	Kánáðaköndán.	XLIII	. . . . .	Ökkúr.
XV	. . . . .	Pödaiyúr.	XLIV	. . . . .	Kánád.
XVI	. . . . .	Ayyampet.	XLV	. . . . .	Sembalavayal.
XVII	. . . . .	Salpai.	XLVI	. . . . .	Sirukambúr.
XVIII	. . . . .	Kuchúr.	XLVII	. . . . .	Manikamkota.
XIX	. . . . .	Kulattúr.	XLVIII	. . . . .	Manëgandi.
XX	. . . . .	Kachipërumál.	XLIX	. . . . .	Nambudalai.
XXI	. . . . .	Tirupanandál Mandap.	L	. . . . .	Vënniyúr.
XXII	. . . . .	Nayinipiriyán.	LI	. . . . .	Úrannankudi.
XXIII	. . . . .	Kumbakonam.	LII	. . . . .	Mutupatnam.
XXIV	. . . . .	Putagaram.	LIII	. . . . .	Ködikulam.
XXV	. . . . .	Mutuváncheri.			

SOUTH-EAST COAST SERIES.

PRINCIPAL TRIANGULATION. NUMERICAL LIST OF STATIONS—(Continued).

LIV	. . . . .	Pöragudi.	LXVI	. . . . .	Taraigudi.
LV	. . . . .	Náyanárkoil.	LXVII	. . . . .	Pulápati.
LVI	. . . . .	Ramnád.	LXVIII	. . . . .	Annapúnáyakanpati.
LVII	. . . . .	Sambuttiyendal.	LXIX	. . . . .	Súrangudi.
LVIII	. . . . .	Uttarakoshamangai.	LXX	. . . . .	Mutúruni.
LIX	. . . . .	Kánjarangudi.	LXXI	. . . . .	Mötúruni.
LX	. . . . .	Yervádi.	LXXII	. . . . .	Melakalúruni.
LXI	. . . . .	Tanichanthai.	LXXIII	. . . . .	Supalápuram.
LXII	. . . . .	Arapoth.	LXXIV	. . . . .	Mínákshi.
LXIII	. . . . .	Kadaládi.	LXXXIII	. . . . .	Koilpati.
LXIV	. . . . .	Öpilán.	(of the Great Arc Meridional Series, Section 8° to 18°).		
LXV	. . . . .	Kidátirukai.	LXXXV	. . . . .	Kulayanallúr.
			(of the Great Arc Meridional Series, Section 8° to 18°).		

CEYLON BRANCH SERIES.

LXXV	. . . . .	Púvarasanhalli Tívu.	LXXXIII	. . . . .	Gandhamána.
LXXVI	. . . . .	Appa Tívu.	LXXXIV	. . . . .	Pisásu Mundal.
LXXVII	. . . . .	Përiyapatnam.	LXXXV	. . . . .	Masánam Karai.
LXXVIII	. . . . .	Válai Tívu.	LXXXVI	. . . . .	Kachi Tívu, N.
LXXIX	. . . . .	Rámaswámi Madam.	LXXXVII	. . . . .	Kachi Tívu, S.
LXXX	. . . . .	Musal Tívu.	LXXXVIII	. . . . .	Ámanakamunai.
LXXXI	. . . . .	Marakayárvatnam.	LXXXIX	. . . . .	Úrimunai.
LXXXII	. . . . .	Púmurichán.			

SOUTH-EAST COAST SERIES.

DESCRIPTION OF PRINCIPAL STATIONS.



The Principal Stations of the South-East Coast and Ceylon Branch Series are in part situated on hills, high mounds, sand hillocks or sand ridges, and in part in low ground of black cotton soil, in sandy flats, along the coast and on islands; a few are placed on lofty buildings.

The first are of two kinds, those on hills and high mounds consist of solid, circular isolated pillars of masonry, $3\frac{1}{2}$ feet in diameter, surrounded by annular walls of masonry 13 to 18 inches thick, and a platform of earth and stones for the accommodation of the observatory tent. In the centre of the upper surface of the pillar a mark (circle and dot) engraved on stone, is imbedded in the normal of one or two other similar marks previously inserted within the pillar. Those on sand hillocks or sand ridges, where no solid foundation for a pillar could be found, are usually defined by a wooden pile driven deep into the sand, carrying a mark engraved on its summit, whilst the theodolite stand and the observatory tent were supported on other piles similarly driven.

The stations other than hill stations are of various forms. Those named trestle stations from the fact of the theodolite having been supported on a trestle, either $17\frac{1}{2}$ or 24 feet high, during the observations are sometimes small isolated pillars of the same construction as those at hill stations, sometimes they consist of solid or perforated pillars from 7 to 16 feet high built in rectangular blocks surmounting one another, each succeeding block being contracted so as to leave a plinth at its base, the uppermost block being in some cases circular and $3\frac{1}{2}$ feet in diameter: these pillars rest on solid blocks of concrete or masonry forming a firm foundation. When the pillars are perforated two mark-stones are imbedded, the upper in the surface of the foundation about a foot above the ground level to which access is obtained by an aperture on the east side. When the pillars are solid they contain two or more marks one at the surface and the others vertically below. The stations XXXI, XXXII, LIV and LV are of exceptional construction and are fully described.

At stations where a trestle was not used perforated pillars were sometimes built to a height of from 11 to 26 feet for the theodolite to rest on and around them a timber scaffolding was erected for the observatory tent, these are called tower stations.

Stations situated on high buildings need no general description, as they are fully described in all cases.

At all stations where a mark-stone was inserted in the upper surface of the pillar, a small protecting pillar in the form of a frustum of a pyramid, 28 inches square at base, 20 inches at top and $3\frac{1}{2}$ feet high, was built over it having another mark-stone in its surface in the normal of the mark below; at some stations the protecting pillar was built before the observations were taken, *i.e.*, both the theodolite and signal were referred to the mark at the top of the protecting pillar.

On the completion of the observations most of the low pillar stations were covered over with high pyramidal mounds of earth about 16 yards square at base.

The following descriptions have been compiled from those given by the Officers who executed the Series, supplemented in a few instances as regards adjacent villages from the Madras Revenue Survey Maps (scale 1 inch = 1 mile) of the country traversed, and corrected, so far as the local sub-divisions in which the several stations are situated, from the Annual Returns furnished by the district Officers to whose charge the stations are committed. Such reports are wanting for the Chingleput and South Arcot districts. The orthography is in accordance with the official list of names of places in the Madras Presidency, dated 4th November 1879, with this difference that the long *é* is shewn without an accent, in conformity with the rules for spelling names in Northern India, and the short *e* as *ě* and *o* is treated in the same manner. Final vowels and those in well-known terminals are unaccented. When a name has acquired a popular spelling, the correct transliteration is given in parenthesis where the name occurs for the first time.

XXXIV.—(*Of the Madras Longitudinal Series*). Mávandúr or Mámándúr Hill Station, lat. $12^{\circ} 45'$, long. $79^{\circ} 42'$ —observed at in 1865 and 1880—is situated on the summit and towards the N. extremity of the southern portion of the rocky ridge, about 150 feet high, at the southern end of the artificial bund of the Dúsi Mámándúr (or Chenna Ságaram) tank, and about 7 miles S.S.W. of Conjeeveram (Kánchívaram). It is in the lands of the village of Narsamangalam, taluk Arcot (Árkádu), district North Arcot.

This station was built in 1865 presumably on or near the site of Colonel Lambton's station of "Doosh Maumdoor", but no station mark was found except a pile of stones round the base of an old staff fixed in a crevice of the rock and cut off flush with the surface. A mark was first made on the stump of the staff, and over this was built a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter carrying a mark engraved on stone imbedded in its upper surface 1.5 feet above the lower mark. The pillar was surrounded by the usual annular wall and platform. When the station was visited in 1880, the circular pillar and its upper mark were found apparently just as left in 1865, and no alteration in its construction was made. The directions and distances of the following villages are:—Mámándúr N.E. by E., miles $1\frac{1}{2}$; Dúsi N.N.E., miles 3; and Narsamangalam S.E., mile $\frac{1}{2}$.

XXXIX.—(*Of the Madras Longitudinal Series*). Avirimodu Hill Station, lat. $12^{\circ} 27'$, long. $79^{\circ} 57'$ —observed at in 1880—is situated on the western and highest point of the rocky hill which rises about 340 feet above its base, $\frac{1}{2}$ miles S.S.E. of Madurántakam, and $1\frac{1}{2}$ miles E. of the Chúnámpet road. The station is in the lands of the village of Avirimodu, taluk Madurántakam, district Chingleput (Chēngalpatu).

The station consists of a platform of stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two marks, one engraved on the rock *in situ* and the other 1.6 feet above it on a stone imbedded in the upper surface of the pillar. The azimuths and distances of the following places are:—Avirimodu 45° , mile $\frac{1}{2}$; Ēndattúr 292° , miles $1\frac{1}{2}$; Chitrávádi 164° , mile $\frac{1}{2}$; Karunguli (a small temple on a hill 2 miles N. of Madurántakam) $166^{\circ} 22'$, miles 5.75; and Tiruvapádi (a rock temple) $85^{\circ} 39'$.

I. Pönnúr Hill Station, lat. $12^{\circ} 30'$, long. $79^{\circ} 34'$ —observed at in 1879—is situated on one of the highest boulders forming the summit of a small rocky hill which rises about 250 feet above its base, immediately S. of the road to Chetpat, and about 6 miles W. by S. of the taluk town of Wandiwash (Vandavási). It is in the lands of the village of Pönnúr, taluk Wandiwash, district North Arcot.

The station consists of a platform of stones and earth, 15 feet by 11 feet, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two marks, one engraved on the rock *in situ* and the other 3.0 feet above it on a stone imbedded in the upper surface of the pillar. The azimuths and distances of the following places are:—Pönnúr 322° , miles $1\frac{1}{2}$; Tirumanitángal 111° , mile 1; Vangaram 287° , miles $1\frac{1}{2}$; Áráchúr 230° , miles $1\frac{1}{2}$; and Kúttampat (temple W. of the village) $38^{\circ} 20'$, miles $1\frac{1}{2}$.

II. Kaniyanúr Hill Station, lat. $12^{\circ} 47'$, long. $79^{\circ} 24'$ —observed at in 1879—is situated on the S. end of the summit of a rocky hill rising about 150 feet above the adjacent high ground, about $8\frac{1}{2}$ miles S. by E. of the old Arcot town, and $4\frac{1}{2}$ miles S.E. of Timri on the high road from Arcot to Árni. It is in the lands of the village of Kaniyanúr, taluk Arcot, district North Arcot.

The station consists of a platform of stones and earth, 3 feet high, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two marks, one engraved on the rock *in situ* and the other 3.0 feet above it on a stone imbedded in the upper surface of the pillar. The directions, azimuths and distances of the following places and objects are:—Kaniyanúr 154° , mile 1; Pudúr 267° , mile $\frac{3}{4}$; Nambitángal S.S.E., mile $\frac{1}{2}$; Chēmbed (temple) $230^{\circ} 16'$, miles $1\frac{1}{2}$; Arcot old town (southern of two white minárs) $116^{\circ} 55'$, miles $8\frac{1}{2}$; Arcot old town (southern of two dark minárs) $166^{\circ} 48'$, miles $8\frac{1}{2}$; Trijunction boundary stone pillar at S.E. foot of the hill $302^{\circ} 40'$; and Trijunction boundary stone pillar at E.N.E. foot of the hill $240^{\circ} 26'$.

III. Narasingapuram Hill Station, lat. $12^{\circ} 31'$, long. $79^{\circ} 19'$ —observed at in 1879—is situated on the highest part of the rugged hill locally known as Périyamalai which rises some 400 feet above its base, on the

high ground between the villages of Narasingapuram and Murugamangalam, nearly 11 miles S. of Árni, and 10 miles E. of Polúr. It is in the lands of the village of Narasingapuram, taluk Polúr, district North Arcot.

The station consists of a platform of stones and earth, 3 feet high, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two marks, one engraved on the rock *in situ* and the other 3·2 feet above it on a stone imbedded in the upper surface of the pillar. The lower mark a circle and dot, is engraved within a similar mark found cut on a large high boulder. Another old mark of a partly defaced circle and dot was found cut on an adjacent boulder to the N.E., distant 10·8 feet and nearly a foot lower than the new station mark. The azimuths and distances of the following places are:—Narasingapuram 100° , mile $\frac{1}{2}$; Murugamangalam 275° , mile $\frac{1}{2}$; Óthalapádi (temple) $178^\circ 19'$, miles 3?; Polúr (N. minaret of a mosque) $86^\circ 16'$, miles 10?; and Devikapuram (spire of a conspicuous hill temple) $41^\circ 0'$, miles 2·12.

IV. Përumukkal Hill Station, lat. $12^\circ 12'$, long. $79^\circ 47'$ —observed at in March and December 1879—is on the roof over the east and innermost doorway (about 14 feet above the ground level) of the small cubic temple (14·3 by 14·3 by 14·0 feet) attached to the W. side of the great temple built on the last considerable mass of the isolated rocks to the S.E., which stud the great plain of the Carnatic (Karnatik) lying to the S. and S.W. of Madras. The hill consists almost entirely of solid, dark granitic rock surrounded by a profusion of great and small pieces that have separated and fallen from it; the main rock rises to a height of 350 feet above the surrounding fields, and has on it a large stone temple and stone built walls of an old fortress. The station is 29·9 feet west, and $3\frac{1}{2}$ feet higher than the position evidently occupied formerly by the flag-staff on the roof of the great temple which appears to have been the site of Colonel Lambton's survey station "Permacoil" of 1803. On excavating the roof to a depth of about 3 feet, no sign of a station mark was found, a part of a cylindrical stone pillar was set up to mark as nearly as practicable the site of the old flag-staff. It is in the lands of the village of Përumukkal, taluk Tindivanam, district South Arcot.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter and contains three mark-stones, the upper on the surface of the pillar and the second and third 2·27 and 4·05 feet respectively below the upper. The azimuths and distances of the following villages are:—Rámanáthapuram $148^\circ 47'$, mile 1; Përumukkal (centre of the village temple) $169^\circ 5'$, mile 1; Nal-mukkal or Naumukkal $246^\circ 46'$, miles 1·95; and Nallálam 325° , mile $\frac{1}{2}$. When again visited in December 1879, it is presumed from the absence of any remarks in the original records that the station was found in good order and no alteration was made in its construction.

V. Gingee (Chënji) Hill Station, lat. $12^\circ 15'$, long. $79^\circ 26'$ —observed at in 1879—is on the highest part of the famous rock fortress in the plains of the Carnatic, 17 miles W. of Tindivanam: the rock which forms the capitol or citadel of the fortress is a conspicuous and remarkably large single block of gneiss with precipitous sides and rounded summit, rising boldly from amidst the surrounding masses of broken rocks to a height of about 700 feet above the general level of the country. The great rock is generally called Rájagēdi, but is locally known as Valukupárai, and completely dominates the other associated rocks of the fortress. The station is a little below the floor level in the spacious flat roofed building called Kaváttu Mandapam occupying the eastern part of the terrace or summit of the rock lying between the great vaulted Kalanjiam (granary) and the old native flag-staff tower to the E.N.E. and near the precipice. It is in the lands of the village of Valukupárai, taluk Tindivanam, district South Arcot.

The station consists of a mark engraved on the rock a little below the floor level, 42·2 feet from the N. wall, 18·6 feet from the W. wall, 23·2 feet from the S. wall, 13·2 feet from the E. wall, and 1·1 feet from the S.E. corner of the south central pier. A low perforated masonry pillar, $3\frac{1}{2}$ feet in diameter, surrounded by a platform 10 feet square, is built on the roof concentric with an old air or smoke hole which permits of plumbing over the mark in the floor: the upper surface of this pillar is 25·7 feet above the mark in the floor. The azimuth and distance of Krishnagēdi (dome on the summit of the Kacheri) are $231^\circ 12'$, mile 0·91.

VI. Kallapat Trestle Station, lat. $11^\circ 57'$, long. $79^\circ 36'$ —observed at in 1879—is situated on the extensive piece of rising ground locally named Jandamodu, $4\frac{1}{2}$ miles E. by N. from Villupuram, 17 miles W. from Pondicherry (Puducheri), 500 yards S.E. by S. from the trijunction boundary stone of Kallapat, Melpádi and Kurumkota villages, and $1\frac{1}{2}$ miles W. by N. of Colonel Lambton's survey station "Chengcaud" on a similar point of rising ground called Kudimodu; its site was identified by a slight mound and a few pieces of broken bricks. It is in the lands of Kallapat village, taluk Villupuram, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one at the ground level and the other 2·17 feet below it. The azimuths and distances of the following places are:—Kallapat 335° , mile 0·84; Melpádi 115° , mile 0·75; Kurumkota 178° , mile 0·51; Chënkádi 250° , miles 1·50; Naraigúr (temple) $337^\circ 18'$, miles 1·5; and Villupuram (Railway station) $77^\circ 39'$, miles 4·43.

VII. Mallipat Hill Station, lat. $11^\circ 58'$, long. $79^\circ 25'$ —observed at in 1879—is on the summit of the higher of two isolated rocks rising to a height of 50 feet above its base and locally known as Mallipat Kunnu;

the other rock called Ponnáttakbil from a small shrine on its summit, is 111 yards to the S.E. by E. The station is about 4 miles N. from the S. bank of the Pennar, and within a mile east of the old line of the road from Tiruvénanallúr to Gingee. It is in the lands of the village of Mallipat, taluk Villupuram, district South Arcot.

The station consists of a platform enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter which contains two marks, one engraved on the rock *in situ* and the other 1.67 feet above it on a stone imbedded in the upper surface of the pillar. The azimuths and distances of the following villages are:—Mámpalapat 11° , mile $\frac{1}{2}$; Káduvétti 59° , miles 2; Chěnnakunnam 98° , miles 2; Mallipat 143° , miles 1.06; and Kárganúr 246° , miles $1\frac{1}{4}$.

VIII. Chědamangalam Trestle Station, lat. $11^\circ 44'$, long. $79^\circ 25'$ —observed at in 1879—is situated on the high and somewhat isolated bluff of red soil and conglomerate forming a prominent eminence on the south bank of the Pōnniár river, about 1 mile S.W. by S. of the high road from Madras to Trichinopoly (Tiruchinápalli) and Salem (Sělam), at the 115th milestone from Madras. The station is built on the highest part of the bluff and only a few yards from the declivity which is steep to the north and west but very gradual to the east and south-east. It is in the lands of Pádúr village, taluk Tirukoilúr, district South Arcot.

The station consists of an earthen platform 3 feet high, enclosing a solid circular and isolated pillar of masonry, built on a foundation of solid masonry, in which three mark-stones are imbedded, one in the surface of the pillar, the second at the ground level 3.0 feet below the upper, and the third in the foundation 2.0 feet below the second. The azimuths and distances of the following places are:—Chědamangalam (temple W. of the village) 203° , miles 1.18; Vandipálayam (chattram on the high road) $137^\circ 39'$, mile 1; Timmarěddipálayam (shaft at the village temple) $276^\circ 28'$, miles 1.10; and 'Tirunámanallúr (centre of the gopuram or spire) $223^\circ 20'$, miles $2\frac{1}{4}$.

IX. Kiliyúr Hill Station, lat. $11^\circ 48'$, long. $79^\circ 17'$ —observed at in 1879—is situated on the highest and to the N. E. end of a small group of scattered rocks, which, attaining a height of 75 feet above the base or 100 feet above the more general level of the adjacent ground, lies about a mile to the S. of the village of Kiliyúr and 2 miles W.S.W. from the conspicuous rocky hill of Kunnattúr. It is in the lands of Raghunáthapuram village, taluk Tirukoilúr, district South Arcot.

The station consists of an irregular platform of stones in a retaining wall of brick, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two marks, one engraved on the rock *in situ* and the other 3.0 feet above it on a stone imbedded in the upper surface of the pillar. The azimuths and distances of the following places are:—Kiliyúr 182° , mile 1; Raghunáthapuram 155° , mile $\frac{1}{2}$; Ēllaigrámam 77° , miles 2; Tengunam 36° , miles $1\frac{1}{4}$; and Naivauai (temple) $11^\circ 52'$, miles 2.0.

X. Vallam Trestle Station, lat. $11^\circ 39'$, long. $79^\circ 34'$ —observed at in 1879—is situated near the western end of the stony eminence named Kallumalai, one of the highest points of the elevated ground which extends inland in a W.S.W. direction from Cuddalore (Gúdalúr), between the Gadilam and Paravanár rivers, nearly $2\frac{1}{2}$ miles W. of the high road from Madras to Kumbakonam, at the 119th milestone from Madras, and 8 miles S. by W. of Panruti. It is in the lands of the village of Vallam, taluk Cuddalore, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one at the ground level and the other 1.8 feet below it. The azimuths and distances of the following villages are:—Vallam 100° , miles 1.39; Nadukuppam 139° , miles 1.08; Kilěkuppam 173° , mile 0.39; and Marangúr 296° , miles 2.

XI. Ulundúrpet Tower Station, lat. $11^\circ 41'$, long. $79^\circ 19'$ —observed at in 1879—is situated on the rising ground 1 mile S.S.E. from the public offices at the head quarters of a Magistrate's sub-division at Ulundúrpet, about midway between the high roads leading from Ulundúrpet to Vriddháchalam and to Salem, each of which passes within half a mile of the station, near the 12th milestone from Vriddháchalam on the former road, and the 123rd milestone (from Madras) on the latter. It is in the lands of Kíránúr village, taluk Tirukoilúr, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 11 feet high, capped with a circular granite slab 38 inches in diameter, having an aperture in the centre and the name Náráyanaswámi engraved on it in Telugu. This pillar stands over a foundation of solid masonry in which two mark-stones are imbedded, one at the ground level and the other 2.0 feet below it. The azimuths and distances of the following places are:—Ulundúrpet (Kacheri building) $206^\circ 22'$, miles 1.17; Nēmili (temple) $353^\circ 6'$, mile 0.91; Pillúr 32° , miles 1.71; and Kuppam 127° , miles 1.11.

XII. Koilánkuppam Trestle Station, lat. $11^\circ 37'$, long. $79^\circ 27'$ —observed at in 1879—locally known as Vedakóil, is situated near the western edge of the laterite plateau which runs in a W.S.W. direction from Cuddalore, 25 miles distant; the ground is nearly flat and covered thickly with evergreen bush, and lies between Vriddháchalam and Panruti. The station is about 700 yards E.N.E. of a tank on the W. side of a hamlet called

Mudukuli or Mutukulikulam. It is in the lands of the village of Shemakota, taluk Vriddháchalam, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 7 feet square and 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one in its upper surface at the ground level and the other 2·0 feet below it. The azimuths and distances of the circumjacent places are:—Vedakoil (R.C. Chapel) 64° , mile 0·16; Koilánkuppam 281° , mile 0·97; Manaköllai 130° , miles 1·52; Irulakurchi 146° , miles 1·85; and Përiyakápánkulam 317° , miles 2.

XIII. Seppalánattam Trestle Station, lat. $11^\circ 33'$, long. $79^\circ 34'$ —observed at in 1879—is situated on the high ground called Kállankád between the Yendalodai and Chëngálodai water-courses, 172 yards S. of milestone No. 24 on the road from Cuddalore to Vriddháchalam, nearly 5 miles W. of Kurinjipádi, $1\frac{1}{2}$ miles W. of the remarkable building called variously Pardesimadam, Rámalingapillaisálai, &c., and $\frac{1}{2}$ mile N. of the Chënkulam or Chëngáleri tank bund. It is in the lands of the village of Seppalánattam, taluk Vriddháchalam, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one on its upper surface at the ground level and the other 2·1 feet below it. The azimuths and distances of the following villages are:—Sepalánattam 40° , mile 0·58; Puliyanattam 89° , mile 0·77; Múlaikuppam 189° , miles 1·59; and Vadavallúr 269° , miles 1·64.

XIV. Kánáaköndán Trestle Station, lat. $11^\circ 33'$, long. $79^\circ 24'$ —observed at in 1879—is situated on the high waste land used as a burial ground, about 3 miles N.E. of Vriddháchalam on the Manimukta river, 100 yards E. of the little hollow called Savuriyákulam, and 550 yards N. of a large pond named Udayambarakulam. It is in the lands of the village of Kánáaköndán, taluk Vriddháchalam, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one at about the ground level and the other 2·6 feet below it. The azimuths and distances of the following places are:—Pavalangudi (centre of the white pointed roof of the temple) $164^\circ 2'$; Kánáaköndán 123° , mile 0·17; Kuppánattam 336° , mile 0·96; Narimadam 262° , miles $1\frac{1}{2}$; and Kopurapuram (centre of the fine gopuram of a temple) $141^\circ 27'$, miles 1·19.

XV. Pödaiyúr Trestle Station, lat. $11^\circ 21'$, long. $79^\circ 33'$ —observed at in 1879—is situated on rising ground, a dry sandy field called Mutuköllai, which appears to have been built over in former times, 550 yards S. S. E. from the ruined temple of Valaipuri Ísvaran, and about $\frac{1}{2}$ a mile E. of and nearly midway between milestones 139 and 140 on the high road from Madras to Kumbakonam. It is in the lands of the village of Pödaiyúr, taluk Chidambaram, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one in its upper surface at the ground level and the other 1·5 feet below it. The azimuths and distances of the following villages are:—Pödaiyúr 212° , mile 0·10; Cholataram 128° , mile 0·75; and Mannárgudi 338° , miles 6·2.

XVI. Ayyampet Trestle Station, lat. $11^\circ 22'$, long. $79^\circ 27'$ —observed at in 1879—is situated on the high ground bordering the Vëllár valley, on one of the small outlying clearings in the evergreen jungle called Melkádúvettuköllai and Káchánpallam, about $\frac{2}{3}$ mile N.W. of the large Roman Catholic (Goa) Church of Ayyampet. The station is 115 yards N.W. and 130 yards N.E. by E. of two boundary pillars which are 191 yards apart. It is in the lands of the village of Ádivaráganallúr, taluk Chidambaram, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 11·2 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one at the ground level and the other 2 feet below it. The azimuths and distances of the following villages are:—Ayyampet 316° , mile 0·74; Áthanúr 194° , mile 1; Srimushnam 172° , miles $2\frac{1}{2}$; and Pálaiyamkota 275° , miles $3\frac{1}{2}$.

XVII. Salpai Trestle Station, lat. $11^\circ 15'$, long. $79^\circ 29'$ —observed at in 1879—is situated in the S.E. corner of a field called Nëllimaraköllai, midway between the homestead of Pattavarti and the Áyanár temple of Salpai towards the Chattram, $\frac{1}{4}$ mile S.E. of the junction of the Alliyeri tank bund with that of the Salpai tank, which is a portion of the great Pönnërikarai, a channel bank running N. and S. between the Coleroon (Kölladam) and the Vëllár rivers. It is in the lands of the village of Salpai, taluk Udayárpálaiyam, district Trichinopoly.

The station consists of a rectangular perforated pillar of masonry 7 feet square at base and 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one at about the ground level and the other 2·5 feet below it. The azimuths and distances of the following villages are:—Pattavarti

187°, mile 0.14; Salpai 179°, mile 0.66; Anjarámpálayam 205°, miles 1.01; Págalmodu 3°, mile 1; and Vētiyárpattu 86°, mile 0.93.

XVIII. Kuchúr Trestle Station, lat. 11° 13', long. 79° 35'—observed at in 1879—is situated on a small mound on the N. edge of the rice fields called Punjaveli, $\frac{1}{4}$ mile W.S.W. of the village of Kuchúr, and 316 yards in the same direction of the new temple of Lukshmináráyana Pērumál between the village and the Melkulam tank. It is in the lands of the village of Kuchúr, taluk Chidambaram, district South Arcot.

The station consists of a rectangular perforated pillar of masonry 7 feet square at base and 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one in its upper surface about $4\frac{1}{2}$ feet above the surrounding rice fields and the other 2.2 feet below it. The azimuths and distances of the circumjacent places are:—Kunnávásal (Ammankoil temple) 352° 22', mile 1.0; Omámpuliyúr (temple) 297° 32', mile 0.95; Mannárgudi (centre gopuram of the Pērumál temple) 183° 51', miles 3.78; Kuchúr 231°, mile 0.34; and Áyangudi 64°, mile $\frac{1}{4}$.

XIX. Kulattúr Trestle Station, lat. 11° 17', long. 79° 23'—observed at in 1878—is situated on the N. edge of the Káchánpallam evergreen jungle and $\frac{1}{4}$ mile S. from the E. end of the Villaipurandáni tank. It is in the lands of the village of Kulattúr, taluk Udayárpálayam, district Trichinopoly.

The station consists of a rectangular perforated pillar of masonry 7 feet square at base and 10 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one in its upper surface 0.5 foot above the ground level and the other 2.27 feet below it. The directions, azimuths and distances of the circumjacent villages are:—Kulattúr 138°, mile 0.54; Devanúr 219°, miles $4\frac{1}{2}$; and Élaiyúr S.S.W., miles 5.

XX. Kachipērumál Trestle Station, lat. 11° 12', long. 79° 21'—observed at in 1879—is situated in the midst of the evergreen jungle, 280 yards S.W. by W. of the nearly obliterated depression in a field called Narikulipálam, and $\frac{3}{4}$ mile N.N.W. of the village temple of Kachipērumál. The station is in the lands of the village of Kachipērumál, taluk Udayárpálayam, district Trichinopoly.

The station consists of a rectangular perforated pillar of masonry 7 feet square at base and 11 feet high, the upper 1 foot of which is circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one in its upper surface 0.5 foot above the ground level and the other 2.5 feet below it. The azimuths and distances of the circumjacent places are:—Kallimangalam (centre of the dome of the temple) 99° 7'; Udayárpálayam (centre of the tower of the zamindár's house) 42° 18', miles 1.74; Udayárpálayam (centre of the chief gopuram or spire) 55° 16', miles 1.43; Kachipērumál 344°, mile 0.73; Élamangalam 182°, mile 0.78; and Élaiyúr 175°, miles $1\frac{1}{2}$.

XXI. Tirupanandál Mandap Station, lat. 11° 6', long. 79° 30'—observed at in 1878—is on the top of the principal mandap (cupola or dome) of the large Sivan temple. This mandap is 130 yards distant on the northern side of the street running due west from the great gopuram or entrance tower of the temple and on the west side of the high road from Madras to Tanjore (Tanjávúr), exactly opposite milestone No. 158 from Madras, 10 miles N.E. by N. of Kumbakonam, and 3 miles S. of Anaikarai, the Coleroon lower anicut. The station is in the lands of the village of Tirupanandál, taluk Kumbakonam, district Tanjore.

The station is denoted by a mark-stone imbedded on the top of the cupola or dome of the building, after the removal of the finial (or kalasam), very nearly 7 feet higher than the centre of the terrace-roof which is 27.7 feet square and 25 feet above the ground level. The station mark is 21.06 feet from each of the four corners of the roof. The 24-foot trestle was employed for the theodolite. After the observations were completed the finial was restored.

XXII. Nayinipiriyán Trestle Station, lat. 11° 8', long. 79° 23'—observed at in 1878 and 1879—is situated on a sand ridge or small mound in a field called Mōtaikōllai close to the open scrub jungle, about 935 yards N.E. of the village temple, nearly 7 miles W. of Anakarai, the Coleroon lower anicut, 5 miles S.E. of the town of Udayárpálayam, and 6 miles S. by W. of Jayankōndacholapuram, the present head quarters of the taluk. It is in the lands of the village of Nayinipiriyán, taluk Udayárpálayam, district Trichinopoly.

The station consists of a rectangular perforated pillar of masonry 7 feet square at base and 10 feet high, the upper portion being circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which three mark-stones are imbedded, the upper flush with its surface about 6 inches above the ground level and the second and third 1.0 and 3.4 feet respectively below the upper. When again visited in 1879, the station was found in perfect order and no alteration in its construction was made. The azimuths and distances of the following places are:—Nayinipiriyán (Sivan or Ísvaran temple W. or N.W. of the village) 53°, mile 0.54; Vándrámpatnam (Vimánam of the Sivan temple) 177° 22', miles 1.84; and Murtiyán (old masonry chattram on the old way from Udayárpálayam to Kumbakonam) 345° 18', miles 1.48.

XXIII. Kumbakonam Station, lat. 10° 58', long. 79° 25'—observed at in 1878—is on the middle of the flat roof of the square central tower of the Provincial College, built in 1873-74, on the left bank of the

Cauvery (Káveri) and 500 yards E. of the bridge over this river. The station is 10 feet E. of the cupola over the spiral stone stairs. It is in the lands of the village of Përumpándi, taluk Kumbakonam, district Tanjore.

The station consists of a solid circular pillar of brick masonry $3\frac{1}{2}$ feet in diameter and 6 inches high, built on the centre of the terrace-roof which is 44 feet above the floor of the building and 51 feet above the adjacent ground level. The azimuths and distances of the following objects are:—Cauvery bridge (south abutment) $59^{\circ} 18'$, mile 0.31; Karupúr village temple $214^{\circ} 48'$, miles 1.46; Kumbakonam (tower of the Protestant Church, E. of the town) $289^{\circ} 19'$, mile 0.93; Ávúr (temple) $37^{\circ} 22'$, miles 6.2; and Kumbakonam (ridge of the Sárangapáni great temple at the E. entrance of the Vishnu temple) $31^{\circ} 19'$, mile 0.86. The $17\frac{1}{2}$ foot trestle was employed for the theodolite.

XXIV. Putagaram Trestle Station, lat. $10^{\circ} 57'$, long. $79^{\circ} 32'$ —observed at in 1878—is situated on the N.W. corner of the small patch of artificially raised ground used for threshing, called Pudukálam, in the midst of extensive rice fields between the Kírtímán and Arasillár rivers or irrigation supply channels, 550 yards E. of the village of Putagaram, 4 miles E.S.E. from Tirunágesvaram, and 7 miles E. of Kumbakonam. It is in the lands of Putagaram village, taluk Kumbakonam, district Tanjore.

The station consists of a rectangular, perforated pillar of masonry 7 feet square at base and 11.2 feet high, the upper portion being circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one in its upper surface (at the threshing ground level, a couple of feet or so above the rice fields) and the other 1.9 feet below it. Three outer rectangular pillars of masonry are built up to the level of the central pillar for the support of the high trestle. The azimuths and distances of objects in the following places are:—Putagaram (point or dome of the Sivan temple) $108^{\circ} 35'$, mile 0.3; Rëndánkatalai (point or dome of the Sivan temple) $136^{\circ} 44'$, mile 0.67; Tukáchi (temple) $358^{\circ} 25'$, miles 1.06; Tandánlotam (Sivan temple) $83^{\circ} 6'$, miles 1.61; and Ammagudi (Përúmal temple) $233^{\circ} 32'$, miles 1.05.

XXV. Mutuváncheri Trestle Station, lat. $11^{\circ} 2'$, long. $79^{\circ} 19'$ —observed at in 1878—is situated on the S.S.E. part of the Sáltambádi Sittamalli upland waste covered with gravel and scrub jungle here called Padarkallupottai, half a mile N.E. by N. from the hamlet of Nágapanallúr, and 2 miles N.W. of the Coleroon river. It is in the lands of the village of Mutuváncheri, taluk Udayárpálaiyam, district Trichinopoly.

The station consists of a rectangular perforated pillar of masonry 7 feet square at base and 10 feet high, the upper 1 foot being circular and $3\frac{1}{2}$ feet in diameter, standing on a foundation of solid masonry in which two mark-stones are imbedded, one in its upper surface $\frac{1}{2}$ a foot above the ground level and the other 2.6 feet below it. The azimuths and distances of the following villages and objects are:—Kunjuveli or Nágapanallúr 39° , mile 0.64; Kódamangalam (Sivan temple) $57^{\circ} 39'$, miles 1.36; Sáltambádi 300° , miles 1.60; Mutuváncheri 342° , miles 1.31; Stripurandán (temple) $258^{\circ} 29'$, miles 3; Sámimalai (large temple) $323^{\circ} 53'$, miles 7; Tútúr (temple) $14^{\circ} 13'$, miles 3; and Vikramangalam (temple) $100^{\circ} 38'$, miles 3.

XXVI. Álangudi Trestle Station, lat. $10^{\circ} 50'$, long. $79^{\circ} 27'$ —observed at in 1878—is situated on the mound called Mótaiyántédal marking the site of the old village of Tirumanamangalam, half a mile N.W. of the large village of Álangudi and 200 yards W. of the high road from Kumbakonam to Mannárgudi, the former being about 9 miles N. of the station. It is in the lands of the village of Álangudi, taluk Kumbakonam, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter at top which contains six mark-stones, one in its upper surface and five others 2.2, 6.0, 9.0, 10.0, and 11.0 feet respectively below it, the lowest being 1 foot below the ground level. Three outer rectangular pillars of masonry are built up to the level of the central pillar for the support of the high trestle. The directions, azimuths and distances of the following places are:—Álangudi (spire of the Vardarájulu Përúmal temple S.W. of the village and near the high road) $316^{\circ} 15'$, mile 0.26; Valangimán village 170° , miles 3.5; Nídámangalam town and Railway Station S. by E., miles 4.5; Álangudi (Pillaiyár temple on the W. side of the high road and W.N.W. of the village) $251^{\circ} 4'$, mile 0.13; and Álangudi (centre of the ornamental ridge of the Káli Amman Pidári temple) $234^{\circ} 40'$, mile 0.15.

XXVII. Víramangalam Trestle Station, lat. $10^{\circ} 52'$, long. $79^{\circ} 21'$ —observed at in 1878—is situated 70 yards N. of the Vétár river channel, on the Nattam land of Sittálattúr (S.E. end of Víramangalam), 130 yards S. of the south-easternmost house, 7 miles S.W. of Kumbakonam town and $2\frac{1}{2}$ miles E. of Tirukalá-úr bridge on the Pápanásam-Sáliyamangalam road. It is in the lands of the village of Víramangalam, taluk Kumbakonam, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter at top which contains six mark-stones, one in its upper surface and five others 3.0, 6.0, 9.0, 10.0 and 11.1 feet respectively below it, the lowest being 1 foot below the ground level. Three outer rectangular pillars of masonry are built up to the level of the central pillar for the support of the high trestle. The azimuths and distances of the following places are:—Álattúr 87° , mile 0.43; Víramangalam 145° , mile 0.14; Ávúr (temple) $216^{\circ} 49'$, miles 2.19; Eri (Áyanár temple) $171^{\circ} 48'$, mile 0.94; and Uttakád (Përúmal temple) $212^{\circ} 9'$, mile 0.80.

XXVIII. Arasapat Trestle Station, lat. $10^{\circ} 44'$, long. $79^{\circ} 21'$ —observed at in 1878—is situated on the east side and near the eastern boundary of a large open sandy field called Manakóllai, 280 yards W. of the Vadavár river channel, $\frac{3}{4}$ mile N.N.W. of the Public Works Department little lodge at the head-sluice of the

Mannárgudi Vaykál (supply channel), $\frac{1}{4}$ mile N. of the centre of the Settiyankáleri (tank), $1\frac{1}{2}$ miles N. of the high road to Mannárgudi, opposite the 13th milestone, and 5 miles S.S.W. from the Ammápet station of the South Indian Railway. It is in the lands of the village of Arasapat, taluk and district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter at top which contains six mark-stones, one in its upper surface and five others 2·8, 6·0, 9·0, 10·0 and 11·0 feet respectively below it, the lowest being 1 foot below the ground level. Three outer rectangular pillars of masonry are built up to the level of the central pillar for the support of the high trestle. The azimuths and distances of the following places are:—Arasapat 68° , mile 0·48; Panaiyakota (S. point of the Vélakachi Amman temple) 84° , miles 1·53; Kambaiyanattam 157° , miles 2·03; and Vada-úr (spire of the Përumál temple) $324^\circ 4'$, miles 2·35; and Vada-úr (centre pier of the bridge of four arches on the Tanjore-Mannárgudi high road, about $13\frac{1}{2}$ miles from Tanjore) $340^\circ 22'$.

XXIX. Parutikota Trestle Station, lat. $10^\circ 42'$, long. $79^\circ 27'$ —observed at in 1878—is situated in the N.E. corner of a field called Kátán Manikamköllai, about 100 yards E. of a sand bank which forms a field boundary running N. and S. across the ridge of comparatively high ground dividing the Pámbanodai and Válamaduvu valleys, nearly half a mile to the N.W. of the Puduri tank, about $3\frac{1}{2}$ miles N.W. by W. of Mannárgudi town, and $5\frac{1}{2}$ miles S. of Nídámangalam station of the South Indian Railway. The station is in the lands of the village of Parutikota, taluk Mannárgudi, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter at top which contains six mark-stones, one in its upper surface and five others 3·0, 5·4, 9·0, 10·0 and 11·0 feet respectively below it, the lowest being 1 foot below the ground level. Three outer rectangular pillars of masonry are built for the support of the high trestle. The azimuths and distances of the following places are:—Parutikota 124° , miles 1·10; Múvánallúr (temple outside and west of the village) $804^\circ 28'$, 2930 feet; Mannárgudi (ridge of the temple) $307^\circ 36'$, miles 3·17; and Nágalpúndi (Náganáthaswámi temple) $166^\circ 27'$, miles 1·76.

XXX. Ráramutiraikota Trestle Station, lat. $10^\circ 46'$, long. $79^\circ 15'$ —observed at in 1878—is situated in the western field or enclosure called Melaiköllai or Sëvaköllai, about $\frac{1}{4}$ mile W. of the village centre, and $\frac{1}{2}$ mile E.S.E. of the boundary of Katirinattam. The station is nearly $\frac{1}{2}$ mile S. of the South Indian Railway station, about 5 miles E. from the Tanjore Railway station towards Negapatam (Nágapatnam) and nearly 2 miles S.E. of Mári Ammankoil on the high road from Tanjore to Negapatam, and 5 miles E. by S. of the Tanjore fort. It is in the lands of the village of Ráramutiraikota, taluk and district Tanjore.

The station consists of a solid, central and circular pillar of masonry 10 feet high and $3\frac{1}{2}$ feet in diameter at top, built on a foundation 8 feet in diameter, and contains five mark-stones, one in its upper surface and four others 4·7, 9·0, 10·0, and 11·1 feet respectively below it, the last but one being at the ground level. Round this pillar three outer rectangular masonry pillars are built to support the high trestle. The azimuths and distances of the following places are:—Ráramutiraikota (Áyanárkoil temple) 240° , mile 0·49; Katirinattam (Sivankoil temple) 122° , mile 0·47; and Kulichapat 54° , mile 0·76.

XXXI. Púvatúr Trestle Station, lat. $10^\circ 35'$, long. $79^\circ 21'$ —observed at in 1877 and 1878—is situated in a large open plain covered with scrub jungle called Maikanköllai, about $\frac{1}{2}$ a mile S.W. of the tank called Tirumateri, and 10 miles N. of Patukota. It is in the lands of the village of Púvatúr, taluk and district Tanjore.

The station, as built in 1877, consisted of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter—surrounded by an annular wall 18 inches thick—and contained three mark-stones, one in its upper surface, the second 1·13 feet below it at the ground level, and the third 1·03 feet below the second. Over this pillar a rectangular pillar of masonry $3\frac{1}{2}$ feet high was built, carrying a mark-stone in its upper surface. Outside the annular wall three pillars of masonry 8 feet high were built for the support of the high trestle. When again visited in 1878, the station was found perfect and the mark-stone on the rectangular pillar intact; the central circular pillar together with the annular wall and the three outer pillars were then raised to a height of 10 feet above the ground level, enclosing the original rectangular pillar, a central vertical shaft and a horizontal aperture being specially constructed for access to the mark on the rectangular pillar. The azimuths and distances of objects in the following villages are:—Thöndarapat (☉ on a stone drain on the N. side of a temple W. of the village) $322^\circ 54'$, mile 0·95; Tirumangalamkota (☉ on a brick at the S.E. corner of the projecting basement of the Pidári temple S.W. of the village) $236^\circ 59'$, mile 0·84; Púvatúr (tamarind tree marked with a +, near a temple) $154^\circ 7'$, miles 1·32; Pekarumbukota (centre of the dome of the Shevukan Përumál temple) $115^\circ 46'$, miles 1·65; and Melavélúr (☉ on a stone drain on the N. side of the Subramanya Swámi temple, the N.W. temple of the group) $40^\circ 1'$, mile 0·88.

XXXII. Kakkrákota Trestle Station, lat. $10^\circ 36'$, long. $79^\circ 15'$ —observed at in 1877 and 1878—is situated in the N.E. corner of the field called Rágamvetikád, 266 yards S.E. of the hamlet of Mannanpunjai-top, $3\frac{1}{2}$ miles W.S.W. of the Oruttannád Chattram at Muttammálpuram on the high road from Tanjore to Patukota, and $\frac{1}{2}$ a mile W. or S.W. of the Vëdapuri-vaykal river bed or watercourse. It is in the lands of the village of Kakkrákota, taluk and district Tanjore.

The station, as built in 1877, consisted of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter—standing on a circular foundation 8 feet in diameter and surrounded by an annular wall 18 inches thick—and contained three mark-stones, one in its upper

surface, the second 1 foot below it at the ground level, and the third 1·1 feet below the second. Over this pillar a rectangular pillar of masonry 3½ feet high was built carrying a mark-stone in its upper surface. Outside the annular wall three pillars of masonry 8 feet high and 2 feet square were built for the support of the high trestle. When again visited in 1878, the station was found perfect and the mark-stone on the rectangular pillar intact; the central circular pillar together with the annular wall and the three outer pillars were then raised to a height of 10 feet above the ground level, enclosing the original rectangular pillar, a central vertical shaft and a horizontal aperture being specially constructed for access to the mark on the rectangular pillar. A fifth mark is engraved on the masonry of the second circular pillar 9 feet above the mark of 1877 on the rectangular pillar. The azimuths and distances of objects in the surrounding villages are:—Kakkrákota (centre ornament of the Puti Amman temple) 56° 49', mile 0·92; Nėduvákota (☉ on the ledge at base of the S. side of the Kárialagar temple) 244° 52', miles 1·84; Pinnaiyúr (centre of the top of the highest dome of the Paramunisvara temple) 350° 8', miles 1·60; Ayankudi (tamarind tree marked with a + in the centre of the village) 185° 20', miles 1·49; and Karukápipet (tamarind tree marked with a + at the N.W. end of the village) 55° 10', miles 1·57.

XXXIII. Pátharankota Trestle Station, lat. 10° 28', long. 79° 15'—observed at in 1877—is situated in a large sandy plain at the S.W. end of the village lands of Kėllukád, about ¾ of a mile W. of the village. The station is 0·40 of a mile S. of a masonry pillar on the boundary line between Puduviduthi and Kėllukád villages. It is in the lands of the village of Kėllukád, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry 3½ feet in diameter, built on a masonry foundation 1 foot deep and surrounded by an annular wall 18 inches thick: it contains three mark-stones, one in its upper surface, the second 0·90 foot below it at the ground level, and the third 1·14 feet below the second. Outside the annular wall three pillars of masonry 8 feet high are built for the support of the high trestle. The azimuths and distances of objects in the following places are:—Pátharankota (Kanagammál temple in the hamlet of Ananta Gopálpuram) 290° 52', mile 0·75; Kėllukád (mango tree marked with a + over the village temple) 291° 16', mile 0·74; Vėttuvákota (spire of the Mutu Mári Amman temple) 107° 45', miles 1·12; and Káya-úr (pinnacle at the S. end of the temple) 337° 25', miles 3·08.

XXXIV. Patukota Trestle Station, lat. 10° 26', long. 79° 21'—observed at in 1877—is situated at the extreme E. end of a hamlet in a plantation of young mango trees, about a mile N.W. of the taluk town of Patukota, and about 900 yards W. of the main road from Tanjore to Patukota. It is in the lands of Sánthánkád village, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry 3½ feet in diameter, built on a foundation 1 foot deep and surrounded by an annular wall 18 inches thick: it contains three mark-stones, one in its upper surface, the second 1·04 feet below it at the ground level, and the third 0·98 foot below the second. Outside the annular wall three pillars of masonry 8 feet high are built for the support of the high trestle. The azimuths and distances of objects in the following villages are:—Patukota (☉ on the wall of the Mutu Mári Amman temple on the left side of the road from Tanjore to Patukota) 305° 57', mile 0·73; Patukota (N.W. corner of the Adaikulam Káthán temple on the right side of the road from Tanjore to Patukota) 329° 58', miles 1·49; Áladikumulai (☉ on the basement at the S.W. corner of the Mayisoliappan temple) 171° 50', mile 0·70; Pálamuti (☉ on the dome of the Subramanya Swámi temple S.W. by W. of the village) 121° 47', miles 1·54; and Patukota (cross on the dome of the R. C. Church) 323° 16', miles 1·53.

XXXV. Kallakota Trestle Station, lat. 10° 31', long. 79° 10'—observed at in 1877—is situated in a large open plain, about ½ a mile N.E. by E. of the large zamindári village of Kallakota and between the villages of Mayilángapati and Maruthangonviduthi, and 290 yards S. of the main road between Patukota and Kallakota. The station is in the lands of Mayilángapati village, taluk Alangudi of the Pudukota Rája's territory, district Trichinopoly.

The station consists of a solid circular pillar of masonry 2 feet high and 3½ feet in diameter, built on a foundation 8 feet square and 1 foot deep and surrounded by an annular wall 18 inches thick: it contains three mark-stones, one in its upper surface, the second a foot lower at the ground level, and the third at the foundation level and a foot below the second. Outside the annular wall three pillars of masonry 8 feet high are built for the support of the high trestle. The azimuths and distances of objects in the following villages are:—Chėkantėr (mango tree marked with a + at the N.W. side of the village) 311° 16', mile 0·29; Mayilángipati (mango tree marked with a + at the N.E. corner of the Toti hamlet) 859° 9', mile 0·43; Kallakota (centre of the ornament at the E. end gable of the zamindár's house) 97° 41', miles 1·15; Ambukoil (centre of the gateway of the temple) 28° 41', miles 1·81; Maruthangonviduthi (tamarind tree marked with a + at the S. side of the village) 162° 58', mile 0·40; and Válakuttiyántop tope (mango tree marked with a +, in the hamlet of Maruthangonviduthi) 73° 53', mile 0·28

XXXVI. Kalúrunikád Trestle Station, lat. 10° 20', long. 79° 15'—observed at in 1877—is situated in the cultivated lands and on the W. side of the village of this name, about 0·6 mile N. by E. of Nádankád, the same distance S. by E. of Náráyankád village, and about ¾ a mile S. of Valasakád. It is in the lands of Kalúrunikád village, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry 3½ feet in diameter, built on a foundation and surrounded by an annular wall 18 inches thick: it contains two mark-stones, one in its upper surface about 1 foot above the ground level and the other 3·83 feet below it. Outside the annular wall three pillars of masonry 8 feet high are built for the support of the high trestle.

The azimuths and distances of objects in the following villages are:—Kalúrunikád (spire of the Kárudaiyár new temple) $1^{\circ} 28'$, mile 0.25; Kólatúr (circle and dot on the sill of the doorway of the Subramanya temple on the E. side of the village) $59^{\circ} 51'$, miles 1.09; Tirusitambalam (spire of the highest building in the Puráthana Ísvara temple enclosure) $146^{\circ} 54'$, miles 1.88; and Káyá-úr (pinnacle at the S. end of the temple) $188^{\circ} 26'$, miles 5.96.

XXXVII. Kárakkurchi Trestle Station, lat. $10^{\circ} 23'$, long. $79^{\circ} 9'$ —observed at in 1877—is situated in a large open plain covered with scrub jungle, 0.29 mile S. by E. of a large mango tree marked with a + on the S. side of Tèrkutër village. It is in the lands of the village of Kárakkurchi, taluk Alangudi, district Trichinopoly.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall $13\frac{1}{2}$ inches thick: it contains two mark-stones, one in its upper surface and the other 0.96 foot below it, at the ground level. Outside the annular wall three pillars of masonry 10 feet high are built for the support of the high trestle. The azimuths and distances of objects in the following villages are:—Chökankudiruppu (tamarind tree marked with a +) 21° , mile 0.80; Mukutukóllai (tamarind tree marked with a +) 327° , mile 0.86; Nalándákóllai (tamarind tree marked with a +) 305° , miles 1.04; Kílatër (☉ on the W. side of a parapet surrounding the dome of the Vètaiyalagar temple) $271^{\circ} 16'$, miles 1.78; and Vadatër (☉ cut on the roof of the Vírappan temple) $127^{\circ} 58'$, miles 1.39.

XXXVIII. Merpanaikád Trestle Station, lat. $10^{\circ} 15'$, long. $79^{\circ} 9'$ —observed at in 1877—is situated in an open plain, at the S. W. corner of the large chattram village of Merpanaikád, and 470 feet S.S.E. from a pipal tree at the trijunction of the villages of Merpanaikád, Ayangudi and Nivatháli. It is in the lands of Ayangudi village, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall $13\frac{1}{2}$ inches thick: it contains two mark-stones, one in its upper surface and the other 1.06 feet below it at the ground level. Outside the annular wall three pillars of masonry 8 feet high are built for the support of the high trestle. The azimuths and distances of objects in the following villages are:—Merpanaikád (centre of the S.E. minaret of the mosque) $223^{\circ} 55'$, mile 0.68; Nivatháli (centre of the dome of the Mári Amman temple, higher of the two) $62^{\circ} 21'$, miles 1.21; and Válavári (Pillaiyár temple) $28^{\circ} 18'$, miles 2.16.

XXXIX. Rètavayal Trestle Station, lat. $10^{\circ} 13'$, long. $79^{\circ} 15'$ —observed at in 1877—is situated on waste land E. of the village of this name, 0.65 of a mile from a large iruppai (mowa) maran tree marked with a + over the mud temple called Mári Amman at the S. end of the village, and about $1\frac{1}{4}$ miles S.W. of Pásala Koili village. It is in the lands of the village of Rudra Sindámani, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall 18 inches thick: it contains two mark-stones, one in its upper surface about 1 foot above the ground level and the other 3.83 feet below it. Outside the annular wall three pillars of masonry 6 feet high are built for the support of the high trestle. The azimuths and distances of objects in the following villages are:—Rudra Sindámani (tamarind tree marked with a +) 298° , mile 0.56; Sígankád (jumblum tree marked with a +) 356° , mile 0.72; Věláánkád (tamarind tree marked with a +) 22° , mile 0.53; Omathainád (centre of the dome of the Pillaiyár small temple at the S.W. corner of the Sivankoil temple enclosure) $236^{\circ} 9'$, miles 2.32; and Rètavayal (Kanayiran Murthi temple on a tank bund at the N. end of the village lands) $152^{\circ} 38'$, miles 1.43.

XL. Kulamangalam Trestle Station, lat. $10^{\circ} 17'$, long. $79^{\circ} 5'$ —observed at in 1877—is situated between the S.W. hamlet of Kulamangalam village and the N.E. hamlet of Tirunallúr village, close to the boundary between these two villages, 460 feet N.W. by N. of a mango tree at the most southerly hamlet of Kulamangalam village, and 941 feet S.W. of the most easterly mango tree at the hamlet of Tirunallúr village; each of these trees is marked with a +. It is in the lands of the Kulamangalam village, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall $13\frac{1}{2}$ inches thick: it contains two mark-stones, one in its upper surface and the other 0.96 foot below it at the ground level. Outside the annular wall three pillars of masonry 12 feet high are built for the support of the high trestle. The azimuth and distance of Kulamangalam spire of the Pèrunkára-Mudayár temple are $292^{\circ} 35'$, mile 0.70.

XLI. Mánúr Trestle Station, lat. $10^{\circ} 7'$, long. $79^{\circ} 9'$ —observed at in 1877—is situated in a large open plain between the villages of Mánúr and Áladikád, 630 yards S. by E. of a large Aichiamaram tree (marked with a +) at the E. end of the former village, and 678 yards N. by W. of a large tamarind tree (marked with a +) in the latter. It is in the lands of the village of Mánúr, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall 18 inches thick: it contains two mark-stones, one in its upper surface about 1 foot above the ground level and the other 3.92 feet below it. Outside the annular wall three pillars of masonry $3\frac{1}{2}$ feet high are built for the support of the high trestle. The azimuths and distances of objects in the following villages are:—Íchankudi (tamarind tree marked with a +) 90° , miles 1.05; Mayivayal (tamarind tree marked with a +) 219° , mile 0.64; and Věttanúr (tamarind tree marked with a +) 318° , miles 1.81.

XLII. Pallathivayal Trestle Station, lat. $10^{\circ} 9'$, long. $79^{\circ} 3'$ —observed at in 1877—is situated in an open plain between the villages of Virapavayal and Pallathivayal, about 2 miles E.S.E. of the Arantangi fort, and in an almost direct line between a large mango tree at the S.W. corner of Virapavayal village and a large tamarind tree at the N.W. corner of Pallathivayal village, 341 yards from the former and 358 yards from the latter, each of the trees being marked with a +. It is in the lands of the village of Pallathivayal, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall $13\frac{1}{2}$ inches thick: it contains two mark-stones, one in its upper surface and the other 0.71 foot below it at the ground level. Outside the annular wall three pillars of masonry 8 feet high are built for the support of the high trestle. The azimuths and distances of objects in the following villages are:—Wanni (temple spire) $68^{\circ} 46'$, mile 0.78; Mínakshi (temple spire) $74^{\circ} 38'$, mile 0.95; Arantangi fort (spire of the Vírámákáli Amman temple) $116^{\circ} 41'$, miles 2.07; and Arantangi fort (centre of the gateway tower) $116^{\circ} 57'$, miles 2.05.

XLIII. Ökkúr Trestle Station, lat. $10^{\circ} 1'$, long. $79^{\circ} 3'$ —observed at in 1877—is situated about 300 yards N.W. of the village of this name, $1\frac{1}{4}$ miles N.E. by N. of Sitaur village, and 1 mile E.S.E. of Allativayal village. It is in the lands of the village of Ökkúr, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall 18 inches thick: it contains two mark-stones, one in its upper surface about 1 foot above the ground level and the other 2.67 feet below it. Outside the annular wall three pillars of masonry 8 feet high are built for the support of the high trestle. The azimuths and distances of the following places are:—Ökkúr (☉ cut on the moulding above the plinth on the W. end of the largest temple) $239^{\circ} 49'$, feet 569; Thunjanúr (☉ cut on the roof of the temple) $3^{\circ} 57'$, miles 1.29; Elunúthimangalam 223° , miles 1.74; Pěrunámaraí 156° , mile 0.13; and Pörukudi 94° , miles 1.46.

XLIV. Kánád Trestle Station, lat. $9^{\circ} 59'$, long. $79^{\circ} 10'$ —observed at in 1877—is situated 16 yards from the S. bank of a tank, and lies between it and the temple at the most westerly hamlet of Kánád village, and 1 mile S.W. by S. of Andiandal village. It is in the lands of the village of Kánád, taluk Patukota, district Tanjore.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, built on a foundation and surrounded by an annular wall 18 inches thick: it contains two mark-stones, one in its upper surface and the other 1.1 feet below it at the ground level. Outside the annular wall three pillars of masonry $4\frac{1}{2}$ feet high are built for the support of the high trestle. The azimuths and distances of the following places are:—Kánád (centre of the dome at the W. end of the temple) $40^{\circ} 37'$, yards 273; Karnákúr 159° , miles 1.05; Věttivayal 350° , mile 0.71; and Thálanúr (centre of the dome at the W. end of the Sitambra Ísvaran temple) $81^{\circ} 44'$, mile 0.93.

XLV. Sembalavayal Trestle Station, lat. $10^{\circ} 3'$, long. $78^{\circ} 58'$ —observed at in 1876—is situated in scrub jungle and about $\frac{2}{3}$ of a mile N.W. of the village so called. It is in the lands of Sembalavayal village, taluk Tirupatúr, district Madura (Madurai).

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, surrounded by an annular wall $13\frac{1}{2}$ inches thick: it contains two mark-stones, one in its upper surface and the other 10.8 inches below it at the ground level. Outside the annular wall three pillars of masonry 3 feet high are built for the support of the high trestle. The azimuths and distances of the following places are:—Panankád 237° , mile 0.8; Tirupuvayal 185° , mile 0.4; Sembalavayal 317° , mile 0.7; and Vittravayal (centre of the roof of a Sivan temple) $93^{\circ} 15'$, miles 1.22.

XLVI. Sirukambúr Trestle Station, lat. $9^{\circ} 52'$, long. $79^{\circ} 3'$ —observed at in 1876—is situated in the bed of a tank, about $\frac{1}{2}$ a mile W. of the village so called, 200 yards W. of the bund near the central E. waste weir, and 3 miles N. W. of the town of Uriúr. The station is in the lands of the village of Sirukambúr, taluk Tiruvadanaí, district Madura.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter at top, surrounded by an annular wall 17 inches thick: it contains two mark-stones, one in the foundation about the ground level, and the other 1 foot above it in the surface of the pillar. The azimuths and distances of the following places are:—Sitamangalam 63° , mile 0.8; Peramangalam 117° , mile 0.8; Páganúr 162° , miles 1.1; Mailáváli 4° , miles 1.3; and Andauruni (centre of the dome of the Roman Catholic Church) $97^{\circ} 57'$, miles 1.88.

XLVII. Manikamkota Trestle Station, lat. $9^{\circ} 55'$, long. $78^{\circ} 58'$ —observed at in 1876—is situated on the S. bank of a stream (Paushi Ár) 0.4 mile S.S.W. of the village of this name, about $2\frac{1}{2}$ miles S.W. of Kanangudi town, and $\frac{1}{2}$ mile S.E. by E. of Khepalai village. It is in the lands of Urunikota village, taluk Tiruvadanaí, district Madura.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter at top, surrounded by an annular wall 17 inches thick: it contains two mark-stones, one in the foundation about the ground level and the other 1 foot above it in

the surface of the pillar. The azimuths and perambulated distances of the following places and objects are:—Përumál Koil (dome of a small temple) $280^{\circ} 22'$, mile 0.64; Kadambúr 249° , mile 0.88; Pariaukota 284° , mile 0.64; Urunikota 338° , mile 0.64; Melanai 7° , mile 0.57; masonry bridge (centre of, on the high road from Töndi to Madura through Devakota) $42\frac{1}{4}^{\circ}$, mile 0.33; and Kamachi Ammankoil (centre of a group of images) $103^{\circ} 2'$, mile 0.25.

XLVIII. Manëgandi Trestle Station, lat. $9^{\circ} 46'$, long. $78^{\circ} 58'$ —observed at in 1876—is situated about 200 yards N.N.E. of the village of this name and 200 paces E. of the road which passes $\frac{3}{4}$ of a mile S. of Tiruvadanaï village. It is in the lands of the village of Manëgandi, taluk Tiruvadanaï, district Madura.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter at top, surrounded by an annular wall 17 inches thick: it contains two mark-stones, one in the foundation about the ground level and the other 1 foot above it in the surface of the pillar. The azimuths and distances of the following places are:—Tiruvadanaï 162° , mile 0.8; Tiruvadamarudúr (temple) 92° , mile $\frac{1}{2}$, and small square masonry temple 295° , mile 0.9.

XLIX. Nambudalai Trestle Station, lat. $9^{\circ} 44'$, long. $79^{\circ} 3'$ —observed at in 1876—is situated in a field about $\frac{1}{2}$ a mile N. by W. of the village of Nambudalai and $\frac{3}{4}$ mile S.E. by E. of Navakudi. It is in the lands of the village of Nambudalai, taluk Tiruvadanaï, district Madura.

The station consists of a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter and contains two mark-stones, one in its upper surface and the other 2.91 feet below it in the foundation. The pillar rises 1 foot above the ground level. The azimuths and distances of the following places are:—Töndi (mosque flag-staff, near the N. end of the town) $232^{\circ} 32'$, mile 1; Karuparakoil (wooden shaft in the stone basement of a temple) $137^{\circ} 13'$, yards 220; Ísvrankoïl (temple) $317^{\circ} 38'$, yards 300; and Mulatagam 71° , miles $1\frac{1}{2}$.

L. Vënniyúr Trestle Station, lat. $9^{\circ} 49'$, long. $78^{\circ} 51'$ —observed at in 1876—is situated about 650 yards S.W. of the village of Vënniyúr, 7 miles W. of Tiruvadanaï, and 3 miles S.E. of Tiruvegampati town. It is in the lands of the village of Vënniyúr, taluk Tiruvadanaï, district Madura.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, surrounded by an annular wall 17 inches thick: it contains two mark-stones, one in its upper surface about 1 foot above the ground level and the other 1.1 feet below the upper mark. The azimuths and perambulated distances of the following villages and objects are:—Ándaikudi 120° , mile 0.95; Muppúr 296° , mile 0.93; Ponna Karai 300° , mile 0.36; paka bridge on the road from Töndi to Madura $297^{\circ} 6'$, mile 0.36; paka bridge (guard stone on the W. side) $39^{\circ} 45'$, mile 0.17; and dome of a tomb near Vënniyúr village $227^{\circ} 21'$, mile 0.67.

LI. Úrannankudi Trestle Station, lat. $9^{\circ} 37'$, long. $78^{\circ} 58'$ —observed at in 1876—is situated on the S.W. bund 10 feet above the adjacent fields, about 300 yards N.E. of the village of this name, 5 miles E. of Rajasingamangalam, and 1.4 miles W. by S. of Kodalúr village. It is in the lands of Úrannankudi village, taluk Tiruvadanaï, district Madura.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter and surrounded by an annular wall: it contains two mark-stones, one in its upper surface flush with the bund level and the other 3.0 feet below it fixed in the foundation. The azimuths and distances of the following villages and objects are:—Melúruni 125° , miles 1.2; Chitravádi 221° , miles 1.1; Uppúr chattram (centre of the building) $311^{\circ} 9'$, miles 1.20; and Valaivandi Ammankoïl (centre of the large square building) $322^{\circ} 44'$, mile 0.32.

LII. Mutupatnam Trestle Station, lat. $9^{\circ} 40'$, long. $75^{\circ} 51'$ —observed at in 1876—is situated about 300 yards N. of the village of this name, 0.8 mile N.E. by N. of Senagudi, $\frac{1}{2}$ mile S.E. of the small village of Setëdal, and 4 miles N.W. of Rajasingamangalam. It is in the lands of the village of Setëdal, taluk Tiruvadanaï, district Madura.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, surrounded by an annular wall 17 inches thick, around which a platform is built: it contains two mark-stones, one in its upper surface and the other in the foundation 1.0 foot below it at the ground level. The azimuths and distances of objects in the following villages are:—Kökku-úruni (cross on the E. gable of the R. C. church) $213^{\circ} 49'$, miles 1.85; Suranu temple (centre of images) $90^{\circ} 4'$, mile $\frac{3}{4}$; and Mutupatnam (cross on the E. gable of the R. C. church) $355^{\circ} 9'$, mile 0.18.

LIII. Kódikulam Tower Station, lat. $9^{\circ} 30'$, long. $78^{\circ} 51'$ —observed at in 1876—is on the N. bund of a small tank 320 yards E. of the village of this name, $1\frac{1}{4}$ miles N.N.W. of Kadambúr, 1.1 miles W. of Arsanúr village, and about $9\frac{1}{2}$ miles N. of Ramnad town. It is in the lands of Kódikulam village, taluk Ramnad (Rámnáthapuram), district Madura.

The station consists of a perforated pillar of masonry 25.8 feet high, built on a brick foundation 8 feet square, in which two mark-stones are imbedded, one at the bund level and the other 4.5 feet below it. The pillar is built in two rectangular blocks to within 1.8 feet of the top and thereafter circular and $3\frac{1}{2}$ feet in diameter; an aperture on the E. side gives access to the bund level mark. The azimuths and distances of the following places are:—Tanniapulli 129° , mile 0.8; Pöttuvayal (centre of the dome of a temple) $224^{\circ} 59'$, miles 2.62; Agráram 297° , mile 0.2; and Manjikulam 354° , miles 2.3.

LIV. Pöragudi Trestle Station, lat. $9^{\circ} 30'$, long. $78^{\circ} 56'$ —observed at in 1876—is situated on a sand mound rising about 6 feet above the general level of the country, 300 yards N.E. of the hamlet of this name, and $1\frac{1}{2}$ miles S.S.W. of Shambai village. It is in the lands of the village of Devipatnam, taluk Ramnad, district Madura.

The station consists of a solid rectangular pillar of masonry 5 feet square, having its upper surface flush with the top of the mound, and contains two mark-stones, one in its upper surface and the other 3.9 feet below it. The azimuths and distances of the following places are:—Devipatnam 340° , miles 1.5; Madavanúr 84° , miles 1.4; Mutturagunathapuramkoil (dome of a temple) $236^{\circ} 29'$, mile 0.81; and Áyanárkoil (centre of a group of images) $99^{\circ} 9'$, miles 1.4.

LV. Náyanárkoil Trestle Station, lat. $9^{\circ} 32'$, long. $78^{\circ} 44'$ —observed at in 1876—is situated in an open field, about 600 yards S.E. of the town of this name, 1 mile S. by W. of Tavankota, and $1\frac{1}{2}$ miles W. by N. of Anjiamadai. It is in the lands of the village of Náyanárkoil, taluk Ramnad, district Madura.

The station consists of a solid rectangular pillar of masonry 5 feet square, having its upper surface flush with the ground, and contains two mark-stones, one in its upper surface and the other 3.3 feet below it. Outside the annular wall three rectangular pillars 12 feet high are built for the support of the high trestle. The azimuths and distances of the following places are:—Marudúr 169° , yards 280; Akramanji 324° , miles 1.5; and Náyanárkoil (centre of a temple) $126^{\circ} 40'$, mile 0.36.

LVI. Ramnad (Rámnáthapuram) Station, lat. $9^{\circ} 22'$, long. $78^{\circ} 52'$ —observed at in 1875 and 1876—is on the superior slope of the parapet wall of the western face and between two embrasures of the S.W. bastion (the only one now standing) of the old brick fort of Ramnad near the entrance to the town and immediately N. of the high road from Madura. The centre of the bastion is occupied by a bungalow. The upper station mark is $27\frac{1}{2}$ feet above the ground level (terreplein). Taluk Ramnad, district Madura.

The station consists of a solid circular pillar of masonry and contains two mark-stones, one imbedded flush with the slope of the parapet and the other 3.1 feet above it. When again visited in 1876, the station was found covered up just as when left in 1875, and evidently untouched in the interval. The azimuths and distances of the following places are:—Shurankota 175° , mile 1; Ramnad (W. end of Roman Catholic Church) $268^{\circ} 42'$, mile 0.34; Kurichata Ammankoil $154^{\circ} 24'$, yards 150; and Kariúr 83° , mile $\frac{1}{4}$.

LVII. Sambuttiyendal or Shámanúr Tower Station, lat. $9^{\circ} 23'$, long. $78^{\circ} 45'$ —observed at in 1875 and 1876—is situated in an open field, 385 yards E.S.E. of the hamlet of Sambuttiyendal, and $1\frac{1}{2}$ miles N.W. by N. of Kawudakudi village. It is in the lands of the village of Týyanúr, taluk Ramnad, district Madura.

The station consists of a perforated pillar of brick masonry 20.8 feet above ground level and contains two mark-stones, one at the ground level and the other 3.53 feet below it imbedded in the foundation. The pillar is built in two rectangular blocks to within 3 feet of the top, and thereafter circular and $3\frac{1}{2}$ feet in diameter; an aperture on the E. side gives access to the ground level mark. When again visited in 1876, the station was found in good order and evidently untouched in the interval. The azimuths and distances of the following villages are:—Pögalúr 205° , miles 1.2; Týyanúr 285° , miles 1.3; Shámanúr 32° , miles 1.2; and Puthúr 111° , miles 2.

LVIII. Uttarakoshamangai Station, lat. $9^{\circ} 19'$, long. $78^{\circ} 47'$ —observed at in 1875—is on the central masonry pier of the southern staircase of the southern and unfinished gopuram (temple), about $6\frac{1}{2}$ miles S.W. by W. of Ramnad town, 2 miles N. by E. of Kilaneri, and 5.8 miles N.E. by N. of Idambádal. The station mark is about 5 yards S. of the centre of the building, 50 yards S. of the northern and finished gopuram, and about 51 feet above the ground level. It is in the lands of the village of Uttarakoshamangai, taluk Ramnad, district Madura.

The station consists of a low solid pillar in which two marks are fixed, one on a stone in its upper surface and the other on a brick 0.7 foot below it. The azimuths and distances of the following villages are:—Kalari 280° , miles 2; Těchnúr 234° , mile $\frac{1}{2}$; Kóneri 76° , miles $2\frac{1}{2}$; and Chěttiendal 57° , miles $3\frac{1}{2}$.

LIX. Kánjarangudi Station, lat. $9^{\circ} 15'$, long. $78^{\circ} 51'$ —observed at in 1875—is situated on the highest hillock of loose drift-sand about 50 feet high, $2\frac{1}{2}$ miles S.S.W. of Tirupilani village, and 8 miles S. of Ramnad town. It is in the lands of Kánjarangudi village, taluk Ramnad, district Madura.

The station consists of a long wooden pile driven flush with the summit of the sand hillock, on which a mark is cut, and around which three other wooden piles are similarly driven for the support of the theodolite stand. The azimuths, directions and distances of the following places are:—Kánjarangudi 194° , mile 0.3; Sěngalanírodai 3° , mile 0.5; Tirupilani Gopuram $201^{\circ} 32'$, miles 2.62; Nájamandal land-mark $290^{\circ} 10'$, miles 1.04; and Kílakarai Roman Catholic Church S.W., miles 2.

LX. Yervádi or Chakilimedu Station, lat. $9^{\circ} 14'$, long. $78^{\circ} 46'$ —observed at in 1875—is situated on the highest hillock of loose drift-sand about 40 feet above the plain, $1\frac{1}{2}$ miles E. of Yervádi village, and

3½ miles W. of Kīlakai village. It is in the lands of Máyakulam village, taluk Mutukulatūr, district Madura.

The station consists of a mark-stone imbedded flush with the hill top, around which three long wooden piles are driven into the sand hillock for the support of the theodolite stand. The azimuths and distances of the following places are:—Idambádal 118°, miles 3½; Pīlanthai 237°, mile 1; Máyakulam 256°, miles 1½; and Yervádi (mosque) 87° 39', miles 1.55.

LXI. Tanichanthai Station, lat. 9° 13', long. 78° 40'—observed at in 1875—is situated on about the western summit of a sand ridge, about 0.6 of a mile N. of Thodai and Tanichanthai villages, and 60 yards W. of the spot pointed out as the site of an old survey station, most probably "Tunnychundy" of Colonel Lambton's secondary triangulation, now called Vellakamedu. It is in the lands of Tanichanthai village, taluk Mutukulatūr, district Madura.

The station consists of a mark-stone at the ground level (1.5 × 1.5 × 1.0 feet) imbedded in concrete ending below in a cone. This mark is surmounted by a wooden pile having a circle and dot engraved on its summit, 11.3 feet above the ground level mark-stone; the observations were all referred to the upper mark. The azimuths and distances of the following villages and objects are:—Kōttankulam temple 101° 36', miles 1.06; Áykkudi 177°, mile ¾; Rájakalpálayam (paka house) 159° 38', miles 1.84; Hikudi (small boundary stone) 178° 40', feet 150; and Chorakulam (temple) 231° 40', mile 1.

LXII. Arapoth or Uttan Tower Station, lat. 9° 19', long. 78° 39'—observed at in 1875—is situated on the S.W. part of the tank bund slightly above the surrounding fields and about ½ a mile S.E. of Arapoth or more commonly called Arapur village. It is in the lands of Uttan village, taluk Mutukulatūr, district Madura.

The station consists of a perforated pillar of brick masonry, 24.6 feet above the bund level, which contains two mark-stones, one at the bund level and the other 2.42 feet below it imbedded in the foundation. The pillar is built in three rectangular blocks to within 2 feet of the top, and thereafter circular and 3½ feet in diameter; an aperture on the E. side gives access to the ground level mark. The azimuths and distances of the following places are:—Uttan 315°, yards 370; Tēri-iruvēli 262°, mile 1; Arapoth 141°, mile 0.5; Arapoth (temple) 132° 14', mile 0.73; and Kamachi Ammankoil 103° 32', mile 0.75.

LXIII. Kadaládi Tower Station, lat. 9° 13', long. 78° 32'—observed at in 1875—is situated on the eastern tank bund, 10 feet above the level of the surrounding country, and about 50 yards N. of the village of Kadaládi. It is in the lands of the village of Kadaládi, taluk Mutukulatūr, district Madura.

The station consists of a perforated pillar of brick masonry, 20 feet above the bund level, which contains two mark-stones, one at the bund level and the other 3.75 feet below it imbedded in the foundation. The pillar is built in two rectangular blocks to within 3½ feet of the top and thereafter it is circular and 3½ feet in diameter; an aperture on the E. side gives access to the ground level mark. The azimuths and distances of the following places are:—Mangalam 135°, miles 1.2; Appanúr 154°, miles 3; Purasankulam (small stone temple) 200° 52', mile 0.50; Kadaládi temple 10° 48', mile 0.18; and Kadaládi white building 63° 6', mile 0.32.

LXIV. Ōpilán Station, lat. 9° 8', long. 78° 34'—observed at in 1875—is situated on the highest hillock of loose drift-sand 30 feet high, 220 yards from the sea coast, and about 1 mile E.S.E. of Ōpilán village. It is in the lands of Ōpilán village, taluk Mutukulatūr, district Madura.

The station consists of a long wooden pile driven flush with the summit of the sand hillock on which a mark is cut, and around which three other wooden piles are similarly driven for the support of the theodolite stand. The azimuths and distances of the following places are:—Ōpilán (paka house) 110° 51', mile 0.96; Pēriyakulam 181°, miles 1½; Tulukapati 245°, mile 1; Koil Máriur temple 257° 8', miles 2½; and Múkkaiyúr R. C. Church (W. end) 79° 22', miles 2.68.

LXV. Kidátirukai Tower Station, lat. 9° 18', long. 78° 30'—observed at in 1875—is situated on a somewhat higher ground than the surrounding country, which is said to be the site of an old fort and about 260 yards N.W. of the village of Kidátirukai. It is in the lands of the village of Kidátirukai, taluk Mutukulatūr, district Madura.

The station consists of a perforated pillar of masonry 17 feet high, built on a concrete foundation 8 feet square, in which two mark-stones are imbedded, one at the ground level and the other 3.08 feet below it. The pillar is built in two rectangular blocks to within 2½ feet of the top and thereafter it is circular and 3½ feet in diameter; an aperture on the E. side gives access to the ground level mark. The azimuths and distances of the following places are:—Appanúr 334°, miles 3; Nērinijipati 87°, miles 2½; Kōttulavi 166°, mile ½; and Sonapērián Kota Pati (small white temple) 170° 47', mile 0.85.

LXVI. Taraigudi Station, lat. 9° 9', long. 78° 26'—observed at in 1875—is situated on the eastern summit of a red sand ridge rising 25 to 30 feet above the adjacent plain; the high road from Tuticorin (Tutugudi) to Ramnad passes by the northern side of the ridge. It is in the lands of Taraigudi village, taluk Kamuti, district Madura.

The station consists of a long wooden pile driven flush with the sand ridge on which a mark is cut, and around which three other wooden piles are similarly driven for the support of the theodolite stand. The station is said to occupy the same site as that of "Turraygoody" secondary station of Colonel Lambton's triangulation. The directions, azimuths and distances of the following places are:—Sēvalpati W.S.W., miles $3\frac{1}{4}$; Kōkkādi N., miles $2\frac{1}{4}$; Vēpankulam 139° , miles $3\frac{1}{2}$; Umiamákoil (white building) $99^\circ 58'$, mile 1; Muturamalingampuram (masonry building) $74^\circ 42'$, miles 3; and Taraigudi (large village) 134° , mile 0.8.

LXVII. Pulápati Tower Station, lat. $9^\circ 14'$, long. $78^\circ 25'$ —observed at in 1875—is situated on a somewhat higher ground than the general level of the country, 1.3 miles E. of Pothampalli, and 1 mile N.E. of Kadamangalam. It is, in the lands of Pulápati village, taluk Kamuti, district Madura.

The station consists of a perforated pillar of masonry 21 feet high, built on a concrete foundation 8 feet square, in which two mark-stones are imbedded, one at the ground level and the other 3.92 feet below it. The pillar is built in three rectangular blocks up to a height of 20 feet, and thereafter circular and $3\frac{1}{2}$ feet in diameter; an aperture on the E. side gives access to the ground level mark. The azimuths and distances of the following places are:—Kadamangalam Roman Catholic Church (W. end) $24^\circ 36'$, miles 1.38; Ariyamangalam 191° , miles $2\frac{1}{2}$; Pulápati 125° , mile 0.24; Kuthankulam 209° , miles $1\frac{1}{2}$; and Kalutharpán 167° , miles $1\frac{1}{4}$.

LXVIII. Annapúnáyakanpati Tower Station, lat. $9^\circ 12'$, long. $78^\circ 20'$ —observed at in 1875—is situated in an open field of black cotton soil, nearly 1 mile N. of the village so called, 3 miles W. of Tirumáluganthankota, and $3\frac{1}{2}$ miles S.W. of the kasba town of Pernali. It is in the lands of the village of Tirumáluganthankota, taluk Kamuti, district Madura.

The station consists of a perforated pillar of brick masonry, 19.6 feet above the ground level, built on a concrete foundation 8 feet square, in which three mark-stones are imbedded, one at the ground level and two others 1.75 and 3.75 feet respectively below it. The pillar is built in three rectangular blocks up to a height of 18 feet, and thereafter circular and $3\frac{1}{2}$ feet in diameter; an aperture on the eastern side gives access to the ground level mark. The azimuths and distances of the following places are:—Annapúnáyakanpati 11° , mile 0.9; Lachmipuram 25° , miles 1.6; Melasarapuram 93° , miles 1.7; Puthupati 135° , miles $1\frac{1}{2}$; small boundary stone between Melasarapuram and Tirumáluganthankota $144^\circ 3'$, mile 0.79; and large boundary stone near Melasarapuram dividing the Ramnad and Tinnevely (Tirunēveli) districts $101^\circ 52'$, miles 1.74.

LXIX. Súrangudi Station, lat. $9^\circ 6'$, long. $78^\circ 22'$ —observed at in 1875—is situated on one of the highest and most westerly points of an extensive red sand ridge, rising about 30 feet above the level of the surrounding country, about 3 miles from the sea coast, and about $\frac{1}{2}$ mile S.E. of Súrangudi village. The high road from Tuticorin to Ramnad passes by the northern side of the ridge about $\frac{1}{2}$ a mile N. of the station. It is in the lands of Súrangudi village, taluk Ótapidáram, district Tinnevely.

The station consists of a long wooden pile driven well into the sand on which a mark is cut, and around which three other wooden piles are similarly driven for the support of the theodolite stand; the station is about 9 feet above the general level of the hill. The directions, azimuths and distances of the following places and objects are:—Melmánthai (large tree) 44° , miles 3; Vēmbár (centre of a dark building) $294^\circ 22'$, miles 3; Tattaneri W. by S., miles $4\frac{1}{4}$; Sēvalpati N.E. by N., miles 3; and Vēmbár Roman Catholic Church (spire at the W. end) $297^\circ 47'$, miles 2.98.

LXX. Mutúruni Station, lat. $9^\circ 17'$, long. $78^\circ 19'$ —observed at in 1875—is situated on the southern bund of a tank in the open fields, on the boundary of the Ramnad zamindari estate, $3\frac{1}{4}$ miles S. of Paraláchi village, 3 miles S.S.W. of the Shenkulam white building, and 3 miles S.W. by W. of Pulankád. It is in the lands of Paraláchi village, taluk Tirushuli, district Madura.

The station consists of the usual earthen platform enclosing a solid, circular and isolated pillar of masonry 7.13 feet high, built on a deep concrete foundation, in which three mark-stones are imbedded, one at its surface and two others 3.00 and 7.13 feet respectively below it. The azimuths and distances of the following places and objects are:—Paraláchi (temple on the N.E. side of the village) $189^\circ 20'$, miles 3.14; Púvanáyakanpati 62° , miles $2\frac{1}{4}$; Tuttinattam 326° , miles 2; Boundary stone A $101^\circ 9'$, feet 76; Boundary stone B $271^\circ 11'$, feet 401; Boundary stone C $303^\circ 46'$, feet 433; Boundary stone D (great upright boundary stone of the Ramnad estate) $324^\circ 13'$, mile 0.66; Boundary stone E $62^\circ 40'$, feet 102; and Boundary stone F (at the S.W. corner of a tank) $110^\circ 20'$, feet 328.

LXXI. Mótúruni or Kammápati Station, lat. $9^\circ 9'$, long. $78^\circ 14'$ —observed at in 1875—is on the bund of a tank about $\frac{2}{3}$ of a mile E. of the village of Kammápati and $1\frac{1}{2}$ miles N.N.E. of Vilátikulam. It is in the lands of the village of Kammápati, taluk Ótapidáram, district Tinnevely.

The station consists of a platform of earth and stones 16 feet square enclosing a solid, circular and isolated pillar of masonry, built on a bed of concrete 9 feet in diameter. The lower $6\frac{1}{2}$ feet of the pillar is built of rough stone masonry and the upper $9\frac{1}{4}$ feet of brick masonry. The pillar which rises 7 or 8 feet above the bund level or about 15 feet above the general level of the adjacent fields, contains four mark-stones, one at top and the others at 4.75, 9.83 and 16.25 feet respectively below it. The azimuths and distances of the following places are:—Kammápati 94° , mile $\frac{3}{4}$; Vilátikulam (temple near a tank bund to the N.W. of the village) $40^\circ 38'$, miles $1\frac{1}{2}$; and Vilvamartapati (large tiled house in the village) $113^\circ 5'$, mile $\frac{3}{4}$.

LXXII. Melakalúruni Tower Station, lat. $9^{\circ} 14'$, long. $78^{\circ} 13'$ —observed at in 1875—is on the S. or S.E. part of the tank bund 17 feet above the adjacent field, 120 yards E. by N. from the small hamlet of this name, $1\frac{1}{2}$ miles S.W. of Sirangapuram, $2\frac{1}{2}$ miles E. of Nágálápúram on the high road from Vilátikulam to Madura, and 4 miles W.S.W. of Pudalapuram. It is in the lands of Sirangapuram village, taluk Ótapidáram, district Tinnevelly.

The station consists of a perforated, circular and isolated pillar of brick masonry 11.09 feet high, above the bund level, standing on a solid pillar or block of masonry sunk to a depth of 20 feet below the bund level. The solid pillar contains five mark-stones, one at the bund level and four others at 5, 10, 15 and 20 feet respectively below it. Access to the mark at the bund level is obtained through an aperture in the perforated pillar. The azimuths and distances of the following villages are:—Melakalúruni 82° , yards 120; Kílakalúruni 289° , mile 0.6; and Nágálápúram 81° , miles $2\frac{1}{4}$.

LXXIII. Supalápúram Tower Station, lat. $9^{\circ} 4'$, long. $78^{\circ} 7'$ —observed at in 1875—is situated in the open fields, about $\frac{1}{2}$ mile N.W. of the village of this name, $7\frac{1}{2}$ miles S.E. of Étaiyápúram town, and 7 miles S.W. of Vilátikulam on the high road from Sátúr. It is in the lands of the village of Supalápúram, taluk Ótapidáram, district Tinnevelly.

The station consists of a perforated pillar of masonry 21 feet high, standing on a stone foundation 8 feet square, which contains two mark-stones, one at the ground level and the other 3.17 feet below it imbedded in the foundation. The pillar is 6 feet square at the ground level, $3\frac{1}{4}$ feet square at a height of 20 feet, and thereafter circular and $3\frac{1}{4}$ feet in diameter. Access to the ground level mark is obtained through an aperture on the E. side. The azimuths and distances of the following places are:—Kariyámpati 127° , mile $\frac{3}{4}$; Pudupati 144° , miles 3; Aronkulam 184° , mile $\frac{3}{4}$; and Supalápúram (chattram) $317^{\circ} 4'$, mile $\frac{1}{4}$.

LXXIV. Mínákshi Hill Station, lat. $9^{\circ} 13'$, long. $78^{\circ} 1'$ —observed at in 1875—is situated on the middle of the summit of the pyramidal-shaped roof of the Mínákshi-Malaipati temple called Pöichola Méyiráyankoil, built on a rock which rises about 120 feet above the surrounding plain of black soil, about 4 miles N. by W. of the town of Étaiyapuram, and $5\frac{3}{4}$ miles S.W. of Tappati on the high road from Vipar to Sátúr town. The station is in the lands of Mínákshipúram, taluk Ótapidáram, district Tinnevelly.

The station consists of a circular isolated pillar of masonry built around a circle and dot engraved on a stone set in the flat portion of the chunam ridge or crest of the roof of the temple, 14 inches W. by N. of the centre of the temple and 9.7 feet above the floor. The station mark is 6.33 feet from the S. side, 6.13 feet from the N. side, 5.08 feet from the W. side and 7.35 feet from the E. side of the base of the roof which is about $12\frac{1}{4}$ feet square and 14 feet above the rock on which the temple is built. This station is most probably identical with that of "Meenachipooram" of Colonel Lambton's triangulation, though no allusion to the finding of a mark or pillar of any kind is made by the party visiting it in 1875. The directions, azimuths and distances of the following places are:—Étaiyapuram (centre of three domes) $343^{\circ} 53'$, miles 4.23; Mínákshipúram 174° , mile 0.9; Kadalai W.S.W., miles $2\frac{1}{4}$; Karuppúr N.N.E., miles $2\frac{1}{4}$; and Kotúr E.N.E., miles $4\frac{1}{4}$.

LXXXIII.—(Of the Great Arc Meridional Series, Section 8° to 18°). Koilpati Hill Station, lat. $9^{\circ} 10'$, long. $77^{\circ} 54'$ —observed at in 1874 and 1875—is situated on the highest point of a small rocky hill called Koilpati-parambu. The high road from Tinnevelly to Madura and the Railway line from Tuticorin pass close by the N.W. foot of the hill. The station is in the lands of Koilpati village, taluk Sátúr, district Tinnevelly.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{4}$ feet in diameter, which contains two marks, one engraved on the rock *in situ* and the other 1.10 feet above it on a stone imbedded flush with the upper surface of the pillar. When again visited in 1875, in connection with the operations of the South-East Coast Series, the station was found in good order and evidently untampered with. The azimuths and distances of the following places are:—Manditop 14° , mile 1; Maniyáchi 133° , mile $\frac{3}{4}$; Revenue Survey trijunction boundary stone of Koilpati, Alampati and Manditop villages $32^{\circ} 33'$, feet 86.5; Koilpati (northern and larger spire of a temple) $225^{\circ} 42'$, mile 1.00; and Mupampati (centre of the roof of a small temple) $202^{\circ} 32'$, miles $1\frac{1}{4}$.

LXXXV.—(Of the Great Arc Meridional Series, Section 8° to 18°). Kulayanallúr Hill Station, lat. $8^{\circ} 56'$, long. $78^{\circ} 1'$ —observed at in January and December 1874—is situated on the highest part of a stony ridge or mound rising about 150 feet above the surrounding plain, about 3 miles nearly west of Ótapidáram town, $3\frac{1}{2}$ miles E. by N. of Singampati on the high road from Ótapidáram to Ténkási. It is in the lands of the village of Araikulam, taluk Ótapidáram, district Tinnevelly.

The station consists of the usual platform of earth and stones, enclosing a solid isolated pillar of masonry $3\frac{1}{4}$ feet in diameter, which contains two mark-stones, one at the ground level and the other 1 foot above it on the surface of the pillar. The station is built over a mark which was found imbedded in the surface of a rough platform flush with the ground level, probably of Colonel Lambton's station of "Kolanelloor." Search was made at the time for lower marks but none were found. When again visited in December 1874, in connection with the operations of the South-East Coast Series, "the station was found covered up just as when left last season and in good order and evidently untouched in the interval." The directions, azimuths and distances of the following places and objects are:—Araikulam 120° , mile $\frac{3}{4}$; Kulasekharanallúr 7° , miles $1\frac{1}{4}$; Moramban S.W., miles $3\frac{1}{4}$;

Vellapuram N.E., mile $\frac{2}{3}$; Kilamangalam N.N.W., miles $1\frac{1}{4}$; No. 1, Revenue Survey stone $8^{\circ} 57'$, miles 1.12; No. 2, Revenue Survey stone $1^{\circ} 47'$, miles 1.10; No. 3, Revenue Survey stone $343^{\circ} 14'$, mile 0.88; No. 4, Revenue Survey stone $338^{\circ} 41'$, mile 0.65; No. 5, Revenue Survey stone $311^{\circ} 58'$, mile 0.78; and No. 6, Revenue Survey stone $302^{\circ} 38'$, mile 0.92.

CEYLON BRANCH SERIES OF THE SOUTH-EAST COAST SERIES.

LXXV. Púvarasanhalli Tívu Station, lat. $9^{\circ} 9'$, long. $78^{\circ} 48'$ —observed at in 1875—is situated on a very small sand and coral islet about 170 yards long and 50 yards wide, oval in shape stretching in a N.W. and S.E. direction, about a mile E.N.E. of the Palayamunai island, and 6 miles S.W. by S. of Kilakarai. The station is on about the widest part and in the centre of the island, 50 feet from the high water mark due N. of it, and 56 yards from the S.E. extremity of the islet. Taluk Ramnad, district Madura.

The station is denoted by a circle and dot cut on the head of a wooden pile driven into the ground. This station was reported by the district officer, in February 1883, to have been destroyed.

LXXVI. Appa Tívu Station, lat. $9^{\circ} 10'$, long. $78^{\circ} 52'$ —observed at in 1875—is situated on the highest sand bank at the southern extremity of the eastern portion of the Appa Tívu island, about 13 feet above the high water mark, and about $5\frac{1}{2}$ miles S.S.E. of Kilakarai. The island is about $1\frac{1}{4}$ miles long from N.E. to S.W. and varies in breadth from 40 to 1200 feet, the narrowest portion is about the centre which is submerged at high water. Taluk Ramnad, district Madura.

The station is denoted by a circle and dot cut on the head of a wooden pile driven into the ground.

LXXVII. Përiyapatnam Station, lat. $9^{\circ} 15'$, long. $78^{\circ} 57'$ —observed at in 1875—is situated on a low sand hillock near a headland of the coast, about a mile S.W. of Përiyapatnam village, and 118 feet E.S.E. of the Mutupet S.W. boundary stone; the station is in a clump of palmyras, 750 yards from the sea. It is in the lands of Mutupet village, taluk Ramnad, district Madura.

The station consists of a mark-stone buried deep in the sand and having a large wooden pile erected over it and carrying a mark engraved on its head $10\frac{1}{2}$ feet above the mark-stone: the pile is surrounded with sand piled up nearly to its summit.

LXXVIII. Válai Tívu Station, lat. $9^{\circ} 11'$, long. $78^{\circ} 59'$ —observed at in 1875—is situated on the eastern portion of the island, 2 or 3 feet above the high water mark, about 10 miles E. by S. of Kilakarai, 6 miles S.S.E. of Mutupet, and 2 miles W. of Muli Tívu. This portion of the island is about $\frac{1}{2}$ a mile long and 400 yards wide, and is separated at high water from the western portion which is densely covered with tree and thorn jungle. Taluk Ramnad, district Madura.

The station is denoted by a wooden pile driven into the ground, having a circle and dot cut on its summit nearly 5 feet above the ground level.

LXXIX. Rámaswámi Madam Station, lat. $8^{\circ} 16'$, long. $79^{\circ} 6'$ —observed at in 1875—is situated on a sand hillock about 40 feet high, 320 yards N. by E. of the chattram known as Kodipothiánthedal, and about $\frac{1}{2}$ a mile N.W. of Chini Appa Pillai's dargah. The station is in taluk Ramnad, district Madura.

The station consists of a platform enclosing a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter, surrounded by an annular wall; it contains two marks, one in its upper surface and the other 0.75 foot below it, engraved on a stone imbedded in the foundation.

LXXX. Musal Tivu Trestle Station, lat. $9^{\circ} 12'$, long. $79^{\circ} 7'$ —observed at in 1875—is situated on a large island so called, about 4 miles due south of Rámaswámi Madam, and 3 or 4 miles W. of Mannáli Tivu. The station is on the north or northwestern point of the island, about 25 yards from the high water mark, 1700 yards N.W. of a small Roman Catholic shrine, and 1400 yards N.N.W. of a large banyan tree (the most conspicuous object on the island); the shrine and the tree are on the eastern portion of the island. Taluk Ramnad, district Madura.

The station consists of a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter and contains two mark-stones, one set in the foundation about the ground level and the other 0.75 foot above it in the upper surface of the pillar.

LXXXI. Marakayáratnam Station, lat. $9^{\circ} 17'$, long. $79^{\circ} 10'$ —observed at in 1875 and 1876—is situated on a sand hillock about 55 feet high, 265 yards S.E. by S. of milestone No. 22 on the high road from Ramnad to Pámban, and 500 yards N. by W. of Marakayáratnam town. Taluk Ramnad, district Madura.

The station consists of a platform enclosing a solid circular pillar of masonry $3\frac{1}{2}$ feet in diameter and contains two mark-stones, one in the foundation and the other 0.9 foot above it in the surface of the pillar. When again visited in 1876 it was found in good order and no alteration in its construction was made. The bearings and distances of the circumjacent places are:—Vittilai Mantapam E., miles 1.49; Marakayáratnam mosque S.S.W., mile 0.26; and Pámban light-house E. by N., miles 6.13.

LXXXII. Púmurichán Station, lat. $9^{\circ} 15'$, long. $79^{\circ} 13'$ —observed at in 1875 and 1876—is on the conspicuous beacon on the western edge of the Pulli island, 80 feet E. from the high water mark, and about $4\frac{1}{2}$ miles S. W. of the Pámban Light-house. The beacon is built of stone masonry, 29 feet high and 10 feet square at base, and tapers upwards ending in a pyramid, and belongs to the Madras Marine Department. Taluk Ramnad, district Madura.

The station is denoted by a mark-stone imbedded in the middle of the pyramid about a foot below its point. For the accommodation of the theodolite, the pyramidal top of the beacon was removed and a circular pillar 40 inches in diameter was built round the mark-stone: when again visited in 1876, the station was found intact. On completion of the observations, this pillar was removed and the summit of the beacon restored to its original height and shape with the mark-stone left in it. The azimuths and distances of the circumjacent places are:—Kurusadi island beacon $259^{\circ} 44'$, miles 2.45; Kurusadi hospital (for Ceylon Cooly emigrants) $260^{\circ} 11'$, miles 2.74; Pámban Light-house $220^{\circ} 33'$, miles 4.12; and Toniturai beacon (southern of two) $176^{\circ} 41'$, miles 2.60.

LXXXIII. Gandhamána Station, lat. $9^{\circ} 18'$, long. $79^{\circ} 21'$ —observed at in 1876—is on the roof of the Gandhamána Parvatam temple on a sand hillock rising about 85 feet above its base, and about 1 mile N.W. of Rámeswaram town. The station is in the centre of the S.E. bay of the double colonnade on the roof of the temple. Taluk Pámban, district Madura.

The station is denoted by a circle and dot engraved on the roof in the centre of the four southeasternmost columns forming a square (6.56 by 6.36 feet) with their innermost corners nearly 9 feet diagonally apart. The station mark is about $10\frac{1}{2}$ feet from the centre of the roof under the temple spire, and the same distance N.W. from the head of the steps by which the roof is reached. The colonnade supports a second roof at a height of 9 feet above the station mark. The azimuths and distances of the circumjacent places are:—Rámeswaram (large temple) $324^{\circ} 25'$, miles 1.25; Rámeswaram (unfinished temple) $319^{\circ} 6'$, miles 1.33; Pámban Light-house $80^{\circ} 21'$, miles 6.01; and Kódándarámaswámi temple $329^{\circ} 2'$, miles 5.60.

LXXXIV. Pisásu Mundal Trestle Station, lat. $9^{\circ} 20'$, long. $79^{\circ} 21'$ —observed at in 1876—is situated on the small sand ridge in a field called Vadakád at the northern extremity of the Rámeswaram island, about 40 yards S. of the high water mark, 1.8 miles N. by E. of the Gandhamána Parvatam. It is in the lands of the village of Devamankád, taluk Pámban, district Madura.

The station consists of a solid circular pillar of masonry 2 feet high and $3\frac{1}{2}$ feet in diameter and contains two mark-stones, one in the foundation about 1 foot below the ground level and the other 2 feet above it flush with the upper surface of the pillar. The azimuths and distances of the circumjacent villages are:—Devamankád 814° , miles 1.7; and Vadakád 55° , miles 1.1.

LXXXV. Masánam Karai Station, lat. $9^{\circ} 16'$, long. $79^{\circ} 22'$ —observed at in 1876—is situated on the drifting sand hillock rising about 50 feet above the sea level, about $1\frac{1}{2}$ miles S. of the Rámeswaram temple, and 300 yards S. E. by E. of a small square masonry temple called Mári Ammankoil. Taluk Pámban, district Madura.

The station consists of a circle and dot cut on the head of a wooden pile driven deeply into the highest point of the sand hill. As the sand hill is constantly shifting, the station is not likely to remain in existence any length of time. The azimuths and distances of the circumjacent places are:—Sadai-yu-tíratánkoil $13^{\circ} 43'$, mile 0.75; Kódándarámaswámi temple $317^{\circ} 29'$, miles 3.02; and Kundukál masonry beacon $88^{\circ} 2'$, miles 5.46.

LXXXVI. Kachi Tívu, N., Trestle Station, lat. $9^{\circ} 24'$, long. $79^{\circ} 34'$ —observed at in 1876—is situated on the shingle ridge forming the N.N.W. point of the Kachi Tívu island in Palk's Straits, about 12 yards S. of the high water mark, and 16 miles N.E. by N. of Rámeswaram. Taluk Jaffna, N. Province of Ceylon.

The station consists of a solid circular pillar of masonry 1 foot high and $3\frac{1}{2}$ feet in diameter and contains two mark-stones, one flush with its upper surface and the other 1 foot below it at the ground level.

LXXXVII. Kachi Tívu, S., Trestle Station, lat. $9^{\circ} 23'$, long. $79^{\circ} 34'$ —observed at in 1876—is situated on the rock 41 feet N. of the edge of the cliff at the extreme S.E. point of the Kachi Tívu island in Palk's Straits, and about 16 miles N.E. by N. of Rámeswaram. Taluk Jaffna, N. Province of Ceylon.

The station consists of a solid circular pillar of masonry $1\frac{1}{2}$ feet high and $3\frac{1}{2}$ feet in diameter and contains three mark-stones, the lowest engraved on the rock *in situ* and the others $\frac{1}{2}$ foot and $1\frac{1}{2}$ feet respectively above it.

LXXXVIII. Ámanakamunai or Neduvan Tívu Trestle Station, lat. $9^{\circ} 33'$, long. $79^{\circ} 42'$ —observed at in 1876—is situated on the coast ridge at the N.W. extremity of the island called Neduvan Tívu or Delft Island in Palk's Straits, about 33 yards S. from the high water mark on the headland, 63 yards E. from the high water mark in the inlet which drains the N.W. part of the island, and about 14 feet above sea level. Taluk Jaffna, N. Province of Ceylon.

The station consists of a platform of loose stones and sand enclosing a solid circular pillar of masonry $5\frac{1}{2}$ feet in diameter and 1 foot above the ground level, built on a foundation 8 feet in diameter and 3 feet deep. The pillar contains two marks, one flush with its upper surface and the other 1 foot below it. Delft Bungalow is E. S. E. about 4 miles.

LXXXIX. Úrimunai or Neduvan Tívu Trestle Station, lat. $9^{\circ} 28'$, long. $79^{\circ} 46'$ —observed at in 1876—is situated on the coast ridge at the southeasternmost point of the island called Neduvan Tívu or Delft Island in Palk's Straits, about 35 to 40 yards N. of the high water mark, and 4 miles S. of the Delft Bungalow. Taluk Jaffna, N. Province of Ceylon.

The station consists of a solid circular pillar of masonry $5\frac{1}{2}$ feet in diameter and 1 foot above the ground level, built on a foundation 8 feet in diameter and 3 feet deep. The pillar contains two mark-stones, one flush with its upper surface and the other 1 foot below it.

April, 1884.

W. H. COLE,
In charge of Computing Office.

SOUTH-EAST COAST SERIES.

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle	Distance		
				Log. feet	Feet	Miles
1	Māvandūr, XXXIV	"	. . . "			
	Avirimodu, XXXIX	1'04	68 57 16'99	5'1412892	138448'8	26'221
	Pönnūr, I	1'03	43 51 15'31	5'0118938	102776'5	19'465
2	Avirimodu, XXXIX	1'04	67 11 27'70	5'1359073	136743'7	25'898
	Pönnūr, I	1'09	62 39 22'98	5'1209850	132125'0	25'024
	Përumukkal, IV	1'08	48 47 11'31	5'0488086	111894'5	21'192
3	Pönnūr, I	1'09	68 33 25'71	5'1412892	138448'8	26'221
	Përumukkal, IV	.93	61 59 46'23	5'0899894	123023'9	23'300
	Gingee, V	.93	46 31 12'63	5'0047771	101106'0	19'149
4	Māvandūr, XXXIV	.93	71 29 1'14	5'1209850	132125'0	25'024
	Pönnūr, I	.83	68 41 56'31	5'0777967	119618'0	22'655
	Kaniyanūr, II	.82	58 7 20'34	5'0375262	109025'0	20'649
5	Kaniyanūr, II	.82	53 10 43'35	5'0118938	102776'5	19'465
	Pönnūr, I	.71	47 44 35'28	4'9598289	91165'2	17'266
	Narasingapuram, III	.71	56 3 22'80	5'0093784	102182'9	19'353
		.72	76 12 1'92	5'0777967	119618'0	22'655

NOTE.—1. The value of the side is given in the same line with the opposite angle.
 2. Stations Māvandūr, XXXIV and Avirimodu, XXXIX appertain to the Madras Longitudinal Series.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
6	Pönnúr, I	.68	67	50	46.36	5.0318900	107619.3	20.382
	Narasingapuram, III	.67	60	28	22.14	5.0047771	101106.0	19.149
	Gingee, V	.67	51	40	51.50	4.9598289	91165.2	17.266
7	Gingee, V	1.00	85	21	57.49	5.1866804	153702.3	29.110
	Përumukkal, IV	.99	41	42	53.00	5.0111997	102612.4	19.434
	Mallipat, VII	.99	52	55	9.51	5.0899894	123023.9	23.300
8	Përumukkal, IV	.49	22	13	54.48	4.8297848	67574.8	12.798
	Mallipat, VII	.50	37	9	2.61	5.0328608	107860.1	20.428
	Kallapat, VI	.50	120	37	2.91	5.1866804	153702.3	29.110
9	Gingee, V	.54	33	20	43.48	4.8297848	67574.8	12.798
	Mallipat, VII	.55	90	4	13.06	5.0896705	122933.6	23.283
	Kallapat, VI	.55	56	35	3.46	5.0111997	102612.4	19.434
10	Mallipat, VII	.47	86	47	57.26	5.0288119	106859.2	20.238
	Kallapat, VI	.46	54	2	53.94	4.9377134	86639.0	16.409
	Chëndamangalam, VIII	.46	39	9	8.80	4.8297848	67574.8	12.798
11	Kallapat, VI	.48	31	42	40.07	4.7709172	59008.9	11.176
	Chëndamangalam, VIII	.49	76	8	10.42	5.0373917	108991.3	20.642
	Vallam, X	.48	72	9	9.51	5.0288119	106859.2	20.238
12	Chëndamangalam, VIII	.14	49	10	17.39	4.6501375	44682.5	8.463
	Vallam, X	.14	43	0	22.75	4.6050657	40277.8	7.628
	Koilánkuppam, XII	.15	87	49	19.86	4.7709172	59008.9	11.176
13	Vallam, X	.14	73	42	21.20	4.7130365	51646.0	9.781
	Koilánkuppam, XII	.14	50	9	8.38	4.6160605	41310.5	7.824
	Seppalánattam, XIII	.14	56	8	30.42	4.6501375	44682.5	8.463
14	Koilánkuppam, XII	.12	89	43	42.12	4.7729689	59288.3	11.229
	Seppalánattam, XIII	.12	29	41	10.13	4.4677971	29362.8	5.561
	Kánádaköndán, XIV	.12	60	35	7.75	4.7130365	51646.0	9.781
15	Mallipat, VII	.31	36	3	28.02	4.7112908	51438.8	9.742
	Chëndamangalam, VIII	.31	61	28	2.39	4.8852339	76777.5	14.541
	Kiliyúr, IX	.31	82	28	29.59	4.9377134	86639.0	16.409
16	Kiliyúr, IX	.13	44	41	41.10	4.5740883	37504.9	7.103
	Chëndamangalam, VIII	.13	60	35	21.15	4.6670081	46452.4	8.798
	Ulundúrpet, XI	.14	74	42	57.75	4.7112908	51438.8	9.742
17	Chëndamangalam, VIII	.12	73	28	58.20	4.6682275	46583.0	8.823
	Ulundúrpet, XI	.11	55	59	33.50	4.6050657	40277.8	7.628
	Koilánkuppam, XII	.11	50	31	28.30	4.5740883	37504.9	7.103
18	Ulundúrpet, XI	.10	34	26	17.95	4.4677971	29362.8	5.561
	Koilánkuppam, XII	.11	81	46	20.71	4.7108569	51387.4	9.732
	Kánádaköndán, XIV	.11	63	47	21.34	4.6682275	46583.0	8.823
19	Kánádaköndán, XIV	.32	70	9	33.85	4.8795148	75773.0	14.351
	Seppalánattam, XIII	.31	62	26	55.72	4.8538178	71419.7	13.526
	Ayyampet, XVI	.31	47	23	30.43	4.7729689	59288.3	11.229
20	Seppalánattam, XIII	.20	29	52	30.84	4.5773068	37783.9	7.156
	Ayyampet, XVI	.20	62	46	24.81	4.8289811	67449.9	12.775
	Pödaiyúr, XV	.20	87	21	4.35	4.8795148	75773.0	14.351

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
21	Kánádaköndán, XIV	"	o	'	"			
	Ayyampet, XVI	.20	22	46	58.54	4.5773068	37783.9	7.156
	Pöдайúr, XV	.20	110	9	55.55	4.9618530	91591.0	17.347
22	Ayyampet, XVI	.13	71	31	37.46	4.6788045	47731.4	9.040
	Pöдайúr, XV	.12	59	48	45.76	4.6384872	43499.8	8.239
	Salpai, XVII	.12	48	39	36.78	4.5773068	37783.9	7.156
23	Pöдайúr, XV	.14	46	28	53.52	4.5918607	39071.6	7.400
	Salpai, XVII	.14	71	9	32.10	4.7075143	50993.4	9.658
	Kuchúr, XVIII	.14	62	21	34.38	4.6788045	47731.4	9.040
24	Kuchúr, XVIII	.17	69	41	19.95	4.7562972	57055.5	10.806
	Salpai, XVII	.17	70	21	12.89	4.7581289	57296.6	10.852
	Tirupanandál Mandap, XXI	.16	39	57	27.16	4.5918607	39071.6	7.400
25	Salpai, XVII	.16	42	49	50.17	4.6105897	40793.4	7.726
	Tirupanandál Mandap, XXI	.17	65	12	30.87	4.7361969	54475.0	10.317
	Nayinipiriyán, XXII	.17	71	57	38.96	4.7562972	57055.5	10.806
26	Ayyampet, XVI	.11	56	56	6.55	4.6001745	39826.7	7.543
	Salpai, XVII	.11	56	48	36.67	4.5995563	39770.1	7.532
	Kulattúr, XIX	.12	66	15	16.78	4.6384872	43499.8	8.239
27	Kulattúr, XIX	.10	88	39	56.02	4.6987647	49976.4	9.465
	Salpai, XVII	.09	38	31	7.76	4.4932114	31132.3	5.896
	Kachipérumál, XX	.10	52	48	56.22	4.6001745	39826.7	7.543
28	Salpai, XVII	.11	31	40	2.73	4.4597831	28825.9	5.459
	Kachipérumál, XX	.12	82	48	4.63	4.7361969	54475.0	10.317
	Nayinipiriyán, XXII	.11	65	31	52.64	4.6987647	49976.4	9.465
29	Nayinipiriyán, XXII	.16	57	4	11.77	4.7076911	51014.2	9.662
	Tirupanandál Mandap, XXI	.17	80	46	20.94	4.7780992	59992.8	11.362
	Kumbakonam, XXIII	.16	42	9	27.29	4.6105897	40793.4	7.726
30	Tirupanandál Mandap, XXI	.14	40	45	44.06	4.5719897	37324.1	7.069
	Kumbakonam, XXIII	.15	76	3	38.16	4.7441470	55481.4	10.508
	Putagaram, XXIV	.15	63	10	37.78	4.7076911	51014.2	9.662
31	Putagaram, XXIV	.14	70	3	57.69	4.7031633	50485.1	9.562
	Kumbakonam, XXIII	.14	65	54	20.12	4.6904065	49023.8	9.285
	Álangudi, XXVI	.13	44	1	42.19	4.5719897	37324.1	7.069
32	Kumbakonam, XXIII	.12	45	35	3.30	4.5700747	37159.9	7.038
	Álangudi, XXVI	.13	58	23	15.22	4.6464484	44304.6	8.391
	Víramangalam, XXVII	.13	76	1	41.48	4.7031633	50485.1	9.562
33	Nayinipiriyán, XXII	.17	52	24	51.91	4.6830599	48201.4	9.129
	Kumbakonam, XXIII	.16	47	4	54.49	4.6487966	44544.8	8.437
	Mutuváncheri, XXV	.17	80	30	13.60	4.7780992	59992.8	11.362
34	Kumbakonam, XXIII	.17	83	12	35.74	4.7888201	61492.2	11.646
	Mutuváncheri, XXV	.16	45	40	44.47	4.6464484	44304.6	8.391
	Víramangalam, XXVII	.17	51	6	39.79	4.6830599	48201.4	9.129
35	Víramangalam, XXVII	.15	67	57	21.34	4.7190502	52366.1	9.918
	Álangudi, XXVI	.15	70	54	58.39	4.7274703	53391.3	10.112
	Arasapat, XXVIII	.14	41	7	40.27	4.5700747	37159.9	7.038

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
86	Álangudi, XXVI	"	o	'	"			
	Arasapat, XXVIII	.14	43	53	33' 33	4.5830770	38289.3	7.252
	Parutikota, XXIX	.14	64	37	47' 18	4.6981065	49900.7	9.451
87	Parutikota, XXIX	.15	71	28	39' 49	4.7190502	52366.1	9.918
	Arasapat, XXVIII	.16	66	8	12' 54	4.7365939	54524.8	10.327
	Púvatúr, XXXI	.16	73	54	24' 34	4.7580419	57285.1	10.849
88	Arasapat, XXVIII	.16	39	57	23' 12	4.5830770	38289.3	7.252
	Púvatúr, XXXI	.14	36	58	34' 77	4.5421461	34845.5	6.600
	Kakkrákota, XXXII	.15	72	46	23' 09	4.7429881	55333.5	10.480
89	Víramangalam, XXVII	.14	70	15	2' 14	4.7365939	54524.8	10.327
	Arasapat, XXVIII	.14	41	3	12' 18	4.5674709	36937.8	6.996
	Ráramutiraikota, XXX	.14	67	16	4' 59	4.7149455	51873.5	9.825
40	Arasapat, XXVIII	.15	71	40	43' 23	4.7274703	53391.3	10.112
	Ráramutiraikota, XXX	.16	76	5	27' 97	4.7685049	58682.0	11.114
	Kakkrákota, XXXII	.16	66	14	49' 23	4.7429881	55333.5	10.480
41	Kakkrákota, XXXII	.15	37	39	42' 80	4.5674709	36937.8	6.996
	Púvatúr, XXXI	.13	71	36	30' 78	4.7064143	50864.5	9.633
	Pátharankota, XXXIII	.13	67	50	39' 36	4.6958704	49644.4	9.402
42	Púvatúr, XXXI	.13	40	32	49' 86	4.5421461	34845.5	6.600
	Pátharankota, XXXIII	.12	39	11	17' 42	4.5271855	33665.5	6.376
	Putukota, XXXIV	.13	68	7	41' 30	4.6941153	49444.2	9.364
43	Patukota, XXXIV	.13	72	41	1' 28	4.7064143	50864.5	9.633
	Pátharankota, XXXIII	.12	67	54	50' 90	4.6646313	46198.9	8.750
	Kalúrunikád, XXXVI	.12	69	36	47' 75	4.6696366	46734.4	8.851
44	Pátharankota, XXXIII	.11	42	28	21' 35	4.5271855	33665.5	6.376
	Kalúrunikád, XXXVI	.14	52	42	2' 89	4.6248698	42157.0	7.984
	Kárakkurchi, XXXVII	.14	66	38	11' 77	4.6870860	48650.4	9.214
45	Kakkrákota, XXXII	.14	60	39	45' 34	4.6646313	46198.9	8.750
	Pátharankota, XXXIII	.12	43	52	30' 10	4.5538471	35797.0	6.780
	Kallakota, XXXV	.12	62	8	19' 77	4.6595517	45661.7	8.648
46	Pátharankota, XXXIII	.13	73	59	10' 13	4.6958704	49644.4	9.402
	Kallakota, XXXV	.13	66	52	17' 66	4.6789822	47751.0	9.044
	Kárakkurchi, XXXVII	.13	69	32	42' 51	4.6870860	48650.4	9.214
47	Kárakkurchi, XXXVII	.12	43	34	59' 83	4.5538471	35797.0	6.780
	Kalúrunikád, XXXVI	.15	67	57	33' 98	4.7022853	50383.2	9.542
	Merpanaikád, XXXVIII	.15	61	10	58' 84	4.6778291	47624.4	9.020
48	Merpanaikád, XXXVIII	.14	50	51	27' 18	4.6248698	42157.0	7.984
	Rétavayal, XXXIX	.13	43	50	31' 86	4.5613037	36417.0	6.897
	Rétavayal, XXXIX	.13	62	45	29' 78	4.6697171	46743.1	8.853
49	Merpanaikád, XXXVIII	.13	73	23	58' 36	4.7022853	50383.2	9.542
	Mánúr, XLI	.13	69	31	23' 33	4.6786174	47710.9	9.036
	Mánúr, XLI	.12	64	49	44' 94	4.6636337	46092.9	8.730
50	Merpanaikád, XXXVIII	.12	45	38	51' 73	4.5613037	36417.0	6.897
	Pallathivayal, XLII	.13	45	14	27' 79	4.5686576	37038.9	7.015
	Pallathivayal, XLII	.13	68	36	0' 29	4.6863290	48565.6	9.198
		.13	66	9	31' 92	4.6786174	47710.9	9.036

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
51	Kárakkurchi, XXXVII	"	°	'	"			
	Merpanaikád, XXXVIII	·10	35	12	54·53	4·4509987	28248·7	5·350
	Kulamangalam, XL	·10	68	20	3·32	4·6582686	45527·0	8·623
52	Merpanaikád, XXXVIII	·10	76	27	2·15	4·6778291	47624·4	9·020
	Kulamangalam, XL	·10	67	58	46·27	4·6639698	46128·6	8·736
	Pallathivayal, XLII	·10	77	25	45·47	4·6863290	48565·6	9·198
53	Pallathivayal, XLII	·10	34	35	28·26	4·4509987	28248·7	5·350
	Mánúr, XLI	·14	74	8	48·64	4·7147619	51851·6	9·820
	Ökkúr, XLIII	·13	62	26	52·09	4·6793253	47788·7	9·051
54	Mánúr, XLI	·13	43	24	19·27	4·5686576	37038·9	7·015
	Ökkúr, XLIII	·16	49	23	27·78	4·6364236	43293·6	8·200
	Kánád, XLIV	·16	65	12	31·81	4·7140951	51772·0	9·805
55	Kánád, XLIV	·16	65	24	0·41	4·7147619	51851·6	9·820
	Ökkúr, XLIII	·17	66	52	54·30	4·7294395	53633·9	10·158
	Sirukambúr, XLVI	·17	65	11	0·05	4·7237160	52931·7	10·025
56	Ökkúr, XLIII	·16	47	56	5·65	4·6364236	43293·6	8·200
	Sirukambúr, XLVI	·15	41	53	35·80	4·5795052	37975·7	7·192
	Manikamkota, XLVII	·15	67	31	57·29	4·7206120	52554·8	9·954
57	Pallathivayal, XLII	·15	70	34	26·91	4·7294395	53633·9	10·158
	Ökkúr, XLIII	·12	36	43	4·87	4·5062773	32083·2	6·076
	Sembalavayal, XLV	·12	80	20	20·78	4·7234621	52900·8	10·019
58	Ökkúr, XLIII	·12	62	56	34·35	4·6793253	47788·7	9·051
	Sembalavayal, XLV	·12	63	58	11·44	4·6819414	48077·5	9·106
	Manikamkota, XLVII	·12	79	11	11·89	4·7206120	52554·8	9·954
59	Manikamkota, XLVII	·12	36	50	36·67	4·5062773	32083·2	6·076
	Sirukambúr, XLVI	·14	68	31	5·42	4·7042421	50610·7	9·585
	Manëgandi, XLVIII	·14	67	11	49·48	4·7001671	50138·0	9·496
60	Sirukambúr, XLVI	·14	44	17	5·10	4·5795052	37975·7	7·192
	Manëgandi, XLVIII	·12	37	50	2·61	4·5187301	33016·4	6·253
	Nambudalai, XLIX	·13	72	4	25·79	4·7093906	51214·2	9·700
61	Nambudalai, XLIX	·13	70	5	31·60	4·7042421	50610·7	9·585
	Manëgandi, XLVIII	·13	76	20	13·82	4·7328923	54062·0	10·239
	Ürannankudi, LI	·13	67	15	42·75	4·7102222	51312·4	9·718
62	Manëgandi, XLVIII	·13	36	24	3·43	4·5187301	33016·4	6·253
	Ürannankudi, LI	·17	47	6	4·37	4·6405499	43706·9	8·278
	Mutupatnam, LII	·18	67	55	29·02	4·7426433	55289·6	10·472
63	Manëgandi, XLVIII	·17	64	58	26·61	4·7328923	54062·0	10·239
	Manikamkota, XLVII	·15	49	26	58·83	4·6233488	42009·6	7·956
	Manëgandi, XLVIII	·15	65	28	33·80	4·7015695	50300·2	9·527
64	Vënniyúr, L	·15	65	4	27·37	4·7001671	50138·0	9·496
	Manëgandi, XLVIII	·16	63	48	7·31	4·7213126	52639·6	9·970
	Mutupatnam, LII	·17	70	27	58·41	4·7426433	55289·6	10·472
65	Mutupatnam, LII	·16	45	43	54·28	4·6233488	42009·6	7·956
	Ürannankudi, LI	·19	66	32	27·11	4·7748191	59541·4	11·277
	Ködikulam, LIII	·20	71	7	49·11	4·7882956	61418·0	11·632
		·19	42	19	43·78	4·6405499	43706·9	8·278

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
66	Ūrannankudi, LI	·11	30	7	45·42	4·4801839	30212·3	5·722
	Kōdikulam, LIII	·11	51	27	17·40	4·6727929	47075·3	8·916
	Pōragudi, LIV	·11	98	24	57·18	4·7748191	59541·4	11·277
67	Pōragudi, LIV	·12	66	34	53·95	4·6980145	49890·1	9·449
	Kōdikulam, LIII	·12	79	39	35·32	4·7282371	53485·6	10·130
	Ramnad, LVI	·11	33	45	30·73	4·4801839	30212·3	5·722
68	Kōdikulam, LIII	·16	48	48	31·05	4·6436396	44018·9	8·337
	Ramnad, LVI	·17	72	39	53·03	4·7469362	55838·8	10·576
	Sambuttiyendal, LVII	·17	58	31	35·92	4·6980145	49890·1	9·449
69	Mutupatnam, LII	·18	39	2	44·73	4·6122313	40947·9	7·755
	Kōdikulam, LIII	·19	70	4	15·87	4·7861130	61110·1	11·574
	Náyanárkoil, LV	·19	70	52	59·40	4·7882956	61418·0	11·632
70	Kōdikulam, LIII	·17	67	40	35·64	4·7426998	55296·8	10·473
	Náyanárkoil, LV	·17	69	5	12·50	4·7469362	55838·8	10·576
	Sambuttiyendal, LVII	·16	43	14	11·86	4·6122313	40947·9	7·755
71	Ramnad, LVI	·08	43	2	48·44	4·4792760	30149·2	5·710
	Sambuttiyendal, LVII	·08	51	40	10·18	4·5396759	34647·8	6·562
	Uttarakoshamangai, LVIII	·09	85	17	1·38	4·6436396	44018·9	8·337
72	Sambuttiyendal, LVII	·11	79	54	31·82	4·6855270	48476·0	9·181
	Uttarakoshamangai, LVIII	·10	62	20	1·56	4·6395687	43608·3	8·259
	Arapoth, LXII	·10	37	45	26·62	4·4792760	30149·2	5·710
73	Uttarakoshamangai, LVIII	·13	41	27	16·66	4·5578709	36130·3	6·843
	Arapoth, LXII	·14	75	53	31·71	4·7236949	52929·1	10·024
	Tanichanthai, LXI	·13	62	39	11·63	4·6855270	48476·0	9·181
74	Ramnad, LVI	·09	53	21	48·54	4·5531237	35737·5	6·768
	Uttarakoshamangai, LVIII	·10	75	33	40·91	4·6347743	43129·5	8·168
	Kánjarangudi, LIX	·09	51	4	30·55	4·5396759	34647·8	6·562
75	Kánjarangudi, LIX	·07	58	29	44·04	4·5127303	32563·4	6·167
	Uttarakoshamangai, LVIII	·07	52	9	43·96	4·4794751	30163·0	5·713
	Yervádi, LX	·08	69	20	32·00	4·5531237	35737·5	6·768
76	Uttarakoshamangai, LVIII	·09	43	12	14·95	4·5650395	36731·6	6·957
	Yervádi, LX	·10	99	25	44·73	4·7236949	52929·1	10·024
	Tanichanthai, LXI	·09	37	22	0·32	4·5127303	32563·4	6·167
77	Tanichanthai, LXI	·13	73	58	41·77	4·7085217	51111·9	9·680
	Arapoth, LXII	·13	63	13	21·86	4·6764643	47474·9	8·991
	Kadaládi, LXIII	·13	42	47	56·37	4·5578709	36130·3	6·843
78	Arapoth, LXII	·12	34	46	19·81	4·4920408	31048·5	5·880
	Kadaládi, LXIII	·12	75	22	7·78	4·7216096	52675·6	9·976
	Kidátirukai, LXV	·12	69	51	32·41	4·7085217	51111·9	9·680
79	Kidátirukai, LXV	·09	78	11	54·29	4·6393199	43583·3	8·254
	Kadaládi, LXIII	·09	57	35	16·45	4·5750515	37588·2	7·119
	Pulápati, LXVII	·09	44	12	49·26	4·4920408	31048·5	5·880
80	Kadaládi, LXIII	·10	39	26	35·74	4·4779606	30058·0	5·693
	Pulápati, LXVII	·10	73	27	23·60	4·6566116	45353·6	8·590
	Taraigudi, LXVI	·10	67	6	0·66	4·6393199	43583·3	8·254

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
81	Tanichanthai, LXI	·11	38	48	7·26	4·5095302	32324·4	6·122
	Kadaládi, LXIII	·12	74	13	22·02	4·6958404	49641·0	9·402
	Ópilán, LXIV	·12	66	58	30·72	4·6764643	47474·9	8·991
82	Kadaládi, LXIII	·11	70	34	40·97	4·6638673	46117·7	8·734
	Ópilán, LXIV	·11	68	2	37·68	4·6566116	45353·6	8·590
	Taraigudi, LXVI	·11	41	22	41·35	4·5095302	32324·4	6·122
83	Pulápati, LXVII	·08	73	19	4·65	4·5769157	37749·9	7·150
	Taraigudi, LXVI	·08	56	58	35·71	4·5190659	33042·0	6·258
	Annapúnayakanpati, LXVIII	·07	49	42	19·64	4·4779606	30058·0	5·693
84	Taraigudi, LXVI	·08	62	21	38·45	4·5584409	36177·7	6·852
	Annapúnayakanpati, LXVIII	·08	50	3	49·18	4·4957217	31312·8	5·930
	Súrangudi, LXIX	·09	67	34	32·37	4·5769157	37749·9	7·150
85	Súrangudi, LXIX	·12	52	20	20·91	4·6296491	42623·5	8·073
	Annapúnayakanpati, LXVIII	·12	85	26	42·47	4·7297469	53671·9	10·165
	Mótúruni, LXXI	·12	42	12	56·62	4·5584409	36177·7	6·852
86	Annapúnayakanpati, LXVIII	·10	40	31	26·43	4·4913802	31001·3	5·871
	Mótúruni, LXXI	·10	76	10	39·05	4·6658603	46329·8	8·775
	Melakalúruni, LXXII	·10	63	17	54·52	4·6296491	42623·5	8·073
87	Pulápati, LXVII	·09	54	41	36·85	4·5437930	34977·8	6·625
	Annapúnayakanpati, LXVIII	·09	74	52	15·77	4·6167448	41375·6	7·836
	Mutúruni, LXX	·09	50	26	7·38	4·5190659	33042·0	6·258
88	Annapúnayakanpati, LXVIII	·11	59	23	25·94	4·6177160	41468·3	7·854
	Mutúruni, LXX	·11	74	3	41·08	4·6658603	46329·8	8·775
	Melakalúruni, LXXII	·11	46	32	52·98	4·5437930	34977·8	6·625
89	Melakalúruni, LXXII	·18	89	31	26·18	4·8862753	76961·8	14·576
	Mótúruni, LXXI	·17	66	43	21·72	4·8494182	70699·8	13·390
	Mínákshi, LXXIV	·17	23	45	12·10	4·4913802	31001·3	5·871
90	Mótúruni, LXXI	·23	53	20	16·96	4·7906824	61756·5	11·696
	Mínákshi, LXXIV	·23	38	6	50·91	4·6768619	47518·4	9·000
	Supalápuram, LXXIII	·24	88	32	52·13	4·8862753	76961·8	14·576
91	Melakalúruni, LXXII	·30	52	38	17·12	4·7906824	61756·5	11·696
	Mínákshi, LXXIV	·30	61	52	3·11	4·8358142	68519·5	12·977
	Supalápuram, LXXIII	·31	65	29	39·77	4·8494182	70699·8	13·390
92	Mínákshi, LXXIV	·22	104	51	11·48	4·9373969	86575·9	16·397
	Supalápuram, LXXIII	·22	31	33	26·32	4·6709497	46875·9	8·878
	Koilpati, LXXXIII	·22	43	35	22·20	4·7906824	61756·5	11·696
93	Supalápuram, LXXIII	·43	77	59	24·83	4·9841660	96419·8	18·261
	Koilpati, LXXXIII	·43	40	34	38·82	4·8070082	64122·2	12·144
	Kulayanallúr, LXXXV	·43	61	25	56·35	4·9373969	86575·9	16·397
94	Mínákshi, LXXIV	·36	68	51	59·79	4·9841660	96419·8	18·261
	Koilpati, LXXXIII	·36	84	10	1·31	5·0121493	102837·0	19·477
	Kulayanallúr, LXXXV	·35	26	57	58·90	4·6709497	46875·9	8·878

NOTE.—Stations Koilpati, LXXXIII and Kulayanallúr, LXXXV appertain to the Great Arc Meridional Series, Section 8° to 18°.

J. ECCLES,

July, 1891.

In charge of Computing Office.

CEYLON BRANCH SERIES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle	Distance		
				Log. feet	Feet	Miles
95	Kánjarangudi, LIX	·06	42 29 1'08	4·4232914	26502·8	5·019
	Yervádi, LX	·07	87 16 59'13	4·5932550	39197·2	7·424
	Púvarasanhalli Tívu, LXXV	·06	50 13 59'79	4·4794751	30163·0	5·713
96	Kánjarangudi, LIX	·06	44 28 20'25	4·4404248	27569·2	5·221
	Púvarasanhalli Tívu, LXXV	·07	50 37 35'03	4·4831709	30420·8	5·762
	Appa Tívu, LXXVI	·07	84 54 4'72	4·5932550	39197·2	7·424
97	Kánjarangudi, LIX	·08	86 57 21'37	4·6199974	41686·7	7·895
	Yervádi, LX	·07	46 46 44'89	4·4831709	30420·8	5·762
	Appa Tívu, LXXVI	·07	46 15 53'74	4·4794751	30163·0	5·713
98	Kánjarangudi, LIX	·09	80 56 19'98	4·6315431	42809·8	8·108
	Appa Tívu, LXXVI	·08	54 29 40'63	4·5476538	35290·2	6·684
	Përiyapatnam, LXXVII	·08	44 33 59'39	4·4831709	30420·8	5·762
99	Appa Tívu, LXXVI	·08	36 33 11'00	4·4255513	26641·1	5·046
	Përiyapatnam, LXXVII	·09	70 18 20'12	4·6244426	42115·6	7·976
	Válai Tívu, LXXVIII	·09	73 8 28'88	4·6315431	42809·8	8·108
100	Kánjarangudi, LIX	·10	53 28 18'02	4·6244426	42115·6	7·976
	Appa Tívu, LXXVI	·10	91 2 51'69	4·7193502	52402·3	9·925
	Válai Tívu, LXXVIII	·10	35 28 50'29	4·4831709	30420·8	5·762
101	Përiyapatnam, LXXVII	·11	68 27 14'31	4·7136638	51720·6	9·796
	Válai Tívu, LXXVIII	·11	82 55 9'36	4·7417985	55182·1	10·451
	Rámaswámi Madam, LXXIX	·10	28 37 36'33	4·4255513	26641·1	5·046
102	Válai Tívu, LXXVIII	·08	25 22 1'30	4·3456663	22164·9	4·198
	Rámaswámi Madam, LXXIX	·08	63 11 27'04	4·6644163	46176·0	8·745
	Musal Tívu, LXXX	·08	91 26 31'66	4·7136638	51720·6	9·796
103	Përiyapatnam, LXXVII	·09	46 49 47'26	4·6644162	46176·0	8·745
	Válai Tívu, LXXVIII	·10	108 17 10'75	4·7789906	60116·1	11·386
	Musal Tívu, LXXX	·09	24 53 1'99	4·4255513	26641·1	5·046
104	Rámaswámi Madam, LXXIX	·04	88 30 53'29	4·5177590	32942·7	6·239
	Musal Tívu, LXXX	·05	49 12 59'78	4·3971066	24952·1	4·726
	Marakayápatnam, LXXXI	·04	42 16 6'93	4·3456663	22164·9	4·198
105	Musal Tívu, LXXX	·05	31 16 20'93	4·3374833	21751·2	4·120
	Marakayápatnam, LXXXI	·06	96 53 44'03	4·6190722	41598·0	7·878
	Púmurichán, LXXXII	·06	51 49 55'04	4·5177590	32942·7	6·239
106	Rámaswámi Madam, LXXIX	·07	69 33 30'01	4·6190722	41598·0	7·878
	Musal Tívu, LXXX	·08	80 29 20'73	4·6413083	43783·3	8·292
	Púmurichán, LXXXII	·07	29 57 9'26	4·3456663	22164·9	4·198
107	Marakayápatnam, LXXXI	·08	42 57 43'44	4·7022517	50379·3	9·542
	Púmurichán, LXXXII	·08	119 55 32'78	4·8066319	64066·6	12·134
	Gandhamána, LXXXIII	·07	17 6 43'78	4·3374833	21751·2	4·120
108	Púmurichán, LXXXII	·05	16 16 44'88	4·1548521	14284·1	2·705
	Gandhamána, LXXXIII	·06	82 21 20'63	4·7033257	50504·0	9·565
	Masánam Karai, LXXXV	·06	81 21 54'49	4·7022517	50379·3	9·542

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle	Distance		
				Log. feet	Feet	Miles
109	Gandhamána, LXXXIII	"	° ' "			
	Masánam Karai, LXXXV	.10	92 3 41.98	4.9428413	87668.1	16.604
	Kachi Tívu, S., LXXXVII	.10	78 34 2.09	4.9344187	85984.2	16.285
110	Gandhamána, LXXXIII	.09	9 22 15.93	4.1548521	14284.1	2.705
	Kachi Tívu, S., LXXXVII	.02	2 33 59.47	3.5923798	3911.8	0.741
	Kachi Tívu, N., LXXXVI	.03	77 15 31.31	4.9304749	85206.9	16.138
111	Marakayárpattam, LXXXI	.03	100 10 29.22	4.9344187	85984.2	16.285
	Gandhamána, LXXXIII	.04	7 24 30.60	3.9720515	9376.7	1.776
	Pisásu Mundal, LXXXIV	.05	110 49 40.78	4.8323048	67968.0	12.873
112	Gandhamána, LXXXIII	.04	61 45 48.62	4.8066319	64066.6	12.134
	Pisásu Mundal, LXXXIV	.05	55 4 33.01	4.9042183	80208.1	15.191
	Kachi Tívu, N., LXXXVI	.06	119 25 25.77	4.9304749	85206.9	16.138
113	Kachi Tívu, N., LXXXVI	.05	5 30 1.22	3.9720515	9376.7	1.776
	Kachi Tívu, S., LXXXVII	.02	79 58 42.59	4.8821782	76239.2	14.439
	Úrimunai, LXXXIX	.03	97 7 31.01	4.8854886	76822.5	14.550
114	Kachi Tívu, N., LXXXVI	.02	2 53 46.40	3.5923798	3911.8	0.741
	Úrimunai, LXXXIX	.21	27 46 30.75	4.5631195	36569.5	6.926
	Ámanakamunai, LXXXVIII	.21	74 0 10.15	4.8775778	75435.9	14.287
115	Kachi Tívu, N., LXXXVI	.22	78 13 19.10	4.8854886	76822.5	14.550
	Kachi Tívu, S., LXXXVII	.03	107 45 13.54	4.8849041	76719.2	14.530
	Ámanakamunai, LXXXVIII	.02	69 27 46.17	4.8775778	75435.9	14.287
		.02	2 47 0.29	3.5923798	3911.8	0.741

July, 1891.

J. ECCLES,

In charge of Computing Office.

SOUTH-EAST COAST SERIES.
SECONDARY TRIANGULATION. TRIANGLES.

PRINCIPAL-AUXILIARY AND SECONDARY STATIONS, AND INTERSECTED POINTS.

Differences between the common sides of two triangles to stations and intersected points, are shown by the small figures in the column for "Distance in Feet" between the data of the two triangles, the earlier of which in order has supplied the greater value.

No. of Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
116	Anandalamalai, XXXI	66 0 55	5.258275	181249	34.327	†	Örntti	54 36 30	5.042584	110302	20.891	Inch 86
	Karnátakgarh	53 43 46	5.203954	159959	30.291			80 37 16	5.125469	133496	25.283	
	Tellúr	60 15 19	5.236135	172241	32.621			44 46 14	4.979052	95291	18.048	
117	Tellúr	57 31 3	5.189341	154647	29.289	122	Përumukkal, IV	38 6 1	5.063499	115744	21.921	24
	Karnátakgarh	41 7 6	5.081200	120559	22.833			106 47 58	5.254244	179574	34.010	
	Melacheridrug	81 21 51	5.258275	181249	34.327			h.s.	5.032861	107860	20.428	
118	Karnátakgarh	43 33 9	5.318973	208436	39.477	123	Përumukkal, IV	15 52 6	4.721471	52659	9.973	"
	Melacheridrug	105 42 11	5.464222	291221	55.155			111 11 1	5.254244	179574	34.010	
	Karunguli	30 44 40	5.189341	154647	29.289			h.s.	5.186680	153702	29.110	
119	Melacheridrug	38 50 40	5.127908	134248	25.426	124	Karnátakgarh	57 5 40	5.047958	111675	21.151	†
	Karunguli	38 0 54	5.119984	131821	24.966			77 58 21	5.123036	132750	25.142	
	Përumukkal	103 8 26	5.318973	208436	39.477			h.s.	5.189341	154647	29.289	
120	Përumukkal	42 1 24	4.979052	95291	18.048	125	Melacheridrug	59 12 2	4.982149	95973	18.177	"
	Karunguli	28 33 27	4.832810	68047	12.888			28 59 37	4.733657	54157	10.257	
	Öratti	109 25 9	5.127908	134248	25.426			h.s.	5.047958	111675	21.151	

* This base is taken from the Synoptical Volume of the Madras Longitudinal Series in which the continuation of the triangulation will be found.
 † The continuation of the triangulation will be found in the Synoptical Volume of the Madras Longitudinal Series.
 ‡ C.F.I. Stands for "Circular Transit Instrument"—probably a small theodolite with complete vertical circle.
 NOTES.—1. Names followed by Roman numerals are those of Principal Stations.
 2. The value of the side is given in the same line with the opposite angle.
 3. Stations Anandalamalai, XXXI and Mávandúr, XXXIV appertain to the Madras Longitudinal Series.

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
126	Gangavaram Tiruvannamalai Oddampat	h.s. " " "	4.948220 4.557574 4.982149	88761 36106 95973	16.811 6.838 18.177	139	Varakur Erarayur Rayandapuram Hill Platform	77 25 8 28 30 44	4.857677 4.547065 4.851223	72057 35242 70994	13.647 6.675 13.446	Inch C.T.I. "
127	Tiruvannamalai Oddampat Rayattanallurdrug	h.s. " " "	5.088834 5.014545 4.948220	122697 103406 88761	23.238 19.584 16.811	140	Erarayur Rayandapuram Hill Platform Pulipet	90 29 19 46 8 3	4.999747 4.836592 4.857677	99942 68642 72057	18.928 13.000 13.647	" " " " " "
128	Oddampat Rayattanallurdrug Swamimalai Pagoda	h.s. " " s.	4.891811 4.798154 5.088834	77949 62828 122697	14.763 11.899 23.238	141	Rayandapuram Hill Platform Pulipet Manikal	56 34 2 97 17 39	4.647265 4.924719 4.999747	44388 84085 99942	8.407 15.925 18.928	" " " " " "
129	Oddampat Tiruvannamalai Swamimalai Pagoda	h.s. " " s.	5.032226 4.798154 4.948220	107703 62828 88761	20.398 11.899 16.811	142	Manikal Pulipet Ettipati	78 58 29 46 8 44 54 52 47	4.726450 4.592538 4.647265	53266 39132 44388	10.088 7.411 8.407	" " " " " "
130	Swamimalai Pagoda Rayattanallurdrug Kottalam	s. h.s. "	5.032132 5.006024 4.891811	107679 101397 77949	20.394 19.204 14.763	† 143	Pulipet Ettipati Velagutta Rock	29 55 16 27 2 14 123 2 30	4.500997 4.460664 4.726450	31695 28884 53266	6.003 5.471 10.088	" " " " " "
131	Rayattanallurdrug Kottalam Shundapanad	h.s. " " "	5.070995 4.929496 5.032132	117759 85015 107679	22.303 16.101 20.394	144	Padam Karnatakgarh Arni Fort	56 24 36 74 29 0 49 6 24	4.912366 4.975587 4.870193	81727 94534 74164	15.479 17.904 14.046	" " " " " "
132	Kottalam Shundapanad Chinna Tirupadi Hill Pagoda	h.s. " " "	4.735513 4.877538 5.070995	54389 75481 117759	10.301 14.296 22.303	145	Karnatakgarh Arni Fort Tamrapakam	19 8 15 117 55 13 42 56 32	4.594710 5.025308 4.912366	39329 106001 81727	7.449 20.076 15.479	" " " " " "
* 133	Chinna Tirupadi Hill Pagoda Shundapanad Aviarmalai	h.s. " " "	4.859547 4.817551 4.735513	72368 65698 54389	13.706 12.443 10.301	146	Tamrapakam Arni Fort Kaniyanur	101 27 6 29 26 52	4.707536 4.407907 4.594710	50996 25580 39329	9.658 4.845 7.449	" " " " " "
134	Arni Monument Karnatakgarh Narasingsapuram, III	h.s. " " "	4.861384 4.743246 4.913975	72675 55366 81974	13.764 10.486 15.525	147	Arni Fort Kaniyanur Ammaniavaram	96 24 47 43 31 24	4.866811 4.678179 4.707536	73589 47663 50996	13.937 9.027 9.658	" " " " " "
135	Narasingsapuram, III Karnatakgarh Padam	h.s. " " "	4.870193 4.630195 4.861384	74164 42677 72675	14.046 8.083 13.764	148	Kaniyanur Ammaniavaram Peddakonda	46 17 30 82 49 24	4.760022 4.720285 4.866811	57547 53615 73589	10.899 10.154 13.937	" " " " " "
136	Karnatakgarh Padam Erarayur	h.s. " " "	5.058894 5.081541 4.870193	114523 120054 74164	21.690 22.851 14.046	149	Peddakonda Ammaniavaram Attimalai	99 17 30 34 58 20 45 44 10	4.899293 4.663319 4.760022	79304 46059 57547	15.020 8.723 10.899	" " " " " "
137	Padam Erarayur Valudalankunam	h.s. " " "	5.018759 4.645043 5.058894	104414 44161 114523	19.775 8.364 21.690	150	Ammaniavaram Attimalai Ponnur Elankad	48 17 34 47 13 19	4.774369 4.766998 4.899293	59480 58479 79304	11.265 11.076 15.020	" " " " " "
138	Valudalankunam Erarayur Varakur	h.s. " " "	4.851223 4.950480 5.018759	70994 89224 104414	13.446 16.898 19.775	151	Attimalai Ponnur Elankad Wandiwash Pagoda	27 43 32 115 36 20	4.486937 4.595375 4.774369	30686 39389 59480	5.812 7.460 11.265	" " " " " "

* The continuation of the triangulation will be found in the Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°.
 † This base is taken from the Synoptical Volume of the Madras Longitudinal Series in which the continuation of the triangulation will be found.
 ‡ The continuation of the triangulation will be found in the Synoptical Volume of the Madras Longitudinal Series.

No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used	No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles					Log. feet	Feet	Miles	
152	Pönnür Elankád Wandiwash Pagoda Öratti	h.s. s. h.s.	4.801331 4.844817 4.486937	63289 69955 30686	11.987 13.249 5.812	Inch c.t.l. "	Narasingapuram, III Pádam Chetpat Mosque	86 42 47 40 20 33	4.727448 4.539306 4.630195	53389 34618 42677	10.111 6.556 8.083	Inch c.t.l. "	
153	Wandiwash Pagoda Öratti Mávendúr, XXXIV	s. h.s.	5.125469 4.900203 4.801331	133496 79470 63289	25.283 15.051 11.987	" " "	Pönnür, I Kaniyanúr, II Chetpat Hill Mark	74 41 36 24 18 57	5.067502 4.697839 5.077797	116816 49870 119618	22.124 9.445 22.655	24 " "	
154	Kaniyanúr, II Narasingapuram, III Timiri Hill Temple		5.020055 4.345369 5.009378	104726 22150 102183	19.834 4.195 19.353	24 "	Pönnür, I Narasingapuram, III Chetpat Hill Mark	18 38 12 19 56 52	4.669436 4.697839 4.959829	46713 49870 91165	8.847 9.445 17.266	" " "	
155	Kaniyanúr, II Narasingapuram, III Arni Fort Mark (heliotrope)		4.734781 4.714847 5.009378	54298 51862 102183	10.284 9.822 19.353	" "	Öratti Pönnür Elankád Tirakol Hill Pagoda	15 55 30 80 38 5	4.286020 4.841842 4.844817	19321 69477 69955	3.659 13.159 13.249	36 c.t.l.	
156	Pönnür, I Kaniyanúr, II Nagam Temple		4.656923 4.990533 5.077797	43343 97844 119618	8.209 18.531 22.655	" "	Avirimodu, XXXIX Pönnür, I Öratti Hill Mark (heliotrope)	25 13 21 32 18 28	4.844661 4.943035 5.141289	69930 87707 138449	13.244 16.611 26.221	24 "	
157	Pönnür, I Narasingapuram, III Nagam Temple		4.770256 4.990532 4.959829	58910 97844 91165	11.159 18.531 17.266	" "	Avirimodu, XXXIX Pörumukkal, IV Öratti Hill Mark (heliotrope)	37 26 3 51 36 11	4.832666 4.943035 5.048809	68025 87707 111894	12.884 16.611 21.192	" " "	
158	Pönnür, I Narasingapuram, III Ammaniyávaram Hill Temple		4.677509 4.766611 4.959829	47589 58427 91165	9.013 11.066 17.266	" "	Pönnür, I Pörumukkal, IV Acharapákam Hill Mark	31 39 40 50 36 33	4.845021 5.013036 5.120985	69988 103047 132125	13.255 19.517 25.024	" " "	
159	Kaniyanúr, II Narasingapuram, III Ammaniyávaram Hill Temple		4.677509 4.868576 5.009378	47589 73888 102183	9.013 13.994 19.353	" "	Avirimodu, XXXIX Pönnür, I Acharapákam Hill Mark	37 12 15 17 7 32	5.013036 4.700563 5.141289	103047 50184 138449	19.517 9.504 26.221	" " "	
160	Péddakönda Attimalai Tiruvatúr Pagoda	h.s. "	4.333377 4.448314 4.663319	21547 28075 46059	4.081 5.317 8.723	c.t.l. "	Pönnür, I Pörumukkal, IV Acharapákam Hill Temple	36 32 46 54 0 3	4.895864 5.028967 5.120985	78680 106897 132125	14.902 20.246 25.024	" " "	
161	Öratti Pönnür Elankád Wandiwash Fort	h.s. "	4.446959 4.738055 4.844817	27987 54709 69955	5.301 10.361 13.249	36 c.t.l.	Avirimodu, XXXIX Pönnür, I Acharapákam Hill Temple	33 42 4 12 14 26	5.028966 4.611152 5.141289	106897 40846 138449	20.246 7.736 26.221	" " "	
162	Kaniyanúr, II Narasingapuram, III Karnátakarh Hill Mark (helio.)		4.860940 5.102830 5.009378	72601 126716 102183	13.750 33.999 19.353	24 "	Melacheridrug Pádam Timmapurdrug	2 40 12 37 23 5	3.767187 4.882262 4.907517	5850 76254 80820	1.108 14.442 15.307	c.t.l. " "	
163	Kaniyanúr, II Narasingapuram, III Devikapur Hill Temple		4.049610 5.051698 5.009378	11210 112641 102183	2.123 21.334 19.353	" "	Pulipet Erarayúr Paravadamalai Drug	29 41 42 115 36 35	4.776259 5.036409 4.836592	59739 108745 68642	11.314 20.596 13.000	" " "	
164	Narasingapuram, III Gingee, V Devikapur Hill Temple		5.014860 4.049619 5.031890	103481 11210 107619	19.599 2.123 20.382	" "	Ráyandapuram Hill Platform Erarayúr Vulichikal	85 59 35 45 4 42	4.884908 5.006536 4.857677	76720 101516 72057	14.530 19.227 13.647	" " "	

NOTE.—Stations Mávendúr, XXXIV and Avirimodu, XXXIX appertain to the Madras Longitudinal Series. * Deduced base.

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used	No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles					Log. feet	Feet	Miles	
178	Eraiúr Vulichikal Pérumálkóil.	h.s. " "	4.801949 4.732227 4.884908	63380 56654 76720	12.004 10.730 14.530	Inch C.T.I. "	Pádam Valudalankunam Polkunam	14 29 50 15 23 42	4.619543 4.918576 4.645043	41643 82904 44161	7.887 15.702 8.364	Inch C.T.I. "	
179	Vulichikal Pérumálkóil Chéngam	h.s. " s.	4.501949 4.577626 4.801949	31765 37812 63380	6.016 7.161 12.004	" " "	Valudalankunam Varakúr Polkunam	16 21 54 13 23 44 15 0 22	4.704542 4.619543 4.950480	50646 41643 89224	9.592 7.887 16.898	" " "	
180	Eraiúr Pulipet Sáttanúr Hill	h.s. " "	4.609830 4.508646 4.836592	50099 32259 68642	9.489 6.110 13.000	" " "	Varakúr Polkunam Tiruvannámalai Pagoda	40 16 25 54 8 10	4.516357 4.614535 4.704542	32836 41166 50646	6.219 7.797 9.592	" " "	
181	Pulipet Vélagutta Rock Rámapuram	h.s. s. h.s.	4.514076 4.492457 4.460664	32664 31078 28884	6.186 5.886 5.471	" " "	Rávattanallúdrug Swáminalai Pagoda Tiruvannámalai Peak	75 24 37 57 31 15	5.012963 4.953327 4.891811	103030 89811 77949	19.513 17.010 14.763	" " "	
182	Éttipati Tirthamalai Ammappet Pagoda	h.s. " "	4.470028 4.118015 4.494477	29514 13122 31223	5.590 2.485 5.914	" " "	Mallipat, VII Kiliyúr, IX Tiruvannámalai Hill Mark (helio.)	94 16 35 59 38 28	5.240901 5.178061 4.885234	174141 150682 76777	32.981 28.538 14.541	24 " "	
183	Eraiúr Ráyandapuram Hill Platform Véppúdrug	h.s. h.s. h.s.	4.673380 4.773056 4.857677	47139 59300 72057	8.928 11.231 13.647	" " "	Gingee, V Mallipat, VII Tiruvannámalai Hill Mark (helio.)	84 31 33 52 47 45	5.178061 5.081224 5.011200	150682 120566 102612	28.538 22.834 19.434	" " "	
184	Melacheridrug Pádam Avalúr Rock	s. h.s. h.s.	4.496483 4.719141 4.907517	31368 52377 80820	5.941 9.920 15.307	" " "	Varakúr Polkunam Sulupgiridrug Bastion	123 30 8 13 22 50	4.7090903 4.234205 4.704542	61788 17148 50646	11.702 3.248 9.592	C.T.I. " "	
185	Óratti Pönnúr Elankád Náganúr Peak	h.s. " "	4.797039 4.793843 4.844817	62667 58055 69955	11.869 10.995 13.249	" " "	Varakúr Polkunam Tiruvarangam	108 11 15 31 10 42 40 38 3	4.868552 4.604891 4.704542	73884 40262 50646	13.993 7.625 9.592	" " "	
186	Pönnúr, I Pérumukkal, IV Sittánúr Temple	h.s. " "	4.920421 4.917657 5.120985	83257 82729 132125	15.768 15.668 25.024	24 " "	Varakúr Ráyandapuram Hill Platform Tiruvarangam	80 32 2 45 14 45	4.689771 4.604891 4.547065	48952 40262 35242	9.271 7.625 6.675	" " "	
187	Óratti Wandiwash Pagoda Melacheri Hill	h.s. s. h.s.	5.089223 5.053359 4.801331	122807 113073 63289	23.259 21.415 11.987	86 " "	Rávattanallúdrug Tiruvarangam Tiruvarangam Pagoda	4 59 12 71 50 15	3.671793 4.710457 4.721067	4697 51340 52610	0.890 9.723 9.964	" " "	
188	Pérumukkal Óratti Melacheri Hill	s. h.s. h.s.	5.053359 5.118657 4.832810	113073 131419 68047	21.415 24.890 12.888	" " "	Pádam Polkunam Pálpádi Pagoda	40 31 30 57 55 27	4.736082 4.851377 4.918576	54461 71019 82904	10.314 13.451 15.702	" " "	
189	Óratti Melacheri Hill Krishnapuramdrug	h.s. s. s.	4.108690 5.023999 5.053359	12844 105682 113073	2.433 20.015 21.415	C.T.I. " "	Vallam, X Seppalanattam, XIII Molándikuppam	103 14 39 25 25 48	4.711862 4.356440 4.610661	51506 22722 41311	9.755 4.303 7.824	24 " "	
190	Karnátakarh Pádam Polkunam	h.s. " "	4.918576 5.148747 4.870193	82904 140847 74164	15.702 26.676 14.046	" " "	Avirimodu, XXXIX Pérumukkal, IV Vilankád Hill Mark (helio.)	45 22 6 19 23 51	4.944624 4.613660 5.048809	88029 41083 111894	16.672 7.781 21.192	" " "	

NOTE.—Station Avirimodu, XXXIX appertains to the Madras Longitudinal Series. * Deduced base.

No. of Triangle	Station	Corrected Plane Angle			Distance			Theodolite used
		°	'	"	Log. feet	Feet	Miles	
204	Karunguli Përumukkal Vilankád	h.s. s. h.s.	36 40 35 28 58 20 114 21 5	4.944562 4.853565 5.127908	88016 71378 134245	16.670 13.519 25.426	Inch 86 "	
205	Vilankád Përumukkal Pondicherry No. 1	h.s. s. h.s.	37 15 18 98 29 17	4.882799 5.090000 4.944562	76348 124738 88016	14.460 23.625 16.670	" "	
206	Pondicherry No. 1 Përumukkal Murattán No. 2	h.s. s. "	99 25 2 15 57 47 64 37 11	4.920986 4.366240 4.882799	83366 23240 76348	15.789 4.402 14.460	" "	
207	Përumukkal Murattán No. 2 Chéngád	s. " "	42 57 25 85 13 29 51 49 6	4.858967 5.024024 4.920986	72271 105687 83366	13.688 20.017 15.789	" "	
208	Murattán No. 2 Chéngád Tiruvëndipuram	s. " "	64 42 36 66 8 42 49 8 42	4.936478 4.941452 4.858967	86393 87388 72271	16.362 16.551 13.688	" "	
209	Tiruvëndipuram Chéngád Sënnappanáyakanpálayam	s. " h.s.	73 16 41 23 24 43 83 18 36	4.920680 4.538606 4.936478	83307 34563 86393	15.778 6.546 16.362	" "	
210	Chéngád Sënnappanáyakanpálayam Melmámpat	s. h.s. s.	70 30 25 93 22 48	4.364752 4.895801 4.920680	23161 78669 83307	4.387 14.890 15.778	" "	
211	Melmámpat Sënnappanáyakanpálayam Molándikuppam	s. h.s. s.	55 33 16 64 19 5 60 7 39	4.342942 4.381492 4.364752	22026 24071 23161	4.172 4.559 4.387	" "	
212	Përumukkal Murattán No. 2 Mailam	s. " h.s.	72 26 49 73 9 56	4.919301 4.691893 4.920986	83043 49192 83366	15.728 9.317 15.789	" "	
213	Përumukkal Oratti Mailam	s. h.s. "	102 6 23 46 21 11	4.963539 4.691893 4.832810	91947 49192 68047	17.414 9.317 12.888	" "	
214	Gingee, V Kallapat, VI Mailam Hill Mark	s. h.s. "	32 4 23 45 42 14	4.824724 4.954384 5.089671	66792 90029 122934	12.650 17.051 23.283	24 "	
215	Përumukkal, IV Gingee, V Mailam Hill Mark	s. h.s. "	38 39 28 19 56 51	4.954384 4.691692 5.089989	90029 49169 123024	17.051 9.312 23.300	" "	
216	Gingee, V Mallipat, VII Mailam Hill Temple	s. h.s. "	64 58 18 51 33 5	5.016671 4.953350 5.011200	103913 89815 102612	19.681 17.010 19.434	" "	
	Kallapat, VI Mallipat, VII Mailam Hill Temple		101 58 33 38 31 9	5.016671 4.820560 4.829785	103913 66155 67575	19.681 12.529 12.798	Inch 24 "	
	Oratti Mailam Dalavanúr	h.s. " s.	32 20 39 88 22 48 59 16 33	4.757581 5.029050 4.963539	57224 106918 91947	10.838 20.250 17.414	C.T.I. "	
	Përumukkal Oratti Dalavanúr	s. h.s. s.	77 40 13 63 53 5 38 26 42	5.029050 4.992418 4.832810	106918 98269 68047	20.250 18.612 12.888	" "	
	Mailam Dalavanúr Mandagapat Rock	h.s. s. "	23 16 24 78 2 23	4.362829 4.756571 4.757581	23058 57091 57224	4.367 10.813 10.838	" "	
	Mailam Mandagapat Rock Gingee Hill Fort	h.s. s.	37 20 55 105 34 40	4.759316 4.900115 4.756571	57453 91225 57091	10.881 17.278 10.813	" "	
	Varakúr Tiruvarangam Durgam Malai Hill	h.s. "	87 46 15 72 59 52	5.086860 5.067780 4.604891	122140 116891 40262	23.133 22.138 7.625	" "	
	Oddampat Tiruvannámalai Durgam Malai Building	h.s. "	70 0 42 25 16 47	4.923093 4.580541 4.948220	83771 38066 88761	15.866 7.209 16.811	" "	
	Mallipat, VII Kiliyur, IX Nëllagirimalai Hill Peak		117 59 29 32 42 35	5.141570 4.928302 4.885234	138538 84782 76777	26.238 16.057 14.541	24 "	
	Kallapat, VI Mallipat, VII Nëllagirimalai Hill Peak		34 13 8 119 9 5	4.928302 5.119472 4.829785	84782 131666 67575	16.057 24.937 12.798	" "	
	Kallapat, VI Mallipat, VII Pettaimalai Peak		36 35 57 111 52 16	4.886734 5.078892 4.829785	77043 119920 67575	14.592 22.712 12.798	" "	
	Përumukkal, IV Kallapat, VI Pettaimalai Peak		51 21 18 84 1 6	5.078892 5.183853 5.032861	119920 152705 107860	22.712 28.921 20.428	" "	
	Kallapat, VI Mallipat, VII Kappaimalai Hill Peak		60 6 6 77 59 2	4.942970 4.995374 4.829785	87694 98940 67575	16.609 18.739 12.798	" "	
	Gingee, V Mallipat, VII Kappaimalai Hill Peak		47 26 18 12 5 12	4.942970 4.396726 5.011200	87694 24930 102612	16.609 4.722 19.434	" "	

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle ° ' "	Distance			No. of Triangle	Station	Corrected Plane Angle ° ' "	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
280	Gingee, V Mallipat, VII Sēnji Kunnattūr Hill Mark	35 53 10 25 40 35	4.835072 4.703821 5.011200	68403 50562 102612	12.955 9.576 19.434	243	Murattān No. 2 Chēngād Kunnam	54 33 20 49 24 11	4.782971 4.752401 4.858967	60670 56546 72271	11.490 10.709 13.688	Inch 36 "
281	Pērumukkal, IV Gingee, V Sēnji Kunnattūr Hill Mark	23 5 9 49 28 48	4.703821 4.901329 5.089989	50562 98023 123024	9.576 18.565 23.300	244	Pērumukkal Kunnam Tindivanam	86 42 36 56 25 10	4.733192 4.512066 4.654610	54099 32514 45145	10.246 6.158 8.550	" " "
282	Pērumukkal, IV Kallapat, VI Anantapuram Hill Temple	40 10 11 85 16 28	4.931469 5.120394 5.032861	85402 131945 107860	16.175 24.990 20.428	245	Pērumukkal Vilankād Marakanam	35 26 13 67 38 30 76 55 17	4.719259 4.922035 4.944562	52391 83567 88016	9.923 15.827 16.670	C.T.I. " "
283	Kallapat, VI Mallipat, VII Anantapuram Hill Temple	35 20 35 92 25 13	4.694139 4.931469 4.829785	49447 85402 67575	9.365 16.175 12.798	246	Vilankād Marakanam Alattūr Pagoda	38 24 46 63 29 50	4.522028 4.680491 4.719259	33268 47917 52391	6.301 9.075 9.923	" " "
284	Pērumukkal, IV Kallapat, VI Muttattūr Hill Peak	37 1 51 73 35 46	4.841407 5.043586 5.032861	69408 110557 107860	13.145 20.939 20.428	247	Pērumukkal Marakanam Rangapilli Choultry	35 31 4 56 15 7	4.686385 4.842098 4.922035	48572 69518 83567	9.199 13.166 15.827	" " "
285	Pērumukkal, IV Gingee, V Muttattūr Hill Peak	26 54 58 63 58 8	4.745838 5.043586 5.089989	55698 110557 123024	10.549 20.939 23.300	248	Pērumukkal, IV Mallipat, VII Pērubākam Hill Temple	18 19 31 7 29 57	5.045076 4.663227 5.186680	110937 46050 153702	21.011 8.722 29.110	24 " "
286	Mallam Dalavanūr Vēllyandal Hill	44 15 23 74 52 50	4.660113 4.801039 4.757581	45721 63247 57224	8.659 11.979 10.838	249	Kallapat, VI Mallipat, VII Pērubākam Hill Temple	117 43 0 29 39 6	5.045076 4.792370 4.829785	110937 61997 67575	21.011 11.742 12.798	" " "
287	Mallam Mandagapat Rock Vēllyandal Hill	20 58 59 94 56 58	4.356656 4.801039 4.756571	22733 63247 57091	4.305 11.979 10.813	250	Gingee, V Kallapat, VI Tiruvakarai Temple	19 25 57 79 42 12	4.617263 5.088164 5.089671	41425 122508 122934	7.846 23.202 23.283	" " "
288	Varaktūr Tiruvarangam Nāyanūr Pagoda	46 48 17 98 47 7	4.715500 4.847632 4.604891	51940 70410 40262	9.837 13.335 7.625	251	Murattān No. 2 Kunnam Pondicherry No. 2	81 48 11 76 26 24	4.760220 4.333667 4.752401	57573 21561 56546	10.904 4.084 10.709	86 " "
289	Mallipat, VII Chēndamangalam, VIII Tirukoilūr Temple	88 32 28 35 28 44	5.019101 4.782971 4.937713	104496 60670 86639	19.791 11.490 16.409	252	Pērumukkal Kunnam Pondicherry No. 2	53 13 34 87 51 51	4.760220 4.856283 4.654610	57573 71826 45145	10.904 13.603 8.550	" " "
240	Mallipat, VII Kiliyūr, IX Tirukoilūr Temple	52 29 0 50 23 8	4.798651 4.782971 4.885234	62467 60670 76777	11.831 11.490 14.541	253	Pērumukkal, IV Kallapat, VI Murattān No. 1	47 8 20 49 52 45 82 58 55	4.901234 4.919611 5.032861	79659 83102 107860	15.087 15.739 20.428	7 " "
241	Chēndamangalam, VIII Kiliyūr, IX Arakandanallūr Temple	29 19 30 127 31 35	4.806755 5.016082 4.711291	64085 103772 51439	12.137 19.654 9.742	254	Kallapat, VI Murattān No. 1 Pērambai	9 19 29 43 30 33 127 9 58	4.209431 4.837722 4.901234	16197 68821 79659	3.068 13.034 15.087	" " "
242	Pērumukkal Ōratti Kunnam	134 50 37 17 46 9 27 23 14	5.020717 4.654610 4.832810	104886 45145 68047	19.865 8.550 12.888	255	Pērumukkal, IV Kallapat, VI Pērambai	39 8 45 59 12 14 81 39 1	4.837722 4.971479 5.032861	68821 93644 107860	13.034 17.736 20.428	" " "

No. of Triangle	Station	Corrected Plane Angle			No. of Triangle	Station	Corrected Plane Angle			Theodolite used	Inch	Distance			Theodolite used
		°	'	"			Log. feet	Feet	Miles			Log. feet	Feet	Miles	
256	Përumukkal, IV Përambai Putharai	4 8 53	49 31 22	126 19 45	269	Paravai Irùr Solankurchi	113 3 36	24 38 11	4 983497	131606	5 119276	24 925	"		
257	Përumukkal, IV Kallapat, VI Putharai	43 17 38	54 20 20	82 22 2	270	Solankurchi Irùr Shilagudi	30 48 34	32 25 23	5 119276	75497	4 877029	14 299	"		
258	Përambai Putharai Pondicherry Light-house	51 8 39	113 18 1	15 33 20	271	Shilagudi Irùr Kulagudi	68 1 24	30 40 45	4 877929	70826	4 850195	13 414	"		
259	Murattán No. 1 Përambai Pondicherry Light-house	90 37 26	55 9 4	34 13 30	272	Kulagudi Irùr Trichinopoly, Panmalai	97 27 55	52 11 21	5 143023	139002	5 044368	26 326	"		
260	Murattán No. 2 Pondicherry No. 2 Pondicherry Flag-staff	93 33 34	45 11 59		273	Rávatannallúdrug Tiruvaramgam Shadagoundhalli Hill	138 14 27	26 47 25	4 721067	135652	4 962865	25 602	"		
261	Përumukkal, IV Kallapat, VI Vëlliyánúr Temple	38 45 59	67 23 3		274	Kottálam Ranjanagudidrug Sökánúr	43 32 33	71 43 52	4 968739	93055	5 108127	17 624	"		
262	Përumukkal Murattán No. 2 Vëlliyánúr Pagoda	8 40 47	141 40 18		275	Ranjanagudidrug Yésanai Sökánúr	50 22 57	93 7 3	4 850053	71788	4 743770	13 596	"		
263	Pagalavádi Hill Pagoda Trichinopoly, Panmalai Irùr	36 47 32	53 14 51		276	Kottálam Përunila Púsappádi	45 34 0	59 0 41	4 792767	62054	4 872146	11 753	"		
264	Chinna Tirupadi Hill Pagoda Kottálam Përunila	62 2 15	53 50 47		277	Përunila Sökánúr Púsappádi	76 30 55	56 49 24	4 857907	72095	4 792767	13 654	"		
265	Kottálam Përunila Ranjanagudidrug	26 24 52	114 57 36	38 37 32	278	Kottálam Chinna Tirupadi Hill Pagoda Pásár	103 31 51	39 57 25	5 057935	114271	4 877838	21 642	"		
266	Përunila Ranjanagudidrug Yésanai	45 45 3	83 29 17		279	Kottálam Púsappádi Pásár	120 0 6	31 2 42	5 097263	125102	4 844672	23 693	"		
267	Yésanai Ranjanagudidrug Irùr	98 15 39	40 7 49		280	Swámimalai Pagoda Kottálam Ayyambádi Stone	77 37 13	56 59 47	5 143435	139135	5 077226	26 351	"		
268	Ranjanagudidrug Irùr Paravai	92 34 49	28 24 38	59 0 33	281	Kottálam Pásár Ayyambádi Stone	51 56 22	98 13 47	5 143435	110689	4 844672	20 964	"		

* Base taken from the Great Arc Meridional Series, Section 8° to 18°. † Deduced base.

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used	No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles					Log. feet	Feet	Miles	
282	Shundapanád Ayyambádi Stone Maniyapálayam	69 47 58 93 32 9	4.824646 4.309751 4.851389	66780 20406 71021	12.648 3.865 13.451	Inch 36 "	Rávatianallárdrug Kottálam Tyága Drug	64 16 9 98 0 15	4.519937 4.991033 5.032132	33108 97956 107679	6.271 18.552 20.394	Inch C.T.I. "	
283	Aviarmalai Mallikarai Attúr Fort	40 29 34 25 29 18	4.574954 4.396272 4.723140	37580 24904 52862	7.117 4.717 10.012	" " "	Kottálam Chinna Tirupádi Hill Pagoda Tyága Drug	129 12 21 35 53 34	4.998974 4.519937 4.877838	99764 33108 75481	18.895 6.271 14.296	" " "	
284	Pérunila Sókanúr Sarvai	32 14 59 41 46 23	4.635400 4.891066 4.731768	43192 77816 53922	8.180 14.738 10.213	C.T.I. "	Chéndamangalam, VIII Kiliyúr, IX Tyága Drug Hill Mark (helio.)	27 53 22 130 28 59	4.814800 5.025925 4.711291	65283 106151 51439	12.364 20.104 9.742	24 "	
285	Sókanúr Púsappádi Sarvai	36 41 32 94 9 14	4.737841 4.635400 4.857907	54682 43192 72095	10.356 8.180 13.654	" "	Kiliyúr, IX Ulundúrpet, XI Tyága Drug Hill Mark (helio.)	85 47 18 57 23 14	4.888142 4.814800 4.667008	77293 65283 46452	14.639 12.304 8.798	" "	
286	Sókanúr Sarvai Néllakunu	10 55 22 106 15 47	4.602295 3.930711 4.635400	40022 8525 43192	7.580 1.615 8.180	" "	Kottálam Tyága Drug Kachirayapálayam Hill Pagoda	103 45 42 50 57 46	4.876888 4.779812 4.519937	75316 60230 33108	14.264 11.407 6.271	36 "	
287	Aviarmalai Mallikarai Manjali Hill Pagoda	64 42 30 51 16 32	4.725658 4.661606 4.723140	53169 45878 52862	10.070 8.689 10.012	36 "	Kottálam Tyága Drug Kallakurchi Pagoda	85 8 0 40 41 10	4.609420 4.425179 4.519937	40684 26618 33108	7.705 5.041 6.271	C.T.I. "	
288	Sókanúr Néllakunu Manjali Hill Pagoda	83 32 57 83 17 5	4.570447 4.570216 3.930711	37192 37172 8525	7.044 7.040 1.615	C.T.I. "	Kiliyúr, IX Ulundúrpet, XI Édaikal	27 28 55 78 56 29	4.349242 4.676959 4.667008	22348 47529 46452	4.333 9.002 8.798	24 "	
289	Sókanúr Néllakunu Géngaváli Pagoda	112 17 47 51 58 4	4.663669 4.393759 3.930711	29085 24760 8525	5.509 4.689 1.615	" "	Ulundúrpet, XI Kánáakondán, XIV Édaikal	115 54 41 18 11 46	4.808698 4.349242 4.710857	64372 22348 51387	12.192 4.233 9.732	" "	
290	Kottálam Ranjanagudiidrug Kúgayúr Pagoda	32 57 57 34 50 37	4.856021 4.877205 5.086890	71783 75371 122149	13.595 14.275 23.134	" "	Kottálam Tyága Drug Édaikal	42 55 31 23 14 46	4.756865 4.884996 4.519937	57130 76736 33108	10.820 14.533 6.271	C.T.I. "	
291	Kottálam Púsappádi Kúgayúr Pagoda	39 0 55 71 26 3	4.699430 4.877205 4.872146	50053 75371 74498	9.480 14.275 14.110	" "	Tyága Drug Édaikal Rishivandiyam Pagoda	98 12 4 25 24 13	4.831821 4.468735 4.756865	67892 29426 57130	12.858 5.573 10.820	" "	
292	Kottálam Púsappádi Périeri Bastion	20 13 7 98 31 47	4.467852 4.944444 4.872146	29367 84032 74498	5.562 15.915 14.110	" "	Kottálam Édaikal Rishivandiyam Pagoda	57 58 19 48 38 59	4.831821 4.778991 4.884996	67892 60116 76736	12.858 11.386 14.533	" "	
293	Kottálam Púsappádi Chinna Salém Bastion	13 2 14 19 8 16	4.499129 4.661484 4.872146	31559 45865 74498	5.977 8.687 14.110	36 C.T.I.	Kottálam Pásár Chikád Hill	29 6 3 53 2 5	4.535724 4.751323 4.844672	34334 56406 69931	6.503 10.683 13.245	" "	
294	Kottálam Púsappádi Olágyanallúr Pagoda	50 17 50 17 9 8	4.792824 4.376381 4.872146	62062 23789 74498	11.754 4.506 14.110	" "	Tyága Drug Édaikal Chikád Hill	57 54 17 23 57 52	4.689222 4.369961 4.756865	48890 23440 57130	9.260 4.439 10.820	" "	

* For another triangle to this station, see Great Arc Meridional Series, Section 8° to 18°, the difference in the common side being 5 feet. † Deduced base. ‡ Base taken from the Great Arc Meridional Series, Section 8° to 18°.

SOUTH-EAST COAST SERIES.

No. of Triangle	Station	Corrected Plane Angle ° ' "	Distance			Theodolite used	No. of Triangle	Station	Corrected Plane Angle ° ' "	Distance			Theodolite used	
			Log. feet	Feet	Miles					Log. feet	Feet	Miles		
308	Kottálam Tyága Drug Tyága Pagoda	h.s. " "	4.167411 4.534928 4.519937	14703 34271 33108	2.785 6.491 6.271	Inch C.T.I. "	821	Kottálam Tyága Drug Vridháchalam Pagoda	h.s. " "	68 35 7 96 20 28	5.073796 5.102199 4.519937	118521 126531 33108	22.447 23.964 6.271	Inch C.T.I. "
309	Chéndamangalam, VIII Kiliyúr, IX Ámúr Temple	32 29 11 59 49 41	4.441700 4.648421 4.711291	27650 44506 51439	5.237 8.429 9.742	24 "	822	Chéndamangalam, VIII Ulundúrpet, XI Ulundúrpet Temple	8 47 42 21 23 45	4.057029 4.434688 4.574088	11403 27207 37505	2.160 5.153 7.103	24 "	
310	Chéndamangalam, VIII Ulundúrpet, XI Tirunirankónrai Hill Temple	74 16 10 58 52 35	4.694416 4.643496 4.574088	49478 44004 37505	9.371 8.334 7.103	" "	823	Chéndamangalam, VIII Kiliyúr, IX Árinattam Hill Mark	80 7 51 10 20 36	4.704831 3.965482 4.711291	50679 9236 51439	9.598 1.749 9.742	" "	
311	Mallipat, VII Chéndamangalam, VIII Tirunirankónrai Hill Temple	29 43 44 47 47 14	4.643496 4.817721 4.937713	44004 65733 86639	8.334 12.448 16.409	" "	824	Mallipat, VII Kiliyúr, IX Árinattam Hill Mark	32 33 38 92 49 6	4.704831 4.973369 4.885234	50679 94052 76777	9.598 17.813 14.541	" "	
312	Kiliyúr, IX Ulundúrpet, XI Kunnatúr Hill Mark (helio.)	83 28 24 12 1 49	4.666191 3.987972 4.667008	46365 9727 46452	8.781 1.842 8.798	" "	825	Chéndamangalam, VIII Ulundúrpet, XI Pálakóllai Building	79 6 57 32 33 31	4.598050 4.336847 4.574088	39632 21719 37505	7.506 4.114 7.103	" "	
313	Chéndamangalam, VIII Ulundúrpet, XI Kunnatúr Hill Mark (helio.)	68 29 51 62 41 9	4.666191 4.646180 4.574088	46365 44277 37505	8.781 8.386 7.103	" "	826	Ulundúrpet, XI Koilánkuppam, XII Pálakóllai Building	23 26 3 57 2 28	4.273806 4.598050 4.668228	18785 39632 46583	3.558 7.506 8.823	" "	
314	Kottálam Édaikal Kunnatúr Hill Tree	27 17 34 109 53 53	4.714144 5.026036 4.884996	51778 106178 76736	9.806 20.110 14.533	C.T.I. "	827	Muratán No. 2 Tiruvéndipuram Mannapet	8. " "	4.539878 4.808406 4.941452	34664 64329 87388	6.565 12.184 16.551	86 "	
315	Tyága Drug Édaikal Kunnatúr Hill Tree	43 41 29 86 39 7	4.714144 4.874067 4.756865	51778 74828 57130	9.806 14.172 10.820	" "	828	Vallam, X Molándikuppam Kadampuliyúr	20 23 21 34 1 10 125 35 29	3.988320 4.194029 4.356440	9735 15033 22722	1.844 2.961 4.303	12 "	
316	Chéndamangalam, VIII Kiliyúr, IX Élavásúr Temple	34 16 2 96 19 30	4.581393 4.828192 4.711291	38141 67327 51439	7.224 12.751 9.742	24 "	829	Molándikuppam Kadampuliyúr Kilmámpat	8. " "	4.220130 4.134694 3.988320	16601 13636 9735	3.144 2.583 1.844	" "	
317	Édaikal Kunnatúr Hill Tree Kiranúr Pagoda	48 38 16 " "	4.601427 4.397770 4.714144	39942 24990 51778	7.565 4.733 9.806	86 "	830	Molándikuppam Kilmámpat Vellakarai	8. " "	4.277466 4.439325 4.134694	18944 27499 13636	3.588 5.208 2.583	" "	
318	Kottálam Édaikal Konankuppam Church	16 32 4 115 57 1	4.471482 4.971103 4.884996	29613 93563 76736	5.609 17.720 14.533	" C.T.I. "	831	Kilmámpat Vellakarai Vilangalpat	8. " "	3.881241 4.329283 4.277466	7607 21344 18944	1.441 4.042 3.588	" "	
319	Kottálam Tyága Drug Konankuppam Church	59 27 35 100 9 21	4.913102 4.971103 4.519937	81866 93563 33108	15.505 17.720 6.271	86 C.T.I. "	832	Vellakarai Vilangalpat Tirumankuli	8. " "	4.188343 4.256547 3.881241	15429 18053 7607	2.922 3.419 1.441	" "	
320	Kottálam Édaikal Vridháchalam Pagoda	25 39 36 124 15 28	4.821467 5.102199 4.884996	66293 126531 76736	12.555 23.964 14.533	" "	833	Vellakarai Tirumankuli Rámapuram	8. " "	4.076997 4.389912 4.256547	11940 24542 18053	2.261 4.648 3.419	" "	

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used	
		°	'	"				Log. feet	Feet	Miles		
384	Vëllakarai Vilangalpat Rámapuram	85 30 18 76 55 16 17 34 26	° "	25118 24542 7607	347	Vëllakarai Vilangalpat Cuddalore Beacon	85 7 29 85 43 17	° "	4' 39989 4' 389912 3' 881241	47647 47687 7607	9' 024 9' 032 1' 441	Inch 12 "
385	Molándikuppam Vëllakarai Tiruvadi Temple	68 51 51 64 2 29	° "	35018 33755 27499	348	Vëllakarai Tirumankuli Cuddalore Beacon	27 9 56 138 13 36	° "	4' 544286 4' 528344 4' 439325	32681 47687 18053	6' 190 9' 032 3' 419	" " "
386	Kilmámpat Vilangalpat Tiruvadi Temple	92 18 29 45 51 36	° "	31977 22966 21344	349	Molándikuppam Tiruvëndipuram Gangamanáyakankuppam	31 5 32 48 40 46 100 13 42	° "	4' 504838 4' 381097 4' 349283	28148 40936 53641	5' 331 7' 753 10' 159	86 " "
387	Molándikuppam Sënnappanáyakalpálayam Tiruvadi Pagoda	47 51 13 91 27 38	° "	25051 33776 22026	350	Tiruvëndipuram Gangamanáyakankuppam Cuddalore Flag-staff	82 18 42 44 31 19	° "	4' 398825 4' 528612 4' 342942	34853 24660 28148	6' 601 4' 670 5' 331	" " "
388	Molándikuppam Vëllakarai Tiruvadi Pagoda	68 52 4 64 3 50	° "	35033 33776 27499	351	Tiruvëndipuram Mannapet Cuddalore Flag-staff	52 46 24 44 50 22	° "	4' 544481 4' 528612 4' 439325	27847 24660 34664	5' 274 4' 670 6' 565	" " "
389	Vilangalpat Tirumankuli Melpatnambákam Temple	95 10 39 48 8 10	° "	25720 19233 15429	352	Molándikuppam Gangamanáyakankuppam Vënkátámpet	67 41 35 31 29 8 80 49 17	° "	4' 410277 4' 284053 4' 188343	38364 21658 40936	7' 266 4' 102 7' 753	" " "
390	Kilmámpat Vilangalpat Nëllikuppam Chimney	15 23 22 143 21 1	° "	15621 35137 21344	353	Vallam, X Seppalánattam, XIII Vënkátámpet Temple	62 42 46 48 15 34	° "	4' 193714 4' 545766 4' 329283	39318 33011 41311	7' 447 6' 252 7' 824	24 " "
391	Vilangalpat Tirumankuli Nëllikuppam Chimney	57 44 23 61 46 22	° "	14993 15621 15429	354	Gangamanáyakankuppam Vënkátámpet Andikui	83 3 1 52 31 27 44 25 32	° "	4' 175881 4' 193714 4' 188343	54404 43495 38364	10' 304 8' 238 7' 266	86 " "
392	Tirumankuli Rámapuram Vilangalpat Temple	130 53 42 27 13 58	° "	24227 14666 11940	355	Vënkátámpet Andikui Kundiyaállúr	27 30 36 30 2 15 122 27 9	° "	4' 384297 4' 166319 4' 076997	29780 32273 54404	5' 640 6' 112 10' 304	" " "
393	Tirumankuli Rámapuram Tiruvëndipuram Temple	64 31 30 39 39 11	° "	11118 7859 11940	356	Vallam, X Ayyampet, XVI Chidambaram	62 27 30 63 34 18	° "	4' 046010 3' 895346 4' 076997	102066 111906 113018	19' 331 21' 194 21' 405	24 12 "
394	Vilangalpat Rámapuram Tiruvëndipuram Temple	26 14 22 66 26 41	° "	11118 23051 25118	357	Seppalánattam, XIII Ayyampet, XVI Chidambaram	51 22 40 47 13 34	° "	4' 046010 4' 392681 4' 399989	102066 80649 75773	19' 331 15' 275 14' 351	24 12 "
395	Vilangalpat Rámapuram Cuddalore Chimney	12 32 46 145 39 45	° "	14698 38166 25118	358	Andikui Kundiyaállúr Chidambaram Pagoda	65 30 26 84 45 49	° "	4' 167259 4' 581679 4' 399989	54649 59802 29780	10' 350 11' 326 5' 640	86 " "
396	Tirumankuli Rámapuram Cuddalore Chimney	34 3 50 118 52 15	° "	14698 22980 11940	359	Vënkátámpet Andikui Chidambaram Pagoda	44 41 2 95 32 41	° "	4' 167259 4' 361341 4' 076997	59802 84645 54404	11' 326 16' 031 10' 304	" " "

* Deduced base.

No. of Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
360	Kundiyamallūr Chidambaram Pagoda Krishnavaram Pagoda	s. " "	48 32 39 99 40 30	41548 29197 54649	7.869 5.530 10.350	373	Chidambaram Pagoda Krishnavaram Pagoda Tadanpet Pagoda	s. " "	35 23 43 121 16 40	19250 28158 41548	3.646 5.333 7.869	Inch 36 "
361	Vēnkātāmpet Kundiyamallūr Krishnavaram Pagoda	s. " "	35 39 4 104 14 23 40 6 33	29197 48555 32273	5.530 9.196 6.112	374	Seppalanattam, XIII Ayyampet, XVI Kūdalai Attūr Temple (helio.)	8 17 7 15 46 16	4.427913 4.703484 4.879515	26786 50522 75773	5.073 9.569 14.351	"
362	Vēnkātāmpet Krishnavaram Pagoda Nayinakuppam	s. " "	23 47 7 56 13 39	19884 40982 48555	3.766 7.762 9.196	375	Seppalanattam, XIII Ayyampet, XVI Srinushnam Temple	7 20 39 38 54 18	4.127395 4.818746 4.879515	13409 65879 75773	2.540 12.477 14.351	"
363	Vēnkātāmpet Kundiyamallūr Nayinakuppam	s. " "	59 26 11 72 2 51	37004 40982 32273	7.026 7.762 6.112	376	Seppalanattam, XIII Kāndakōndān, XIV Srinushnam Temple	55 6 17 68 12 38	4.764858 4.818746 4.772969	58191 65879 59288	11.021 12.477 11.229	"
364	Vallam, X Chidambaram Porto Novo	s. " "	20 33 4 71 25 41 88 1 15	39307 106141 111906	7.445 20.103 21.194	377	Chidambaram Pagoda Tandavarāyacholanpet Kodampālaiyam No. 1	85 28 38 61 7 16	4.433972 4.691856 4.635537	27163 49188 43205	5.144 9.316 8.183	36 "
365	Chidambaram Porto Novo Coleroon Beacon	s. " "	32 47 10 87 34 20 59 38 30	24667 45512 39307	4.672 8.620 7.445	378	Chidambaram Coleroon Beacon Kodampālaiyam No. 2	33 59 55 79 43 24 66 16 41	4.444014 4.689445 4.658130	27708 48915 45512	5.265 9.264 8.620	12 "
366	Porto Novo Coleroon Beacon Porto Novo Beacon	s. " "	79 16 47 6 25 30	24305 2768	4.603 0.524	379	Chidambaram Pagoda Tadanpet Pagoda Paravilgankoil	79 19 47 44 19 13	4.525679 4.597752 4.449598	33549 30605 28158	6.354 7.501 5.333	36 "
367	Chidambaram Coleroon Beacon Porto Novo Beacon	s. " "	31 55 38 66 4 0	24305 42007	4.603 7.956	380	Chidambaram Kodampālaiyam No. 2 Tirunāgiri	44 37 58 94 11 11 41 10 51	4.717613 4.869770 4.689445	52193 74002 48915	9.885 14.033 9.264	12 "
368	Vallam, X Seppalanattam, XIII Porto Novo Chimney	s. " "	53 46 35 104 0 16	88129 105996	16.691 20.075	381	Chidambaram Pagoda Kodampālaiyam No. 1 Tirunāgiri Pagoda	92 34 24 41 32 13	4.726400 4.869837 4.691856	53260 74103 49188	10.087 14.035 9.316	36 "
369	Vēnkātāmpet Andikui Porto Novo Flag-staff	s. h.s.	16 22 37 127 45 53	26186 73420 54404	4.960 13.995 10.304	382	Kodampālaiyam No. 2 Tirunāgiri Tirumalvalasa No. 1	19 55 13 64 32 40 95 32 7	4.252031 4.675292 4.717613	17866 47347 52193	3.384 8.067 9.885	12 "
370	Andikui Chidambaram Pagoda Tandavarāyacholanpet	h.s. s.	45 38 41 81 45 41	43205 47999 59802	8.183 9.091 11.326	388	Chidambaram Pagoda Kodampālaiyam No. 1 Tirumalvalasa No. 2	112 17 18 33 58 22	4.689213 4.910877 4.691856	48889 81447 49188	9.259 15.426 9.316	36 "
371	Vallam, X Seppalanattam, XIII Tadanpet Temple	s.	23 19 31 139 12 43	54507 89930 41311	10.323 17.932 7.824	384	Kodampālaiyam No. 1 Tirunāgiri Pagoda Tirumalvalasa No. 2	19 42 54 66 18 34 93 58 32	4.255517 4.689213 4.726400	18010 48889 53260	3.411 9.259 10.087	"
372	Krishnavaram Pagoda Nayinakuppam Tadanpet Pagoda	s. " "	128 35 35 26 9 1	35263 19250 19884	6.679 3.646 3.766	385	Kodampālaiyam No. 2 Tirunāgiri Tāndakulam Beacon	20 31 24 9 41 4	4.560725 4.241809 4.717613	36368 17450 52193	6.888 3.305 9.885	12 "

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
386	Tirunágiri Tirumalvalasa No. 1 Táudakulam Beacon	54 51 36 95 53 14	4.475641 4.560725 4.252031	29898 36368 17866	5.662 6.888 3.384	899	Tirunágiri Pagoda Tirumalvalasa No. 2 Káveripatnam	70 3 44 83 31 21 26 24 55	4.580437 4.604498 4.255517	38057 40225 18010	7.208 7.618 3.411	Inch 86 "
387	Kodampálayam No. 1 Tirumalvalasa No. 2 Shiyáli Pagoda	42 4 26 81 1 32	4.592245 4.760763 4.689213	39106 57645 48889	7.407 10.917 9.259	400	Tirunágiri Káveripatnam Beacon Tirukudúr Temple	30 11 0 105 5 55	4.457779 4.741154 4.603748	28693 55100 40156	5.434 10.436 7.605	12 "
388	Chidambaram Tirunágiri Vaithisvarankoil Temple	25 30 13 77 39 58	4.515386 4.871203 4.869770	32763 74337 74092	6.205 14.079 14.033	401	Tirunágiri Pagoda Káveripatnam Tirukudúr Pagoda	104 1 36 45 5 39	4.464612 4.741155 4.604498	29148 55100 40225	5.521 10.436 7.618	86 "
389	Pödayúr, XV Kuchúr, XVIII Mannárgudi Temple No. 1	9 52 43 16 9 15	4.299583 4.509556 4.707514	19933 32326 50993	3.775 6.122 9.658	402	Tirunágiri Pagoda Tirukudúr Pagoda Vaithisvarankoil Pagoda	73 32 47 35 18 29	4.746947 4.527013 4.741155	55840 33652 55100	10.576 6.374 10.436	" " "
390	Pödayúr, XV Kuchúr, XVIII Mannárgudi Temple No. 2	10 26 30 17 45 19	4.291350 4.517341 4.707514	19559 32911 50993	3.704 6.233 9.658	403	Kumbakonam, XXIII Alangudi, XXVI Tiruchérai	29 38 30 56 23 31 93 57 59	4.398436 4.624768 4.703163	25029 42147 50485	4.740 7.982 9.562	8 " "
391	Tirupanandál Mandap, XXI Nayimpiriyán, XXII Guruválappar Temple	62 35 12 60 38 52	4.636428 4.628486 4.610590	43294 42510 40793	8.200 8.051 7.726	404	Kumbakonam, XXIII Tiruchérai Tiruvadamarudúr	71 46 4 36 9 1 72 4 55	4.623991 4.417143 4.624768	42072 26130 42147	7.968 4.949 7.982	" " "
392	Kuchúr, XVIII Tirupanandál Mandap, XXI Guruválappar Temple	47 53 35 42 34 46	4.628486 4.588483 4.758129	42510 38769 57297	8.051 7.343 10.852	405	Tiruchérai Tiruvadamarudúr Tiruvilimalalai	61 51 23 66 27 28 51 41 9	4.674684 4.691588 4.623991	47281 49157 42072	8.955 9.310 7.968	" " "
393	Kuchúr, XVIII Tirupanandál Mandap, XXI Ganguikondapuram Temple	45 50 55 37 52 46	4.616559 4.548906 4.758129	41358 35392 57297	7.833 6.703 10.852	406	Tiruchérai Tiruvilimalalai Tiruválúr	60 15 30 78 52 28 40 52 2	4.814461 4.867567 4.691588	65232 73717 49157	12.355 13.962 9.310	" " "
394	Tirupanandál Mandap, XXI Nayimpiriyán, XXII Gangaikondapuram Temple	67 17 12 56 56 54	4.658164 4.616559 4.610590	45516 41358 40793	8.620 7.833 7.726	407	Tiruvilimalalai Tiruválúr Tirupugalúr	45 21 55 51 33 42 83 4 23	4.669879 4.711559 4.814461	46760 51471 65232	8.856 9.748 12.355	" " "
395	Salpai, XVII Kulattúr, XIX Udayárpálayam Temple	40 27 11 95 47 13	4.572422 4.758076 4.600175	37361 57290 39827	7.076 10.850 7.543	408	Tiruválúr Tirupugalúr Kívalúr	61 54 22 50 41 4 67 24 34	4.650105 4.593104 4.669879	44679 39184 46760	8.462 7.421 8.856	" " "
396	Salpai, XVII Nayimpiriyán, XXII Udayárpálayam Temple	29 44 0 80 33 10	4.459457 4.758076 4.736197	28804 57290 54475	5.455 10.850 10.317	409	Tirupugalúr Kívalúr Nagore	46 37 28 78 51 59 54 30 33	4.600824 4.731118 4.650105	39886 53842 44679	7.554 10.197 8.462	" " "
397	Kachipérumál, XX Nayimpiriyán, XXII Udayárpálayam Tower	69 21 38 18 33 15	4.431262 3.962772 4.459783	26994 9179 28826	5.112 1.738 5.459	410	Kívalúr Nagore Negapatam Light-house	31 13 57 71 19 56 77 26 7	4.326111 4.587881 4.600824	21189 38715 39886	4.013 7.332 7.554	" " "
398	Tirunágiri Tirumalvalasa No. 1 Káveripatnam Beacon	72 52 12 81 3 26 26 4 22	4.589354 4.603748 4.252031	38847 40156 17866	7.357 7.605 3.384	411	Tiruvilimalalai Tirupugalúr Máayavaram Temple	87 3 45 51 53 57	4.893711 4.790216 4.711559	78291 61690 51471	14.828 11.684 9.748	" " "

SOUTH-EAST COAST SERIES.

No. of Triangle	Station	Corrected Plane Angle			Distance			No. of Triangle	Station	Corrected Plane Angle			Distance			Theodolite used
		o	'	"	Log. feet	Feet	Miles			Log. feet	Feet	Miles	Theodolite used			
412	Tiruvadamarudūr Tiruvilmalalai Māvaram Temple	8.	48	9 55	4.790216 4.914757 4.674684	16 61690 82178 47281	11.684 15.564 8.955	8	Māvaram Pagoda Nagore Mosque Point No. 2 Tirupugalūr Pagoda	s.	21	6 9	4.741233 4.893894 5.080700	55110 78324 120420	10.438 14.834 22.807	"
413	Tirunāgiri Pagoda Tirukudūr Pagoda Māvaram Pagoda	s.	49	22 58 79 46 14	4.731881 4.844637 4.741155	53936 69926 55100	10.215 13.244 10.436	36	Māvaram Pagoda Tirupugalūr Pagoda Tiruvilmalalai Pagoda	s.	51	53 37 87 4 51	4.711624 4.790359 4.893894	51478 61711 78324	9.750 11.688 14.834	"
414	Kāveripatnam Tirukudūr Pagoda Tiliadi Pagoda	s.	15	23 12 124 45 59	4.081720 4.572530 4.464612	12070 37371 29148	2.286 7.078 5.521	"	Nagore Mosque Point No. 2 Tirupugalūr Pagoda Tiruvālūr Pagoda	s.	95	49 20 46 30 13	4.666807 4.878398 4.741233	46431 75579 55110	8.794 14.314 10.438	"
415	Kāveripatnam Tirukudūr Pagoda Traquebar Fort	s.	92	53 23 47 59 57	4.393454 4.592992 4.464612	24743 39173 29148	4.686 7.419 5.521	"	Tirupugalūr Pagoda Tiruvilmalalai Pagoda Tiruvālūr Pagoda	s.	84	9 48 44 39 3 51 11 9	4.817727 4.666807 4.711624	65724 40431 51478	12.448 8.794 9.750	"
416	Kāveripatnam Beacon Tirukudūr Temple Traquebar	s.	40	45 20 46 44 22	4.410304 4.595087 4.457779	25722 39363 28693	4.872 7.455 5.434	12	Tirupugalūr Pagoda Tiruvālūr Pagoda Negapatam Pagoda	s.	82	30 6 58 58 11 38 31 43	4.868655 4.805312 4.666807	73902 63872 46431	13.997 12.097 8.794	"
417	Tirupugalūr Nagore Kārikal Port Beacon	s.	37	6 50 71 56 29	4.536198 4.733654 4.731118	34371 54157 53842	6.510 10.257 10.197	8	Nagore Mosque Point No. 2 Tirupugalūr Pagoda Negapatam Pagoda	s.	13	19 14 51 0 8	4.805312 4.212584 4.741233	63872 16315 55110	12.097 3.090 10.438	"
418	Tirupugalūr Kīvalūr Kārikal Port Beacon	s.	83	44 18 54 14 16	4.821794 4.733654 4.650105	66343 54157 44679	12.565 10.257 8.462	"	Nagore Mosque Point No. 2 Negapatam Pagoda Negapatam	s.	84	17 10 86 48 32	3.403019 4.211095 4.212584	2529 16259 16315	0.479 3.079 3.090	"
419	Tirupugalūr Nagore Kārikal Church	s.	39	24 5 62 2 2	4.542428 4.685897 4.731118	34868 48517 53842	6.604 9.189 10.197	"	Tirupugalūr Pagoda Negapatam Pagoda Nagore Flag-staff	s.	15	55 17 58 51 51	4.259062 4.753253 4.805312	18158 56657 63872	3.439 10.730 12.097	"
420	Tirupugalūr Kīvalūr Kārikal Church	s.	86	1 33 49 30 53	4.803710 4.685897 4.650105	63637 48517 44679	12.052 9.189 8.462	"	Negapatam Pagoda Negapatam Nagore Flag-staff	s.	76	31 27 95 30 20	4.248946 4.259062 3.403019	17740 18158 2529	3.360 3.439 0.479	"
421	Kīvalūr Negapatam Light-house Nagore Mosque Point No. 1	s.	29	27 6 79 41 21	4.394271 4.605509 4.587881	20150 40319 38715	3.816 7.636 7.332	"	Negapatam Pagoda Negapatam Negapatam Flag-staff	s.	65	11 18 89 45 21	3.734103 3.776161 3.403019	5421 5973 2529	1.027 1.131 0.479	"
422	Kīvalūr Nagore Nagore Mosque Point No. 1	s.	1	46 51 108 14 47	3.120344 4.605509 4.600824	1319 40319 39886	0.250 7.636 7.554	"	Kīvalūr Negapatam Light-house Negapatam Chimney	s.	3	17 35 57 22 46	3.406684 4.572893 4.587881	2551 37402 38715	0.483 7.084 7.332	8
423	Tirukudūr Pagoda Māvaram Pagoda Nagore Mosque Point No. 2	s.	105	53 29 48 35 29	5.080700 4.972691 4.731881	120420 93906 53936	22.807 17.785 10.215	36	Kīvalūr Nagore Negapatam Chimney	s.	34	31 32 66 49 52	4.362822 4.572893 4.000824	23058 37402 39886	4.367 7.084 7.554	"
424	Tirukudūr Pagoda Traquebar Fort Nagore Mosque Point No. 2	s.	36	21 15 132 25 54	4.877476 4.972691 4.393454	75418 93906 24743	14.284 17.785 4.686	"	Nagore Negapatam Light-house Negapatam Temple	s.	8	7 20 98 40 21	3.495139 4.340048 4.326111	3127 21880 21189	0.592 4.144 4.013	"

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle			Distance			Theodolite used	No. of Triangle	Station	Corrected Plane Angle			Distance			Theodolite used
		°	'	"	Log. feet	Feet	Miles				°	'	"	Log. feet	Feet	Miles	
438	Kivalúr Nagore Negapatam Temple	s.	33	2	41	4.340048	21880	8	451	Tirupanandál Mandap, XXI Kumbakonam, XXIII Tirupuvanam Temple	19	4	38	4.294233	19689	3.729	24
439	Kivalúr Negapatam Light-house Nirdánamagalam	s.	56	58	19	4.533690	32635	12	452	Tiruválúr Pagoda Tiruchérai Pagoda Mannárgudi Pagoda	59	59	7	4.886349	76975	14.579	86
440	Tiruválúr Tirupugalúr Tirukonapuram Gopuram	s.	5	8	39	3.774092	5944	8	453	Tirupanandál Mandap, XXI Nayinipiriyán, XXII Kumbakonam Great Temple, E. Point	80	38	21	4.801723	63346	11.997	24
441	Tiruválúr Kivalúr Tirukonapuram Gopuram	s.	56	45	43	4.589504	38860	"	454	Nayinipiriyán, XXII Mutuváncheri, XXV Kumbakonam Great Temple, E. Point	49	34	23	4.684359	48346	9.156	"
442	Tiruchérai Tiruvilimalalai Srivanjam Temple	s.	33	28	7	4.433923	27160	"	455	Tiruvilimalalai Pagoda Tiruchérai Pagoda Kumbakonam Great Temple, W. Point	33	49	58	4.610404	40776	7.723	86
443	Tiruchérai Tiruválúr Srivanjam Temple	s.	26	47	23	4.607380	40493	"	456	Tiruchérai Pagoda Mannárgudi Pagoda Kumbakonam Great Temple, W. Point	133	3	1	5.037281	108964	20.637	"
444	Tiruvilimalalai Pagoda Tiruválúr Pagoda Tiruchérai Pagoda	s.	79	35	24	4.872894	74627	36	457	Nayinipiriyán, XXII Mutuváncheri, XXV Kumbakonam Temple	48	18	35	4.676480	47477	8.992	24
445	Nayinipiriyán, XXII Kumbakonam, XXIII Tirupanandál Temple	s.	57	11	35	4.708962	51164	24	458	Nayinipiriyán, XXII Kumbakonam, XXIII Kumbakonam Temple	4	6	17	3.751633	5645	1.069	"
446	Tirupanandál Mandap, XXI Kumbakonam, XXIII Tirupanandál Temple	s.	112	20	55	4.708962	51164	"	459	Nayinipiriyán, XXII Kumbakonam, XXIII Tirunágavaram Temple	13	4	21	4.220399	16611	3.146	24
447	Tirupanandál Mandap, XXI Nayinipiriyán, XXII Sholapuram Temple	s.	65	55	30	4.572642	37380	"	460	Kumbakonam, XXIII Putagaram, XXIV Tirunágavaram Temple	6	3	55	4.319729	20880	3.955	"
448	Nayinipiriyán, XXII Kumbakonam, XXIII Sholapuram Temple	s.	28	7	5	4.508656	32259	"	461	Kumbakonam, XXIII Putagaram, XXIV Náchyárkoil Temple	24	19	47	4.221511	16654	3.154	"
449	Kumbakonam, XXIII Mutuváncheri, XXV Tirupirambiyam Temple	s.	6	17	44	4.411406	25787	"	462	Tiruvilimalalai Pagoda Tiruchérai Pagoda Náchyárkoil Pagoda	19	4	36	4.208709	16170	3.062	C.T.I.
450	Tirupanandál Mandap, XXI Putagaram, XXIV Tirupuvanam Temple	s.	21	41	6	4.393061	24721	"	463	Kumbakonam, XXIII Mutuváncheri, XXV Pattisvarankoil Temple	81	54	14	4.697267	49804	9.433	24

No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used	No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles					Log. feet	Feet	Miles	
464	Mutuvancheri, XXV Viramangalam, XXVII Pattisarankoil Temple	20 57 9 49 55 49	4.366847 4.697267 4.788820	23273 49804 61492	4.408 9.433 11.646	Inch 24 "	Irúr Virudamalai Pérambalúr Pagoda	30 12 15 45 53 50	4.391282 4.545823 4.676737	24620 35142 47505	4.663 6.656 8.997	Inch C.T.I. "	
465	Tiruchérai Pagoda Mannárgudi Pagoda Vélatúr Pagoda	76 21 4 32 2 51	4.896695 4.633922 4.886349	78831 43045 76975	14.930 8.152 14.579	C.T.I. "	Ranjanagudidrug Paravai Dumbarmalai Stone	118 49 41 43 13 26	5.115120 5.008177 4.661349	130353 101901 45851	24.688 19.299 8.684	" " "	
466	Álangudi, XXVI Arasapat, XXVIII Mannárgudi Temple No. 3	56 1 5 70 52 19	4.734741 4.791409 4.719050	54293 61860 52366	10.283 11.716 9.918	24 "	Paravai Virudamalai Dumbarmalai Stone	13 39 50 141 33 2	4.694780 5.115120 4.943898	49520 130353 87882	9.379 24.688 16.644	" " "	
467	Arasapat, XXVIII Púvatúr, XXXI Mannárgudi Temple No. 3	67 39 53 55 59 7	4.782372 4.734741 2.736594	60586 54293 54525	11.475 10.283 10.327	" "	Irúr Solankurechi Viluppanankurechi Pagoda	105 55 21 65 12 12	4.349553 5.144295 5.119276	22364 139410 131606	4.236 26.403 24.925	" " "	
468	Ranjanagudidrug Paravai Aduturai Pagoda	51 48 18 64 23 27	4.603789 4.663509 4.661349	40160 46080 45851	7.606 8.727 8.684	C.T.I. "	Solankurechi Viluppanankurechi Pagoda Kilimnái	36 45 32 97 27 59 45 46 29	4.271301 4.490576 4.349553	18677 30944 22364	3.537 5.801 4.236	" " "	
469	Ranjanagudidrug Paravai Puliyúr Hill Pillar	54 25 5 18 31 59	4.591109 4.185091 4.661349	39004 15244 45851	7.387 2.887 8.684	" "	Irúr Solankurechi Kilimnái	142 40 53 30 28 15	4.490576 5.196833 5.119276	30944 157338 131606	5.861 29.799 24.925	" " "	
470	Ranjanagudidrug Paravai Virudamalai	125 12 26 29 33 36 25 13 58	4.943898 4.724779 4.661349	87882 53061 45851	16.644 10.050 8.684	" "	Solankurechi Kilimnái Uchhini	7 43 18 156 27 30	4.324702 4.017423 4.490576	21120 10409 30944	4.000 1.971 5.861	" " "	
471	Irúr Paravai Virudamalai	65 26 26 29 26 57 85 6 37	4.943898 4.670737 4.983497	87882 47505 96271	16.644 8.997 18.233	" "	Solankurechi Viluppanankurechi Pagoda Uchhini	16 23 48 142 39 52	4.119855 4.017423 4.349553	13178 10409 22364	2.496 1.971 4.236	" " "	
472	Irúr Shilagudi Neduvalasa	63 44 20 32 53 38 83 22 2	4.833534 4.615713 4.877929	68161 41277 75497	12.909 7.818 14.299	" "	Solankurechi Shilagudi Sennivanam Pagoda	58 3 25 7 22 29	4.867705 4.047438 4.897802	73740 11154 79032	13.966 2.113 14.968	" " "	
473	Solankurechi Shilagudi Neduvalasa	43 21 49 83 52 25 52 45 46	4.833534 4.994327 4.897802	68161 98702 79032	12.909 18.694 14.968	" "	Solankurechi Viluppanankurechi Pagoda Sennivanam Pagoda	78 40 30 28 27 50	4.360740 4.047438 4.349553	22948 11154 22364	4.346 2.113 4.236	" " "	
474	Irúr Neduvalasa Valikandapuram Pagoda	23 11 56 128 58 38	4.542036 4.837266 4.615713	34837 68749 41277	6.598 13.021 7.818	" "	Kulagudi Trichinopoly, Panmalai Turaiyúr Hill Pagoda	69 53 29 59 56 9	5.131704 5.096268 5.044368	135427 124815 110756	25.649 23.639 20.977	" " "	
475	Irúr Virudamalai Valikandapuram Pagoda	35 33 44 101 53 38	4.611306 4.837266 4.676737	40861 68749 47505	7.739 13.021 8.997	" "	Irúr Trichinopoly, Panmalai Turaiyúr Hill Pagoda	72 22 50 29 35 25	5.131704 4.846117 5.143022	135427 70164 139002	25.649 13.289 26.326	" " "	
476	Irúr Neduvalasa Yélabalúr Hill Pillar	28 19 20 96 39 10	4.378388 4.699282 4.615713	23899 50036 41277	4.526 9.476 7.818	" "	Irúr Trichinopoly, Panmalai Tanjore Pagoda	56 52 44 72 32 2 50 35 14	5.178066 5.34572 5.143022	150684 171622 139002	28.539 32.504 26.326	C.T.I. 36 C.T.I.	

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
490	Irúr Tanjore Pagoda Trichinopoly, Ganapati	61 44 24 44 20 2 73 55 34	5 106773 5 090269 5 234572	157316 124815 171622	29.795 23.639 32.504	503	Kulagudi Tanjore Pagoda Tachankurchi	32 49 40 88 30 45 58 39 35	4 807762 5 073523 5 005174	64234 118447 101198	12.165 22.433 19.166	Inch c.t.i. " " "
491	Irúr Kulagudi Trichinopoly, Ganapati	57 3 1 88 23 34 34 33 25	5 020278 5 096269 4 850195	104780 124815 70826	19.845 23.639 13.414	504	Kulagudi Trichinopoly, Ganapati Tachankurchi	66 44 58 61 56 6 51 18 56	5 091065 5 073523 5 020278	123329 118447 104780	23.358 22.433 19.845	" 36 c.t.i.
492	Irúr Trichinopoly, Ganapati Chéttikulam Pagoda	54 39 39 8 0 34 34 33 25	5 059223 4 201735 5 090269	114610 19576 124815	21.706 3.708 23.639	505	Tanjore Pagoda Tachankurchi Búdalur	44 32 10 58 34 6 76 53 44	4 665162 4 750305 4 807762	46255 56274 64234	8.760 10.658 12.165	" " "
493	Irúr Neduvallas Terani	89 29 2 26 29 3 64 1 55	4 661917 4 311221 4 615713	45911 20475 41277	8.695 3.878 7.818	506	Tanjore Pagoda Búdalur Vallam Fort	44 55 39 36 30 55 98 33 26	4 604102 4 529711 4 750305	40188 33862 56274	7.612 6.413 10.658	" " "
494	Pagalavádi Hill Pagoda Irúr Terani	110 22 15 57 38 20	4 311221 4 905642 4 920387	20475 92394 83251	3.878 17.499 15.767	507	Tachankurchi Búdalur Vallam Fort	59 0 17 40 22 49 80 36 54	4 604102 4 482494 4 665162	40188 30373 46255	7.612 5.753 8.760	" " "
495	Irúr Virudamalai Terani Pagoda	145 33 0 10 36 52	4 822811 4 335522 4 676737	66498 21653 47505	12.594 4.101 8.997	508	Tanjore Pagoda Vallam Fort Tanjore Base N.E. End	17 48 4 11 23 29 150 48 27	4 326833 4 137107 4 529711	21224 13712 33862	4.020 2.597 6.413	" " "
496	Shilagudi Neduvallas Ariyalúr Pagoda	67 23 10 28 38 56	4 801205 4 516683 4 833534	63271 32861 68161	11.983 6.224 12.909	509	Vallam Fort Tanjore Base N.E. End Tanjore Base S.W. End	86 42 39 15 50 38 77 26 43	4 336627 3 773533 4 326833	21708 5937 21224	4.111 1.124 4.020	" " "
497	Irúr Shilagudi Ariyalúr Pagoda	21 40 24 100 16 48	4 516683 4 942259 4 877929	32861 87551 75497	6.224 16.582 14.299	510	Kulagudi Tanjore Pagoda Tirumalvádi Pagoda	10 6 8 10 44 27	4 697998 4 724325 5 005174	49888 53006 101198	9.449 10.039 19.166	" " "
498	Irúr Terani Uttatúr Pagoda	18 54 14 125 5 22	4 052454 4 454822 4 311221	11284 28499 20475	2.137 5.397 3.878	511	Tanjore Pagoda Vallam Fort Tirumalvádi Pagoda	99 38 41 49 21 23	4 811703 4 697998 4 529711	64819 49888 33862	12.276 9.449 6.413	" " "
499	Irúr Neduvallas Uttatúr Pagoda	108 23 16 28 16 48	4 756485 4 454822 4 615713	57080 28499 41277	10.811 5.397 7.818	512	Tanjore Pagoda Tachankurchi Tiruvádi Pagoda	115 9 36 22 38 34	4 937305 4 506040 4 807762	86558 36810 64234	16.393 6.973 12.165	" " "
500	Irúr Terani Pílápachai Hill Tree	73 2 57 79 51 17	4 633458 4 645904 4 311221	42999 44249 20475	8.144 8.380 3.878	513	Kulagudi Tachankurchi Tiruvádi Pagoda	46 25 13 36 1 1	4 937305 4 846712 5 073523	86558 70261 118447	16.393 13.307 22.433	" " "
501	Irúr Terani Tiruvallarai Pagoda	79 38 10 87 13 41	4 947554 4 954189 4 311221	88624 89989 20475	16.785 17.043 3.878	514	Tanjore Pagoda Tachankurchi Tirukatpalli Pagoda	61 46 25 62 28 49	4 835511 4 838344 4 807762	68472 68920 64234	12.968 13.053 12.165	" " "
502	Trichinopoly, Panmalai Tanjore Pagoda Tachankurchi	22 27 37 41 12 20 116 20 3	4 807762 5 044379 5 178066	64234 110759 150684	12.165 20.977 28.539	515	Kulagudi Tanjore Pagoda Tirukatpalli Pagoda	38 1 43 26 44 20	4 838344 4 701865 5 005174	68920 50334 101198	13.053 9.533 19.166	" " "

* Deduced base.

SOUTH-EAST COAST SERIES.

Triangle No.	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
516	Kulagudi Tachankurchi Erumbesvaran Hill Pagoda	s. h.s.	4.977440	94938	17.981	529	Trichinopoly, Panmalai Alúrtimalai Viramalai Hill Pagoda	h.s. " "	4.930323	85177	16.132	Inch C.T.I.
			4.974072	94204	17.842				4.946838	88478	16.757	
			5.073523	118447	22.433				4.981514	95833	18.150	
517	Tachankurchi Búdalúr Tanjore Palace	h.s. s.	4.757653	57234	10.840	530	Alúrtimalai Viramalai Hill Pagoda Kudimáyanalai	h.s. " "	4.805008	78525	14.872	"
			4.853323	66884	12.667				4.740990	55080	10.432	
			4.605162	46255	8.760				4.930323	85177	16.132	
518	Kulagudi Tachankurchi Tanjore Palace	s. h.s.	4.825323	66884	12.667	531	Alúrtimalai Kudimáyanalai Puram	h.s. " "	4.970195	93367	17.683	"
			4.999531	90892	18.919				4.991217	97998	18.560	
			5.073523	118447	22.433				4.740990	55080	10.432	
519	Tachankurchi Búdalúr Tanjore Great Pagoda	h.s. s.	4.744502	55527	10.516	532	Kudimáyanalai Puram Tirukonam	h.s. " "	4.706675	50895	9.639	"
			4.802638	63480	12.023				4.695433	49594	9.393	
			4.665162	46255	8.760				4.970195	93367	17.683	
520	Kulagudi Tachankurchi Tanjore Great Pagoda	s. h.s.	4.802638	63480	12.023	533	Alúrtimalai Kudimáyanalai Tirukonam	h.s. " "	4.695433	49594	9.393	"
			5.003814	100882	19.106				4.693191	49339	9.345	
			5.073523	118447	22.433				4.740990	55080	10.432	
521	Ráramutirakota, XXX Kakkrákota, XXXII Tanjore Temple	s. h.s.	4.846335	70200	13.295	534	Kudimáyanalai Tirukonam Kotúr	h.s. " s.	4.515292	32756	6.204	"
			4.462771	29025	5.497				4.627843	42447	8.039	
			4.708505	58682	11.114				4.695433	49594	9.393	
522	Arasapat, XXVIII Kakkrákota, XXXII Tanjore Temple	s. h.s.	4.846335	70200	13.295	535	Puram Tirukonam Kotúr	h.s. " s.	4.515292	32756	6.204	"
			4.462771	29025	5.497				4.739622	54906	10.309	
			4.742988	55333	10.480				4.706675	50895	9.639	
523	Kumbakonam, XXIII Viramangalam, XXVII Alangudi Temple	s. h.s.	4.603862	40166	7.607	536	Kudimáyanalai Kotúr Tirukonam Pagoda	h.s. s. "	4.546833	35224	6.671	"
			4.715950	51994	9.847				4.716703	52084	9.864	
			4.646448	44305	8.391				4.627843	42447	8.039	
524	Kumbakonam, XXIII Alangudi, XXVI Alangudi Temple	s. h.s.	3.478614	3010	0.570	537	Alúrtimalai Kudimáyanalai Tirukonam Pagoda	h.s. " "	4.716703	52084	9.864	"
			4.715950	51994	9.847				4.691354	49131	9.305	
			4.703163	50485	9.562				4.740990	55080	10.432	
525	Púvatúr, XXXI Kakkrákota, XXXII Oruttannád Chatram	s. h.s.	4.226244	16836	3.189	538	Puram Kotúr Pudukota Palace	h.s. s. "	4.587042	38640	7.318	"
			4.411629	25801	4.886				4.650545	44724	8.471	
			4.542146	34845	6.600				4.739622	54906	10.399	
526	Pátharankota, XXXIII Kalúrunikád, XXXVI Kayáyúr Temple	s. h.s.	4.498014	31478	5.962	539	Tirukonam Kotúr Pudukota Palace	h.s. s. "	4.587042	38640	7.318	"
			4.211666	16280	3.083				3.908625	9303	1.702	
			4.664631	46199	8.750				4.515292	32756	6.204	
527	Trichinopoly, Panmalai Tachankurchi Alúrtimalai	h.s. " "	4.990547	97847	18.532	540	Puram Kotúr Devamalai	h.s. s. h.s.	4.023104	10546	1.997	"
			4.981514	95833	18.150				4.755595	56963	10.788	
			5.044379	110759	20.977				4.739622	54906	10.399	
528	Trichinopoly, Ganapati Tachankurchi Alúrtimalai	s. h.s. "	4.990547	97847	18.532	541	Kotúr Devamalai Pivel Pagoda	s. h.s. "	4.098006	12558	2.378	"
			5.050076	113783	21.550				4.320134	20899	3.958	
			5.091065	123329	23.358				4.023104	10546	1.997	

* For another triangle to this point, see Great Arc Meridional Series, Section 8° to 18°, the difference in the common side being 4 feet.

SECONDARY TRIANGULATION. TRIANGLES.

Triangle No.	Station	Corrected Plane Angle	Distance			Theodolite used	No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles					Log. feet	Feet	Miles	
542	Kotúr Devamalai Peraiyúr Pagoda	s. h.s. h.s.	3.843488 4.147301 4.023104	6974 14038 10546	1.321 2.659 1.997	Inch C.T.I. "	Mínákshi, LXXIV Koilpati, LXXXIII Manditop Hill Mark (helio.)	8 59 42 96 3 34	3.880210 4.683684 4.670950	7589 48271 46876	1.437 9.142 8.878	Inch 24 "	
543	Tirukonam Kotúr Tiruvannákonam Pagoda	h.s. s. h.s.	4.725875 4.497790 4.515292	53196 31462 32756	10.075 5.959 6.204	"	Mínákshi, LXXIV Kulayanallúr, LXXXV Kusavankundu Hill Mark (helio.)	34 9 43 16 56 13	4.870417 4.585410 5.012149	74202 38496 102837	14.053 7.291 19.477	"	
544	Puram Kotúr Tiruvannákonam Pagoda	h.s. s. h.s.	4.725875 4.476191 4.739022	53196 29936 54906	10.075 5.670 10.399	"	Mínákshi, LXXIV Koilpati, LXXXIII Kusavankundu Hill Mark (helio.)	34 42 17 55 12 26	4.426328 4.585410 4.670950	26689 38496 46876	5.055 7.291 8.878	"	
545	Álúrtimalai Tirukonam Tenimalai Pagoda	h.s. " h.s.	4.882127 4.972083 4.693191	76230 93774 49339	14.438 17.760 9.345	"	Koilpati, LXXXIII Kulayanallúr, LXXXV Kammañayakanpati Church	15 4 20 10 49 41	4.758912 4.617717 4.984166	57400 41468 96420	10.871 7.854 18.261	"	
546	Kudimáyamalai Tirukonam Tenimalai Pagoda	h.s. " h.s.	4.882127 4.588771 4.695433	76230 38795 49594	14.438 7.347 9.393	"	Mínákshi, LXXIV Kulayanallúr, LXXXV Kadalai Hill Mark	63 20 17 8 42 56	4.984988 4.214307 5.012149	96602 16380 102837	18.296 3.102 19.477	"	
547	Álúrtimalai Tirukonam Malai Adipati Hill Pagoda	h.s. " h.s.	4.890938 5.015801 4.693191	79239 103705 49339	15.007 19.641 9.345	"	Koilpati, LXXXIII Kulayanallúr, LXXXV Kadalai Hill Mark	81 12 44 18 15 3	4.984988 4.485907 4.984166	96602 30613 96420	18.296 5.798 18.261	"	
548	Álúrtimalai Kotúr Malai Adipati Hill Pagoda	h.s. s. h.s.	4.697587 5.015801 4.865509	49841 103705 73368	9.440 19.641 13.896	"	Mínákshi, LXXIV Koilpati, LXXXIII Étaiyápuram Mark	75 52 2 27 35 55	4.660708 4.348895 4.670950	46742 22330 46876	8.853 4.229 8.878	"	
549	Tirukonam Kotúr Kánjar Hill Pagoda	h.s. s. h.s.	4.672543 4.891574 4.515292	47048 77907 32756	8.911 14.755 6.204	"	Koilpati, LXXXIII Kulayanallúr, LXXXV Étaiyápuram Mark	56 34 7 28 53 55	4.906977 4.669708 4.984166	80719 46742 96420	15.288 8.853 18.261	"	
550	Álúrtimalai Puram Péramalai Stone	h.s. " h.s.	5.185811 5.184390 4.991217	153395 152894 97998	29.052 28.957 18.560	"	Mínákshi, LXXIV Kulayanallúr, LXXXV Étaiyápuram Palace	15 49 40 4 30 10	4.907034 4.366186 5.012149	80730 23237 102837	15.290 4.401 19.477	86 "	
551	Kudimáyamalai Puram Péramalai Stone	h.s. " h.s.	5.185811 4.990894 4.970195	153395 97925 93367	29.052 18.546 17.683	"	Kulayanallúr, LXXXV Ótapidáram Pagoda Valakkavaranakád Gateway	24 8 57 108 23 30	3.920554 4.285941 4.176057	8328 19317 14999	1.577 3.659 2.841	"	
552	Tirukonam Kotúr Tirumiam Hill Tree	h.s. s. h.s.	4.461313 4.727980 4.515292	28928 53454 32756	5.479 10.124 6.204	"	Mínákshi, LXXIV Kulayanallúr, LXXXV Supalápuram	40 24 8 37 35 48 102 0 4	4.833422 4.807147 5.012149	68143 64143 102837	12.906 12.148 19.477	"	
553	Mánúr, XLI Ókkúr, XLIII Avadiarkoil Temple	h.s. s. h.s.	4.355272 4.480564 4.714762	22661 30239 51852	4.292 5.727 9.820	24	Kulayanallúr, LXXXV Supalápuram Dalavapuram	43 41 34 48 43 47 87 34 39	4.673157 4.709801 4.833422	47115 51263 68143	8.923 9.709 12.906	"	
554	Kódikulam, LIII Pórgudi, LIV Péruvayal Temple	h.s. s. h.s.	4.256384 4.385493 4.480184	18046 24294 30212	3.418 4.601 5.722	"	Kulayanallúr, LXXXV Dalavapuram Tuticorin Flag-staff	45 10 33 94 10 32	4.746754 4.894787 4.709801	55815 78485 51263	10.571 14.865 9.709	"	

NOTE.—Stations Koilpati, LXXXIII and Kulayanallúr, LXXXV pertain to the Great Arc Meridional Series, Section 8° to 18°
 Meridional Series, Section 8° to 18°. † Base taken from the Great Arc Meridional Series, Section 8° to 18°, the difference in the common side being 10 feet. * Deduced base.

SOUTH-EAST COAST SERIES.

No. of Triangle	Station	Corrected Plane Angle ° ' "	Distance			No. of Triangle	Station	Corrected Plane Angle ° ' "	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
568	Mōtūruni, LXXI Mínakshi, LXXIV Vēllaiyapuram Building (helio.)	49 35 52 24 24 18	4 785105 4 519571 4 886275	60968 33080 76902	11 547 6 265 14 576	581	Taraigudi, LXVI Sūrangudi, LXIX Vēmbār Church	29 52 9 67 14 31	4 196323 4 463875 4 495722	15715 29099 31313	2 976 5 511 5 930	Inch 24 "
569	Mínakshi, LXXIV Supalápuram Mōtūruni	33 42 27 89 50 15	4 630523 4 886265 4 807147	42709 76900 64143	8 089 14 576 12 148	582	Pulápati, LXVII Annappúnayakampati, LXVIII Tirumalūganthakota Temple	27 13 38 28 34 2	4 261957 4 281147 4 519066	18279 19105 33042	3 462 3 618 6 258	" " "
570	Supalápuram Dalaváipuram Vaippár	59 29 43 70 31 32 49 58 45	4 724335 4 763451 4 673157	53007 58003 47115	10 039 10 986 8 923	583	Taraigudi, LXVI Pulápati, LXVII Kadamangalam Church	9 44 8 34 42 27	3 860885 4 388146 4 477961	7259 24443 30058	1 375 4 629 5 693	" " "
571	Dalaváipuram Tuticorin Flag-staff Vaippár	107 43 17 37 13 8	4 943985 4 724335 4 746754	87899 53007 55815	16 648 10 039 10 571	584	Tarnigudi Vēmbār Naripur Building	54 2 52 38 58 11	4 361834 4 252201 4 453010	23006 17873 28380	4 357 3 385 5 375	86 " "
572	Supalápuram Mōtūruni Sūrangudi	35 21 0 28 5 56	4 719863 4 909105 4 630523	52464 81116 42709	9 936 15 363 8 089	585	Ópilán, LXIV Taraigudi, LXVI Múkkaiyūr Church	19 1 41 8 0 43	4 519485 4 150425 4 663867	33074 14139 46118	6 264 2 678 8 734	24 " "
573	Supalápuram Vaippár Sūrangudi	24 35 11 40 23 5	4 571092 4 909105 4 763451	37247 81116 58003	7 054 15 363 10 986	586	Taraigudi Vēmbār Múkkaiyūr	93 15 11 48 32 26	4 660973 4 536101 4 453010	45811 34388 28380	8 676 6 513 5 375	36 " "
574	Mōtūruni Sūrangudi Taraigudi	118 3 5 38 47 41	4 517535 4 868647 4 719863	32926 73900 52464	6 236 13 996 9 936	587	Kadaládi, LXIII Ópilán, LXIV Múkkaiyūr Building (helio.)	24 1 50 87 20 19	4 150296 4 539994 4 509530	14135 34673 32324	2 677 6 567 6 122	24 " "
575	Sūrangudi Taraigudi Kumárapuram	71 55 2 68 18 57	4 689584 4 679707 4 517535	48931 47831 32926	9 267 9 059 6 236	588	Kadaládi, LXIII Taraigudi, LXVI Múkkaiyūr Building (helio.)	46 32 51 49 29 17	4 519929 4 539994 4 650012	33108 34673 45354	6 270 6 567 8 590	" " "
576	Vaippár Sūrangudi Vēmbār	113 55 49 46 50 18	4 222925 4 668366 4 571092	16708 46598 37247	3 164 8 825 7 054	589	Vēmbār Múkkaiyūr Salt Water Island	17 18 8 84 36 52	4 143793 4 668514 4 660973	13925 46614 45811	2 637 8 828 8 676	36 " "
577	Sūrangudi Taraigudi Vēmbār	59 32 5 30 29 38 89 58 17	4 453010 4 222925 4 517535	28380 16708 32926	5 375 3 164 6 236	590	Múkkaiyūr Salt Water Island Shuli Tīvu Mark	46 53 11 92 37 0	4 194599 4 330823 4 143793	15653 21420 13925	2 965 4 057 2 637	" " "
578	Sūrangudi Vēmbār Karia Shuli Island	94 36 42 69 37 7	4 787312 4 760643 4 222925	61279 57629 16708	11 606 10 915 3 164	591	Múkkaiyūr Salt Water Island Good Water Island	63 10 53 22 53 1	4 504578 4 552974 4 143793	31958 35725 13925	6 053 6 766 2 637	" " "
579	Supalápuram Sūrangudi Vaippár Church	25 40 56 56 23 26	4 550143 4 833831 4 909105	35493 68207 81116	6 722 12 918 15 363	592	Múkkaiyūr Salt Water Island Koil Kádmundal	80 47 10 27 26 21	4 474634 4 457922 4 143793	29829 28703 13925	5 649 5 436 2 637	" " "
580	Sūrangudi Vēmbār Vaippár Church	97 55 28 58 25 49	4 615534 4 550143 4 222925	41260 35493 16708	7 814 6 722 3 164	593	Salt Water Island Good Water Island Koil Kádmundal	68 56 23 88 54 0	4 081228 4 474634 4 504578	12057 29829 31958	2 283 5 649 6 053	" " "

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
594	Good Water Island Koil Kádmundal Koil Máriyúr Pagoda	s. " 9 0 17 150 5 47	3'723460	5290	1'002	607	Rannad, LVI Sambuttiyendal, LVII Uttarakoshamangai Small Gopuram	42 35 33	4'475424	29883	5'660	Theodolite used
			4'226603	16850	3'191			51 54 5	4'540924	34748	6'581	
595	Good Water Island Koil Kádmundal Tree Flag	s. " 61 48 44 80 47 54	4'243051	17501	3'314	608	Rannad, LVI Kánjarangudi, LIX Uttarakoshamangai Small Gopuram	53 49 4	4'556651	36029	6'824	Theodolite used
			4'202251	19600	3'712			51 7 4	4'540924	34748	6'581	
596	Good Water Island Tree Flag Valinokkam	s. h.s. 27 58 21	4'234576	17162	3'250	609	Tanichanthai, LXI Arapoth, LXII Uttarakoshamangai Big Gopuram	62 31 40	4'685627	48487	9'183	Theodolite used
			4'502460	31802	6'023			76 5 12	4'724656	53046	10'047	
597	Yérvádi, LX Tanichanthai, LXI Valinokkam Landmark	s. " 39 7 27 68 48 9	4'386685	24360	4'614	610	Sambuttiyendal, LVII Arapoth, LXII Uttarakoshamangai Big Gopuram	80 4 23	4'685627	48487	9'183	Theodolite used
			4'595040	36732	6'957			37 33 47	4'772248	30009	5'683	
598	Yérvádi, LX Púvarasanhalli Tývu, LXXV Valinokkam Landmark	s. " 64 49 17 71 2 30	4'537090	34442	6'523	611	Yérvádi Palayamunai Appa Tývu	54 19 29	4'516232	32827	6'217	Theodolite used
			4'556227	35994	6'817			86 2 20	4'605458	40314	7'635	
599	Tree Flag Valinokkam Tanichanthai	h.s. s. 41 50 53	4'423291	26503	5'019	612	Yérvádi Palayamunai Kánjarangudi	42 0 13	4'495761	31316	5'931	Theodolite used
			4'374599	23692	4'487			33 25 33	4'411259	25779	4'882	
600	Uttarakoshamangai, LVIII Yérvádi, LX Idambádal Mark (helio.)	s. " 33 43 43 67 21 16	4'265403	18425	3'490	613	Palayamunai Appa Tývu Kánjarangudi	44 2 7	4'498086	31484	5'963	Theodolite used
			4'486063	30624	5'800			89 30 57	4'656023	45292	8'578	
601	Yérvádi, LX Tanichanthai, LXI Idambádal Mark (helio.)	s. " 32 4 29 24 51 26	4'512730	32563	6'167	614	Púvarasanhalli Tývu, LXXV Appa Tývu, LXXVI Kúnkarai Church	57 45 38	4'440740	27589	5'225	Theodolite used
			4'366898	23275	4'408			64 32 41	4'409109	29452	5'578	
602	Uttarakoshamangai, LVIII Yérvádi, LX Yérvádi Mosque	s. " 13 30 49 98 1 36	4'595040	36732	6'957	615	Appa Tývu, LXXVI Váisi Tývu, LXXVIII Nájamaudal Landmark	81 26 45	4'671443	46929	8'888	Theodolite used
			4'3912788	8181	1'549			36 0 1	4'445523	27895	5'283	
603	Valinokkam Tanichanthai Yérvádi	h.s. s. " 68 33 5 72 44 23	4'547298	35261	6'678	616	Púvarasanhalli Tývu, LXXV Appa Tývu, LXXVI Nájamaudal Landmark	43 3 33	4'445523	27895	5'283	Theodolite used
			4'558455	36179	6'852			94 30 12	4'609916	40730	7'714	
604	Valinokkam Yérvádi Palayamunai	s. " 45 13 28 49 43 40	4'411259	25779	4'882	617	Appa Tývu Kánjarangudi Talaúri	80 54 53	4'610509	40786	7'725	Theodolite used
			4'442593	27707	5'248			49 25 22	4'496537	31372	5'942	
605	Valinokkam Yérvádi Ánaipár Tývu Mark	h.s. s. " 44 10 30 24 16 23	4'433073	27106	5'134	617	Appa Tývu Kánjarangudi Talaúri	49 39 45	4'498086	31484	5'963	Theodolite used
			4'203865	15991	3'029			80 54 53	4'610509	40786	7'725	
606	Yérvádi Palayamunai Ánaipár Tývu Mark	s. " 25 27 17 83 36 58	4'558455	36179	6'852	617	Appa Tývu Kánjarangudi Talaúri	49 25 22	4'496537	31372	5'942	Theodolite used
			4'069038	11723	2'220			49 39 45	4'498086	31484	5'963	

CEYLON BRANCH SERIES
SECONDARY TRIANGULATION.

SOUTH-EAST COAST SERIES.

Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
618	Appa Tivu Kánjarangudi Péryapatnam	8. 49 50 26 86 56 40 43 12 54	4° 545799 4° 661944 4° 498086	35140 45914 31484	6° 655 8° 696 5° 963	682	Kánjarangudi Pótakoitédal Naganáda Choultry	8. 6 25 5 140 4 0	3° 722707 4° 481800 4° 416400	5281 30325 26086	1° 000 5° 743 4° 940	Inch 86 " " " "
619	Kánjarangudi Talairi Péryapatnam	8. 37 31 18 58 53 25 83 35 17	4° 397895 4° 545799 4° 610509	24997 35140 40786	4° 734 6° 655 7° 725	688	Talairi Pótakoitédal Mutupet Church	8. 25 32 18 82 57 18	4° 145889 4° 508004 4° 488269	13992 32211 30780	2° 650 6° 101 5° 830	" " " " " "
620	Appa Tivu Talairi Pótakoitédal	8. 44 44 37 89 24 39 45 50 44	4° 488269 4° 640713 4° 496537	30780 43723 31372	5° 830 8° 281 5° 942	684	Kánjarangudi Talairi Mutupet Church	8. 46 57 56 65 17 12	4° 508004 4° 602403 4° 610509	32211 40032 40786	6° 101 7° 582 7° 725	" " " " " "
621	Kánjarangudi Talairi Pótakoitédal	8. 48 58 51 39 44 54 91 16 15	4° 488269 4° 416400 4° 610509	30780 26086 40786	5° 830 4° 940 7° 725	685	Talairi Péryapatnam Mull Tivu	8. 81 17 21 47 3 45	4° 498420 4° 368028 4° 397895	31508 23336 24997	5° 967 4° 420 4° 734	" " " " " "
622	Tanichanthai Yérvádi Uttarakoshamangai Pagoda	8. 38 56 26 99 54 37	4° 527372 4° 722528 4° 547298	33680 52787 35261	6° 379 9° 098 6° 678	686	Péryapatnam, LXXVII Musal Tivu, LXXX Putu Madam Mosque (helio.)	30 35 2 25 12 41	4° 568014 4° 490835 4° 778991	36984 30962 60116	7° 005 5° 864 11° 386	24 " " " "
623	Kánjarangudi Pótakoitédal Uttarakoshamangai Pagoda	8. 122 7 16 33 58 17	4° 736510 4° 555904 4° 416400	54514 35907 26086	10° 325 6° 812 4° 940	687	Péryapatnam Mull Tivu Vaidáli	8. 53 40 27	4° 775728 4° 861305 4° 498420	59666 72662 31508	11° 300 13° 762 5° 967	86 " " " "
624	Kánjarangudi Pótakoitédal Ramnad Tower	8. 68 49 43 77 1 44	4° 636892 4° 656015 4° 416400	43340 45291 26086	8° 208 8° 578 4° 940	688	Mull Tivu Vaidáli Musal Tivu	8. 27 31 46 39 27 55 113 0 19	4° 476553 4° 614910 4° 775728	29961 41201 59666	5° 674 7° 803 11° 300	" " " " " "
625	Ramnad, LVI Kánjarangudi, LIX Ramnad Palace (helio.)	132 4 51 2 36 27	4° 653461 3° 440892 4° 634774	45026 2760 43129	8° 528 0° 523 8° 168	689	Péryapatnam Vaidáli Musal Tivu	8. 24 20 51 64 38 39 91 0 30	4° 476553 4° 817380 4° 861305	29961 65072 72662	5° 674 12° 438 13° 762	" " " " " "
626	Uttarakoshamangai, LVIII Kánjarangudi, LIX Ramnad Palace (helio.)	75 57 45 53 40 58	4° 653461 4° 572828 4° 553124	45026 37396 35737	8° 528 7° 083 6° 768	640	Musal Tivu, LXXX Pímurichán, LXXXII Rámaswámi Madam Choultry No.1	82 25 8 27 48 40	4° 642912 4° 315031 4° 619072	43945 20084 41598	8° 323 3° 917 7° 878	24 " " " "
627	Appa Tivu Talairi Tirupullani Pagoda	8. 72 38 42 66 52 45	4° 663971 4° 647843 4° 496537	46129 44447 31372	8° 736 8° 418 5° 942	641	Rámaswámi Madam, LXXIX Musal Tivu, LXXX Rámaswámi Madam Choultry No.1	25 0 44 1 55 47	4° 315031 3° 216774 4° 345666	20684 1647 22165	3° 917 0° 312 4° 198	" " " " " "
628	Kánjarangudi Pótakoitédal Tirupullani Pagoda	8. 54 30 48 32 30 55	4° 327742 4° 147382 4° 416400	21269 14040 26086	4° 028 2° 659 4° 940	642	Musal Tivu Vaidáli Rámaswámi Madam Choultry No.2	36 3 32 59 12 47	4° 248227 4° 412426 4° 476553	17710 25848 29961	3° 354 4° 895 5° 674	86 " " " "
629	Uttarakoshamangai, LVIII Kánjarangudi, LIX Tirupullani Temple	22 46 45 68 0 4	4° 141077 4° 520333 4° 553124	13838 33139 35737	2° 621 6° 276 6° 768	643	Péryapatnam Musal Tivu Rámaswámi Madam Choultry No.2	8. 22 36 10 54 56 58	4° 412426 4° 740806 4° 817380	25848 55056 65672	4° 895 10° 427 12° 438	" " " " " "
630	Ramnad, LVI Uttarakoshamangai, LVIII Tirupullani Temple	61 2 23 52 46 56	4° 520333 4° 479447 4° 539676	33139 30161 34648	6° 276 5° 712 6° 562	644	Rámaswámi Madam, LXXIX Musal Tivu, LXXX Chinna Appa Pillai Dargah	44 42 2 7 10 41	4° 297058 3° 546002 4° 345666	19818 3520 22165	3° 753 0° 667 4° 198	24 " " " "
631	Talairi Pótakoitédal Chéngo Choultry	8. 26 41 40 82 34 8	4° 165763 4° 506629 4° 488269	14647 32332 30780	2° 774 6° 123 5° 830	645	Marakayárpattam, LXXXI Pímurichán, LXXXII Marakayárpattam Mosque	73 20 44 3 54 58	4° 329695 3° 182700 4° 337483	21365 1523 21751	4° 046 0° 288 4° 120	" " " " " "

SECONDARY TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Corrected Plane Angle	Distance			No. of Triangle	Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles				Log. feet	Feet	Miles	
646	Rámaswámi Madam, LXXXIX Marakayápatnam, LXXXI Mannáli Tivu Landmark	42 28 16 86 57 38	4' 338718 4' 508663 4' 397107	21813 32260 24952	4' 131 6' 110 4' 726	658	Púmurichán, LXXXII Masánam Karai, LXXXV Kurusadi Landmark No. 1	4 22 1 1 24 22	4' 582412 4' 090631 4' 703326	38231 12321 50504	7' 241 2' 333 9' 565	Inch 24 "
647	Marakayápatnam, LXXXI Púmurichán, LXXXII Mannáli Tivu Landmark	52 12 13 64 3 52	4' 282554 4' 338718 4' 337483	19167 21813 21751	3' 630 4' 131 4' 120	659	Marakayápatnam, LXXXI Púmurichán, LXXXII Kurusadi Landmark No. 1	17 1 45 131 50 17	4' 090631 4' 496149 4' 337483	12321 31344 21751	2' 333 5' 936 4' 120	"
648	Musal Tivu, LXXX Púmurichán, LXXXII Mantapam (helio.)	22 49 47 68 53 33	4' 208093 4' 599107 4' 619072	16147 38825 41598	3' 058 7' 353 7' 878	660	Púmurichán, LXXXII Masánam Karai, LXXXV Kurusadi Landmark No. 2	0 50 38 0 17 23	4' 575160 4' 110868 4' 703326	37598 12908 50504	7' 121 2' 445 9' 565	"
649	Marakayápatnam, LXXXI Púmurichán, LXXXII Mantapam (helio.)	36 52 37 17 3 38	4' 208093 3' 897304 4' 337483	16147 7894 21751	3' 058 1' 495 4' 120	661	Marakayápatnam, LXXXI Púmurichán, LXXXII Kurusadi Landmark No. 2	16 20 24 135 21 40	4' 110868 4' 508370 4' 337483	12908 32238 21751	2' 445 6' 106 4' 120	"
650	Musal Tivu, LXXX Púmurichán, LXXXII Toniturai Landmark No. 1	18 11 28 103 29 40	4' 183587 4' 677013 4' 619072	15261 47535 41598	2' 800 9' 003 7' 878	662	Marakayápatnam, LXXXI Púmurichán, LXXXII Kurusadi Building	17 24 43 135 48 45	4' 159811 4' 527030 4' 337483	14448 33653 21751	2' 736 6' 374 4' 120	"
651	Marakayápatnam, LXXXI Púmurichán, LXXXII Toniturai Landmark No. 1	44 15 26 51 39 45	4' 183587 4' 234327 4' 337483	15261 17152 21751	2' 890 3' 249 4' 120	663	Marakayápatnam, LXXXI Púmurichán, LXXXII Kundukal Temple	22 51 50 125 12 48	4' 203651 4' 526440 4' 337483	15983 33608 21751	3' 027 6' 365 4' 120	"
652	Musal Tivu, LXXX Púmurichán, LXXXII Toniturai Landmark No. 2	16 43 3 104 8 25	4' 144230 4' 671998 4' 619072	13939 40989 41598	2' 640 8' 899 7' 878	664	Gandhamána, LXXXIII Masánam Karai, LXXXV Kundukal Landmark	77 10 53 73 55 40	4' 459816 4' 453461 4' 154852	28828 28409 14284	5' 460 5' 381 2' 705	"
653	Marakayápatnam, LXXXI Púmurichán, LXXXII Toniturai Landmark No. 2	39 49 16 52 18 30	4' 144230 4' 236131 4' 337483	13939 17224 21751	2' 640 3' 262 4' 120	665	Musal Tivu Vaidáli Gandhamána Pagoda	45 49 18 116 51 28	4' 858374 4' 953178 4' 476553	72173 89780 29961	13' 669 17' 004 5' 674	36
654	Marakayápatnam, LXXXI Púmurichán, LXXXII Pámban Flag-staff	39 12 23 94 26 30	4' 278785 4' 476683 4' 337483	19001 29970 21751	3' 599 5' 676 4' 120	666	Gandhamána, LXXXIII Masánam Karai, LXXXV Rámesvaram Temple No. 1	22 51 36 19 17 36	3' 917423 3' 847100 4' 154852	8268 7032 14284	1' 566 1' 332 2' 705	24
655	Musal Tivu, LXXX Marakayápatnam, LXXXI Pámban Flag-staff	20 51 29 136 6 7	4' 476683 4' 766137 4' 517759	29970 58363 32943	5' 676 11' 054 6' 239	667	Gandhamána, LXXXIII Kachi Tivu, S., LXXXVII Rámesvaram Temple No. 2	74 31 12 4 19 53	4' 926645 3' 820783 4' 934419	84459 6619 85984	15' 996 1' 254 16' 285	"
656	Marakayápatnam, LXXXI Púmurichán, LXXXII Pámban Light-house	41 53 46 96 10 55	4' 337265 4' 510098 4' 337483	21740 32367 21751	4' 117 6' 130 4' 120	668	Gandhamána, LXXXIII Masánam Karai, LXXXV Rámesvaram Temple No. 2	17 32 30 14 2 51	3' 014808 3' 820783 4' 154852	8219 6619 14284	1' 557 1' 254 2' 705	"
657	Musal Tivu, LXXX Marakayápatnam, LXXXI Pámban Light-house	20 24 51 138 47 30	4' 510098 4' 786269 4' 517759	32367 61132 32943	6' 130 11' 578 6' 239	669	Gandhamána, LXXXIII Masánam Karai, LXXXV Kódándarásawámi Temple	12 55 51 155 31 17	4' 203232 4' 470792 4' 154852	15967 29566 14284	3' 024 5' 600 2' 705	"

J. ECCLES,
In charge of Computing Office.

September, 1891.

SOUTH-EAST COAST SERIES.
AZIMUTHS OF SURROUNDING STATIONS AND POINTS AT PRINCIPAL,
PRINCIPAL-AUXILIARY, AND SECONDARY STATIONS.

The following table contains, in the first column, the name of each Principal, Principal-Auxiliary, or Secondary Station, at which azimuths of surrounding Points have been measured; immediately followed by those azimuths. The second column contains the number of the triangle which gives the distance between the Station and the Point.

Name of station with azimuths of surrounding points	° ' "	No. of triangle giving distance	Name of station with azimuths of surrounding points	° ' "	No. of triangle giving distance	Name of station with azimuths of surrounding points	° ' "	No. of triangle giving distance
ALANGUDI, XXVI	42 20 36.74	85	AMANAKAMUNAI, LXXXVIII	36 40 50.45	115	ANDIKUI S.	157 8 10	854
Arasapat, XXVIII	113 15 35.27	82	Kachi Tivu, S., LXXXVII	39 27 50.76	114	Gangamanáyakankuppam	331 31 16	870
Viramangalam, XXVII	171 38 50.62	81	Urimunai, LXXXIX	321 14 31.45	114	Tandaraváracholampet	344 56 45	869
Kumbakonam, XXIII	215 40 32.94	81				Porto Novo Flag-staff		
Putagaram, XXIV	s. 228 2 22	408						
Tiruchérai	s. 290 15 15	524	AMMANTYAVARAM h.s.					
Alangudi Temple	346 19 32	466	Árni Fort	s. 129 40 52	147	ANNAPUNAYAKANPATI, LXVIII	68 24 43.86	85
Mannárgudi Temple No. 3	358 27 3.27	86	Kaniyanúr Hill	173 12 16	147	Mótúrui, LXXI	108 56 10.39	86
Parutikóta, XXIX			Péddakónða	h.s. 219 29 46	148	Melakalúrui, LXXII	168 19 36.44	87
			Attimalai	" 254 28 6	149	Mutúrui, LXX	243 11 52.30	88
			Pónnúr Elankád	" 302 45 40	150	Pulápati, LXVII	271 45 54	582
ALUERTIMALAI h.s.						Tirumáluganthakóta Temple	292 54 12.01	83
Kotúr	s. 10 57 4	548				Tarnigudi, LXVI	342 58 1.27	84
Malai Adipati Hill Pagoda	37 9 14	547				Súrangudi, LXIX		
Tenimalai Pagoda	43 47 55	545	AMANDALAMALAI, XXXI					
Kudimáyamalai	h.s. 46 1 12	580	Karistakgarh	h.s. 41 35 59	116	APPA TIVU, LXXVI	83 10 37.41	96
Péramalai Stone	48 55 45	550	Tellúr	" 335 35 4	116	Púvasasabhalli Tivu, LXXV	121 48 48.38	97
Víramalai Hill Pagoda	109 57 20	529				Yérvádi, LX	147 43 18	614
Trichinopoly, Ganapati	s. 167 2 32	528				Kilakarai Church	168 4 42.19	96
Trichinopoly, Panmalai	h.s. 168 7 24	527				Kánjarangudi, LIX	177 40 49	615
Tachankurchi	" 237 52 32	527				Nájamandal Landmark	222 34 22.91	98
Parum	" 337 18 41	531				Pérvyapatnam, LXXVII	259 7 33.99	99
Tirukonam Pagoda	346 22 20	537	ANDIKUI S.			Váilai Tivu, LXXVIII		
Tirukonam	" 349 37 45	538	Chidambaram Pagoda	s. 17 9 57	858			
			Kundiyyamallúr	s. 82 40 23	855			
			Vénkatámpet	" 112 42 38	854			

NOTE.—Station Anandalamalai, XXXI appertains to the Madras Longitudinal Series.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
APPA TIVU s. Palayamunai Yērvādi Kānarangudi Tirupullani Pagoda Pōtakoiṭṭēdal Pēriyapātnam Talaari	611 611 613 627 620 618 617	° ' " 85 3 19 " 124 41 30 " 174 34 16 " 182 50 27 " 210 44 32 " 224 24 42 " 255 29 9	° ' " 33 50 17.01 59 17 26 62 47 37 71 16 20 96 29 41.08 140 20 57.43 348 28 11	AVIRIMODU, XXXIX Pērumukkal, IV Acharapākam Hill Mark Acharapākam Hill Temple Oratti Hill Mark (heliotrope) Pōnnūr, I Māvanūr, XXXIV Vilaukād Hill Mark (heliotrope)	2 172 174 169 1 1 203
ARAFOTH, LXII Kadalādi, LXIII Kidātirukai, LXV Sambuṭṭiyēndal, LVII Uttarakoshamangai Big Gopuram Uttarakoshamangai, LVIII Tanichanthai, LXI	77 78 72 609 72 73	° ' " 49 25 47.31 84 12 7.24 232 33 26.76 270 7 14 270 18 53.48 346 12 25.32	° ' " 42 25 33.44 163 47 53.43 172 17 6 200 6 34 211 11 24.18 226 57 40 262 34 4 273 57 49.19 345 29 26.77	AYYAMPET, XVI Kulattūr, XIX Kānācakōṇḍān, XIV Srimushnam Temple Vallam, X Seppalanattam, XIII Kūḍalai Attūr Temple (helio.) Chidambaram Pōdaiyūr, XV Salpai, XVII	26 19 375 356 19 374 356 20 22
ARASAPAT, XXVIII Pāvātūr, XXXI Kakkrākota, XXXII Tanjore Temple Rāramutiraikota, XXX Vīranangalam, XXXVII Alangudi, XXXVI Parutikota, XXXIX Mannārgudi Temple No. 8	37 38 522 39 35 35 36 466	° ' " 0 51 42.39 37 50 17.30 108 15 37 113 55 45.42 181 11 50.15 222 19 30.56 286 57 17.89 293 11 50	° ' " 270 11 44 273 3 15 273 22 46 309 34 10 349 56 59	BUDALUR s. Tanjore Palace Tanjore Pagoda Tanjore Great Pagoda Vallam Fort Tachankurechi	517 505 519 506 505
ARNI FORT s. Pādām Karnātakgarh Tāmrāpākam Kaniyanūr Hill Ammaniāyāram	144 144 145 146 147	° ' " 16 46 15 65 52 39 183 47 52 213 14 44 309 39 31	° ' " 39 17 1 58 49 30.72 67 37 13 85 8 50 91 31 30 119 24 52.01 127 19 22 133 5 41 145 24 11 148 44 22 151 54 3 180 52 54.71 220 2 3.97 296 10 14.88 339 42 34 345.20 32.40	CHENDAMANGALAM, VIII Arinattam Hill Mark Ulundūrpet, XI Ulundūrpet Temple Elavāsāsūr Temple Tyāga Drug Hill Mark (helio.) Kiliyūr, IX Kunnatūr Hill Mark (helio.) Tirunirankōnrai Hill Temple Tirukoilūr Temple Arakandanallūr Temple Amūr Temple Mallipat, VII Kallapat, VI Vallam, X Pālākōllai Building Koilkappam, XII	323 16 322 316 297 15 313 310 239 241 309 10 10 11 325 12
ARTTKALAI h.s. Pōnnūr Elaukād Ammaniāyāram Tiruvātūr Pagoda Pēḍḍā-kōṇḍa Wandiwash Pagoda	150 149 160 149 151	° ' " 27 17 35 74 30 54 95 9 36 120 15 4 359 34 3	° ' " 13 39 43 142 59 22 269 0 54 300 9 59	DEVAMALAI h.s. Kotūr Pilvel Pagoda Peraiyūr Pagoda Puram	540 541 542 540
AVIARMALAI h.s. Attūr Fort Mallikarai Shundapanād Chinnā Tirupadi Hill Pagoda Manjali Hill Pagoda	283 283 133 133 287	° ' " 14 36 12 55 5 31 210 33 11 256 38 20 350 23 1	° ' " 8 2 23 210 33 5 h.s. 212 58 0 s. 262 22 11 " 328 30 53 h.s. 351 55 36	CHENGAD s. Melamāpat Pērumukkal Kunnam Murattān No. 2 Tiruvēndipuram Sēnappanāyakaupālayam	210 207 243 207 208 209
CHENGAM s. Vulichikal Pērumālkoil CHIDAMBARAM s. Ayyampet, XVI Seppalanattam, XIII Vallam, X Porto Novo Porto Novo Beacon Coleroon Beacon Kodampālayam No. 2 Tirunāgiri Vaithisvarankoil Temple COLEROON BEACON s. Chidambaram Porto Novo Porto Novo Beacon Kodampālayam No. 2 DALAYANUR s. Vēliyanandal Hill Mandagapat Rock Oratti Pērumukkal Maīlam DEVAMALAI h.s. Kotūr Pilvel Pagoda Peraiyūr Pagoda Puram EDAIKAL h.s. Kottālam Tyāga Drug Chikād Hill Rishivandiyam Pagoda Kiliyūr, IX Kunnatūr Hill Tree Kiranūr Pagoda Ulundūrpet, XI Kānācakōṇḍān, XIV Vridhāchalam Pagoda Konankuppam Church	179 179 356 357 356 364 367 365 378 380 388 865 865 866 878 236 220 218 219 218 540 541 542 540 803 303 807 304 301 314 317 801 302 320 318	° ' " h.s. 54 22 33 " 185 26 50 82 37 25 129 50 59 146 11 43 s. 217 37 24 218 28 56 " 250 24 34 " 284 24 29 " 329 2 27 " 354 32 40 s. 70 26 0 " 130 4 30 " 136 30 0 " 350 42 36 s. 80 52 27 s. 168 27 6 " 238 58 38 " 346 41 55 s. 13 39 43 s. 142 59 22 s. 269 0 54 h.s. 300 9 59 h.s. 91 43 50 " 114 58 36 " 138 56 28 140 22 49 191 33 37 201 37 43 s. 250 15 59 265 8 13 311 1 46 327 28 22 335 46 49	CHENGAM s. Vulichikal Pērumālkoil CHIDAMBARAM s. Ayyampet, XVI Seppalanattam, XIII Vallam, X Porto Novo Porto Novo Beacon Coleroon Beacon Kodampālayam No. 2 Tirunāgiri Vaithisvarankoil Temple COLEROON BEACON s. Chidambaram Porto Novo Porto Novo Beacon Kodampālayam No. 2 DALAYANUR s. Vēliyanandal Hill Mandagapat Rock Oratti Pērumukkal Maīlam DEVAMALAI h.s. Kotūr Pilvel Pagoda Peraiyūr Pagoda Puram EDAIKAL h.s. Kottālam Tyāga Drug Chikād Hill Rishivandiyam Pagoda Kiliyūr, IX Kunnatūr Hill Tree Kiranūr Pagoda Ulundūrpet, XI Kānācakōṇḍān, XIV Vridhāchalam Pagoda Konankuppam Church	2 172 174 169 1 1 203 26 19 375 356 19 374 356 20 22 517 505 519 506 505 323 16 322 316 297 15 313 310 239 241 309 10 10 11 325 12 210 207 243 207 208 209	

NOTE.—Stations Māvanūr, XXXIV and Avirimodu, XXXIX pertain to the Madras Longitudinal Series. Station Kulayanallūr, LXXXV appertains to the Great Arc Meridional Series, Section 8° to 18°.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
ERAIYUR h.s. Vepplurdrug Sátanur Hill Yálichikal Pulipet Pérumálkoil Paravadamalai Drug Karnátakgarh Pádam Valudalankunam Yarakúr Ráyandapuram Hill Platform	183 180 177 140 178 176 136 137 138 139	GINGEE, V Mailam Hill Mark Mailam Hill Temple Tiruvakarai Temple Kappaimalai Hill Peak Sénji Kunattúr Hill Mark Kallapat, VI Muttatúr Hill Peak	214 216 250 229 230 9 285	KACHI TIVU, N., LXXXVI Gandhamána, LXXXIII Písásu Mundal, LXXXIV Ámanakamunai, LXXXVIII Úrimunai, LXXXIX Kachi Tívu, S., LXXXVII	110 112 114 113 110
ERTIPATI h.s. Tirthamalai Vélagutta Rock Pulipet Manikal Ammapet Pagoda	182 143 142 142 182	GOOD WATER ISLAND s. Salt Water Island Múkkaiyúr Koil Máriyúr Pagoda Koil Kádmundal Tree Flag Valinokkam	591 591 594 593 595 596	KACHI TIVU, S., LXXXVII Masánam Karai, LXXXV Rámesvaram Temple No. 2 Gandhamána, LXXXIII Kachi Tívu, N., LXXXVI Ámanakamunai, LXXXVIII Úrimunai, LXXXIX	109 607 607 110 115 113
GANDHAMANA, LXXXIII Kundukal Landmark Pámurchán, LXXXII Marakayáratnam, LXXXI Písásu Mundal, LXXXIV Kachi Tívu, N., LXXXVI Kachi Tívu, S., LXXXVII Rámesvaram Temple No. 1 Rámesvaram Temple No. 2 Kódandarásawámi Temple Masánam Karai, LXXXV	664 107 107 111 110 109 666 667 669 108	IRUB h.s. Trichinopoly, Panmalai Trichinopoly, Ganapati Pitapachai Hill Tree Tiruvalarai Pagoda Pagalavádt Hill Pagoda Chéttikulam Pagoda Turaiyúr Hill Pagoda Yésanai Virudamalai Pérambalúr Pagoda Yélabalúr Hill Pillar Valikandapuram Pagoda Ranjangudidrug Neduválasa Paravai Viluppanankurechi Pagoda Kilimalai Solankurechi Ariyalúr Pagoda Shiáguði Terani Pagoda Terani Tanjore Pagoda Kulagudi Uttatúr Pagoda	268 490 500 501 263 492 488 267 471 477 476 474 267 472 268 480 482 269 497 270 495 493 489 271 498	KADALADI, LXIII Múkkaiyúr Building (helio.) Taraigudi, LXVI Pulápati, LXVII Kidáitruikai, LXV Arapoth, LXII Tanichanthai, LXI Ópilán, LXIV	587 80 79 78 77 77 81
GANGAMANAYAKANKUPPAM s. Vékatámpet Molándikuppam Tiruvéndipuram Cuddalore Flag-staff Andikui	352 349 349 350 354	KACHIRERUMAL, XX Udayárpálaiyam Tower Kulattúr, XIX Salpai, XVII Nayinpiriyán, XXII	397 27 27 28	KAKKAKOTA, XXII Kallakota, XXXV Tanjore Temple Káramutirakota, XXX Arasapat, XXVIII Oruttamádt Chattram Púvatúr, XXXI Pátharankota, XXXIII	45 521 40 38 525 38 41
GANGAVARAM h.s. Óddampát Tiruvannámalai Melacheridrug	126 125 125	KACHIRERUMAL, XX Udayárpálaiyam Tower Kulattúr, XIX Salpai, XVII Nayinpiriyán, XXII	397 27 27 28	KALLAKOTA, XXXV Kárákkurechi, XXXVII Kakkrákote, XXXII Pátharankota, XXXIII	46 45 45
GINGEE, V Malipát, VII Tiruvannámalai Hill Mark (helio.) Devikapur Hill Temple Narasingapuram, III Pönnúr, I Pérumukkal, IV	7 196 164 6 3 3	GINGEE, V Mailam Hill Mark Mailam Hill Temple Tiruvakarai Temple Kappaimalai Hill Peak Sénji Kunattúr Hill Mark Kallapat, VI Muttatúr Hill Peak	397 27 27 28	KALLAPAT, VI Vallam, X Chéndamangalam, VIII Malipát, VII	11 10 8

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. of triangle riving distance	Name of station with azimuths of surrounding points	No. of triangle riving distance	Name of station with azimuths of surrounding points	No. of triangle riving distance
KALLAPAT, VI Óddampat Néllagirimalai Hill Peak Anantapuram Hill Temple Pettaimalai Peak Muttatúr Hill Peak Gingee, V Kappaimalai Hill Peak Mailam Hill Temple Mailam Hill Mark Pérumbákam Hill Temple Pérumukkai, IV Tiruvakarai Temple Muratán No. 1 Putharai Pérambai Vélliyánúr Temple	122 225 232 226 234 9 228 217 214 249 8 250 253 257 254 261	° ' " h.s. 107 56 26 128 20 28 129 27 56 130 43 18 141 8 38 150 42 24 49 154 13 26 196 5 53 196 24 38 211 50 20 214 44 23 89 230 24 36 264 37 9 269 4 44 273 56 38 282 7 27	KANIYANUR, II Ammaniávaram Hill Temple Chetpat Hill Mark KANJARANGUDI, LIX Púvarasanhalli Tývu, LXXV Yérvádi, LX Uttarakoshamangai Small Gopuram Uttarakoshamangai, LVIII Rannad, LVI Rannad Palace (helio.) Tirupullani Temple Périyapatnam, LXXVII Válai Tývu, LXXVIII Appa Tývu, LXXVI	159 166 95 75 608 74 74 625 629 98 100 96	° ' " 353 21 56 355 22 40 32 32 52 46 75 1 53 60 133 29 4 133 31 37 71 184 36 8 36 187 12 35 201 31 42 267 8 12 09 294 36 14 03 348 4 32 15
KALURUNIKAD, XXXVI Rétavayal, XXXIX Merpanaikád, XXXVIII Kárakkurechi, XXXVII Pátharankota, XXXIII Káyayúr Temple Patukota, XXXIV	48 47 44 43 526 43	° ' " 6 18 27 36 50 8 59 35 111 19 58 34 177 58 10 25 188 25 57 220 26 31 71	KANJARANGUDI S. Palayamunai Yérvádi Uttarakoshamangai Pagoda Rannad Tower Tirupullani Pagoda Náganada Choultry Pótakoiltédal Mutupet Church Périyapatnam Talairi Appa Tývu	612 612 623 624 628 632 621 634 618 617 613	° ' " s. 41 1 7 " 74 26 40 " 134 2 42 187 20 15 201 39 10 249 44 53 256 9 58 258 10 53 267 37 31 305 8 49 354 34 11
KANAD, XLIV Sirukambúr, XLVI Ókkúr, XLIII Mánúr, XLI	55 54 54	° ' " 44 59 57 11 111 52 51 58 177 16 52 15	KARAKKURECHI, XXXVII Kulamangalam, XL Kallakota, XXXV Pátharankota, XXXIII Kalúrunikád, XXXVI Merpanaikád, XXXVIII	51 46 44 44 47	° ' " 34 29 16 32 187 4 2 13 230 39 2 08 291 18 47 56 359 16 21 69
KANADAKONDAN, XIV Édaikal Ulundúrpet, XI Koilákkuppam, XII Seppalánattam, XIII Pódaiyúr, XV Srimushnam Temple Ayyampet, XVI	802 18 14 14 21 876 19	° ' " h.s. 131 3 24 149 15 10 13 213 2 31 57 273 37 39 44 321 0 14 87 341 50 17 343 47 13 61	KARNATAKAGARH h.s. Tiruvannámalai Éraiyúr Anandalamalai, XXXI Tánrapákam Árni Monument Árni Fort Karunguli Tellur Narasíngapuram, III Melacheridrug Pádam Polkunam	124 136 116 145 134 144 118 116 134 117 135 190	° ' " h.s. 1 18 22 " 27 29 31 " 221 31 31 226 41 43 245 7 54 245 49 58 272 49 14 275 15 17 286 32 35 316 22 23 320 18 58 348 12 20
KANIYANUR, II Narasíngapuram, III Devikapur Hill Temple Nagaram Temple Árni Fort (heliotrope) Karnátakgarh Hill Mark (helio.) Timiri Hill Temple Mávandúr, XXXIV Pónnúr, I	5 168 156 155 162 154 4 4	° ' " 18 48 19 29 20 57 40 21 25 57 34 54 41 53 45 0 109 15 21 277 52 59 12 331 3 43 30	KILIMALI S. Solankurechi Unehini Irúr Viluppanankurechi Pagoda KILIVUR, IX Édaikal Élavánásúr Temple Tyága Drug Hill Mark (helio.) Tiruvannámalai Hill Mark (helio.) Tirukoilúr Temple Arakandanallúr Temple Néllagirimalai Hill Peak Mallipát, VII Ámúr Temple Kunnatúr Hill Mark (helio.) Chéndamangalam, VIII Árinattam Hill Mark Ulundúrpet, XI	481 483 482 481 301 316 297 195 240 241 224 15 309 312 15 323 16	° ' " s. 44 38 4 " 52 21 22 h.s. 75 6 19 s. 90 24 33 h.s. 11 33 56 " 35 42 50 " 69 52 19 " 157 16 22 " 166 31 42 " 171 51 45 " 184 12 15 " 216 54 50 13 " 239 33 39 " 260 36 37 " 299 23 20 02 " 309 43 56 " 344 5 1 26

NOTE.—Stations Anandalamalai, XXXI and Mávandúr, XXXIV appertain to the Madras Longitudinal Series.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
KILAMPAT s. Molándikuppam Kadampuliyūr Tiruvadi Temple Nēlikuppam Chimney Vilangalpat Vēllakarai	329 329 336 340 331 330	33 3 3' 93 114 49 24 75 165 20 53 16 171 51 53 253 10 13 17 303 19 21 69	KOILANKUPPAM, XII Kānālakōndūn, XIV Ulundūpet, XI Chēdamangalam, VIII Pālakōllai Building Vallam, X Seppalānattam, XIII	14 17 12 826 12 13	KOTUR s. Kāñjar Hill Pagoda Malai Adipati Hill Pagoda Kudimāyamalai Pīvel Pagoda Alūrtimalai Devamalai Peraiyūr Pagoda Tirukonam Tirukonam Pagoda Pudukota Palace Tiruvannākonam Pagoda Puram Tirumiam Hill Tree
KIRANUR PAGODA s. Edaikal Kunnatūr Hill Tree	817 317	s. 55 47 47 " 83 14 8 " 116 59 34 " 246 5 53 " 326 53 47	KOIL KADMUNDAL s. Salt Water Island Mūkkaiyūr Koil Māriyūr Pagoda Tree Flag Good Water Island	592 594 595 593	KRISHNAPURAMDRUG s. Melacheri Hill Oratti
KIVALUR s. Tiruvālūr Tirukonapuram Gopuram Tirupugalūr Kārikal Church Kārikal Port Beacon Nagore Nagore Mosque Point No. 1 Negapatam Light-house Negapatam Temple Negapatam Chimney Nīrdānamangalam	408 441 408 420 418 409 421 410 438 435 439	248 24 34 94 251 21 53 276 0 30 291 59 57 35 303 37 1 317 30 17 332 34 36 60 344 28 9	KOILPATI, LXXXIII Minākshi, LXXIV Kadalai Hill Mark Ētaiyapuram Mark Supalapuram, LXXXIII Kusavankundu Hill Mark (helio.) Kammanāyakanpati Church Kulayanallūr, LXXXV Manditop Hill Mark (helio.)	92 560 561 92 557 558 93 555	KRISHNAVARAM PAGODA s. Nayinakuppam Vēnkatāmpet Kundiyanallūr Chidambaram Pagoda Tadanpet Pagoda
KODAMPALAIYAM No. 1 s. Tirunāgiri Pagoda Shiyāli Pagoda Chidambaram Pagoda Tandavarāyacholampet Tirumalvalasa No. 2	381 387 377 377 383	s. 11 6 15 " 32 47 17 " 37 31 7 " 44 4 12 h.s. 54 38 48 " 62 52 0 " 70 2 53 " 83 5 7 " 99 33 22 h.s. 120 27 57 " 125 0 1 " 143 37 43 " 151 8 51 h.s. 164 29 34 " 203 5 13 " 208 8 38 h.s. 213 42 55 " 228 45 43 " 232 11 16 " 244 23 40 " 253 53 38 " 271 41 14 " 288 13 18 " 297 20 50	KOTTALAM h.s. Rāñjanagudidrug Olāgayanallūr Pagoda Pērūnilla Kūgayūr Pagoda Sōkanūr Pēriyeri Bastion Chinna Salēn Bastion Pūsapadi Chinna Tirupadi Hill Pagoda Shundapanād Kachirāyapāliyam Hill Pagoda Kallakurchi Pagoda Ayyambādi Stone Rāvattanallūrdrug Pāsār Swāmmimalai Pagoda Rishivandiyam Pagoda Tyāga Drug Chikād Hill Kunnatūr Hill Tree Tyāgai Pagoda Ēdārkal Konankuppam Church Vridhāchalām Pagoda	265 294 264 290 274 292 293 276 182 181 289 800 280 180 278 180 305 295 806 314 808 803 318 320	KUCHUR, XVIII Tirupanandāl Mandap, XXI Guruvaikondapuram Temple Guruvālpappar Temple Salpai, XVII Pōdayūr, XV Mannārgudi Temple No. 1 Mannārgudi Temple No. 2 KUDIMAYAMALAI h.s. Tenimalai Pagoda Pēramalai Stone Viramalai Hill Pagoda Alūrtimalai Tirukonam Pagoda Tirukonam Puram Kotūr
KODAMPALAIYAM No. 2 s. Tirunāgiri Chidambaram Coleroon Beacon Tāndakulam Beacon Tirumalvalasa No. 1	380 378 385 382	s. 10 14 53 " 104 26 4 " 170 42 45 " 349 43 29 " 350 19 40	KODIKULAM, LIII Sambuttīyendal, LVII Nāyanārkoil, LV Mutupatnam, LII Urannankudi, LI Pōragudi, LIV Pēruvayal Temple Rannad, LVI	68 69 65 65 66 554 67	KULAGUDI s. Ērumbesvaram Hill Pagoda Trichinopoly, Panmalai Trichinopoly, Ganapati

NOTE.—Stations Koilpāti, LXXXIII and Kulayanallūr, LXXXV appertain to the Great Arc Meridional Series, Section 8° to 18°.

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
KULAGUDI s. Tiruvayur Hill Pagoda Irur Shilagudi Tiruvadi Pagoda Tirumalvadi Pagoda Tanjore Palace Tanjore Pagoda Tanjore Great Pagoda Tachankurehi Tirukatpalli Pagoda	487 271 271 518 510 518 520 508 515	o ' " 117 25 14 h.s. 144 59 40 s. 226 17 31 303 25 55 306 55 20 315 29 31 317 1 28 317 26 53 h.s. 349 51 8 355 3 11	o ' " 167 31 10.68 200 37 11 209 40 38.13 210 4 52 248 28 7 s. 250 14 3 279 40 22 285 44 16.44 310 4 3 322 0 7 348 43 48 351 38 36.69	o ' " 89 25 25 h.s. 125 44 56 131 13 1 154 55 55 162 12 44 181 39 47 184 0 46.14 196 5 58 209 41 21 235 33 51 236 55 56.65 244 25 54 274 4 59.75	289 128 196 224 228 238 7 228 280 216 7 248 8
KULAMANGALAM, XL Pallathivayal, XLII Karakkuruchi, XXXVII Merpanaikad, XXXVIII	52 51 51	8 21 17.83 214 28 30.01 290 55 32.26	s. 35 57 51 68 9 23 140 12 14 262 39 23 347 25 12	MANDAGAPAT ROCK s. Gingee Hill Fort Dalavanur Mailam Velliyanadal Hill	221 220 220 220 237
KULATTUR, XIX Kachiperumal, XX Udayarpalaiyam Temple Ayyampet, XVI Salpai, XVII	27 395 26 26	17 19 53.51 24 27 10 222 24 40.49 288 39 57.39	s. 32 59 9 170 27 10 179 56 10 207 19 24 295 11 15 s. 316 56 40	MANEGANDI, XLVIII Urannankudi, LI Mutupatnam, LII Venniyur, L Manikankots, XLVII Sirukambur, XLVI Nambudalai, XLIX	61 62 63 59 59 60
KULAYANALLUR, LXXXV Koilpati, LXXXIII Kuesvankundu Hill Mark (helio) Kammanayakanpati Church Kadalai Hill Mark Minakshi, LXXIV Etaiyapuram Mark Etaiyapuram Palace Supalapuram, LXXIII Supalapuram Dalavaipuram Valakkavaranakad Gateway Otapidaram Pagoda Tutheorin Flag-staff	98 556 558 559 94 562 568 93 566 564 564 567	152 35 46.25 162 37 33 163 25 27 170 50 50 179 33 45.50 181 29 41 184 3 56 214 1 43.03 s. 217 9 34 260 51 8 262 46 19 286 55 16 306 1 41	s. 61 3 29 s. 82 2 28 " 105 18 52 " 119 23 23 h.s. 193 41 40 " 240 2 51 s. 313 12 47	MANIKAL h.s. Etteipati Pulipet Rayandapuram Hill Platform	142 141 141
KUMARAPURAM s. Taraigudi Strangudi	575 575	s. 298 51 34 " 338 37 35	h.s. 235 4 2 260 33 20 286 20 34	MANIKAMKOTA, XLVII Venniyur, L Sembalayal, XLV Okkur, XLIII Sirukambur, XLVI Manegandi, XLVIII	68 58 56 56 59
KUMBAKONAM, XXIII Viramangalam, XXVII Pattisvankoil Temple Kumbakonam Temple Mutuvancheri, XXV Tirupirambiyam Temple	82 468 458 38 449	37 13 40.12 38 32 2 41 9 25 120 26 16.03 126 44 0	o 52 57.47 4 22 48 30 36 41 36 56 25.79	MANTYAPALAYAM h.s. Ayyambadi Stone Shundapanad	282 282
MALIPAT, VII. Tirukoilur Temple Oddampet Tiruvanamalai Hill Mark (helio) Nellagirimalai Hill Peak Pettimalai Peak Anantapuram Hill Temple Gingee, V Kappimalai Hill Peak Seyji Kunnattur Hill Mark Mailam Hill Temple Perumukkal, IV Perumbakam Hill Temple Kallapat, VI	29 448 29 445 451 404 459 30 461 408 528 81	o ' " 167 31 10.68 200 37 11 209 40 38.13 210 4 52 248 28 7 s. 250 14 3 279 40 22 285 44 16.44 310 4 3 322 0 7 348 43 48 351 38 36.69	o ' " 89 25 25 h.s. 125 44 56 131 13 1 154 55 55 162 12 44 181 39 47 184 0 46.14 196 5 58 209 41 21 235 33 51 236 55 56.65 244 25 54 274 4 59.75	MANDAGAPAT ROCK s. Gingee Hill Fort Dalavanur Mailam Velliyanadal Hill	221 220 220 220 237
MALLIKARAI h.s. Avarmalai Attur Fort Manjali Hill Pagoda	288 288 287	h.s. 235 4 2 260 33 20 286 20 34	h.s. 235 4 2 260 33 20 286 20 34	MANEGANDI, XLVIII Urannankudi, LI Mutupatnam, LII Venniyur, L Manikankots, XLVII Sirukambur, XLVI Nambudalai, XLIX	61 62 63 59 59 60
MALLIPAT, VII Chendamangalam, VIII Arinattam Hill Mark Tirunivankonrai Hill Temple Kiliyur, IX	10 324 311 15	o 52 57.47 4 22 48 30 36 41 36 56 25.79	o 52 57.47 4 22 48 30 36 41 36 56 25.79	MANTYAPALAYAM h.s. Ayyambadi Stone Shundapanad	282 282
MANNAPET s. Cuddalore Flag-staff Tiravandipuram Murattan No. 2	851 827 827	11 59 11 56 49 33 177 49 28	11 59 11 56 49 33 177 49 28	MANNAPET s. Cuddalore Flag-staff Tiravandipuram Murattan No. 2	851 827 827

NOTE.—Stations Koilpati, LXXXIII and Kulyanallur, LXXXV appertain to the Great Arc Meridional Series, Section 8° to 16°.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
MANNARGUDI PAGODA s. Vélatúr Pagoda Kumbakonam Great Temple, W. Point Tiruchérái Pagoda Tiruválúr Pagoda	465 456 452 452	° ' " 150 57 23 167 8 1 s. 183 0 14 " 240 5 21	° ' " 16 33 13 29 15 3 12 97 57 0 25 h.s. 313 21 58 320 17 45 10 " 358 8 12	MAVANDUR, XXXIV Wandiwash Pagoda Pónnúr, I Kaniyanúr, II Karunguli Avirimodu, XXXIX Óratthi	158 1 4 121 1 121
MANUR, XII Okkúr, XLIII Avadiarkoil Temple Pallathivayal, XLII Merpanaikád, XXXVIII Bétavayal, XXXIX Kánád, XLIV	58 558 50 49 49 54	° ' " 46 40 15 80 56 32 20 109 7 8 02 177 43 8 44 223 22 0 20 357 16 47 86	° ' " 28 46 18 227 12 20 " 278 3 8 " 326 38 37 " 347 44 46	MAYAVARAM PAGODA s. Tiruvihimalalai Pagoda Tirunágiri Pagoda Tirukudúr Pagoda Nagore Mosque Point No. 2 Tirupugalúr Pagoda	426 418 418 423 426
MARAKANAM s. Rangapilli Choultry Pérumukkal Álatúr Pagoda Vilankád	247 245 246 245	° ' " 32 24 39 88 39 46 h.s. " 102 5 13 " 165 35 3	° ' " 20 8 33 79 20 35 121 9 6 130 8 59 132 49 11 136 26 15 217 48 6 242 8 26 280 59 6	MELACHERIDRUG s. Gangavararam Tiruvannámalai Avalúr Rock Timmapurdrug Pádam Karáttagarh Tellúr Karunguli Pérumukkal	125 124 184 175 175 117 117 118 119
MARAKAYARPATNAM, LXXXI Marakayárpattanam Mosque Musal Tývu, LXXX Rámaswámi Madam, LXXXIX Pisánu Mundaal, LXXXIV Toniturái Landmark No. 1 Gandhamána, LXXXIII Pámban Light-house Toniturái Landmark No. 2 Pámban Flag-staff Mantapam (helio.) Kundukal Temple Kurusedi Building* Kurusedi Landmark No. 1 Kurusedi Landmark No. 2 Pámurichán, LXXXII Mannáli Tývu Landmark	645 104 104 111 651 107 656 658 654 649 663 662 659 661 105 646	° ' " 17 42 39 41 15 38 75 83 31 45 73 253 59 40 51 260 6 29 261 24 11 14 262 28 9 264 32 39 265 9 32 267 29 18 281 30 5 286 57 12 287 20 10 288 1 31 304 21 54 66 356 34 8	° ' " 29 6 3 86 81 44 21 28 242 22 7 21 288 55 0 30 352 12 54 92	MELAKALURUNI, LXXII Supalápuram, LXXXIII Minákshi, LXXIV Mutúruni, LXX Annappúnáyakanpati, LXVIII Mótúruni, LXXXI	91 89 88 86 86
MASANAM KARAI, LXXXV Pámurichán, LXXXII Kurusedi Landmark No. 2 Kurusedi Landmark No. 1 Kundukal Landmark Gandhamána, LXXXIII Rámesvaram Temple No. 2 Rámesvaram Temple No. 1 Kachi Tývu, S., LXXXVII Kóndandarásaswámi Temple	108 660 658 664 108 668 666 109 669	° ' " 80 36 1 31 80 53 24 82 0 23 88 2 16 161 57 55 85 176 0 47 181 15 32 240 31 58 04 317 29 13	° ' " 42 57 32 99 110 56 19 36 179 16 22 78 230 7 50 10 292 53 20 01 357 43 5 07	MERPAKAIKAD, XXXVIII Pallathivayal, XLII Kulamangalam, XL Kárakkuruchi, XXXVII Kalúrunikád, XXXVI Rétavayal, XXXIX Mánúr, XLI	50 61 47 47 48 49
MOTURUNI, LXXI Supalápuram, LXXXIII Véllaiyapuram Building (helio.) Minákshi, LXXIV Melakalúruni, LXXII Annappúnáyakanpati, LXVIII Súrangudi, LXIX	90 568 89 86 85 85	° ' " 52 9 22 55 55 53 48 105 29 39 73 172 13 4 62 248 23 40 77 290 30 37 52	° ' " 49 1 48 105 29 6 269 19 30 292 28 44	MOTURUNI s. Supalápuram Minákshi, LXXIV Tarángudi Súrangudi	569 569 574 572
MUKKAIYUR s. Vémbár Tarángudi Koil Kádmundaal Good Water Island Shuli Tývu Mark Salt Water Island	586 586 592 591 590 589	° ' " 68 37 25 106 49 48 263 13 23 280 49 40 297 7 22 344 0 33	° ' " 68 37 25 106 49 48 263 13 23 280 49 40 297 7 22 344 0 33	MUKKAIYUR s. Vémbár Tarángudi Koil Kádmundaal Good Water Island Shuli Tývu Mark Salt Water Island	586 586 592 591 590 589
MINAKSHI, LXXIV Kusavankundu Hill Mark (helio.) Manditop Hill Mark (helio.) Kadalai Hill Mark Koilpati, LXXXIII Melakalúruni, LXXXII Mótúruni Mótúruni, LXXI Véllaiyapuram Building (helio.) Supalápuram Supalápuram, LXXXIII Éttaiyápuram Palace Éttaiyápuram Mark Kulayanallúr, LXXXV	556 555 559 92 89 569 89 568 565 90 563 561 94	° ' " 33 43 27 59 26 2 62 54 1 68 25 44 41 261 42 29 30 s. 285 27 9 285 27 41 57 309 52 0 s. 319 9 36 323 34 32 71 343 44 4 352 33 42 359 33 44 27	° ' " 24 55 52 76 15 25 s. 110 16 35 " 156 58 24 " 169 14 50 169 15 3 199 10 15 s. 217 6 3 s. 238 6 54 " 240 32 49 " 271 38 21 " 339 19 56	MOLANDIKUPPAM s. Seppalánattam, XIII Valam, X Kadampuliyúr Melámampat Tiruvadi Pagoda Tiruvadi Temple Kilmámpat Sénnappanáyakanpálayam h.s. Véllakarai Tiruvéndipuram Gangamanáyakanpuppam Véñkatámpet	202 202 828 211 337 335 329 211 330 349 349 352

NOTE.—Stations Mávandúr, XXXIV and Avirimodu, XXXIX appertain to the Madras Longitudinal Series. Stations Koilpati, LXXXIII and Kulayanallúr, LXXXV appertain to the Great Arc Meridional Series, Section 8° to 18°.

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. or triangle giving distance	Name of station with azimuths of surrounding points	No. or triangle giving distance	Name of station with azimuths of surrounding points	No. or triangle giving distance
MULI TIVU s. Talsiri Péiyapatnam Vaidáli Musal Tivu	85 21 5 " 136 59 59 " 238 8 48 " 265 40 34	MUTURUNI, LXX Melakalúrni, LXXII Pulápati, LXVII Annappúnáyakanpati, LXVIII	62 23 6.28 207 53 17.62 348 19 25.09	NAYINAKUPPAM s. Véukatámpet Kuudiyamallúr Krishnavaram Pagoda Tedanpet Pagoda	862 868 862 872
MURATTAN No. 1 s. Pérambai Kallapat, VI Pérumukkal, IV Pondicherry Light-house	41 9 22 84 39 55 167 38 50 310 31 56	MUTUVANCHERI, XXV Nayinipiriyan, XXII Tirupirambiyam Temple Kumbakonam, XXIII Kumbakonam Great Temple, E. Point Kumbakonam Temple Pattisvarankoil Temple Viramangalam, XXVII	219 54 42.60 294 53 0 300 24 56.37 305 48 3 307 7 27 325 8 32 340 5 41.01	NAYINIPRIYAN, XXII Mutuváncheri, XXV Udayárpálaiyam Tower Udayárpálaiyam Temple Kachipérumál, XX Salpai, XVII Guruvaláppar Temple Gangaikondapuram Temple Tirupananádai Temple Tirupananádai Mandap, XXI Sholapuram Temple Tirunágésavaram Temple Kumbakonam, XXIII Kumbakonam Great Temple, E. Point Kumbakonam Temple	88 897 896 28 25 891 894 445 25 447 459 29 458 457
MURATTAN No. 2 s. Tiruvéndipuram Vélliyatur Pagoda Chéngád Mailam Kunnam Pérumukkal Pondicherry No. 2 Pondicherry No. 1 Pondicherry Flag-staff Mannapet	17 42 6 25 57 53 82 24 42 133 14 56 136 58 2 167 38 11 218 46 13 232 15 22 312 19 47 357 49 26	NAGORE s. Kivalúr Tirupugalúr Kárikal Church Kárikal Port Beacon Nagore Mosque Point No. 1 Negapatam Light-house Negapatam Chimney Negapatam Temple	60 57 50 " 115 28 23 " 177 30 25 187 24 52 312 43 3 349 37 54 354 7 58 357 45 14	NEDUVALASA h.s. Uttatúr Pagoda Terani Irúr Yélabalúr Pillar Valikandapuram Pagoda Solankurehi Ariyalúr Pagoda Shilagudi	409 409 419 417 422 410 436 437
MUSAL TIVU, LXXX Válai Tivu, LXXXVIII Péiyapatnam, LXXXVII Pudu Madam Mosque (helio.) Rámaswámi Madam Choultry No. 1 Rámaswámi Madam, LXXXIX Chinna Appa Pillai Dargah Marakayápatnam, LXXXI Montapam (heliotrope) Toniturai Landmark No. 1 Toniturai Landmark No. 2 Pámban Light-house Pámban Flag-staff Pámurichán, LXXXII	80 35 32.35 105 28 34.43 130 41 15 170 6 17 172 2 4.09 179 12 45 221 15 3.92 229 41 38 234 19 57 235 48 22 241 39 55 242 6 33 252 31 24.90	NAMBUDALAI, XLIX Urannankudi, LI Manégandi, XLVIII Sirukambúr, XLVI NARASINGAPURAM, III Pádam Devikapur Hill Temple Karnátakgarh Karnátakgarh Hill Mark (helio.) Arni Fort (heliotrope) Arni Monument Timiri Hill Temple Nagaram Temple Kaniyanúr, II Ammaniávaram Hill Temple Pónnúr, I Chetpat Hill Mark Chetpat Mosque Gingee, V	38 3 4.46 114 23 18.41 184 28 50.14 32 25 37 40 59 38 106 35 8 107 27 14 183 25 11 185 47 14 186 34 30 196 51 11 198 47 6.45 240 37 1 274 59 9.09 294 56 1 305 42 50 335 27 31.91	NAYINAKUPPAM s. Negapatam Chimney Nirdánamangalam Negapatam Temple Kivalúr Nagore Nagore Mosque Point No. 1 NEGAPATAM LIGHT-HOUSE s. Negapatam Chimney Nirdánamangalam Negapatam Temple Kivalúr Nagore Nagore Mosque Point No. 1 NEGAPATAM PAGODA s. Tiruválúr Pagoda Tirupugalúr Pagoda Nagore Mosque Point No. 2 Nagore Flag-staff Negapatam Negapatam Flag-staff	61 60 60 185 163 184 162 155 184 154 157 5 158 167 165 6 688 639 642 638 665
MUSAL TIVU s. Muli Tivu Péiyapatnam Rámaswámi Madam Choultry No. 2 Vaidáli Grandhamána Pagoda	85 41 40 " 107 41 29 " 162 38 27 s. 198 41 59 244 31 17	NAYANARKOIL, LV Mutapatnam, LII Kodikulam, LIII Vénniyúr, L Manégandi, XLVIII Urannankudi, LI	219 15 39.20 290 8 38.78 359 13 51.45	Tiruválúr Pagoda Tirupugalúr Pagoda Nagore Mosque Point No. 2 Nagore Flag-staff Negapatam Negapatam Flag-staff	429 429 480 482 481 484
MURATTAN, LII Kodikulam, LIII Náyanárkoil, LV Vénniyúr, L Manégandi, XLVIII Urannankudi, LI	0 13 58.80 39 16 43.72 182 59 10.27 228 43 4.72 293 41 31.50				

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
NEGAPATAM S. Negapatam Pagoda Nagore Mosque Point No. 2 Nagore Flag-staff Negapatam Flag-staff	431 431 433 434	ORATTI h.s. Melacheri Hill Tirakol Hill Pagoda Ponnúr Elankád Wandiwash Fort Wandiwash Pagoda Mávandúr, XXXIV Karunguli Pérumukkal Kunnam	187 168 152 161 152 121 120 120 242	ORATTI h.s. Melacheri Hill Tirakol Hill Pagoda Ponnúr Elankád Wandiwash Fort Wandiwash Pagoda Mávandúr, XXXIV Karunguli Pérumukkal Kunnam	379 379
NELAKUNU h.s. Sókanúr Géngavalli Pagoda Manjali Hill Pagoda Sarval	286 289 288 286	OTAPIDARAM PAGODA S. Kulayanallúr, LXXXV Valakkavarankád Gateway	564 564	OTAPIDARAM PAGODA S. Kulayanallúr, LXXXV Valakkavarankád Gateway	87 86 86
NIRDANAMANGALAM S. Kivalúr Negapatam Light-house	439 439	PADAM h.s. Polkunam Erayúr Karátakgarh Árni Fort Narasingsapuram, III Chetpat Mosque Melacheridrug Pálpádi Pagoda Avalúr Rock Timmapurdrug Valudalankunam	190 186 185 144 185 165 175 201 184 175 187	PADAM h.s. Polkunam Erayúr Karátakgarh Árni Fort Narasingsapuram, III Chetpat Mosque Melacheridrug Pálpádi Pagoda Avalúr Rock Timmapurdrug Valudalankunam	278 279 278 281 306
ODDAMPAT h.s. Swámmalái Pagoda Rávtattanallúrdrug Tiruvannámái Durgam Malai Building Gangavaram Pérumukkal, IV Kallapat, VI Mallipát, VII	128 127 126 223 126 122 122 123	PALAYAMUNAI S. Yalinokkam Anaipár Tivu Mark Yérvádi Kánjarangudi Appa Tivu	604 606 604 612 611	PALAYAMUNAI S. Yalinokkam Anaipár Tivu Mark Yérvádi Kánjarangudi Appa Tivu	44 45 41 41 42 526 43
OKKUR, XLIII Manikamkota, XLVII Sembalayaval, XLV Pallathivayal, XLII Avadiraikoil Temple Mánúr, XLI Kánád, XLIV Sirukámbúr, XLVI	56 57 53 553 53 54 55	PALLATHIVAYAL, XLII Okkúr, XLIII Sembalayaval, XLV Kulamangalam, XL Merpanaikád, XXXVIII Mánúr, XLI	53 57 52 50 50	PALLATHIVAYAL, XLII Okkúr, XLIII Sembalayaval, XLV Kulamangalam, XL Merpanaikád, XXXVIII Mánúr, XLI	43 42 42 42
OPILAN, LXIV Mákkaiyúr Building (helio.) Mákkaiyúr Church Taragudi, LXVI Kadaládi, LXIII Tanichanthái, LXI	587 585 82 81 81	PARAVAI S. Irúr Dumbarmalai Stone Virudamalai Puliyúr Hill Pillar Ranjanaugidrug Aduturai Pagoda Solankurchi	268 478 470 469 268 468 269	PARAVAI S. Irúr Dumbarmalai Stone Virudamalai Puliyúr Hill Pillar Ranjanaugidrug Aduturai Pagoda Solankurchi	148 148 149 160
ORATTI h.s. Mailam Dalavanúr Krisnapuramdrug Náganúr Peak	213 218 189 185	PERAMBALAI S. Kallapat, VI Pérumukkal, IV Murattán No. 1 Putharai Pondicherry Light-house	254 255 254 256 258	PERAMBALAI S. Kallapat, VI Pérumukkal, IV Murattán No. 1 Putharai Pondicherry Light-house	254 255 254 256 258

NOTE.—Station Mávandúr, XXXIV appertains to the Madras Longitudinal Series. Station Kulayanallúr, LXXXV appertains to the Great Arc Meridional Series, Section 8° to 18°.

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. of triangle & distance	Name of station with azimuths of surrounding points	No. of triangle & distance	Name of station with azimuths of surrounding points	No. of triangle & distance
PERIYAPATTAM, LXXVII Appa Tivu, LXXXVI Kanjaraᅅgudi, LIX Pudu Madam Mosque (helio.) Ramaswami Madam, LXXXIX Musal Tivu, LXXX Valai Tivu, LXXXVIII	98 98 636 101 108 99	PERUMUKKAL h.s. Delavanur Melacheridrug Melacheri Hill Tindivanam Oratti Karunguli Vilankad Marakanam Rangapilli Choultry Pondicherry No. 1 Pondicherry No. 2 Murattan No. 2 Velliyannur Pagoda	219 119 188 244 120 119 204 245 247 205 206 262	PONDICHERY LIGHT-HOUSE Peramalai Putharai Murattan No. 1 PONDICHERY No. 1 h.s. Murattan No. 2 Perumukkall Vilankad PONDICHERY No. 2 h.s. Murattan No. 2 Kunnam Perumukkall Pondicherry Flag-staff	258 258 259 206 205 205 251 251 252 260
PERUMUKKAL, IV Kallapat, VI Perumbakam Hill Temple Mallipatt, VII Mallam Hill Mark Muttattur Hill Peak Oddampat Anantapuram Hill Temple Senuji Kunnattur Hill Mark Pettaimalai Peak Gingee, V Sittannur Temple Ponnur, I Oratti Hill Mark (helio.) Acharapattam Hill Temple Avirimodu, XXXIX Vilankad Hill Mark (helio.) Murattan No. 1 Putharai Perambai Velliyannur Temple	8 248 7 215 234 122 232 231 227 3 186 2 170 171 173 2 203 253 256 255 261	PERUNILA s. Yesanai Sokanur Sarvai Pisappadi Chinna Tirupadi Hill Pagoda Kottalam Ranjanaᅅgudrug PISASU MUNDAL, LXXXIV Gandhamana, LXXXIII Marukarayattam, LXXXI Kachi Tivu, N., LXXXVI PODAITUR, XV Sulpsai, XVII Ayyampatt, XVI Kanadakkondan, XIV Seppalanattam, XIII Mannargudi Temple No. 2 Mannargudi Temple No. 1 Kuchur, XVIII POLKUNNAM h.s. Tiruvarangam Sulupgiridrug Bastion Varukur Tiruvannamalai Pagoda Karnatakgarh Padam Valudalankunam Palpadi Pagoda	266 277 284 276 264 265 111 111 112 22 20 21 20 390 389 23 198 197 192 198 190 190 191 201	PONNUR ELANKAD h.s. Naganur Peak Tirakol Hill Pagoda Ammaniavararam Attimalai Wandiwash Pagoda Wandiwash Fort Oratti PORAGUDI, LVV Ramanad, LVI Peruvayal Temple Kodikulam, LVII Urannankudi, LV	185 168 150 150 151 161 152 67 554 66 66
PERUMUKKAL h.s. Kunnam Chengad Mailam	242 207 212	PERUMUKKAL Kunnam Chengad Mailam	266 277 284 276 264 265 111 111 112 22 20 21 20 390 389 23 198 197 192 198 190 190 191 201	PONDICHERY LIGHT-HOUSE Peramalai Putharai Murattan No. 1 PONDICHERY No. 1 h.s. Murattan No. 2 Perumukkall Vilankad PONDICHERY No. 2 h.s. Murattan No. 2 Kunnam Perumukkall Pondicherry Flag-staff	258 258 259 206 205 205 251 251 252 260

NOTE.—Stations Mavandur, XXXIV and Avirimodu, XXXIX appertain to the Madras Longitudinal Series.

Name of station with azimuths of surrounding points	No. of triangling distance	Name of station with azimuths of surrounding points	No. of triangling distance	Name of station with azimuths of surrounding points	No. of triangling distance
PORNO NOVO s. Chidambaram Vallam, X Porto Novo Beacon Coleroon Beacon	364 364 366 365	° / ' " s. 37 38 12 125 39 27 230 47 5 310 3 52	PUMURICHAN, LXXXII Kundukal Temple Kurusadi Landmark No. 1 Kurusadi Landmark No. 2 Kurusadi Building Masanam Karai, LXXXV	663 658 660 662 108	° / ' " 1 3 20 59 40 14 38 14 108 5 17 63 135 29 1 180 51 40 87 220 49 4 15 236 50 48
POTAKOILTEDAL s. Appa Tivu Chengo Choultry Kánjarangudi Tirupullani Pagoda Uttarakoshamangai Pagoda Rannad Tower Nágandá Choultry Mutupet Church Talaír	620 631 621 628 623 624 632 633 620	° / ' " s. 30 45 8 67 28 32 76 10 39 108 41 34 110 8 56 153 12 23 216 14 39 261 57 6 344 54 24	PURAM h.s. Péramalai Stone Kotúr Devamalai Kudimáyamalai Tirukonam Pudukota Palace Álártinálai Tiruvannákonam Pagoda	550 585 540 531 532 538 531 544	° / ' " 86 16 3 s. 109 34 42 h.s. 120 11 27 " 123 59 11 " 145 23 40 " 153 45 46 " 157 19 48 " 180 22 42
PULAPATT, LXVII Kadamangalam Church Tirumálganthakota Temple Annappúnáyanpáti, LXVIII Mutúrni, LXX Kidáírukai, LXV Kadaládi, LXIII Tarsigudi, LXVI	583 582 83 87 79 79 80	° / ' " 24 36 2 35 59 1 63 12 39 47 117 54 16 41 232 13 21 69 276 26 11 04 349 53 34 74	PUSAPPADI h.s. Péryeri Bastion Sókanúr Sarvai Pásár Kottálam Ólagyanallúr Pagoda Chinna Salém Bastion Kúgayúr Pagoda Pérunila	292 277 285 279 276 294 293 291 276	° / ' " 1 34 21 s. 25 7 34 h.s. 61 49 6 " 234 5 22 " 263 2 34 280 11 42 282 10 50 334 28 37 s. 338 27 53
PULPET h.s. Manikal Rámapuram Étipáti Vélagutta Rock Paravandemalai Drug Eráyúr Sátánúr Hill Báyandapuram Hill Platform	141 181 142 143 176 140 180 140	° / ' " h.s. 5 51 59 16 2 12 " 52 0 43 s. 81 55 59 233 28 12 263 9 54 289 10 41 309 17 57	PUTAGARAM, XXIV Álançudi, XXVI Náçhiyarkoil Temple Kumbakonam, XXIII Tirumágesvaram Temple Tirupuvan Temple Tirupannandál Mandap, XXI	81 461 30 460 450 80	° / ' " 35 41 27 15 62 40 2 105 45 24 98 110 34 44 134 35 37 168 56 2 91
PUMURICHAN, LXXXII Mannáli Tivu Landmark Musal Tivu, LXXX Rámaswámi Madam Choultry No. 1 Rámaswámi Madam, LXXXIX Marakayáratnam Mosque Marakayáratnam, LXXXI Mantapam (helio.) Toniturai Landmark No. 1 Toniturai Landmark No. 2 Pámban Flag-staff Pámban Light-house Gandhamána, LXXXIII	647 105 640 106 645 105 648 650 652 654 656 107	° / ' " 60 18 32 72 32 28 42 100 21 8 102 29 37 75 120 27 26 124 22 23 51 141 26 2 176 2 8 176 40 53 218 48 54 220 33 19 244 17 56 36	PUTHARAI s. Pérambai Kállapat, VI Pérumukkal, IV Pondicherry Light-house PUVARASANTHALI TIVU, LXXV Valinokkum Landmark Yérvádi, LX Kíllakarai Church Kánjarangudi, LIX Nájamandal Landmark Appa Tivu, LXXVI	256 257 256 258	° / ' " s. 45 9 37 89 7 20 171 29 22 291 51 36
RÁMANAD, LVI Kánjarangudi, LIX Uttarakoshamangai, LVIII Sambuttiiyendal, LVII Kóðikulam, LIII Póragudi, LIV Rannad Palace (helio.) Tirupullani Temple	74 71 607 68 67 67 625 630	° / ' " 4 36 13 95 57 58 2 59 58 25 18 101 0 51 11 173 40 44 31 207 26 15 16 232 31 23 356 55 40	RANJANAGUDDIRUG s. Írúr Dumbarmalai Stone Virudamalai Yésanai Sókanúr Pérunila	267 478 470 266 274 265	° / ' " h.s. 28 50 45 55 5 37 61 28 22 68 58 34 " 119 21 31 s. 152 27 51

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
RANJANAGUDIDRUG S. Kúgayúr Pagoda Kottálam Adaturai Pagoda Paravai Puliyúr Hill Pillar	290 265 468 268 469	SAMBUTTIYENDAL, LVII Arapoth, LXII Náyanárkóli, LV Kodikulam, LIII Rannad, LVI Uttarakoshamangai Big Gopuram Uttarakoshamangai, LVIII Uttarakoshamangai Small Gopuram	72 70 68 68 71 607	SHUNDAPAVAD h.s. Aviarnalái Maniyapáliyam Ayyambádi Stone Kavattanallúdrug Kottálam Chinna Tirupadi Hill Pagoda	133 282 282 181 181 132
RARAKUTIRAIKOTA, XXX Kakkárakota, XXXII Tanjore Temple Viramangalam, XXVII Arasapat, XXVIII	40 521 39 39	SABYAI h.s. Púsappádi Pérunila Néllakunu Sokanúr	285 284 286 284	SIRUKAMBUR, XLVI Nambudalái, XLIX Manēgundi, XLVIII Maunikankota, XLVII Ókkúr, XLIII Kánád, XLIV	60 59 56 55 55
RAVATTANALLURDRUG h.s. Shadgoundhalli Hill Shundapanád Tiruvannámalai Peak Tiruvannámalai Tiruvarangam Tiruvarangam Pagoda Óddampat Svámimalai Pagoda Tyága Drug Kottálam	273 131 194 127 200 200 127 128 295 130	SEBALAVAYAL, XLV Maunikakota, XLVII Pallathivayal, XLII Ókkúr, XLIII SENAPPANAYAKANPALAYAM h.s. Molándikuppam Melampat Tiruvadi Pagoda Chēngád Tiruvēndipuram	58 57 57 211 210 337 209 209	SOKANUR h.s. Gēngavalli Pagoda Manjali Hill Pagoda Sarvai Púsappádi Néllakunu Kottálam Pérunila Ranjanagudidrug Yésanai	289 288 284 277 286 274 277 274 275
RETAVAL, XXXIX Mánúr, XLI Merpanaikád, XXXVIII Kalurunikád, XXXVI	49 48 48	SEPPALAKATTAM, XIII Pódaiyúr, XV Kúdalai Áttúr Temple (helio.) Ayyampet, XVI Srinushnan Temple Kánadakóndán, XIV Koilánkuppam, XII Vallam, X Molándikuppam Vēnkátampet Temple Porto Novo Chimney Chidambaram Tadanpet Temple	20 374 19 375 14 18 202 353 368 357 371	SOLANKURUCHI S. Shilagudi Irúr Neduvayasa Sennivanam Pagoda Paravai Viluppanankuruchi Pagoda Unchini Kilimali	270 269 473 485 269 480 483 481
SALPAI, XVII Nayinipiriyan, XXII Udayárpáliyam Temple Kachipérumái, XX Kulattúr, XIX Ayyampet, XVI Pódaiyúr, XV Kuchúr, XVIII Tirupananadál Mandap, XXI	25 395 27 26 22 22 23 24	SHILAGUDI S. Kulagudi Irúr Neduvayasa Ariyalúr Pagoda Sennivanam Pagoda Solankuruchi	271 270 472 496 485 270	SUPALAPURAM, LXXIII Kulayanallúr, LXXXV Koilpati, LXXXIII Minákshi, LXXIV Melakalúruni, LXXXII Mótúruni, LXXXI	93 92 90 91 90
SALT WATER ISLAND S. Vēmbár Múkkaiyúr Koil Kádmundal Shuli Tivu Mark Good Water Island	589 589 592 590 591	SHILAGUDI S. Kulagudi Irúr Neduvayasa Ariyalúr Pagoda Sennivanam Pagoda Solankuruchi	271 270 472 496 485 270	SUPALAPURAM S. Kulayanallúr, LXXXV Minákshi, LXXIV Mótúruni Súranguudi	565 565 569 572

NOTE.—Stations Koilpati, LXXXIII and Kulayanallúr, LXXXV appertain to the Great Arc Meridional Series, Section 8° to 18°.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	
SUPALAPURAM s. Vaippár Vaippár Church Dalavaipuram	570 579 566	TALAURI s. Appa Yivu Kanjaraugudi Chengo Choultry Tirupullani Pagoda Pótakoitédal Péiyapatnam Mutupet Church Muli Yivu	617 617 631 627 620 619 633 635	TANJORE PAGODA s. Tanjore Base N.E. End Vallam Fort Tachankurechi Trichinopoly, Panmalai Búdálúr Trichinopoly, Ganapati Tirukatpalli Pagoda Kulagudi Irúr Tirumalvádi Pagoda Tiruvádi Pagoda	508 506 502 489 505 490 514 503 489 510 512	SURANGUDI, LXIX Mótúrúni, LXXI Annappúnáyakanpati, LXVIII Taraigudi, LXVI Vembár Church	TARAIGUDI, LXVI Vembár Church Súrangudi, LXIX Annappúnáyakanpati, LXVIII Kadamangulam Church Pulápati, LXVII Kadaládi, LXIII Opilán, LXIV Múkkaiyúr Church Múkkaiyúr Building (helio.)	581 84 83 583 80 82 585 588
SURANGUDI s. Karia Shuli Island Vaippár Church Vaippár Supalapuram Mótúrúni Kumárapuram Taraigudi Vembár	578 579 573 572 572 575 574 576	TAMRAPAKAM h.s. Arni Fort Karnátakgarh Kaniyanúr Hill	145 145 146	TARAIKUDI s. Vembár Súrangudi Mótúrúni Kumárapuram Múkkaiyúr Naripur Building	577 574 574 575 586 584	SWAMMALAI PAGODA s. Kottálam Rávanttanalúdrug Ayyambádi Stone Tiruvannámalaí Óddampat	TARAIGUDI s. Vembár Súrangudi Mótúrúni Kumárapuram Múkkaiyúr Naripur Building	577 574 574 575 586 584
TACHANKURCHI h.s. Alúrtimalaí Trichinopoly, Panmalai Trichinopoly, Ganapati Érumbesavaram Hill Pagoda Tirukatpalli Pagoda Kulagudi Búdálúr Tiruvádi Pagoda Tanjore Palace Tanjore Great Pagoda Tanjore Pagoda Vallam Fort	527 502 504 516 514 503 505 512 517 519 502 507	TANDAKULAM BEACON s. Tirunágiri Kodampálayam No. 2 Tirumalvalasa No. 1	385 385 386	TELLUR h.s. Melacheridrug Karnátakgarh Anandalamalai, XXXI	117 116 116	TACHANKURCHI h.s. Alúrtimalaí Trichinopoly, Panmalai Trichinopoly, Ganapati Érumbesavaram Hill Pagoda Tirukatpalli Pagoda Kulagudi Búdálúr Tiruvádi Pagoda Tanjore Palace Tanjore Great Pagoda Tanjore Pagoda Vallam Fort	TARAIGUDI s. Vembár Súrangudi Mótúrúni Kumárapuram Múkkaiyúr Naripur Building	577 574 574 575 586 584
TADANPET PAGODA s. Paravilagamkoil Nayinakuppam Krišnavaram Pagoda Chidambaram Pagoda	379 372 372 373	TANDAVARAYACHOLANPET s. Chidambaram Pagoda Andikui Kodampálayam No. 1	370 370 377	TERANI h.s. Uttatúr Pagoda Tiruváralai Pagoda Pilapachai Hill Tree Pagalavádi Hill Pagoda Irúr Neduválasa	498 501 500 494 498 498	TADANPET PAGODA s. Paravilagamkoil Nayinakuppam Krišnavaram Pagoda Chidambaram Pagoda	TARAIGUDI s. Vembár Súrangudi Mótúrúni Kumárapuram Múkkaiyúr Naripur Building	577 574 574 575 586 584
		TANICHANTHAI s. Tree Flag Uttarakoshamangai Pagoda Yérvádi Valinokkam	599 622 603 599	TIRUVANAM s. Pérumukkal Kunnam	244 244			

NOTE.—Station Anandalamalai, XXXI appertains to the Madras Longitudinal Series.

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. of triangulation distance	Name of station with azimuths of surrounding points	No. of triangulation distance	Name of station with azimuths of surrounding points	No. of triangulation distance
TIRTHAMALAI h.s. Ektipati Ammapat Pagoda	182 182	TIRUMANKULI s. Vēlākaraī Vilangalpat Temple Vilangalpat	382 342 332 339	TIRUPUGALUR s. Tiruvālūr Tiruvilimalalai Māyavaram Temple Kārikal Church Kārikal Port Beacon Nagore Kivalūr Tirukonapuram Gopuram	407 407 411 419 417 409 408 440
TIRUCHERAI PAGODA s. Mannārgudi Pagoda Vēlatūr Pagoda Kumbakonam Great Temple, W. Point Nāchiyārkoil Pagoda Tiruvilimalalai Pagoda Tiruvālūr Pagoda	452 465 455 462 444 444	TIRUVAGIRI PAGODA s. Māyavaram Pagoda Vaithisvarankoil Pagoda Chidambaram Pagoda Kodampālayam No. 1 Tirumalvalasa No. 2 Kāveripatnam Tirukudūr Pagoda	418 402 381 381 384 399 401	TIRUVADAMABUDUR s. Kumbakonam, XXIII Māyavaram Temple Tiruvilimalalai Tiruchērai	404 412 405 404
TIRUKONAM h.s. Tirumiam Hill Tree Kotūr Kānjar Hill Pagoda Malai Adipati Hill Pagoda Tēnimalai Pagoda Kudimāyamalai Alūrtimalai Pudukota Palace Tiruvannākonam Pagoda Puram	552 534 549 547 545 532 533 539 548 532	TIRUNAGIRI s. Vaithisvarankoil Temple Chidambaram Kodampālayam No. 2 Tāndakulam Beacon Tirumalvalasa No. 1 Kāveripatnam Beacon Tirukudūr Temple	388 380 380 385 382 398 400	TIRUVALUR PAGODA s. Mannārgudi Pagoda Tiruchērai Pagoda Tiruvilimalalai Pagoda Tirupugalūr Pagoda Nagore Mosque Point No. 2 Negapatam Pagoda	452 444 428 427 427 429
TIRUKUDUR PAGODA s. Māyavaram Pagoda Vaithisvarankoil Pagoda Tirunāgiri Pagoda Kāveripatnam Tranquebar Fort Tiladi Pagoda Nagore Mosque Point No. 2	413 402 401 415 414 423	TIRUPANANDAL MANDAP, XXI Tirupuvanam Temple Kumbakonam, XXIII Kumbakonam Great Temple, E. Point Sholapuram Temple Nayinipiriyan, XXII Guruvallappar Temple Salpai, XVII Gangaikondapuram Temple Kuchūr, XVIII Tirupanandāl Temple Putagaram, XXIV	450 29 453 447 25 391 24 393 24 446 30	TIRUVALUR s. Tiruchērai Srivaniyam Temple Tiruvilimalalai Tirupugalūr Tirukonapuram Gopuram Kivalūr	406 448 406 407 440 408
TIRUMALVALASA No. 1 s. Tirunāgiri Kodampālayam No. 2 Tāndakulam Beacon Kāveripatnam Beacon	382 382 386 398	TIRUPUGALUR PAGODA s. Tiruvālūr Pagoda Tiruvilimalalai Pagoda Māyavaram Pagoda Nagore Flag-staff Nagore Mosque Point No. 2 Negapatam Pagoda	427 426 425 432 425 429	TIRUVANNAMALAI h.s. Rāvantānallūdrug Karnātakgarh Melacheridrug Durgam Malai Building Gangavaram Oddampat Swāmimalai Pagoda	127 124 124 223 125 126 129
TIRUMALVALASA No. 2 s. Tirunāgiri Pagoda Shiyāli Pagoda Chidambaram Pagoda Kodampālayam No. 1 Kāveripatnam	384 387 388 383 399	TIRUPUGALUR PAGODA s. Tiruvālūr Pagoda Tiruvilimalalai Pagoda Māyavaram Pagoda Nagore Flag-staff Nagore Mosque Point No. 2 Negapatam Pagoda	427 426 425 432 425 429	TIRUVARANGAM h.s. Shadagounthalli Hill Rāvatānallūdrug Rāvānapuram Hill Platform Varakūr Polkunam Durgam Malai Hill Nāyanūr Pagoda Tiruvarangam Pagoda	273 200 199 198 198 222 238 200

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
TRUVENDIPURAM s. Gangananyakankuppam Molándikuppam Sénnappanyakanpálayam Chéngád Murattán No. 2 Mannapet Cuddalore Flag-staff	349 349 209 208 208 327 350	TYAGA DRUG h.s. Kottálam h.s. Chinna Tirupadi Hill Pagoda Kalkakurchi Pagoda Kachiráyapálayam Hill Pagoda Rávtattanallúdrug h.s. Rishivandiyam Pagoda Chikád Hill Kunnatúr Hill Tree Édaikal Konankuppam Church Vriddháchalam Pagoda Tyagai Pagoda	295 296 300 299 295 304 307 315 303 319 321 308	TYAGA DRUG h.s. Kottálam h.s. Chinna Tirupadi Hill Pagoda Kalkakurchi Pagoda Kachiráyapálayam Hill Pagoda Rávtattanallúdrug h.s. Rishivandiyam Pagoda Chikád Hill Kunnatúr Hill Tree Édaikal Konankuppam Church Vriddháchalam Pagoda Tyagai Pagoda	349 349 209 208 208 327 350	TRUVENDIPURAM s. Gangananyakankuppam Molándikuppam Sénnappanyakanpálayam Chéngád Murattán No. 2 Mannapet Cuddalore Flag-staff	629 74
TRUVIIMMALAI PAGODA s. Tiruchérai Pagoda Náchiyarkoil Pagoda Kumbakonam Great Temple, W. Point Máyaravam Pagoda Tirupugalúr Pagoda Tiruvátúr Pagoda	444 462 455 426 428	VALAI TIVU, LXXXVIII Appa Tivu, LXXXVI Kánjarangudi, LIX Nájamandal Landmark Périyapatnam, LXXXVII Rámaswámi Madam, LXXIX Musal Tivu, LXXX	301 298 16 312 310 322 16 325 17 18	VALAI TIVU, LXXXVIII Appa Tivu, LXXXVI Kánjarangudi, LIX Nájamandal Landmark Périyapatnam, LXXXVII Rámaswámi Madam, LXXIX Musal Tivu, LXXX	301 298 16 312 310 322 16 325 17 18	TRUVIIMMALAI s. Sri vanjam Temple Tiruchérai Tiruvadamarudúr Máyaravam Temple Tirupugalúr Tiruvátúr	571 570 570 573 576
TRANQUEBAR FORT s. Nagore Mosque Point No. 2 Tirukudúr Pagoda Káveripatnam	424 415 415	VALINOKKAM h.s. Good Water Island Tree Flag Tanichanthai Yérvádi Anaipár Tivu Mark Palayamunai	483 484 483	VALINOKKAM h.s. Good Water Island Tree Flag Tanichanthai Yérvádi Anaipár Tivu Mark Palayamunai	483 484 483	TRANQUEBAR s. Tirukudúr Temple Káveripatnam Beacon	596 596 599 603 605 604
TRICHINOPOLY, GANAPATI s. Chéttikulam Pagoda Irúr Kulagudi Tanjore Pagoda Tachankurchi Álúrtimalai	416 416 492 490 491 490 504 528	VALLIAM, X Ayyampet, XVI Koilánkuppam, XII Chéndamaungalam, VIII Kallapat, VI Kadampuliyúr Molándikuppam Vénkatámpet Temple Porto Novo Porto Novo Chimney Chidambaram Tadanpet Temple Seppalánattam, XLIII	66 65 62 61 61	VALLIAM, X Ayyampet, XVI Koilánkuppam, XII Chéndamaungalam, VIII Kallapat, VI Kadampuliyúr Molándikuppam Vénkatámpet Temple Porto Novo Porto Novo Chimney Chidambaram Tadanpet Temple Seppalánattam, XLIII	66 65 62 61 61	TRICHINOPOLY, PANMALAI h.s. Víramalai Hill Pagoda Pagalavádi Hill Pagoda Turaiyúr Hill Pagoda Irúr Kulagudi Tanjore Pagoda Tachankurchi Álúrtimalai	356 12 11 11 328 202 353 364 368 356 371 18
TRICHINOPOLY, PANMALAI h.s. Víramalai Hill Pagoda Pagalavádi Hill Pagoda Turaiyúr Hill Pagoda Irúr Kulagudi Tanjore Pagoda Tachankurchi Álúrtimalai	529 263 487 263 272 489 502 527	VALLIAM FORT s. Tachankurchi Búdálúr Tirumalvádi Pagoda	75 602 600 73 72 71 626 71	VALLIAM FORT s. Tachankurchi Búdálúr Tirumalvádi Pagoda	75 602 600 73 72 71 626 71	TRICHINOPOLY, PANMALAI h.s. Víramalai Hill Pagoda Pagalavádi Hill Pagoda Turaiyúr Hill Pagoda Irúr Kulagudi Tanjore Pagoda Tachankurchi Álúrtimalai	507 506 511

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance	Name of station with azimuths of surrounding points	No. of triangle giving distance
VALLAM FORT s. Tanjore Pagoda Tanjore Base N.E. End Tanjore Base S.W. End	506 508 509	VENKATAMPET s. Gangamanayakankuppam Andikui Porto Novo Flag-staff Kundiymalūr Chidambaram Pagoda Krishnavaram Pagoda	852 854 869 855 859 861	VIRAMANGALAM, XXVII Alangudi Temple Alangudi, XXVI	523 82
VALDALANKUNAM h.s. Polkunam Varakūr Erayiūr Pādam	191 188 137 137	VENNIYUR, I Mutupatnam, LII Manikamkōta, XLVII Manēgandi, XLVIII	64 63 63	VIRUDAMALAI h.s. Dumbarmalai Stone Ranjanagudidrug Valikandapuram Pagoda Paravai Pērambalūr Pagoda Terani Pagoda Irūr	479 470 475 470 477 495 471
VAKAVUR h.s. Sulupgiridrug Bastion Rāyandapuram Hill Platform Erayiūr Tiruvannāmalai Pagoda Valadalankunam Polkunam Durgam Malai Hill Nāyanūr Pagoda Tiruvarangam	197 139 138 193 138 192 222 238 198	VEPPURDRUG h.s. Erayiūr Rāyandapuram Hill Platform	183 183	VULICHKAL h.s. Pērumālkōil Chēngam Erayiūr Rāyandapuram Hill Platform	178 179 177 177
VELAGUTTA ROCK s. Ettipati Pulipet Rāmapuram	143 143 181	VILANGALPAT s. Vēllakarai Kilimāpat Tiruvadi Temple Melpatnambākam Temple Nēlikuppam Chimney Tiruvēndipuram Temple Tirumankuli Cuddalore Chimney Cuddalore Beacon Rāmapuram	831 831 836 839 840 844 832 845 847 834	WANDIWASH PAGODA s. Melacheri Hill Pōnnūr Elankād Attimalai Māvandūr, XXXIV Oratti	187 151 151 153 152
VELAKARAI s. Mōlāndikuppam Kilimāpat Tiruvadi Temple Tiruvadi Pagoda Vilangalpat Tirumankuli Cuddalore Beacon Rāmapuram	380 330 335 338 332 347 333	VILANKAD h.s. Pondicherry No. 1 Aīatūr Pagoda Pērumukkal Karunguli Marakanam	205 246 204 204 245	YERVADI, LX Valinokkam Landmark Tanichanthai, LXI Yērvādi Mosque Idambādal Mark (helio.) Uttarakoshamangai, LVIII Kānjarangudi, LIX Appa Tīvu, LXXVI Pūvarasanhalli Tīvu, LXXV	597 76 602 600 75 75 97 95
VEMBAR s. Karia Shuli Island Vaippār Church Vaippār Sūrangudi Taraigudi Naripur Building Mūkkaiyūr Salt Water Island	578 580 576 577 584 586 589	VILUPPANKURCHI PAGODA s. Solankurchi Pagoda Senuvanam Pagoda Irūr Kilimāli Unehini	480 486 480 481 484	YERVADI s. Anaipār Tīvu Mark Valinokkam Tanichanthai Uttarakoshamangai Pagoda Kānjarangudi Appa Tīvu Palayamunai	605 603 603 622 612 611 604
VENKATAMPET s. Nayinakuppam Mōlāndikuppam	362 352	VIRAMANGALAM, XXVII Arasapat, XXVIII Rārāmūtiraikōta, XXX Mutuvānehori, XXV Pattisvarankōil Temple Kumbakonam, XXIII	85 89 84 464 32	YESANAI h.s. Sōkanūr Pērunīla Ranjanagudidrug Irūr	275 266 266 267

NOTE.—Station Māvandūr, XXXIV appertains to the Madras Longitudinal Series.

September, 1891.

J. ECCLES,
In charge of Computing Office.

SOUTH-EAST COAST SERIES.

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

The following table gives the co-ordinates of all stations and other fixed points, arranged in alphabetical order, also the descriptions of the secondary and intersected (or unvisited) points, and references to the preceding pages where the descriptions of the principal stations are given.

NOTE.—Principal stations are followed by the Roman numerals I, II, &c., secondary stations by the letters h.s. and s. Stations and points fixed by Colonel Lambton's triangulation have his nomenclature given also, in italics. The year when a station or point was originally fixed is given usually after its description.

For visited stations and points of superior accuracy, the values of latitude and longitude are given to two places of decimals, for well determined objects to one place, and for the remaining points to the nearest second.

The trigonometrical heights in general refer to the upper surface of the pillar or to the mark engraved on top of pillar, building, &c.; but in exceptional cases, where the information is forthcoming in the field books, the surfaces to which the heights refer are specified in footnotes. The spirit levelled heights are given to two places of decimals of a foot, and the surfaces to which they refer are also indicated in footnotes. In the column of heights, the upper numeral gives the height of the station above mean sea-level and the lower is that of the structure itself above ground level.

The numerals in the last column indicate the triangles given on pages 25—*P.* to 55—*P.*, by which the station or point has been fixed; when these numerals are omitted it is to be understood that no triangles are given.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Acharapákam Hill Mark ...	Chingleput	On the highest part of the ridge and at the S.W. end of a range of hills running along and W. of the Trichinopoly-Chingleput road between Acharapákam and Përumperkandigai, above Përumpayar, $\frac{1}{4}$ a mile S.W. by W. of Acharapákam Railway Station, 1 mile N.E. of Përumperkandigai, and 2 miles W. of Tënpákam: táluk Madurántakam. Marked by a circle and dot. 1879-80.	12 22 59.17	79 49 52.90	feet 659	171 172
Acharapákam Hill Temple <i>Acherawauk H.P.</i> ...	"	Spire of the temple towards the N.E. end of the ridge, about $\frac{1}{4}$ a mile W. of the Trichinopoly-Chingleput road, 1 mile W. of Acharapákam Railway Station, 1 mile S. by W. of Pallipet, and 2 miles E. by N. of Sitapuram: táluk Madurántakam. 1802-3. It was refixed in 1879-80.	12 24 8.2	79 51 1.7	* 408	173 174
Aduturai Pagoda ... <i>Audthorae P.</i> ...	Trichinopoly	Inam (great pagoda) in the village so called on the right bank of the Vëllár river, 2 miles E.N.E. of Pënnakonnam village, and 1 mile N.W. of Ogalúr village: táluk Përambalúr. 1810.	11 24 0.1	79 5 50.1	...	468

* This height refers to the flat roof of the temple.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Álangudi, XXVI ...	Tanjore (Tanjávr)	<i>Vide</i> page 11—F. ...	0 1 " 10 49 52·44	0 1 " 79 26 42·25	<i>feet</i> 87 10·0	31
Álangudi Temple ...	"	Ridge of gopuram. In the village so called close to the high road from Kumbakonam to Mannárgudi, 10 miles S. by E. of the former, and about 4 miles N. by W. of the Nídámangalam Railway Station on the line from Tanjore to Negapatam (Nágapatnam). 1877-78.	10 49 42·1	79 27 10·6	* 141	523 524
Alatúr Pagoda ... <i>Allatoor P.</i>	South Arcot (Árkádu)	Steeple of pagoda. About $\frac{1}{4}$ a mile N.E. of the village of this name, and $\frac{1}{4}$ of a mile S.E. of Asapur. The main road from Tindivanam to Chingleput (Chéngalpatu) passes about $\frac{1}{4}$ a mile to W.: táluk Tindivanam. 1803.	12 13 20·1	79 55 14·9	...	246
Álúrtimalai h.s. ... <i>Auloorteemallí</i>	Trichinopoly (Tiruchiná-palli)	On a hill close to the high road from Pudukota to Trichinopoly, and about $10\frac{1}{2}$ miles N. by W. of the former: Pudukota State. 1809.	10 31 17·12	78 48 37·93	...	527 528
Ámanakamunai, LXXXVIII ...	N. Province of Ceylon	<i>Vide</i> page 23—F. ...	9 33 7·84	79 41 55·26	† 13·9 1	114 115
Ammaniyávaram h.s. <i>Umminiwarum H.</i>	North Arcot	On a hill, about 5 miles E. of Vinnamangalam on the high road from Chetpat to Arcot: táluk Wandiwash (Vandavási). 1802-3.	12 35 2·19	79 25 43·06	...	147
Ammaniyávaram Hill Temple ...	"	Spire of temple on the W. summit of a small rocky mount, about 9 miles S.E. of Árni. 1879-80.	12 34 58·4	79 25 41·4	‡ 534	158 159
Ammapet Pagoda ... <i>Nepetory P.</i>	Salem (Sélam)	On the right bank of the Pónniár river, and about 6 miles N.E. of the junction of the roads from the towns of Úttankarai and Arúr. 1803.	12 9 8·5	78 41 6·0	...	182
Ámúr Temple ...	South Arcot	Centre kalas of gopuram. About $\frac{1}{4}$ of a mile N. of the village of this name, and $3\frac{1}{2}$ miles W.S.W. of Tiruvénnánallúr on the main road from Kíranúr to Villupuram: táluk Tirukoilúr. 1878-79.	11 50 10·4	79 21 16·5	* 282	309
Ánaipár Tívu Mark <i>Aunaepar Is.</i>	Madura (Madurai)	On the island, about $2\frac{1}{2}$ miles W. of Palayamunai Island, and 9 miles S.W. of Kilakarai. 1809.	9 9 16·01	78 44 18·29	...	605 606
Anandalamalai, XXXI§ <i>Hanandamallí S.</i>	North Arcot	On a small rocky ridge close to the hamlet of Göllapá-laiyam, $1\frac{1}{2}$ miles E. by N. of the táluk town of Wálabápet, $3\frac{1}{2}$ miles S.E. of the Arcot Station of the Madras Railway S.W. line, and $4\frac{1}{2}$ miles W.N.W. of the town of Káveripák. It is in the lands of the village of Anandalamalai, táluk Wálabápet. The station as built in 1865 consists of a platform of stones and earth 16 feet square, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two marks, one engraved on a stone in the upper surface of the pillar and the other $1\frac{1}{2}$ feet below it which was found engraved on the rock <i>in situ</i> , and which marked Colonel Lambton's station. When visited in 1866, the station was found in good order and no alteration in its construction is stated to have been made. The directions and distances of the circum-jacent villages are:—Musiri E. by N., miles $1\frac{1}{2}$; Ténkadappantángal S. by W., miles $1\frac{1}{2}$; Mantángal W. by N., miles $3\frac{1}{2}$; and Bagavali E.S.E., miles 2. 1802.	12 55 50·73	79 26 13·94	|| 926·96 ¶	116

* To ridge of gopuram. † This height was obtained by observing the height of the tides on a stake driven into the bed of a sheltered pool or pit on the beach, just under the station, and measuring the actual height of the station above the mean sea-level so arrived at: the latter is obviously only approximate; but as the observations were made with some care, the reference to sea-level may be reckoned on as very little in error: and the height in terms thereof has been accepted as final in preference to the trigonometrical value. ‡ To dome of temple. § Of the Madras Longitudinal Series. || To top of rectangular protecting pillar, the assumed height of which above circular pillar is 3·5 feet. ¶ See description of this station.

SOUTH-EAST COAST SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Anantapuram Hill Temple ...	South Arcot	Spire of a pyramidal temple on a low hill on the E. side of a large sheet of water, about 1 mile S. of Anantapuram village, and $\frac{1}{2}$ a mile N. of Panamalai village: taluk Villupuram. 1878-79.	0 1 "	0 1 "	feet * 484	282 233
Andikui s. ... <i>Andekooyee S.</i>	"	On a small sand-hill, about 220 yards N. of the village of that name, $4\frac{1}{2}$ miles N. by W. and 3 miles S.E. by S. respectively of Porto Novo (Farangipetai) and Alapakam Railway Stations on the line from Tuticorin (Tutugudi) to Madras, and $\frac{1}{4}$ of a mile from the sea. Marked by a millstone. 1808.	11 33 26.88	79 47 4.69	...	354
Annapúnáyakanpati, LXVIII ...	Madura	<i>Vide page 19—F.</i>	9 11 43.21	78 20 12.43	$\frac{71}{19.6}$	88
Appa Tívu, LXXVI ...	"	<i>Vide page 21—F.</i>	9 9 50.12	78 52 13.03	$\frac{12}{0.0}$	96 97
Appa Tívu s. ... <i>Shaeramoodilly Is.</i>	"	On a mound near the western extremity of the island on which the principal station of the same name is situated, and about $\frac{1}{4}$ of a mile W.S.W. of it: taluk Ramnad (Rámnáthapuram). 1809.	9 9 33.21	78 51 41.37	...	611
Arakandanallúr Temple <i>Arracandaloor P.</i>	South Arcot	Centre of gopuram. On the left bank of the Pónniár river, about $1\frac{1}{2}$ miles E. by N. of the taluk town of Tirukoilúr, and the same distance S.S.E. of Devanúr village: taluk Tirukoilúr. 1803-10. It was refixed in 1878-79.	11 58 20.7	79 15 45.0	† 420	241
Arapoth, LXII ...	Madura	<i>Vide page 18—F.</i>	9 18 52.33	78 38 47.21	$\frac{85}{24.6}$	72
Arasapat, XXVIII ...	Tanjore	<i>Vide page 11—F.</i>	10 43 28.40	79 20 48.39	$\frac{118}{10.0}$	35
Árinattam Hill Mark ...	South Arcot	Also known as Malaimod. On the highest part of the Cuddalore (Gúdalúr) gravel uplands, about a mile N.W. of Árinattam village on the main road from Panruti to Kíranúr, and $2\frac{1}{2}$ miles S.W. by S. of Chéndamangalam: taluk Tirukoilúr. Marked by a circle and dot on a stone surmounted by a pole and brush supported by a pile of stones. 1878-79.	11 42 29.98	79 23 48.72	317	323 324
Ariyalúr Pagoda ... <i>Arrealoor P.</i>	Trichinopoly	Tower of the great pagoda in the large village so called, on the road from Pérambalúr to Kílpaluvúr, and $6\frac{1}{2}$ miles N. of the latter. 1810.	11 8 5.1	79 6 50.2	...	496 497
Árni Fort (heliotrope) ...	North Arcot	On the S.W. bastion of the fort, about $\frac{1}{4}$ a mile S. of the Kamandala river. The high road from Polúr to Arcot runs through the town of Árni: jágir Árni. Marked by a circle and dot cut on stone set in masonry. 1879-80.	12 40 4.52	79 19 15.31	514	155
Árni Fort s. ... <i>Arnee</i>	"	On the S.E. cavalier of the fort immediately N. of the town so called on the high road from Polúr to Arcot, and about 5 miles N.E. of the large village of Aliyabad: jágir Árni. 1802-8.	12 40 4.00	79 19 32.48	...	144

* To base of temple.

† To ridge of gopuram.

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Árni Monument ... <i>Arnee</i>	North Arcot	About $\frac{1}{4}$ of a mile N. by W. of Árni Fort: jágír Árni. 1802-8.	12 40 14.0	79 19 30.6	feet ...	184
Attimalai h.s. ... <i>Attimalli</i>	"	On the mantapam on a hill close to the right bank of the Chévár river, and $1\frac{1}{2}$ miles E. by S. of Kalliyúr village: táluk Wandiwash. 1802-8.	12 38 32.53	79 38 34.91	...	149
Attúr Fort ... <i>Anantagherry</i>	Salem	Highest cavalier at the S.W. angle of the fort also called Anantagiri, about a mile N.W. of the táluk town of Attúr on the main road from Salem to Chinna Salén, and 2 miles E. of Narasingapuram village on the same road: táluk Attúr. 1810.	11 36 6.7	78 38 32.6	...	283
Avadiarkoil Temple ...	Tanjore	Centre of summit of gopuram. About $7\frac{1}{4}$ miles S.S.E. of the postal town of Arantáangi on the road to Patukota. 1876-77.	10 4 25.5	79 5 6.2	...	553
Avalúr Rock ... <i>Ouloor Rock</i>	South Arcot	About $\frac{1}{4}$ a mile N.E. of the village so called at the junction of the two main roads from Tiruvannámalai, and the same distance S.S.E. of Vadagampúdi. 1802-10.	12 20 30	79 17 23	...	184
Aviarmalai h.s. ... <i>Aviarmalli</i>	Salem	On a hill, about $\frac{1}{4}$ a mile E.N.E. of Mel Avari village, and 5 miles N. of the táluk town of Attúr. 1810.	11 40 5.81	78 39 35.76	...	133
Avirimodu, XXXIX*	Chingleput	<i>Vide page 6—F.</i>	12 27 13.49	79 57 8.32	$\frac{490}{1.6}$	1
Ayyambádi Stone ... <i>Kyedacutty H.</i>	South Arcot	A remarkable stone on the northern edge of the Kalráyun Malai hills, about a mile S.W. by W. of Ayyambádi village, and 2 miles S. of Pudúr Chékkadi: táluk Tiruvannámalai. 1810.	12 0 41	78 51 32	...	280 281
Ayyampet, XVI ...	"	<i>Vide page 9—F.</i>	11 21 49.83	79 27 9.52	$\frac{224}{11.2}$	19
Búdalúr s. ... <i>Boodilloor</i>	Tanjore	At the S.W. corner of the village so called, about $\frac{1}{4}$ a mile N. by W. of Búdalúr Railway Station on the line between Trichinopoly and Tanjore. A pagoda and a tank lie east of the station. 1808.	10 47 24.85	79 1 8.13	...	505
Chéndamangalam, VIII ...	South Arcot	<i>Vide page 8—F.</i>	11 43 40.90	79 24 47.59	$\frac{279}{3.0}$	10
Chéngád s. ... <i>Chengcaud S.</i>	"	In an open rising ground much like the Red Hills, about a mile S. of the village of that name, $\frac{1}{4}$ of a mile W. of a tope and a tank, $\frac{1}{4}$ of a mile W. by N. of Pudúr Villupuram, and 2 miles N. by E. of Valavanúr Railway Station of the South Indian Railway: táluk Villupuram. 1802-3.	11 56 48.63	79 37 38.72	...	207
Chéngam s. ... <i>Chungamah</i>	"	About $\frac{1}{4}$ of a mile S.S.E. of the place so called and 1 mile W. of Nachipat village on the main road from Krishnagiri to Tiruvannámalai: táluk Tiruvannámalai. 1808.	12 17 59.77	78 50 8.52	...	179
Chéngo Choultry ... <i>Chungo Cy.</i>	Madura	On the beach near the Chéngo fishery, about 3 miles E.N.E. of Kílakarai on the coast, and 8 miles S. of Ramnad: táluk Ramnad. 1809.	9 14 50	78 53 9	...	631

* Of the Madras Longitudinal Series.

SOUTH-EAST COAST SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Chetpat Hill Mark ...	North Arcot	On the highest part of the precipitous peak of bare rock, 15 miles W. by S. of Wandiwash. Marked by a circle and dot in the centre of a square hole. 1879-80.	0' " 12 27 51' 43"	0' " 79 25 50' 20"	feet 1465	166 167
Chetpat Mosque <i>Chittepett Mosque</i> ...	"	In the village so called, at the junction of the main roads from Polúr, Árni, Wandiwash and Tindivanam: táluk Polúr. 1802-8.	12 27 50' 6"	79 23 29' 4"	...	165
Chéttikulam Pagoda <i>Chettykolam P.</i> ...	Trichinopoly	In the large village so called, about 8½ miles N. of Siruganúr village on the high road from Trichinopoly to Madras: táluk Musiri. 1808.	11 8 0' 4"	78 49 0' 2"	...	492
Chidambaram Pagoda <i>Chillumbrum P.</i> ...	South Arcot	Highest pagoda in the town of that name: táluk Chidambaram. 1808.	11 24 0' 0"	79 44 7' 2"	...	358 359
Chidambaram s. ...	"	On the centre one of thirteen kalases of the northern of four gopurams of the celebrated and highest temple in about the centre of the large town of that name; the distance between adjacent kalases is 4½ feet. The height of the kalases above the ridge of gopuram is 8 feet and above the ground level 147 feet: táluk Chidambaram. 1887-88.	11 24 0' 32"	79 44 7' 21"	...	356 357
Chikád Hill <i>Chickaud</i> ...	"	About 3½ miles N.E. by E. of Tyága close to the junction of two roads from Ulundurpet and Chinna Salém. 1810.	11 46 15"	79 10 17"	...	306 307
Chinna Appa Pillai Dargah ...	Madura	Centre of roof of the masonry building over a tomb, about ¼ a mile E. of Rámaswámi Madam Principal Station, and 150 yards from the sea: táluk Ramnad. Marked by a circle and dot. 1874-75.	9 15 40' 46"	79 6 38' 19"	20	644
Chinna Salém Bastion <i>Chin Salem</i> ...	South Arcot	Buined bastion about ¼ of a mile E.S.E. of the village of this name on the main road from Salem to Kallakurchi: táluk Kallakurchi. 1810.	11 37 56' 8"	78 55 34' 6"	...	293
Chinna Tirupadi Hill Pagoda <i>C. Trippiddy P.</i> ...	"	Highest and pointed pagoda on the summit of a hill on the E. border of the mass of hills known as the Kalráyan Malai, about ¼ of a mile S. by W. of Chinna Tirupadi village, ¼ a mile S. of Tikanúr, and 7½ miles N.W. of Chinna Salém on the main road from Salem to Kallakurchi: táluk Kallakurchi. 1810.	11 42 36' 2"	78 50 19' 2"	...	132
Coleroon (Kólladam) Beacon s. ...	"	On a sandy spit which juts out into the sea northwards at the mouth of the large river called Coleroon. The directions and distances of the adjacent places are:— Killi village W. by S., miles about 2½; Tandrai Sompata S.W., miles 2. The Coleroon river lies to westward, distant about 400 yards. The beacon consists of an 8-inch square post of teak, standing above the surface of the ground to a height of 33 feet, and having two pairs of cross-arms of planking inserted into it. The smaller pair is let in 8 inches below the top of the post and the larger 5 feet below this again. The post is embedded in a block of masonry 6 feet deep, 6 feet square at foundation, and 5 feet square at the surface of the ground. A sloping superstructure of masonry braces the post from the surface of the ground to a height of 4 feet. In the masonry, and about 8 inches above the concrete foundation, a large block of teak, about 5 feet long and 19 inches both in depth and width, is let in, having underneath it two solid slabs of wood 5' x 18" x 9" each, at equal distances from its centre. The receptacle on the surface is cut 9 inches deep, into which is inserted tightly the end of the post. The arms and 5 feet of the post below the lower ones, have been painted white, the rest of the post red. The portions of the post and wood-work embedded in masonry have been tarred. The post is marked with a broad arrow and the following inscription:—"G.T.S., 1888". 1887-88.	11 26 31' 62"	79 51 18' 43"	* 8	365

* To ground level.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Cuddalore Beacon ...	South Arcot	Flag-staff below middle yard-arm. On the coast, about $\frac{1}{2}$ of a mile E. of the old town, and $1\frac{1}{2}$ miles S. by W. of the ruins of Fort St. David: taluk Cuddalore. Marked by a slab embedded on the platform of the staff with "G.T.S., 1888" cut on it. 1887-88.	11 42 57.5	79 49 17.5	<i>feet</i> * 137	347 348
Cuddalore Chimney ...	"	Top of Cuddalore Railway Workshop chimney. About a mile W.N.W. of Cuddalore (old town) Railway Station: taluk Cuddalore. 1887-88.	11 43 33.7	79 47 45.1	† 81	345 346
Cuddalore Flag-staff <i>Cuddalore</i> ...	"	Between the N. end of the old town and the sea coast: taluk Cuddalore. 1802-8.	11 43 15.7	79 49 6.9	...	350 351
Dalavaipuram s. <i>Tullavapooram</i> ...	Tinnevely (Tirunelveli)	On the bank of a small tank on the main road from Vaippár to Otapidáram; about half way between Lachmipuram and Dalavaipuram villages, and 3 miles E.N.E. of Périyanattam: taluk Otapidáram. Denoted by a mark-stone embedded in a platform. 1809.	8 56 51.82	78 9 48.96	...	566
Dalavanúr s. <i>Dalvanoor</i> ...	South Arcot	On a rock about $\frac{1}{2}$ of a mile N.N.W. of the village of this name, and 1 mile S.W. of Tiruvampat: taluk Tindivanam. 1802-8.	12 10 17.58	79 30 14.13	...	218 219
Devamalai h.s. ... <i>Thavamalli</i>	Trichinopoly	On a hill about $5\frac{1}{2}$ miles W.S.W. of the town of Pudukota: Pudukota State. Denoted by a mark-stone embedded in a platform. 1809.	10 21 4.16	78 46 43.24	...	540
Devikapur Hill Temple ...	North Arcot	Conspicuous spire of the temple on the E. side of the summit of a small isolated hill locally called Périyamalai, on the main road from Polúr to Wandiwash, about 1 mile E.S.E. of Modaiyúr village on the above mentioned road, and 9 miles E. of Polúr. 1879-80.	12 29 42.9	79 17 28.4	‡ 815	163 164
Dumbarmalai Stone <i>Dumbermali</i> ...	Trichinopoly	Remarkable stone on the N.W. side of the hill, about $3\frac{1}{2}$ miles S.W. of the large village of Ammapálaiyam, and 2 miles N.E. of Yélandalaipati: taluk Musiri. 1810.	11 11 4	78 44 52	...	478 479
Durgam Malai Building <i>Kullawulguddy</i> ...	South Arcot	Small round building on a ruined drug on the summit of a hill, about $1\frac{1}{2}$ miles N.E. by N. of Palavalam village, and the same distance E. by S. of the hamlet of Nadupat: taluk Tindivanam. 1810.	12 8 59	79 20 4	...	223
Durgam Malai Hill <i>Kullawulguddy</i> ...	"	About 1 mile N. by W. of Pádipallam, 1 mile N.E. by E. of Devadanampet, 1 mile S.E. by S. of Périyamúr, and $4\frac{1}{2}$ miles S. by E. of Álampúndi on the main road from Tiruvannámalai to Gingee (Chénji): taluk Tindivanam. 1803.	12 11 10	79 23 51	...	222
Édaikal h.s. ... <i>Yeddacul Rock</i>	"	On the highest rock about $\frac{1}{2}$ a mile N.E. of the village of this name, and $3\frac{1}{2}$ miles S.E. of the large village of Élavánásúr at the junction of the main roads from Kallakurchi, Tirukoilúr and Kíranúr: taluk Tirukoilúr. When visited in 1878-79, the circle marking Colonel Lambton's station was found cut on the highest rock, in the centre of which a circle and dot was engraved to denote the station. 1810.	11 40 9.48	79 15 40.48	387	301 302 303

* To top of flag-staff.

† To top of chimney.

‡ To flat roof of temple.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Élavánásúr Temple <i>Yellawassanelloor P.</i>	South Arcot	Centre of gopuram. Close to the junction of the main roads from Kallakurchi, Tirukoilúr and Kíranúr: táluk Tirukoilúr. 1810. It was refixed in 1878-79.	11 42 44' 2	79 13 32' 3	feet * 372	316
Eraiyr h.s. <i>Yerriormalli</i>	"	On the S.E. part of a detached hill, about a mile S.E. of the village so called, and 1½ miles N.W. by W. of Nattúr village on the main road from Krishnagiri to Tiruvannámalaí: táluk Tiruvannámalaí. 1803.	12 16 50' 53	78 57 37' 35	...	186
Érumbesvaram Hill Pagoda <i>Errumbesprum Rock P.</i>	Trichinopoly	Highest pagoda on a small hill just above and south of the village of Tiruvarampur and about ¼ of a mile N. of the Trichinopoly-Tanjore road. The Tiruvarampur Railway Station is ½ a mile S.E. of the pagoda: táluk Trichinopoly. 1808.	10 47 28' 0	78 48 35' 2	...	516
Étaiyápuram Mark	Tinnevelly	At the S.E. corner of Naduvupatti Teppukulam (stone tank) and nearly a mile W. of the zamíndár's house. Marked by a circle and dot on the stone pavement. 1874-75.	9 8 51' 65	78 1 44' 95	197	561 562
Étaiyápuram Palace <i>Yettiapooram</i>	"	Rája's palace in the town of the same name on the Tuticorin-Madura road. Iralanattam large village on the same road is 3¼ miles S.S.E.: táluk Ótapidáram. 1809.	9 8 50	78 2 21	...	568
Éttipati h.s. <i>Éttiput H.</i>	Salem	On the northern extremity of a hill lying close S. of the Pönniár river, about 1 mile S. by E. of the village of Éttipati, and 3¼ miles E. by N. of Mattiyampate on the main road from Úttankarai to Arúr. 1803.	12 10 4' 42	78 39 6' 52	...	142
Gandhamána, LXXXIII	Madura	<i>Vide page 22—F.</i>	9 18 4' 42	79 20 50' 62	† 114' 72 ‡	107
Gandhamána Pagoda <i>Ramisseram H.P.</i>	"	Remarkable pagoda on a sand-hill in the island so called, and 200 yards E. by S. of the principal station of the same name: táluk Pámбан. 1809.	9 18 3' 7	79 20 56' 7	...	665
Gangaikondapuram Temple	Trichinopoly	Centre of great temple spire (Vimána), on the high road from Udayárpálayam to Chidambaram: táluk Udayárpálayam. 1878-79.	11 12 17' 6	79 29 26' 0	§ 243	398 394
Gangamanáyakankuppam s. <i>Guddenguády S.</i>	South Arcot	On the W. bank of a small tank, about ¾ of a mile S.W. of the village of this name, 2 miles W. of Annavalli close W. of the main road from Cuddalore to Vriddháchalam, and 2¼ miles N.E. of Vudlampet: táluk Cuddalore. A circular platform of earth and loose stones having a millstone fixed in the centre defines the station. 1808.	11 40 4' 45	79 44 14' 59	...	349
Gangavaram h.s. <i>Gunjavaram H.</i>	"	On a point of a mass of hills, about 1¼ miles S. of the village of this name, and the same distance N.W. by W. of Tuttipat village: táluk Villupuram. 1810.	12 7 37' 00	79 21 47' 48	...	125
Géngavalli Pagoda <i>Kongulee P.</i>	Salem	Small pagoda on the N. bank of the Suvethanathi river and close to the village so called, near the main road from Tammampa to Viraganúr, and ¼ a mile S.W. of Anaiyámpati village on the same road: táluk Attúr. 1810.	11 29 25' 0	78 41 17' 4	...	289
Gingee, V	South Arcot	<i>Vide page 7—F.</i>	12 14 55' 66	79 26 13' 45	1007 25' 7	8, 6

* To ridge of gopuram.

† To mark-stone on roof of temple.

‡ See description of this station.

§ To top of dome, below ball and finial.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Gingee Hill Fort <i>Gingee Dr.</i>	South Arcot	Pagoda or tower on the drug, about 550 yards N.N.W. of the principal station of this name: taluk Tindivanam. 1802-3.	12 15 11.6	79 26 8.9	... <i>feet</i>	221
Good Water Island s. <i>Good Water Is.</i>	Madura	Or Nallatani Tivu, about 3½ miles S.E. of Koil Máriyúr village, and 2½ miles E. of Shuli Tivu. Marked by a platform. 1809.	9 6 30.76	78 37 13.49	...	591
Guruválappar Temple	Trichinopoly	Centre of gopuram. On the high road from Udayárpálaiyam to Chidambaram: taluk Udayárpálaiyam. 1878-79.	11 12 26.3	79 28 50.6	* 156	391 392
Idambádal Mark (helio.)	Madura	On the roof of the zamindár's masonry house 6 and 5 feet from the parapet walls on the N. and S. sides respectively, 4 feet from the parapet walls on the E. and W. sides, and about 6 miles S.W. of Uttarakoshamangai. Marked by a circle and dot. 1874-75.	9 14 54.82	78 43 37.27	51	600 601
Irúr h.s. <i>Irroor H.</i>	Trichinopoly	On a hill about 1½ miles N. by W. of the village so called which lies ¼ of a mile W. of the high road from Trichinopoly to Madras: taluk Párambalúr. 1808.	11 8 45.15	78 52 11.58	...	263
Kachipérumál, XX	"	<i>Vide page 10—F.</i>	11 12 3.74	79 21 6.65	$\frac{283}{11.1}$	27
Kachiráyapálaiyam Hill Pagoda <i>Kutcherapolliam H.P.</i>	South Arcot	Highest and pointed pagoda on a small hill on the left bank of a stream, about ¼ of a mile S. of the village so called, and ¼ a mile S.S.E. of Vadakanandal village: taluk Kallakurchi 1810.	11 46 14.8	78 54 31.7	...	299
Kachi Tivu, N., LXXXVI	N. Province of Ceylon	<i>Vide page 23—F.</i>	9 23 29.94	79 33 56.21	† $\frac{10.4}{1}$	110 112
Kachi Tivu, S., LXXXVII	"	<i>Vide page 23—F.</i>	9 22 57.32	79 34 17.39	$\frac{15}{1.5}$	109
Kadaládi, LXIII	Madura	<i>Vide page 18—F.</i>	9 13 22.46	78 32 19.48	$\frac{62}{20.4}$	77
Kadalai Hill Mark	Tinnevely	On the highest boulder on the easternmost summit of a stony ridge, about ¾ of a mile S.W. by S. of the village so called, and 5½ miles E.N.E. of the Railway station of Koilpati: taluk Sátúr. Marked by a circle and dot cut on the rock. 1874-75.	9 11 17.30	77 58 50.48	373	559 560
Kadamangalam Church	Madura	About 1½ miles S.S.W. of Pulápati Principal Station, and 12 miles S.W. of Muttukulattúr: taluk Kamuti. Marked by a circle and dot on the roof of the Roman Catholic church. 1874-75.	9 13 5.51	78 24 36.79	67	583
Kadámpuliyúr s.	South Arcot	On a high plateau about 80 feet above the general level of the ground, about 1½ miles S. by E. of Kadámpuliyúr village immediately E. of the main road from the Panruti Railway Station to Chidambaram: taluk Cuddalore. The station consists of a masonry pillar 3 feet square extending 2 feet below the surface of the ground, and 2½ feet square and 1 foot above it; the pillar contains three mark-stones, one on the top, the second at the level of the ground, and the third at the foundation. 1887-88.	11 40 49.61	79 35 50.83	286	328

* To ridge of gopuram. † This height was obtained by observing the height of the tides on a stake driven into the bed of a sheltered pool or pit on the beach, just under the station, and measuring the actual height of the station above the mean sea-level so arrived at: the latter is obviously only approximate; but as the observations were made with some care, the references to sea-level may be reckoned on as very little in error: and the height in terms thereof has been accepted as final in preference to the trigonometrical value.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kakkrákota, XXXII	Tanjore	<i>Vide</i> page 12—F.	10 36 14.82	79 15 7.99	<i>feet</i> * $\frac{130.03}{9.0}$	38, 40
Kallakota, XXXV	Trichinopoly	<i>Vide</i> page 13—F.	10 30 46.48	79 9 52.55	† $\frac{185.62}{\ddagger}$	45
Kallakurchi Pagoda <i>Kullacoorchy P.</i>	South Arcot	Small pagoda about $\frac{1}{4}$ a mile W. of the place so called at the junction of four main roads, and $\frac{1}{4}$ of a mile S. of the road from Kallakurchi to Kachiráyapálayam: táluk Kallakurchi. 1810.	11 44 4.8	79 0 9.6	...	300
Kallapat, VI	"	<i>Vide</i> page 7—F.	11 57 12.30	79 36 20.14	† $\frac{202.69}{\ddagger}$	8, 9
Kalúrunikád, XXXVI	Tanjore	<i>Vide</i> page 13—F.	10 20 24.26	79 15 27.17	$\frac{95}{1}$	43
Kammanáyakanpati Church	Tinnevely	Cross at the E. end of the roof of the Roman Catholic church in the village of this name, about $1\frac{1}{4}$ miles E. of Tittanpati village, 5 miles W.S.W. of the large village of Iralnattam on the high road from Étaiyápuram to Tuticorin, and 8 miles S.E. of Koilpati: zamindári Étaiyápuram, táluk Ótapidáram. 1874-75.	9 4 36.9	77 58 40.5	§ 232	558
Kánád, XLIV	Tanjore	<i>Vide</i> page 15—F.	9 58 37.87	79 9 43.32	† $\frac{44.73}{\ddagger}$	54
Kánádaköndán, XIV	South Arcot	<i>Vide</i> page 9—F.	11 33 10.17	79 23 49.04	$\frac{266}{11.0}$	14, 18
Kaniyanúr, II	North Arcot	<i>Vide</i> page 6—F.	12 47 6.42	79 24 15.17	$\frac{658}{3.0}$	4
Kaniyanúr Hill <i>Kunnimoormalli</i>	"	About 60 feet N. by W. of the principal station of this name. 1802-8.	12 47 7.02	79 24 15.05	...	146
Kánjar Hill Pagoda <i>Kanjar H.P.</i>	Trichinopoly	At a choultry. About $1\frac{1}{4}$ miles W. of the road from Sivaganga to Iluppúr, and 12 miles N. of Tirupatúr on the same road: Pudukota State. 1809.	10 16 39.8	78 38 56.5	...	549
Kánjarangudi, LIX	Madura	<i>Vide</i> page 17—F.	9 14 45.43	78 51 10.27	$\frac{68}{0}$	74
Kánjarangudi s. <i>Kanjanagoody</i>	"	On a sand-hill, about 61 yards S.E. of the principal station of this name. Marked by a platform and a pin. 1809.	9 14 44.19	78 51 11.62	...	612 618
Kappaimalai Hill Peak	South Arcot	Centre of the prominent flat boulder. About $\frac{1}{4}$ of a mile N.W. by N. of Kappai village, the same distance S. of Jambodi, and $3\frac{1}{2}$ miles S.E. by S. of Gingee on the main road from Tiruvannámalai to Tindivanam. The hill is also called Jambodimalai: táluk Tindivanam. 1878-79.	12 11 56	79 29 6	1086	228 229
Kárakurchi, XXXVII	Trichinopoly	<i>Vide</i> page 14—F.	10 22 56.34	79 8 53.65	† $\frac{173.54}{\ddagger}$	44, 46

* To top of pillar. † To top of rectangular protecting pillar 3.5 feet high, built over circular pillar. ‡ See description of this station. § To flat roof of church.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Karia Shuli Island <i>Shully Is. A</i>	... Tinnevely	About the centre of the island, 3 miles E. of the coast, and 6 miles E.S.E. of Pandiyapuram village: taluk Otapidaram. 1809.	0 1 " 8 57 9	0 1 " 78 17 40	feet ...	578
Karikal Church ...	... French Territory	Finial or cross on the dome of the Roman Catholic church. 1879-80.	10 54 55.6	79 52 34.4	...	419 420
Karikal Port Beacon	... "	Flag-staff, on the E. side of the town of that name. 1879-80.	10 54 48.2	79 53 34.1	...	417 418
Karnatakgarh Hill Mark (helio.)	North Arcot	On a bare piece of rock, 51 feet N. of a round tower, about 410 yards E. of the new Revenue Survey station on the summit of the hill which is marked by a small circle and dot with a broad arrow attached to it, and about 6 miles N.W. of Polur. Marked by a cylindrical hole 3 inches in diameter and about 3 inches deep at the bottom of which is a 2-inch circle and dot. The rock is dressed smooth an inch or two round the large hole, and a circle about 40 inches in diameter is engraved on the rock. Another smaller but somewhat similar mark is 5.7 feet to E.N.E. 1879-80.	12 34 42.62	79 7 3.15	3139	162
Karnatakgarh h.s. <i>Carnatighur S.</i>	... "	On the summit of a hill. Denoted by a mark-stone on a large platform. 1802-8.	12 34 32.38	79 6 59.19	296	116
Karunguli h.s. ... <i>Carangooly H.S.</i>	... Chingleput	On a small isolated hill close in the rear of the Collector's house, about 1 mile W. of the village of this name on the main road from Madurantakam to Chingleput, and 2 miles N. of the former: taluk Madurantakam. Marked by a well built platform with a perforated stone in the centre. 1802.	12 32 5.82	79 55 56.22	410	118
Karunguli Hill Temple	... "	Small stone-built temple on a hill, about 1 mile W. of the large village of the same name on the Trichinopoly-Chingleput road, and 2 miles N. of Madurantakam. To the west of the hill is a large tank: taluk Madurantakam. 1879-80.	12 32 6.1	79 55 56.1	* 428	†
Kaveripatnam Beacon s.	... Tanjore	Also called Vanagiri. On the high firm ground against which the spring tides beat. The directions and distances of the adjacent places are:—Kaveripatnam village N.W. by N., miles 2; Vanagiri village N.W. by W., miles 1½; and Vanagiri temple S.W. by S., mile 0.2. The beacon consists of an 8-inch square post of teak, standing 33 feet above the surface of the ground, and having two pairs of cross-arms of planking inserted into it. The smaller pair is let in 8 inches below the top of the post and the larger 5 feet below this again. The post is embedded in a block of masonry 6 feet deep, 6 feet square at foundation, and 5 feet square at the surface of the ground. A sloping superstructure of masonry braces the post from the surface of the ground to a height of 4 feet. In the masonry, and about 8 inches above the concrete foundation, a large block of teak, about 5 feet long and 19 inches both in depth and width, is let in, having underneath it two solid slabs of wood 5' x 18" x 9" each, at equal distances from its centre. The receptacle on the surface is cut 9 inches deep, into which is inserted tightly the end of the post. The arms and 5 feet of the post below the lower ones, have been painted white, the rest of the post red. The post is marked with a broad arrow and the following inscription:—"G.T.S., 1888". 1887-88.	11 7 53.36	79 54 6.05	‡ 15	398

* To flat roof of temple.

† For triangles fixing this point, see Synoptical Volume of the Madras Longitudinal Series.

‡ To ground level.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Káveripatnam s. ... <i>Cauverypatam S.</i>	Tanjore	On the sea beach and near an old ruined pagoda, about 2 miles S. of the village of that name, and 80 yards N.E. of Changanád Choultry. The river Cauvery (Káveri) falls into the sea between the village and the station. Marked by a circular platform of mud and bricks, 10 feet high, with a long picket in the centre. 1808.	11 7 54' 98	79 54 10' 54	... <i>feet</i>	399
Kayáyúr Temple ...	"	Pinnacle at the S. end of the temple, 3 miles S.S.E. of Pátharankota Principal Station. 1876-77.	10 25 33' 2	79 16 13' 5	...	526
Kidátirukai, LXV	Madura	<i>Vide page 18—F.</i> ...	9 17 59' 43	78 30 3' 73	$\frac{85}{16' 9}$	78
Kilakarai Church ...	"	Cross at the N. end of the roof of the Roman Catholic church on the coast, about 8 miles S. of Ramnad. 1874-75.	9 13 41' 5	78 49 45' 9	* 46	614
Kilimali s. ... <i>Koeyamauli</i>	Trichinopoly	On the W. side of a tank, about 1½ miles S.E. of Ponparapi village, 1½ miles W. by S. of Marudar, and ¼ a mile W. by N. of Kilimali village: táluk Udayárpálayam. 1810.	11 15 27' 45	79 17 39' 18	...	481 482
Kiliyúr, IX	South Arcot	<i>Vide page 8—F.</i> ...	11 47 51' 41	79 17 16' 39	$\frac{342}{3' 0}$	15
Kilmámpat s. ...	"	On a high plateau, about 5 miles up a small tributary of the Gadilam river, and 130 feet above the banks of that river. The station is about ¼ of a mile S.S.E. of the village so called, 1½ miles N.W. of Sillambanadampet, 2½ miles E. by N. of Kadámpuliyúr on the main road from Panruti Railway Station to Chidambaram, and ¼ a mile N. of Pudupálayam: táluk Cuddalore. The station consists of a masonry pillar 3 feet square extending 2 feet below the surface of the ground, and 2½ feet square and 1 foot above it. The pillar contains three mark-stones, one on the top, the second at the level of the ground, and the third at the foundation. 1887-88.	11 42 23' 92	79 38 7' 82	† 239	329
Kiranúr Pagoda s. <i>Wooloondoorpett</i>	"	On the platform of the northernmost of two pagodas W. of the village so called at the junction of the main roads from Trichinopoly, Kallakurchi and Villupuram: táluk Tirukoilúr. 1810.	11 41 33' 16	79 19 37' 25	...	317
Kivalúr s. ...	Tanjore	On the dilapidated gopuram of a temple, 2·8 inches N. from the centre of the second southern kalas, and 5 inches W. of the general line of the kalases, five of which out of seven are now standing. The gopuram is 70 feet above the ground level, and is situated in the centre of Kivalúr village, about 1½ miles N. of the Railway station of that name: táluk Negapatam. Marked by a circle and dot engraved on a small pillar 7 inches above the top ridge of the gopuram. 1879-80.	10 45 57' 92	79 46 59' 68	‡ $\frac{99' 84}{§}$	408
Kodampálayam No. 1 s. <i>Kodeumpolliam S.</i>	"	On the sea beach about 200 yards from the water, near Kodampálayam No. 2 s., 1 mile E. of the village of that name, and 2½ miles N.E. of Devikota. Marked by a long picket on a circular mound of earth about 25 feet high. 1806.	11 22 8' 90	79 52 8' 78	...	377

* To top of cross.

† To ground level.

‡ To top of station pillar.

§ See description of this station.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kodampálaiyam No. 2 s. ...	Tanjore	On a sand mound covered with screw pine and other thorny shrubs. About 1 mile S.E., of the village of that name, and about 9 miles E. by S. of the town and Railway station of Chidambaram. Denoted by a thick wooden post 6 feet long driven 4 feet into the ground. 1887-88. Reported by the District Officer on 13th July 1889 to have been washed away by the sea.	11 21 59' 47"	79 52 3' 55"	22 feet	378
Kódándarámaswámi Temple ...	Madura	Summit of gopuram. On Rámesvaram Island, about 4 miles S.E. of Rámesvaram town: táluk Pámban. 1875-76.	9 13 52' 9"	79 23 22' 6"	36	669
Kódikulam, LIII ...	"	<i>Vide page 16—F.</i>	9 30 3' 94"	78 50 49' 94"	$\frac{68}{25 \cdot 8}$	65
Koilánkuppam, XII ...	South Arcot	<i>Vide page 8—F.</i>	11 37 14' 34"	79 26 30' 15"	$\frac{348}{11 \cdot 0}$	12, 17
Koil Kádmundal s. <i>Koelcaudmundel</i> ...	Madura	On a remarkable point of land of that name on the sea coast, about a mile S.E. of Koil Máriyúr, and 2 miles N.W. by N. of Good Water Island or Nallatani Tívu. Denoted by a mark-stone. 1809.	9 8 10' 97"	78 36 7' 75"	...	592 593
Koil Máriyúr Pagoda <i>Morioor</i> ...	"	Close to the sea coast, and about 4 miles S.S.W. of Álangkulam village on the high road from Tuticorin to Ramnad. 1809.	9 8 34' 8"	78 35 20' 7"	...	594
Koilpati, LXXXIII† ...	Tinnevely	<i>Vide page 20—F.</i>	9 9 40' 27"	77 54 0' 82"	$\frac{546 \cdot 14}{8}$	92
Konankuppam Church <i>Konacoopum C. Ch.</i> ...	South Arcot	About a mile E. by S. of the village so called, 1½ miles N.E. by N. of Parúr, and 2½ miles W.S.W. of Puvanúr on the main road from Vriddháchalam to Ulundurpet: táluk Vriddháchalam. 1810.	11 35 41' 6"	79 17 42' 7"	...	318 319
Kottálam h.s. ... <i>Kotallum H.</i> ...	"	On the S.W. point of the highest part of a small isolated hill, about a mile S.S.W. of the village of this name, 1½ miles W.N.W. of Kanankúr, and 3 miles W.S.W. of Virugavúr on the main road from Kallakurchi to Vriddháchalam: táluk Kallakurchi. 1810.	11 40 32' 18"	79 2 48' 47"	...	180
Kotúr s. ... <i>Kotoor Rock</i> ...	Trichinopoly	On a rock, about 7 miles S.W. by W. of the town of Pudukota: Pudukota State. 1809.	10 19 22' 49"	78 46 18' 28"	...	534 535
Krishnapuramdrug s. ... <i>Kistnagherry Dr.</i> ...	South Arcot	On a rock, about ¼ a mile W. of the place so called, and ½ of a mile N.N.W. of Gingee: táluk Tindivanam. 1802-3.	12 15 29' 08"	79 26 55' 59"	...	189
Krishnavaram Pagoda s. ... <i>Kistnavaram</i> ...	"	About 7 miles N.W. of Chidambaram táluk town. 1808.	11 28 54' 71"	79 39 15' 06"	...	360 361
Kuchúr, XVIII ...	"	<i>Vide page 10—F.</i>	11 13 9' 60"	79 35 17' 74"	$\frac{51}{11 \cdot 0}$	23
Kúdalai Áttúr Temple (helio.)	"	Over the central summit of the gopuram at the confluence of the Manimukta and Vállár rivers: táluk Chidambaram. 1878-79.	11 24 51' 17"	79 30 26' 39"	|| 117	374

* To summit of gopuram. † Of the Great Arc Meridional Series, Section 8° to 18°. ‡ To top of rectangular protecting pillar, the assumed height of which above circular pillar is 3'5 feet. § See description of this station. || To ridge of gopuram.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kudimáyamalai h.s. ... <i>Koodimiamalli P.</i>	Trichinopoly	On a pagoda on an isolated hill, about 11 miles W. by N. of the town of Pudukota, and 7 miles S.S.E. of Iluppúr on the road from Pudukota to Trichinopoly: Pudukota State. Marked on the platform of the pagoda E. of the tower. 1809.	10 24 57·60	78 42 0·70	feet ...	530
Kúgayúr Pagoda ... <i>Koogaor P.</i>	South Arcot	Tower of the pagoda. About 7½ miles S. by W. of the Post Office of Chinna Salém on the high road from Tyága to Salem, and close N. of the Vellár river: táluk Vriddháchalam. 1810.	11 31 34·8	78 54 1·1	...	290 291
Kulagudi s. ... <i>Kullagoody</i>	Trichinopoly	On the high ground W. of a choultry, about 12 miles N.E. of Lálgudi Post Office. 1810.	10 59 9·70	78 58 59·77	...	271
Kulamangalam, XL	Tanjore	<i>Vide page 14—F.</i>	10 16 44·02	79 4 35·40	$\frac{175 \cdot 15}{\dagger}$	51
Kulattúr, XIX	Trichinopoly	<i>Vide page 10—F.</i>	11 16 58·57	79 22 39·84	$\frac{238}{10 \cdot 0}$	26
Kulayanallúr, LXXXV † <i>Kolanalloor S.</i>	Tinnevelly	<i>Vide page 20—F.</i> NOTE.—By subsequent calculations it has been found that this station is identical with that of Colonel Lambton's triangulation fixed in 1809.	8 55 31·05	78 1 23·92	$\frac{356}{1}$	98, 94
Kumárapuram s. ... <i>Komarapooram</i>	"	On the bank of a tank on the boundary between the Tinnevelly and Madura districts, about 2 miles E.S.E. of Mavilodai, 1½ miles E. by N. of Kunnúr, and 2 miles S.S.E. of Kumárapuram: táluk Otapidáram. 1809.	9 13 10·53	78 18 46·66	...	575
Kumbakonam, XXIII	Tanjore	<i>Vide page 10—F.</i>	10 58 7·97	79 25 28·62	$\frac{\S}{137 \cdot 98}$ †	29
Kumbakonam Great Temple, E. Point	"	Also called Sárangapáni Temple. Centre ornament on the ridge of the great gopuram at the E. entrance of the Vishnu Temple which is the highest temple in the town of this name on the Railway line from Tuticorin to Madras, and about a mile S.W. by S. of the principal station of this name. 1877-78.	10 57 29·5	79 25 5·0	|| 227	453 454
Kumbakonam Great Temple, W. Point <i>Combacoonum</i>	"	1808.	10 57 29·6	79 25 4·6	...	455 456
Kumbakonam Temple	"	Also called Kumbesvaraswámi Temple. Ridge of the gopuram at the E. entrance of the Shiva Temple. 1877-78.	10 57 25·8	79 24 51·3	...	457 458
Kundiyamallúr s. <i>Kullingacoopum</i>	South Arcot	On the E. bank of the extensive and well known tank of Pêrumályári, about 1½ miles N.N.E. of the village so called, 2 miles E. by N. of Ádugaram on the road to Chidambaram, and 10 miles N. of Bhuvanigiripatnam: táluk Cuddalore. Marked by a millstone. 1808.	11 32 49·16	79 42 7·53	...	355
Kundukal Landmark	Madura	Summit of a masonry beacon on a sand-hill on Rámesvaram Island, and about 3 miles S.E. of Pámban: táluk Ramnad. 1875-76.	9 15 39·8	79 16 47·0	¶ 47	664
Kundukal Temple ...	"	Spire of a small white temple on Rámesvaram Island, about 2 miles S.E. of Pámban, 2 miles S. of Samantakurru village, and 3 miles E. of Komaragiripatnam large village: táluk Ramnad. 1874-75.	9 15 23·0	79 15 46·8	** 15	668

* To top of rectangular protecting pillar 3·5 feet high, built over circular pillar. † See description of this station. ‡ Of the Great Arc Meridional Series, Section 8° to 18°. § To upper mark-stone of pillar on tower. || To ridge of gopuram below ornaments. ¶ To summit of beacon. ** To top.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
			0 1 "	0 1 "	feet	
Kunnam h.s. ... <i>Coonum H.S.</i>	South Arcot	Close W. of the village so called, and 2½ miles N.N.W. of Parankani on the main road from Tindivanam to Pondicherry (Puducheri): taluk Villupuram. 1802-8.	12 5 13'51	79 43 11'51	...	242 243
Kunnatúr Hill Mark (helio.) ...	"	About a mile S. of the village so called, and 3 miles N.W. of Kallamarudúr on the main road from Kiranúr to Tiruvénnánallúr: taluk Tirukoilúr. Marked by a circle and dot engraved on the highest boulder. 1878-79.	11 48 7'15	79 18 53'03	456	812 818
Kunnatúr Hill Tree <i>Coonator H.</i>	"	Large tree on a hill, close to Kunnatúr Hill Mark: taluk Tirukoilúr. 1810.	11 48 7	79 18 53	...	814 815
Kurumalai h.s. ...	Tinnevelly	On the S.E. and highest point of a group of hills about 1½ miles E. of the Railway line from Tinnevelly, 1 mile E.N.E. of Kurumalai village, 2½ miles W. of Kóppampati, and 1½ miles S.S.W. of Múdukalkulam: taluk Ótapidáram. Denoted by an isolated masonry pillar surmounted by a stone on which a circle and dot have been engraved. The pillar is surrounded by a platform of stones and earth about 16 feet square. 1874.	9 4 10'56	77 54 59'29	830	•
Kurusadi Building	Madura	N.W. corner of a paka house on Kurusadi Island, which is used as a hospital for Ceylon coolie emigrants, about 2 miles S. of Pámban. 1874-75.	9 14 52'2	79 15 39'4	† 18	662
Kurusadi Landmark No. 1	"	Summit of a masonry beacon in the sea near Kurusadi Island, about 2 miles S. of Pámban. 1874-75.	9 14 56'9	79 15 16'7	‡ 17	658 659
Kurusadi Landmark No. 2	"	Summit of a masonry beacon on Kurusadi Island, about 2 miles S. of Pámban. 1874-75.	9 14 50'6	79 15 24'0	‡ 27	660 661
Kusavankundu Hill Mark (helio.)	Tinnevelly	On a rock or low granite hill, about 5 miles S.E. by E. of Koilpati, 1½ miles W. of the village so called, and 5½ miles W. by S. of the large village of Étaiyapuram at the junction of the roads from Koilpati Railway Station, Madura and Tuticorin: taluk Ótapidáram. Marked by a circle and dot. 1874-75.	9 7 13'65	77 57 42'71	360	556 557
Madurántakam Temple	Chingleput	Big spire of the gopuram. On the S.E. corner of a large tank W. of the taluk town of the same name on the road from Trichinopoly to Chingleput: taluk Madurántakam. 1879-80.	12 30 30'8	79 55 33'7	§ 173	||
Mailam Hill Mark	South Arcot	On the N.E. top of a small double-topped isolated hill, about ¼ of a mile N.W. of the village of this name, and 2½ miles S.E. by S. of the Railway station of Mailam: taluk Tindivanam. 1878-79.	12 7 47'85	79 39 30'38	338	214 215
Mailam h.s. <i>Mylum H.S.</i>	"	Close to Mailam Hill Mark: taluk Tindivanam. Denoted by a mark on a low platform. 1802.	12 7 47'81	79 39 30'66	...	212 218

* For triangles fixing this point, see Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°. † To roof level. ‡ To top of beacon.
§ To ridge of gopuram, below ornaments. || For triangle fixing this point, see Synoptical Volume of the Madras Longitudinal Series.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Mailam Hill Temple ...	South Arcot	Small spire over the principal shrine towards its N.W. corner. The gateway tower is unfinished: taluk Tindivanam. 1878-79.	12 7 42.8	79 39 25.1	feet * 358	216 217
Malai Adipati Hill Pagoda <i>Mulla-addiputty H.P.</i> ...	Trichinopoly	About 13 miles N. by W. of Tirupatúr on the road from Siveganga to Iluppúr, and 2½ miles W. of this road: Pudukota State. 1809.	10 17 36.9	78 38 10.4	...	547 548
Mallikarai h.s. ... <i>Mulliakurrae</i>	Salem	On a large detached hill, about 2 miles N. by E. of the village so called close S. of the junction of the main roads from Salem and Attúr, and 1½ miles N.W. by W. of Ichampati village: taluk Attúr. 1810.	11 35 5.63	78 32 19.57	...	288
Mallipat, VII ...	South Arcot	<i>Vide page 7—F.</i> ...	11 58 0.26	79 25 1.02	$\frac{302}{1.7}$	7
Mánamádevi Beacon ...	Tanjore	On a firm sand mound on the sea coast overgrown with cactus and screw pine and other shrubs, about 12 feet above the high-water mark. It is about ¼ a mile S. of the village of that name, and 2 miles E. of Koilpat. The beacon consists of an 8-inch square post of teak, standing above the surface of the ground to a height of 33 feet, and having two pairs of cross-arms of planking inserted into it. The smaller pair is let in 8 inches below the top of the post and the larger 5 feet below this again. The post is embedded in a block of masonry 6 feet deep, 6 feet square at foundation, and 5 feet square at the surface of the ground. A sloping superstructure of masonry braces the post from the surface of the ground to a height of 4 feet. In the masonry, and about 8 inches above the concrete foundation, a large block of teak, about 5 feet long and 19 inches both in depth and width, is let in, having underneath it two solid slabs of wood 5" x 18" x 9" each, at equal distances from its centre. The receptacle on the surface is cut 9 inches deep, into which is inserted tightly the end of the post. The arms and 5 feet of the post below the lower ones, have been painted white, the rest of the post red. The post is marked with a broad arrow and the following inscription:—"G. T. S., 1888." 1887-88.	10 31 56.7	79 53 58.7	...	...
Mandagapat Rock s. <i>Mundapootoo</i> ...	South Arcot	About ¼ a mile N.W. of the village of this name, and 1 mile E. of Muttatúr a little W. of the main road from Villupuram to Arcot: taluk Villupuram. 1802-8.	12 6 29.23	79 30 0.66	...	220
Manditop Hill Mark (helio.) ...	Tinnevely	About 2 miles S. by E. of Koilpati Railway Station, and 1½ miles S.W. of Pandavarmangalam village: taluk Sátúr. Denoted by a mark-stone covered over by a pile of stones. 1874-75.	9 8 27.72	77 54 21.11	649	555
Manēgandi, XLVIII ...	Madura	<i>Vide page 16—F.</i> ...	9 46 15.13	78 57 48.02	$\frac{56}{1}$	59
Manikal h.s. ... <i>Manicul H.</i>	South Arcot	On a small isolated hill about ¼ of a mile N. of the Pónniár river, and 1½ miles S. of Manikal village: taluk Tiruvannámalai. 1803.	12 8 11.72	78 45 24.09	...	141
Manikamkota, XLVII ...	Madura	<i>Vide page 15—F.</i> ...	9 54 32.27	78 57 30.65	$\frac{97}{1}$	56, 58

* To top of spire.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Maniyapálaiyam h.s. <i>Munniapollium</i>	South Arcot	On a point of the Kalráyan Malai hills, about a mile E. by N. of the village of this name, and the same distance N.N.W. of Kildukuli: táluk Kallakurchi. 1810.	11 52 56·90	78 43 31·61	... feet	282
Manjali Hill Pagoda <i>Munjinee P.</i>	Salem	Small pagoda on a hill about $\frac{1}{2}$ a mile S. by E. of the village so called close to the road from Attúr táluk town to Naduválúr, and 4 miles S.E. by S. of the former: táluk Attúr. 1810.	11 32 37·1	78 40 52·9	...	287 288
Mannáli Tívu Landmark	Madura	Summit of a masonry beacon on the E. edge of Mannáli Island, about 8 miles S.W. of Pámban. 1874-75.	9 12 53·5	79 10 30·9	† 16	646 647
Mannapet s. <i>Munnapett Station</i>	French Territory	Close to the village so called, about 5 miles N. by E. of the Cuddalore Station of the S. I. Railway, and close to the mouth of the Pónniár river. 1808.	11 47 45·89	79 50 5·09	...	327
Mannárgudi Pagoda s. <i>Munnargoody P.</i>	Tanjore	On the middle urn on the summit of a remarkably high gopuram over the E. gateway of the highest pagoda on the W. side of Mannárgudi town: táluk Mannárgudi. 1808.	10 39 55·78	79 29 8·23	...	452
Mannárgudi Temple No. 1	South Arcot	Centre of the gopuram of the Pérumál temple: táluk Chidambaram. 1878-79.	11 16 26·9	79 35 31·2	‡ $\frac{113}{68}$	389
Mannárgudi Temple No. 2	"	Centre of spire of the Ísvaran temple: táluk Chidambaram. 1878-79.	11 16 22·8	79 35 36·4	§ $\frac{118}{68}$	390
Mannárgudi Temple No. 3	Tanjore	Ridge of the gopuram W. of Mannárgudi town: táluk Mannárgudi. 1877-78.	10 39 56·1	79 29 9·0	|| 211	466 467
Mantapam (heliotrope)	Madura	On the roof of the southernmost chattram in the Vittilai Mantapam, about $4\frac{1}{2}$ miles W. of Pámban. Denoted by a mark-stone embedded in the centre of the roof. 1874-75.	9 16 32·99	79 11 36·63	28	648 649
Mánúr, XLI	Tanjore	<i>Vide page 14—F.</i>	10 7 10·93	79 9 18·73	$\frac{84}{1}$	49
Marakanam s. <i>Marcanum S.</i>	South Arcot	On the sea coast near a choultry: táluk Tindivanam. 1808.	12 12 11·06	80 0 42·97	...	245
Marakayáratnam, LXXXI	Madura	<i>Vide page 22—F.</i>	9 16 29·56	79 10 17·86	¶ $\frac{61·75}{**}$	104
Marakayáratnam Mosque	"	Top of the S.W. minaret of the mosque in Marakayáratnam village on the coast, and about 6 miles W. of Pámban. 1874-75.	9 16 15·2	79 10 13·2	†† 32	645
Masánam Karai, LXXXV	"	<i>Vide page 22—F.</i>	9 15 49·66	79 21 34·79	$\frac{61}{0}$	108

* For another triangle fixing this point, see Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°. † To top of beacon.
‡ To top of gopuram. § To ridge of gopuram, below ornaments. || To ridge of gopuram. ¶ To top of rectangular protecting pillar, the assumed height of which above circular pillar is 3·5 feet. ** See description of this station. †† To top of S.W. minaret.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Mávandúr, XXXIV*	North Arcot	<i>Vide page 6—F.</i>	0 1 "	0 1 "	<i>feet</i> 430 1'5	1
Máyavaram Pagoda s. <i>Myavaram P.</i>	Tanjore	On the great pagoda at the southern extremity of the town and Railway station of this name. 1808.	11 5 38'41	79 41 54'64	...	418
Máyavaram Temple	"	S. horn of gopuram. Close to Mávavaram Pagoda s. 1879-80.	11 5 38'6	79 41 54'5	...	411 412
Melacheridrug s. <i>Mailacherry Dr. S.</i>	South Arcot	On the E. end of the roof of a small magazine in a large drug near Gingee, about 1½ miles S.W. of Melacheri village, and 2½ miles N.E. by E. of Álampúndi on the main road from Tiruvannámalai to Gingee: táluk Tindivanam. 1802.	12 16 1'38	79 24 55'49	1117	117
Melacheri Hill ... <i>Mailacherry</i>	"	About 1½ miles W. by S. of the village so called, and 3½ miles N.E. by E. of Álampúndi on the main road from Tiruvannámalai to Gingee: táluk Tindivanam. 1802-3.	12 16 40	79 25 8	...	187 188
Melakalúruni, LXXII	Tinnevelly	<i>Vide page 20—F.</i>	9 14 12'31	78 12 54'78	160 11'1	86, 88
Melmámpat s. ... <i>Shummetty S.</i>	South Arcot	On the N. bank of a small tank a few yards E. of a choultry on the high ground covered with jungle, about ¼ of a mile E. of the main road from Panruti Railway Station to Chidambaram, 1 mile N.W. of Melmámpat village, 4½ miles S. by W. of Tiruvadi, and 11 miles W. of Tiruvéndipuram: táluk Cuddalore. Marked by a circular platform with a small millstone. 1808.	11 43 55'90	79 35 47'96	...	210
Melpatnambákam Temple	"	Top of spire. Between the Railway line and the main road, about ¾ of a mile E.S.E. of the village so called N. of the high road from Villupuram to Cuddalore, and 2 miles E.N.E. of Tiruvadi town: táluk Cuddalore. 1887-88.	11 47 3'7	79 40 48'8	† 115	389
Merpanaikád, XXXVIII	Tanjore	<i>Vide page 14—F.</i>	10 15 3'90	79 8 59'71	105 1'1	47
Mínákshi, LXXIV <i>Meenachipooram H.S.</i>	Tinnevelly	<i>Vide page 20—F.</i> NOTE.—By subsequent calculations it has been found that this station is identical with that of Colonel Lambton's triangulation fixed in 1809.	9 12 31'34	78 1 16'09	330 ‡	89
Molándikuppam s. <i>Morendicoopum S.</i>	South Arcot	On an old artificial mound E. of a large tank 3 acres in extent, about 75 feet above the general ground level, ¼ of a mile S. of the village of that name, ¼ a mile S. of Alagapasamudram village, 2½ miles S.E. by S. of Kadámpuliyúr on the main road from Panruti Railway Station to Chidambaram. The mound itself is on the plateau formation S. of Gadilam river: táluk Cuddalore. The station consists of a masonry pillar 3 feet square extending 2 feet below the surface of the ground, and 2½ feet square and 1 foot above it; the pillar contains three mark-stones, one on the top, the second at the level of the ground, and the third at the foundation, which is a small millstone with a 3-inch hole in the centre. 1808. It was re-visited in 1878-79.	11 40 16'15	79 37 22'74	324	202
Mótúruni, LXXI ...	Tinnevelly	<i>Vide page 19—F.</i>	9 9 7'56	78 13 36'71	99 8	85

* Of the Madras Longitudinal Series.

† To top of temple.

‡ See description of this station.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Mötúruni s. ... <i>Vellatikolum</i>	Tinnevely	On high ground, close to Mötúruni Principal Station, and about 2 miles N.E. by N. of the large village so called: táluk Ótapidáram. 1809.	9 9 7'69	78 13 36'71	<i>feet</i> ...	569
Múkkaiyúr Building (helio.) ...	Madura	On the centre of the roof of priest's masonry house in the village so called. Denoted by a circle and dot on the roof. 1874-75.	9 7 44'16	78 31 16'60	31	587 588
Múkkaiyúr Church ...	"	Top of the W. gable of the Roman Catholic church on the sea coast, about 3½ miles S.E. of the village of Sholagudi on the high road from Tuticorin to Ramnad. 1874-75.	9 7 44'8	78 31 16'4	* 42	585
Múkkaiyúr s. ... <i>Mookoor C. Ch.</i>	"	On a sand bank close to the shore, in the village so called, and about ¼ of a mile S.E. of the Roman Catholic church. Denoted by a mark-stone. 1809.	9 7 37'39	78 31 23'18	...	586
Muli Tívu s. ... <i>Moolce Id.</i>	"	On the island of that name, about 6½ miles S.E. by S. of Mutupet village, 12 miles E. by S. of Kíakarai, and 2 miles E. of Válai Tívu: táluk Ramnad. 1809.	9 11 9'97	79 0 36'88	...	635
Murattán No. 1 s. ...	South Arcot	On the Revenue Survey boundary pillar at the junction of four fields in the lands of Murattán village which lies about 251 yards N. of the station. It is about ¼ of a mile W. of the main road from Tindivanam to Pondicherry, and 1¼ miles E.S.E. of Pattánúr village: táluk Villupuram. Marked by a circle and dot engraved on the surface of the stone pillar which is surrounded by a low masonry pillar 40 inches in diameter and 1 foot deep. 1879-80.	11 58 26'09	79 49 39'26	183	253
Murattán No. 2 s. ... <i>Moratan Station</i>	"	Close to Murattán No. 1 s. 1802-3. ...	11 58 23'58	79 49 40'49	...	206
Musal Tívu, LXXX ...	Madura	<i>Vide page 22—F.</i> ...	9 12 23'84	79 6 40'91	$\frac{2}{0.8}$	102 103
Musal Tívu s. ... <i>Moosel Island</i>	"	On a mound near the W. end of the island of that name, about 1¼ miles S.E. of Musal Tívu Principal Station: táluk Ramnad. Denoted by a mark-stone. 1809.	9 11 40'72	79 7 27'14	...	638 639
Muttatúr Hill Peak ...	South Arcot	Rocky mass of boulders immediately S.E. of a piece of water, about ¼ a mile S. of the village of this name, ¼ of a mile W. of Arasalapuram, and 1 mile N.W. by N. of Némúr on the main road from Villupuram to Arcot: táluk Villupuram. 1878-79.	12 6 8	79 29 1	681	234 235
Mutupatnam, LII ...	Madura	<i>Vide page 16—F.</i> ...	9 40 13'29	78 50 52'44	$\frac{48}{1.0}$	62, 64
Mutupet Church ... <i>Moothoopett C. Ch.</i>	"	About 8½ miles S.E. of Ramnad: táluk Ramnad. 1809.	9 16 5'5	78 57 43'0	...	633 634
Mutúruni, LXX ...	"	<i>Vide page 19—F.</i> ...	9 17 23'07	78 19 1'75	$\frac{141}{6}$	87
Mutuváncheri, XXV ...	Trichinopoly	<i>Vide page 11—F.</i> ...	11 2 10'14	79 18 31'26	$\frac{209}{11.0}$	83

* To top of W. gable.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Náchiyárkoil Pagoda <i>Tirniherry P.</i>	Tanjore	In the village so called, close to Náchiyárkoil Temple. 1808.	10 55 11.5	79 29 0.5	... <i>feet</i>	462
Náchiyárkoil Temple	"	Centre of seven ornaments on the ridge of gopuram. About 5 miles S.E. by E. of the town of Kumbakonam on the Railway line from Tuticorin to Madras: táluk Kumbakonam. 1877-78.	10 55 11.6	79 29 0.8	140*	461
Náganáda Choultry <i>Naganauda Chy.</i>	Madura	On the road from Ramnad to Périyapatnam, and about 7½ miles S.E. by S. of Ramnad: táluk Ramnad. 1809.	9 16 28	78 55 56	...	632
Náganúr Peak ... <i>Naganoor Peak</i>	South Arcot	About a mile S.E. of Vírnamúr village, 3¼ miles W. of Nágavaram on the main road from Tindivanam to Wandiwash: táluk Tindivanam. 1802-8.	12 19 27	79 33 56	...	185
Nagaram Temple ...	North Arcot	Centre of gopuram of jágírdár's temple at his palace at Árni, in the large village of the same name, about 2½ miles E. of the town of Árni, on the left bank of the Kamandala river, and 2 miles E. of Bandipálayam: jágír Árni, táluk Wandiwash. 1879-80.	12 40 26.2	79 21 35.2	† 503	156 157
Nagore (Nágúr) Flag-staff <i>Nagore flag staff</i>	Tanjore	On the N.E. extremity of the town of this name, and close to the sea shore: táluk Negapatam. 1808.	10 49 16.9	79 53 23.8	...	432 433
Nagore Mosque Point No. 1 ...	"	Finial of the highest minár of the highest mosque. At the N. end of the large sea-port town of Nagore: táluk Negapatam. 1879-80.	10 49 1.2	79 52 59.3	‡ 152	421 422
Nagore Mosque Point No. 2 ... <i>Nagore Mosque</i>	"	1808	10 49 0.4	79 52 59.1	...	423 424
Nagore s. ...	"	On the ridge of the gopuram of a temple. The broken kalas over which the station lies is the 4th from the north and the 6th from the south. The temple is situated on the N.W. corner of the large sea-port town of Nagore: táluk Negapatam. Denoted by a circle and dot engraved on the top of a small pillar built around the broken kalas, 22 inches above the ridge of the gopuram. 1879-80.	10 49 10.03	79 52 49.59	§ $\frac{73.32}{71.3}$	409
Nájamandal Landmark	Madura	Or Kanjarangudi. Summit of a masonry beacon on the coast, about 2 miles E. of Kíakarai, and 8 miles S. of Ramnad. 1874-75.	9 14 26.7	78 52 1.8	¶ 24	615 616
Nambudalai, XLIX	"	<i>Vide page 16—F.</i>	9 43 59.91	79 2 48.80	** $\frac{17.10}{\parallel}$	60
Narasingapuram, III	North Arcot	<i>Vide page 6—F.</i> NOTE.—As Colonel Lambton's station of Narsingpoor H. has disappeared, all his observations have been referred to this station.	12 31 6.87	79 18 42.60	$\frac{981}{3.2}$	5
Naripur Building ... <i>Narripoor</i>	Madura	W. corner of a building on the northern coast of the gulf of Manár, about 4 miles S.S.E. of the large village of Taraigudi on the high road from Tuticorin to Ramnad. 1809.	9 6 49.1	78 27 34.3	...	584

* To ridge of gopuram or base of ornaments. † To top of gopuram. ‡ To finial of highest minár. § To top of pillar. ¶ See description of this station. ¶ To top of beacon. ** To top of rectangular protecting pillar 3.5 feet high, built over circular pillar.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Náyanárkoil, LV ...	Madura	<i>Vide page 17—F.</i> ...	9 32 23·91	78 44 25·72	<i>feet</i> 82 0	69
Náyanúr Pagoda ... <i>Noyanoor P.</i>	South Arcot	About 1½ miles N. of the village of this name, 1½ miles S.S.W. of Virapáñdi, and 4 miles N. of the town of Tirukoilúr: táluk Tirukoilúr. 1803.	12 1 35·4	79 14 53·8	...	238
Nayinakuppam s. <i>Nautyary</i>	"	On the bank of a large tank, about 1½ miles S.E. by S. of the village so called, and ¼ of a mile W. of the road from Panruti Railway Station to Chidambaram: táluk Kallakurchi. 1808.	11 30 32·18	79 36 21·18	...	362 363
Nayinipiriyán, XXII	Trichinopoly	<i>Vide page 10—F.</i> ...	11 7 49·06	79 23 18·37	158 10·0	25, 28
Nedualasa h.s. <i>Neddawassel H.</i>	"	On a small isolated hill, about ¼ a mile N.E. of the village so called, and 3¼ miles E.S.E. of the large village of Përambalúr on the high road from Attúr to Udayárpálayam: táluk Përambalúr. 1810.	11 13 5·27	78 57 31·90	...	472 473
Negapatam Chimney	Tanjore	Centre of the highest chimney of the Railway Workshops: táluk Negapatam. 1879-80.	10 45 22·5	79 53 13·2	...	435 436
Negapatam Flag-staff <i>Negapatam</i>	"	About ¼ of a mile S. of Negapatam Light-house: táluk Negapatam. 1808.	10 45 27·3	79 53 28·3	...	434
Negapatam Light-house s.	"	On the S.W. side of the lantern of the Light-house on the beach road, near the quay and almost opposite the Sea Customs Office: táluk Negapatam. Denoted by a temporary mark made between the railing and the lantern, which is 70·29 feet above the plinth. 1879-80.	10 45 43·25	79 53 27·85	76·00 †	410
Negapatam Pagoda s. <i>Negapatam Jeyne P.</i>	"	On the old ruined Jain pagoda about ¼ a mile N. of the large town so called, and close to the high road from Negapatam to Nagore: táluk Negapatam. The station is marked by a small hollow cut in the brick surface 5 feet 8 inches from the N. edge, 15 feet from the E. edge, and 7 feet 6 inches from the W. edge of the platform. 1808.	10 46 18·52	79 52 58·18	...	429 430
Negapatam s. ... <i>Negapatam</i>	"	On the beach, about ¼ of a mile N. by W. of Negapatam Light-house: táluk Negapatam. 1808.	10 46 20·88	79 53 23·45	...	431
Negapatam Temple	"	The central of nine kalases of the highest gopuram of the temple in the centre of the town: táluk Negapatam. 1879-80.	10 45 33·1	79 52 58·2	...	437 438
Néllagirimalai Hill Peak	South Arcot	N.W. point of the eastern and higher summit of the Gingee hills, about 1½ miles N.E. of Sáttavarai village, and 4 miles S. of Viramanallúr on the main road from Tiruvannámalaí to Gingee: táluk Tindivanam. 1878-79.	12 10 42	79 18 59	1755	224 225
Néllakunu h.s. ... <i>Nellanconoo</i>	Salem	On a small hill, about 2 miles E. of Tedavúr village on the main road from Tammampa to Viraganúr, and 1½ miles N.W. of the latter: táluk Attúr. 1810.	11 29 21·30	78 46 9·97	...	286

* To roof of Light-house between railing and lantern and towards S.W. side of the latter. † See description of this station.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Nēlikuppam Chimney ...	South Arcot	Top of Sugar Factory chimney about $\frac{1}{4}$ a mile W.S.W. of Nēlikuppam Railway Station, the same distance N. of Melpādi and Kīlpādi villages, and 6 miles W. of Cuddalore new town: tāluk Cuddalore. 1887-88.	11 46 12.8	79 42 34.6	feet * 170	340 341
Nīrdānamangalam s. ...	Tanjore	On a bund between two rice fields, about 5 feet above the general level of the adjacent ground, $4\frac{1}{4}$ miles S.W. by S. of the sea-port town of Negapatam, and $\frac{1}{4}$ of a mile to the E. of the centre of the village of that name. A small ruined gopuram lies about 130 yards to W. of the station. A medium sized tamarind tree stands 28 feet to E., and 100 yards to E. by S. is a tank: tāluk Negapatam. The station consists of a pillar 5 feet square extending $3\frac{1}{2}$ feet below the surface of the bund, surmounted by a rectangular pyramidal pillar of 4 feet side at base and $1\frac{1}{2}$ feet at top, rising $3\frac{1}{2}$ feet high, where it terminates in a surface 18-inch square. The pillar contains three mark-stones, one on the top, the second at the ground level, and the third $3\frac{1}{2}$ feet below the second. 1887-88.	10 42 24.76	79 51 6.13	...	439
Ōdaikarai Hill Shaft ...	Tinnevely	Base of stone shaft on a rock or low hill, about 3 miles S. of Sātūr, $\frac{1}{4}$ of a mile E. of the Railway line from Tuticorin to Madura, and $3\frac{1}{2}$ miles S. by E. of Sātūr Railway Station: tāluk Sātūr. 1874-75.	9 18 0	77 58 14	† 287	...
Ōddampat h.s. ... Wotempett H.	South Arcot	On a small isolated hill, about a mile E. by N. of the village so called, and $2\frac{1}{4}$ miles S.W. of Adukam on the main road from Tiruvannāmalai to Villupuram: tāluk Tirukoilūr. Denoted by a circle and dot cut on the rock. 1810. It was re-visited in 1878-79.	12 3 5.36	79 17 50.27	1144	122 123
Ōkkūr, XLIII ...	Tanjore	<i>Vide page 15—F.</i> ...	10 1 17.88	79 3 1.17	$\frac{90}{1}$	58
Ōlagiyanallūr Pagoda Wolaganelloor P.	South Arcot	Great pagoda about $\frac{1}{4}$ of a mile S. of Varadappānūr, 1 mile W. of Pukkiravāri, and $\frac{1}{4}$ a mile N.N.E. of Ōlagiyanallūr village: tāluk Kallakurchi. 1810.	11 37 13.8	79 0 38.8	...	294
Ōpilān, LXIV ...	Madura	<i>Vide page 18—F.</i> ...	9 8 10.69	78 33 35.18	$\frac{40}{0}$	81
Ōratti Hill Mark (heliotrope) ...	Chingleput	On the highest boulder on the hill, about 2 miles W. by S. of the village of the same name, 10 miles N.N.E. of Tindavanam, $1\frac{1}{4}$ miles N. of Vadakuputtūr, and 2 miles E. of Vaipponkarana: tāluk Madurāntakam. Denoted by a circle and dot cut in hollow square on the highest boulder. 1879-80.	12 22 33.80	79 43 10.10	528	169 170
Ōratti h.s. Woritty H.S.	"	On a rock close to the N.E. side of a huge stone, and about 27 feet N.E. by E. of Ōratti Hill Mark: tāluk Madurāntakam. Defined by a scratch made on the rock. 1802-3.	12 22 33.95	79 43 10.33	529	120
Oruttannād Chattram	Tanjore	Under a tree, 48 feet S.W. of centre ghāt on the S. side of a square tank, on the high road from Tanjore to Patukota, about $3\frac{1}{2}$ miles E.N.E. of Kakkākota Principal Station. Denoted by a mark-stone. 1877-78.	10 37 30.04	79 17 38.75	...	525

* To top of chimney.

† To base of shaft.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Ötapidáram Pagoda s. <i>Wotapuddáram P.</i>	Tinnevely	On the E. bank of a large tank close to and immediately W. of the táluk town of the same name on the road from Sivalipéri to Mínakshipuram. 1809.	8 54 47.73	78 3 47.10	feet ...	564
Pádam h.s. <i>Paudum H.</i>	North Arcot	On the southern of the two small isolated hills locally called Périyamalai, about 1½ miles E. by S. of Padakam: táluk Polúr. 1802-8	12 25 6.11	79 14 57.17	...	185
Pagalavádi Hill Pagoda <i>Puglavaddy H.</i>	Trichinopoly	On a small isolated hill, about 1½ miles S.E. of Pagalavá dipudupérumálpálayam on the main road from Trichinopoly to Turaiyúr: táluk Musiri. 1808.	11 4 7.9	78 39 3.9	...	263
Pálaköllai Building	South Arcot	On a hill or ridge E. of the village of this name, and about 2½ miles S.E. by S. of Kallakurchi on the main road from Kíranúr to Marudúr: táluk Vriddháchalam. 1878-79.	11 40 19	79 26 3	* 285	325 326
Palayamunai s. <i>Pulliamonae Is.</i>	Madura	Close to the E. end of the island so called, about 2½ miles E. of Ánaipár Tívu, and 7 miles S.W. by S. of Kílakarai. Denoted by a mark-stone. 1809.	9 9 5.10	78 46 14.82	...	604
Pallathivayal, XLII	Tanjore	<i>Vide page 15—F.</i>	10 9 11.23	79 3 28.28	† 150.11 ‡	50, 52
Pálpádi Pagoda <i>Chumbode P.</i>	South Arcot	About ¼ of a mile E.N.E. of Sémbedu village on the main road from Tiruvannámalai to Gingee, and the same distance N.W. of Satyamangalam: táluk Tindivanam. 1802-8.	12 14 41.5	79 20 28.5	...	201
Pámban Flag-staff	Madura	Summit of the staff near Master Attendant's Office: táluk Pámban. 1874-75.	9 16 54.6	79 15 16.1	§ 110	654 655
Pámban Light-house	"	Wind-vane over the lantern of the light-house on a sand-hill about 30 feet above sea, and nearly ¼ a mile E. of the town: táluk Pámban. 1874-75.	9 17 11.61	79 15 38.37	|| 103	656 657
Paravadamalai Drug <i>Purroovuddum Dr.</i>	North Arcot	On an isolated hill, about 2½ miles N. by E. of Kadaladi, 3½ miles S.W. by W. of Siruvalúr, and 2½ miles S.E. of Víralúr village: táluk Polúr. 1808.	12 26 11	79 0 52	...	176
Paravai s. <i>Purooee S.</i>	Trichinopoly	About ¼ of a mile E. of the village so called, 2 miles S.E. of Kurumbúr Inam village, and 3 miles W. by N. of the large village of Tolisvarapuram: táluk Párambalúr. Denoted by a platform with a mark-stone. 1810.	11 17 21.73	79 5 45.29	...	268
Paravilágamkoil s. <i>Paravalaugum</i>	South Arcot	About 7 miles S.W. by W. of the táluk town and Railway station of Chidambaram. 1808.	11 20 20.10	79 38 37.24	...	379
Parutikota, XXIX	Tanjore	<i>Vide page 12—F.</i>	10 41 37.57	79 26 55.79	82 10.0	86
Pásár h.s. <i>Pasahar H.</i>	South Arcot	On a rock about ¼ of a mile N. of the village of this name, and 2½ miles N.N.W. of Rishivandiyam on the main road from Tyága Drug to Tirukoilúr: táluk Kallakurchi. 1810.	11 51 10.31	79 7 24.65	...	278 279

* To base of building.

† To top of rectangular protecting pillar 3.5 feet high, built over circular pillar.

‡ See description of this station.

§ To top of flag-staff.

|| To top of wind-vane.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Pátharankota, XXXIII ...	Tanjore	<i>Vide page 13—F.</i>	10 28 2'31	79 15 10'77	<i>feet</i> $\frac{120}{0.9}$	41
Pattisvarankoil Temple ...	"	Ridge of gopuram. About 4 miles S.W. of Kumbakonam. 1877-78.	10 55 24'7	79 23 17'0	* 189	463 464
Patukota, XXXIV ...	"	<i>Vide page 13—F.</i>	10 26 17'09	79 20 31'03	$\frac{88}{1.0}$	42
Pëddakönda h.s. ... <i>Peddicoono</i>	North Arcot	On a small isolated hill, about 2 miles W. of the high road from Arcot to Wandiwash, and 5½ miles N.W. of the large village of Tiruvátúr on the above mentioned road: táluk Arcot. 1802-8.	12 42 22'62	79 31 52'89	...	148
Peraiyúr Pagoda ... <i>Paroor P.</i>	Trichinopoly	Westernmost pagoda in the village of that name, about 4 miles W.S.W. of the town of Pudukota: Pudukota State. 1809.	10 21 5'4	78 47 53'1	...	542
Përamalai Stone ... <i>Perramalli</i>	Madura	Large stone on the eastern peak, about a mile N. by E. of the village of this name, and 17 miles N.N.E. of Melúr on the high road from Madura to Trichinopoly. 1809.	10 14 40	78 29 23	...	550 551
Përambai s. ...	South Arcot	On the roof of the small room at the S.E. corner of the largest of a group of buildings on the S.E. bank of a large sheet of water, about 1½ miles N. by E. of Përambai village, 2 miles S. by W. of Putturai village, 3 miles S.W. by S. of Murattán on the main road from Tindivanam to Pondicherry, and ¼ a mile N.E. of Poraivúr village: táluk Villupuram. Marked by a circle and dot engraved in the centre of the S.E. corner of the roof. 1879-80.	11 56 25'11	79 47 51'87	133	254 255
Përambalúr Pagoda ... <i>Parambelloor P.</i>	Trichinopoly	Pointed pagoda on the E. edge of the táluk town of the same name, about 1½ miles W. of the Trichinopoly. Madras road, 5 miles E. of Kurumbalúr large village, and 2 miles W.N.W. of Toramangalam village: táluk Përambalúr. 1810.	11 14 8'4	78 54 23'9	...	477
Përiyapatnam, LXXVII ...	Madura	<i>Vide page 21—F.</i>	9 15 2'87	78 57 2'28	$\frac{28}{10.5}$	98
Përiyapatnam s. ... <i>Perriapatam S.</i>	"	On a projecting point of land close to a bungalow bearing that name. About 150 yards S. by W. of Përiyapatnam Principal Station: táluk Ramnad. 1809.	9 14 58'58	78 57 2'27	...	618 619
Përiyeri Bastion ... <i>Perri-yary</i>	Salem	Ruined bastion in the village so called, about 7 miles S.W. by W. of the Post Office of Chinna Salém on the high road from Tyága to Salem, and about 2½ miles E. by S. of Talaivásal village: táluk Attúr. 1810.	11 34 11'7	78 50 16'1	...	292
Përumálkoil h.s. ... <i>Maiipett H.</i>	South Arcot	On the S. extremity of the mass of hills called Javéjikkönda, about 2½ miles E. of Kuppenattam, 3½ miles N.E. of Paramanandal, and 6 miles N. of Nachipat on the main road from Krishnagiri to Tiruvannámalai: táluk Tiruvannámalai. 1808.	12 23 13'44	78 50 38'95	...	178

* To ridge of gopuram.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Përubákam Hill Temple ...	South Arcot	Spire of a small temple on a rock about $\frac{1}{2}$ of a mile N.W. of the village of this name, the same distance S.W. of Parikalapat, and $5\frac{1}{2}$ miles S.E. of the Railway station of Mailam: taluk Tindivanam. 1878-79.	12 5 54.7	79 41 49.8	<i>feet</i> * 261	248 249
Përumukkal, IV ...	"	<i>Vide page 7—F.</i> ...	12 11 51.34	79 46 39.97	$\frac{452}{18}$	2
Përumukkal h.s. ... <i>Permacoil S.</i>	"	On the masonry platform of a great choultry at the top of the drug, about 37 feet E. by S. of the principal station of this name: taluk Tindivanam. 1802.	12 11 51.35	79 46 40.48	460	119
Përunila s. ... <i>Perrinella</i>	Trichinopoly	On the high ground, about $\frac{1}{4}$ of a mile W. of the village so called, $1\frac{1}{2}$ miles N. of Padangi village, and $2\frac{1}{2}$ miles W.N.W. of Kariyanúr on the right bank of the Vëllár river: taluk Përambalúr. 1810.	11 29 30.29	78 54 13.28	...	264
Përuvayal Temple ...	Madura	Summit of the gopuram. About 7 miles N.N.E. of Ramnad, and 3 miles S.W. of Devipatnam: taluk Ramnad. 1875-76.	9 27 26.8	78 53 54.0	† 89	554
Pettaimalai Peak ...	South Arcot	A bare rounded peak of the Vettaivalam hills, about $2\frac{1}{2}$ miles W.S.W. of Devadánam village, and $5\frac{1}{2}$ miles S. by E. of Viramanallúr on the main road from Tiruvannámalai to Gingee: taluk Tindivanam. 1878-79.	12 10 8	79 21 4	1785	226 227
Pilapachai Hill Tree <i>Peelapachy H.</i>	Trichinopoly	Remarkable tree on a small isolated hill or mound about a mile N.W. of Tirupatúr village, and $3\frac{1}{2}$ miles in the same direction of Siruganúr on the high road from Trichinopoly to Madras. 1810.	11 2 37	78 48 9	...	500
Pilvel Pagoda ... <i>Pilvail P.</i>	"	Pointed pagoda about $7\frac{1}{2}$ miles W. of the town of Pudukota: Pudukota State. 1809.	10 22 43.6	78 45 27.5	...	541
Pisásu Mundal, LXXXIV ...	Madura	<i>Vide page 22—F.</i> ...	9 19 35.33	79 21 10.51	† $\frac{13.8}{1}$	111
Pödaiyúr, XV ...	South Arcot	<i>Vide page 9—F.</i> ...	11 21 23.85	79 33 28.49	$\frac{69}{11.0}$	20, 21
Point Calimere (Kalimiyar Munai) Beacon	Tanjore	On a firm mound about 14 feet above the sea, and having low tree jungle growing about it. The sea is about 250 yards away. The beacon consists of an 8-inch square post of teak, standing above the surface of the ground to a height of 33 feet, and having two pairs of cross-arms of planking inserted into it. The smaller pair is let in 8 inches below the top of the post and the larger 5 feet below this again. The post is embedded in a block of masonry 6 feet deep, 6 feet square at foundation, and 5 feet square at the surface of the ground. A sloping superstructure of masonry braces the post from the surface of the ground to a height of 4 feet. In the masonry, and about 8 inches above the concrete foundation, a large block of teak, about 5 feet long and 19 inches both in depth and width, is let in, having underneath it two solid slabs of wood $5' \times 18" \times 9"$ each, at equal distances from its centre. The receptacle on the surface is cut 9 inches deep, into which is inserted tightly the end of the post. The arms and 5 feet of the post below the lower ones, have been painted white, the rest of the post red. The post is marked with a broad arrow and the following inscription:—"G. T. S., 1888." 1887-88.	10 17 33.3	79 54 40.5	...	...

* To flat roof of temple. † To summit of gopuram. ‡ This height was obtained by observing the height of the tides on a stake driven into the bed of a sheltered pool or pit on the beach, just under the station, and measuring the actual height of the station above the mean sea-level so arrived at: the latter is obviously only approximate; but as the observations were made with some care, the references to sea-level may be reckoned on as very little in error: and the height in terms thereof has been accepted as final in preference to the trigonometrical value.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Polkunam h.s. ... <i>Poloccoonum H.</i>	South Arcot	On a small isolated hill about $\frac{1}{2}$ a mile S. of the village of this name, and $1\frac{1}{2}$ miles E. of Rájampálayam on the main road from Tiruvannámalai to Pondicherry: táluk Tiruvannámalai. 1802-3.	12 11 44'69	79 11 49'52	... <i>feet</i>	190 191 192
Pondicherry Flag-staff <i>Pondicherry</i>	French Settlement	About 290 yards S.W. by W. of Pondicherry Light-house. 1802.	11 55 48'5	79 52 33'3	87	260
Pondicherry Light-house s. ...	"	In the N.E. corner of the "Place," and near the pier or flag-staff. It is distant 9 inches from the 9th and 10th rails from the wooden beam, 2 feet 8 inches from the E. corner of the N. side of the octagonal lamp room, 2 feet 2 inches from the W. corner of the same, and 4 feet 4 inches from wooden beam over the end of which the lightning conductor passes. Marked by a circle and dot engraved between the railing and the lamp room. 1879-80.	11 55 53'72	79 52 40'22	75	258 259
Pondicherry No. 1 h.s. <i>Pondicherry New Station</i>	"	On the red hill near Pondicherry, close E.S.E. of a large tope towards the sea, $4\frac{1}{2}$ miles E. by S. of Ráyapudupákam village, and $\frac{1}{2}$ a mile from the sea coast. The station is denoted by a mound of sand or red earth, 1802-3.	12 0 44'68	79 52 45'68	...	205
Pondicherry No. 2 h.s. <i>Pondicherry 1st flag</i>	"	On the red hill near Pondicherry, close N.W. of a large tope towards the sea, and $3\frac{1}{2}$ miles E. of Ráyapudupákam village. The station is denoted by a mound of sand or red earth. 1802-3.	12 1 10'33	79 51 56'56	178	251 252
Pönnúr, I ...	North Arcot	<i>Vide page 6—p.</i> ...	12 29 47'84	79 33 59'51	$\frac{602}{3'0}$	1
Pönnúr Elankád h.s. <i>Ponoor Yellungcaud H.</i>	"	About 32 feet N. by E. of the principal station of this name: táluk Wandiwash. 1802-8.	12 29 48'16	79 33 59'55	...	150
Pöragudi, LIV ...	Madura	<i>Vide page 17—p.</i> ...	9 29 42'91	78 55 51'15	$\frac{16'80}{\dagger}$	66
Porto Novo Beacon	South Arcot	Flag-staff below upper yard arm about $\frac{1}{2}$ of a mile E. by S. of the town: táluk Chidambaram. Marked by a slab embedded in the platform of the flag-staff with "G.T.S., 1888" cut on it. 1887-88.	11 29 26'5	79 48 30'1	...	366 367
Porto Novo Chimney	"	Iron foundry chimney of a deserted factory at Porto Novo or Mahmúd Bandar: táluk Chidambaram. 1878-79. Reported destroyed.	11 29 8'5	79 48 6'3	\dagger 157	368
Porto Novo Flag-staff <i>Porto Novo</i>	"	About 274 yards S.E. by S. of Porto Novo s.: táluk Chidambaram. 1808.	11 29 16'0	79 48 13'1	...	369
Porto Novo s. ...	"	Towards the sea at the S.E. corner of the town of that name. There are extensive ruins about the station, more particularly towards the west, where about 2½ years ago stood a colossal chimney some 145 feet high at an azimuth of 78°, distant 240 feet. The station is about 120 yards S.W. of the Port Officer's house, and consists of a 10-foot solid masonry pillar on the centre of one of the three furnace wells which contains three mark-stones, one at the foundation, the second level with the plinth of the well, and the third 5 feet above the second. 1887-88.	11 29 9'14	79 48 8'57	\S 21	364

* To top of rectangular protecting pillar, the assumed height of which above rectangular station pillar is 3'5 feet.
 † To summit of chimney. § To ground level.

† See description of this station.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Pötakoiltédal s. ... <i>Pothacoilthuddel</i>	Madura	On a sand-hill on the beach, close to a remarkable and isolated tree, about 8 miles S. by E. of Ramnad: taluk Ramnad. Denoted by a mark-stone. 1809.	9 15 46'05	78 55 24'60	... <i>feet</i>	620 621
Pudukota Palace ... <i>Puducottah</i>	Trichinopoly	In the fort within the town of this name: Pudukota State. 1809.	10 22 58	78 51 38	...	538 539
Pudu Madam Mosque (helio.) ...	Madura	On the masonry mosque in the middle of the village on the coast, about 12 miles S.E. by E. of Ramnad: taluk Ramnad. Denoted by a circle and dot cut on the centre of the roof. 1874-75.	9 16 23'04	79 2 0'81	33	636
Pulápati, LXVII ...	"	<i>Vide page 19—F.</i> ...	9 14 11'00	78 25 6'97	$\frac{78}{21'2}$	79
Pulipet h.s. ... <i>Pullypett H.</i>	South Arcot	On the eastern one of the two small detached hills, about $\frac{1}{2}$ of a mile W.S.W. of Melpallipat village, and 1 mile S.S.E. of Melchēngam on the main road from Krishnagiri to Tiruvannámalai: taluk Tiruvannámalai. 1803.	12 15 29'73	78 46 9'83	...	140
Puliyúr Hill Pillar <i>Pulioor Rock</i>	Trichinopoly	Also known as Pudúr. Small pillar on a rock about $2\frac{1}{2}$ miles S.E. by E. of Valikōndapuram on the high road from Trichinopoly to Madras: taluk Pērambalúr. 1810.	11 18 13'9	78 59 16'8	...	469
Púmurichán, LXXXII	Madura	<i>Vide page 22—F.</i> ...	9 14 27'73	79 13 17'18	$\frac{33}{\dagger}$	105 106
Puram h.s. ... <i>Porum H.</i>	Trichinopoly	On the wall of a ruined mud fort on a hill nearly midway between Arantāngi and Pudukota, and 1 mile W. of the road between them: Pudukota State. 1809.	10 16 20'06	78 54 56'60	...	531
Púsappádi h.s. ... <i>Pooshopaddy H.</i>	South Arcot	Towards the N.E. extremity of a small village, about $1\frac{1}{2}$ miles N.W. of the village of this name, and the same distance S.W. of Kallanattam: taluk Kallakurchi. 1810.	11 39 2'93	78 50 24'16	...	276 277
Putagaram, XXIV	Tanjore	<i>Vide page 11—F.</i> ...	10 56 27'48	79 31 29'29	$\frac{73}{11'2}$	30
Putharai s. ...	French Territory	On the high ridge known as Putharai-Kattu-modu, about the middle of the northern boundary of the field belonging to Iyam Pērumál, 4 miles from Vēllyanúr Railway Station, 5 miles W.N.W. of Pondicherry, and 2 miles S.E. by E. of the village so called. The station consists of a pillar 40 inches in diameter, having two marks, the lower one is built into the masonry 2'4 feet below the upper mark which is about 1 foot above the ground level. A circular trench 11 feet in radius is dug round the pillar and the earth is thrown up to cover the station. 1879-80.	11 57 23'92	79 48 51'94	170	256 257
Púvarasanhalli Tívu, LXXV ...	Madura	<i>Vide page 21—F.</i> ...	9 9 17'59	78 47 39'71	$\frac{4}{0}$	95

* To mark-stone imbedded near summit of pyramid about a foot below its point.

† See description of this station.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Púvatúr, XXXI	Tanjore	<i>Vide</i> page 12— <i>F.</i>	10 34 27.54	79 20 40.16	<i>feet</i> $\frac{105}{10.0}$	37
Rája Madam Beacon	"	At the mouth of the Ikuniaur river, and about $\frac{1}{2}$ of a mile S.E. by S. of Rája Madam town on the high road from Ramnad to Mannárgudi: táluk Patukota. 1887-88.	10 17 26.5	79 24 6.0	...	...
Rája's Tower Beacon	"	Finial or spire of tower about 80 feet high, near the sea coast, and $3\frac{1}{2}$ miles S.W. by W. of Rája Madam town: táluk Patukota. 1887-88.	10 16 3.0	79 20 49.0	...	...
Rámapuram h.s. <i>Ramatmali</i>	South Arcot	About a mile S. of the village of this name, $1\frac{1}{2}$ miles N.W. by N. of Manikal, and 2 miles S. of Melravandavádi: táluk Tiruvannámalai. 1803.	12 10 33.43	78 44 43.26	...	181
Rámapuram s.	"	On a plateau about 120 feet above the general ground level, close to the cart track from Tiruvéndipuram to Ánavalli, about 2 miles N.E. of Rámapuram village, 1 mile S.W. by W. of Cuddalore Jail, $1\frac{1}{2}$ miles S.E. by E. of Maovalipálayam, and $3\frac{1}{2}$ miles W. of the Cuddalore (old town) Railway Station: táluk Cuddalore. The station consists of a masonry pillar 3 feet square extending 2 feet below the surface of the ground, and $2\frac{1}{2}$ feet square and 1 foot above it; the pillar contains three mark-stones, one on the top, the second at the level of the ground, and the third at the foundation. 1887-88.	11 42 47.50	79 45 24.75	115	333 334
Rámaswámi Madam, LXXIX	Madura	<i>Vide</i> page 21— <i>F.</i>	9 16 1.64	79 6 10.23	$\frac{51.78}{\dagger}$	101
Rámaswámi Madam Choultry No. 1	"	On the centre of the roof of the verandah of the chattram on the coast, about 16 miles S.E. by E. of Ramnad. Denoted by a circle and dot cut on the paka roof. 1874-75.	9 15 46.01	79 6 5.41	30	640 641
Rámaswámi Madam Choultry No. 2 <i>Ramaswamy Chy.</i>	"	On the beach, about $\frac{1}{2}$ of a mile S. of the principal station of this name: táluk Ramnad. 1809.	9 15 45	79 6 10.	...	642 643
Rámesvaram Temple No. 1	"	Summit of an unfinished gopuram at the E. entrance of the temple. 1875-76.	9 17 11.7	79 21 36.6	§ 85	666
Rámesvaram Temple No. 2	"	Summit of a large gopuram at the W. entrance of the temple. 1875-76.	9 17 11.0	79 21 29.1	§ 93	667 668
Ramnad, LVI	"	<i>Vide</i> page 17— <i>F.</i>	9 21 51.96	78 51 44.84	|| $\frac{48.22}{3.1}$	67
Ramnad Palace (heliotrope)	"	On the tower at the N.E. corner of the roof of zamindár's record room. Denoted by a circle and dot cut on the roof. 1874-75.	9 22 8.62	78 52 6.72	85	625 626
Ramnad Tower <i>Ramnad</i>	"	High square tower of the palace in fort. 1809.	9 22 9.9	78 52 9.4	...	624
Rangapilli Choultry <i>Rungapilly Ch.</i>	South Arcot	On the sea coast, about $\frac{1}{2}$ a mile E. by N. of Kunimedu village on the road from Marakanam to Pondicherry: táluk Tindivanam. 1803.	12 5 24	79 56 21	...	247

* To ground level. † To top of rectangular protecting pillar, the assumed height of which above circular pillar is 3.5 feet. ‡ See description of this station. § To summit of gopuram. || To mark-stone let into upper surface of pillar.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Ranjanagudidrug s. <i>Ranjanaghur</i>	Trichinopoly	On the highest part of the drug immediately W. of the village of this name on the high road from Trichinopoly to Madras: táluk Pērambalúr. 1810.	11 20 43·09	78 58 52·00	... feet	265
Ráramutiraikota, XXX	Tanjore	<i>Vide page 12—F.</i>	10 45 56·99	79 15 9·62	154·51 †	39
Rávattanallúdrug h.s. <i>Ravatnelloor Dr.</i>	South Arcot	On the highest part of the drug on the northern summit of a small isolated hill about $\frac{1}{2}$ of a mile S.E. by S. of the village of this name, 2 $\frac{1}{2}$ miles N.W. of Kaduvanúr, and 2 miles S. of Brahmakundam: táluk Kallakurchi. Marked by a circle. 1810.	11 57 41·43	78 57 58·41	...	127
Ráyandapuram Hill Platform ... <i>Riandavaram H.</i>	"	On the highest of a group of low hills, about a mile S.E. of the village so named, and 3 $\frac{1}{2}$ miles N.E. by N. of Pērunkolattúr: táluk Tiruvannámalai. 1803.	12 5 2	78 59 9	...	189
Rētavayal, XXXIX	Tanjore	<i>Vide page 14—F.</i>	10 12 43·33	79 14 35·74	$\frac{48}{1}$	48
Rishivandiyam Pagoda <i>Risshivundum P.</i>	South Arcot	In the village so named on the main road from Tyága Drug to Tirukoilúr: táluk Kallakurchi. 1810.	11 48 48·2	79 8 24·5	...	304 305
Salpai, XVII	Trichinopoly	<i>Vide page 9—F.</i>	11 14 52·05	79 28 59·05	$\frac{138}{11·1}$	22
Salt Water Island s. <i>Salt Water Is.</i>	Madura	Also called Hupputani Tívu. About 3 miles S. by E. of Múkkaiyúr Roman Catholic church which is 3 $\frac{1}{2}$ miles S.E. of Sholagudi village on the high road from Tuticorin to Ramnad. 1809.	9 5 24·58	78 32 1·48	...	589
Sambuttiyendal, LVII	"	<i>Vide page 17—F.</i>	9 23 15·33	78 44 33·14	$\frac{78}{20·8}$	68, 70
Sarvai h.s. <i>Sharvoye H.</i>	Salem	On a small isolated hill about a mile S. of the main road from the táluk town of Attúr to Chinna Salém, 4 miles E. by S. of the former, 3 $\frac{1}{2}$ miles W. by N. of Sarvai, and 1 mile S.S.W. of Pudúr village on the above mentioned road: táluk Attúr. 1810.	11 34 46·64	78 42 19·20	...	284 285
Sáttanúr Hill <i>Sautnoor H.</i>	South Arcot	A small isolated hill about 2 $\frac{1}{2}$ miles N.W. of the village so called on the main road from Kóttakulam to Tandarámpat, and 2 miles E.S.E. of Ariyakunjúr village: táluk Tiruvannámalai. 1803.	12 12 46	78 54 7	...	180
Sembalavayal, XLV	Madura	<i>Vide page 15—F.</i>	10 2 28·94	78 57 48·11	$\frac{119}{0·9}$	57
Sēnji Kunnattúr Hill Mark	South Arcot	On the E. side of a sheet of water, about 1 mile N.E. of Kōlapákam village, 2 $\frac{1}{2}$ miles in the same direction of Muttatúr a little W. of the main road from Villupuram to Arcot: táluk Villupuram: Marked by a rough circle and dot engraved on a boulder in the cleft of the rock towards E. end of the summit. 1878-79.	12 7 49·67	79 30 42·59	507 ‡	230 231

* To top of rectangular protecting pillar, the assumed height of which above circular pillar is 3·5 feet. of flat rock.

† See description of this station.

‡ To surface

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Sēnnappanáyakanpálayam h.s. <i>Chennunnaipolliam S.</i>	South Arcot	On a small hill, about 15 yards S. of a pagoda on the top, $\frac{1}{4}$ a mile S. of the village of this name, $\frac{1}{4}$ mile S.S.W. of Naduvírapat, $2\frac{1}{2}$ miles S.W. of Kilárungam on the main road from Tiruvadi to Tiruvēdipuram, and $6\frac{1}{2}$ miles W.S.W. of the latter: táluk Cuddalore. Marked by a small millstone. 1808.	11 43 10·41	79 39 36·50	feet ...	209
Sennivanam Pagoda <i>Shennivanum P.</i>	Trichinopoly	Centre pagoda. About $\frac{1}{2}$ of a mile E. of the village so called, and $\frac{1}{4}$ a mile S. of a large sheet of water: táluk Udayárpálayam. 1810.	11 12 25·4	79 12 14·9	...	485 486
Seppalánattam, XIII	South Arcot	<i>Vide page 9—F.</i>	11 32 32·79	79 33 44·31	$\frac{155}{11·0}$	13
Shadagoundhalli Hill <i>Chadaigoundhully H.</i>	"	On the E. border of a mass of hills known as the Kalráyan Malai, about a mile E.S.E. of Maympádi village, and $4\frac{1}{2}$ miles S.W. by W. of the large village of Vadakanandal: táluk Kallakurchi. 1803.	11 44 9	78 51 0	...	273
Shilagudi s. <i>Shillagoody</i>	Trichinopoly	On the high ground, about 2 miles N.W. of the village of Kilaiyúr on the road from Trichinopoly to Kilpaluvúr, and $3\frac{1}{2}$ miles W.N.W. of the latter: táluk Udayárpálayam. 1810.	11 3 36·79	79 3 42·70	...	270
Shiyáli Pagoda <i>Sheally P.</i>	Tanjore	In this town, about a mile E. of the Railway Station on the line from Tuticorin to Madras. 1808.	11 14 9·1	79 46 53·6	...	387
Sholapuram Temple	"	Top of the minár of the dome. About 6 miles N.N.E. of the town of Kumbakonam. 1877-78.	11 3 7·5	79 27 22·7	163*	447 448
Shuli Tívu Mark <i>Shully Is. B.</i>	Madura	On the island so called, about $2\frac{1}{2}$ miles W. of Good Water Island, and $4\frac{1}{2}$ miles E.S.E. of Múkkaiyúr Roman Catholic church. 1809.	9 6 0	78 34 34	...	590
Shundapanád h.s. <i>Choondapanaud H.</i>	South Arcot	On a point of the mass of hills known as the Kalráyan Malai, about $1\frac{1}{2}$ miles W. by N. of Shundipádi village, and $\frac{1}{4}$ a mile N.W. of Allatti: táluk Kallakurchi. 1810.	11 50 23·96	78 45 46·25	...	131
Silagudi Beacon	Tanjore	On a firm sand mound partly overgrown with shrubs and creepers, about $1\frac{1}{2}$ miles S.E. of Ránapet village on the road to Negapatam, $6\frac{1}{2}$ miles S. by W. of Negapatam sea-port town, and 2 miles N.E. of Puanthandy: táluk Negapatam. The beacon consists of an 8-inch square post of teak, standing 33 feet above the surface of the ground, and having two pairs of cross-arms of planking inserted into it. The smaller pair is let in 8 inches below the top of the post and the larger 5 feet below this again. The post is embedded in a block of masonry 6 feet deep, 6 feet square at foundation, and 5 feet square at the surface of the ground. A sloping superstructure of masonry, braces the post from the surface of the ground to a height of 4 feet. In the masonry, and about 8 inches above the concrete foundation, a large block of teak, about 5 feet long and 19 inches both in depth and width, is let in, having underneath it two solid slabs of wood 5" x 18" x 9" each, at equal distances from its centre. The receptacle on the surface is cut 9 inches deep, into which is inserted tightly the end of the post. The arms and 5 feet of the post below the lower ones, have been painted white, the rest of the post red. The post is marked with a broad arrow and the following inscription:—"G.T.S., 1888". 1887-88.	10 39 32·7	79 53 40·9	...	...

* To top of dome, below ornaments.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Singarpet ... <i>Shingarpetta</i>	Salem	A little S. of the junction of the main roads from the towns of Uttankarai and Tirupatúr. 1808.	12 14 56	78 39 22	... <i>feet</i>	*
Sirukambúr, XLVI	Madura	<i>Vide page 15—F.</i> ...	9 52 26.47	79 3 28.83	$\frac{42}{1}$	55
Sittánúr Temple ...	South Arcot	Principal spire of the Jain temple about $\frac{1}{4}$ of a mile N. of the village of this name, 9 miles W.N.W. of Tindivanam, and $2\frac{1}{2}$ miles E.N.E. of Nangilikondán on the main road from Gingee to Tindivanam: táluk Tindivanam. 1879-80.	12 16 8.0	79 33 21.8	† 307	186
Sōkanúr h.s. ... <i>Chokanoor H.</i>	Salem	On a small detached hill about $1\frac{1}{2}$ miles W. of Viráganúr, and 2 miles S.E. by S. of Tedavúr, both of which are on the main road to the large village of Tam-mampa: táluk Attúr. 1810.	11 28 15.36	78 45 16.27	...	274 275
Solankurchi s. ... <i>Sholancoorchee</i>	Trichinopoly	On the high ground, about $\frac{1}{4}$ of a mile S.E. of the hamlet so called, and 1 mile N.E. of Anandavádi village: táluk Udayárpálayam. 1810.	11 11 48.98	79 14 0.72	...	269
Srímushnam Temple	South Arcot	Centre of the gopuram about 3 miles S. of the Vēllár river. Srímushnam village is on the road from Chidambaram to Vriddháchalam town: táluk Chidambaram. 1878-79.	11 24 1.7	79 26 51.4	‡ 192	375 376
Srivanjam Temple ...	Tanjore	Centre of the high gopuram about 8 miles N. by W. of Kulikarai Station on the Railway line from Tanjore to Negapatam. 1879-80.	10 52 12.6	79 36 56.4	...	442 443
Sulupgiridrug Bastion <i>Sooloopgherry Dr.</i>	South Arcot	About $\frac{1}{4}$ a mile S.W. of Attipádi village, and $\frac{1}{2}$ of a mile N.W. of Palaiyanúr: táluk Tiruvannámalai. 1803.	12 4 29.2	79 4 31.2	...	197
Supalápuram, LXXIII	Tinnevelly	<i>Vide page 20—F.</i> ...	9 4 18.26	78 7 22.12	$\frac{180}{21.1}$	90, 91
Supalápuram s. ... <i>Sooplavaram H.</i>	"	On the bank of a tank about $\frac{1}{4}$ of a mile E. by N. of the principal station of the same name, and 6 miles S.W. by W. of Vilátikulam village on the high road from Sátúr: táluk Ótapidáram. Marked by a platform with a large pin. 1809.	9 4 29.81	78 8 14.80	...	565
Súrangudi, LXIX ...	"	<i>Vide page 19—F.</i> ...	9 6 0.01	78 21 58.23	$\frac{77}{9}$	84
Súrangudi s. ... <i>Soorungoody</i>	"	On the high ground near Mudiliár's choultry, about $\frac{1}{4}$ a mile S.W. by W. of Súrangudi Principal Station, and $\frac{1}{4}$ a mile W. of the village so called: táluk Ótapidáram. Denoted by a mark-stone. 1809.	9 5 48.59	78 21 40.68	...	572 573
Swámimalai Pagoda s. <i>Sammymalli</i>	South Arcot	Square pagoda on the highest part of a hill, about $1\frac{1}{2}$ miles S. of Turinjipat, and $5\frac{1}{2}$ miles S.W. of the town of Tirukoilúr: táluk Tirukoilúr. 1810.	11 55 18.99	79 10 50.29	...	128 129

* For triangles fixing this point, see Synoptical Volume of the Madras Longitudinal Series.

† To top of gopuram.

‡ To ridge of gopuram.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tachankurchi h.s. <i>Tutchankoorchee H.</i>	Tanjore	On the rising ground S.W. of Tanjore. 1808. ...	10 39 53·00	79 2 29·10	... <i>feet</i>	502 503 504
Tadanpet Pagoda s. <i>Tathumpett</i>	South Arcot	On the platform of the pagoda N. of Bhuvanigiri, close S. of the Vēllār river, and about 5 miles W.N.W. of the town of Chidambaram. 1808.	11 25 46·08	79 39 45·26	...	372 373
Tadanpet Temple ...	"	Centre of the spire of a temple about 5½ miles W.N.W. of Chidambaram town: tāluk Chidambaram. 1878-79.	11 25 46·5	79 39 46·1	* 74	371
Talairi s. <i>Talliary Is.</i>	Madura	On the eastern extremity of the island of that name, about 6 miles S. by W. of Mutupet village, 8 miles E.S.E. of Kīlakarai, and 3½ miles W. by S. of Muli Tīvu: tāluk Ramnad. Denoted by a platform with a mark-stone. 1809.	9 10 51·18	78 56 44·63	...	617
Támrapákam h.s. <i>Damarpauk</i>	North Arcot	On an isolated hill, about 1¼ miles N.W. by W. of the village so called on the high road from Árni to Arcot, and 1¼ miles E. of Putúr village: jágr Árni. 1802-8.	12 46 33·25	79 19 58·82	...	145
Tándakulam Beacon s.	Tanjore	On a sand mound covered with screwpine and other thorny shrubs, about 1¼ miles N.E. of the village of that name, and 11 miles S.E. by E. of the town and Railway station of Chidambaram. The station is 79 feet from the sea, and is denoted by a thick wooden post 6 feet long driven 4 feet into the ground. 1887-88.	11 19 9·13	79 52 34·84	† 16	385 386
Tandavaráyacholanpet s. <i>Station on the spit</i>	South Arcot	On a spit of sand near the conflux of the Coleroon and Devikota rivers with the sea, about 4½ miles S.E. by S. of Porto Novo. It is S.E. of the mouth of the Coleroon river, and about 150 yards S. of the N. extremity of the spit of sand, and half way between the sea and the river, the breadth of the spit here being about 70 yards: tāluk Chidambaram. 1808.	11 26 28·31	79 50 54·86	...	370
Tanichanthai, LXI	Madura	<i>Vide page 18—F.</i> ... When visited by the Levelling Party in 1885-86, no protecting pillar was found, but there was an irregularly built mound, 5 feet high, strongly put together, consisting of large stones, burnt bricks, and sand: this mound was removed and the mark-stone was found firmly embedded in the masonry at the level of the ground.	9 13 4·19	78 40 13·23	‡ 33·25 0	78, 76
Tanichanthai s. ... <i>Tunnychundy</i>	"	On a mound about a mile N. of the village of that name, and 180 yards E. by N. of the principal station of this name. Marked by a large pin. 1809.	9 13 5·15	78 40 18·56	...	599
Tanjore Base N.E. End s. <i>N.E. End of the Base</i>	Tanjore	Marked by large stones sunk in the ground. 1808. ...	10 44 57·57	79 9 22·47	...	508
Tanjore Base S.W. End s. <i>S.W. End of the Base</i>	"	Marked by large stones sunk in the ground. 1808. ...	10 42 21·86	79 6 52·01	...	509
Tanjore Great Pagoda <i>Tanjore</i>	"	The highest and pointed pagoda in the small fort. 1808.	10 46 52·2	79 10 24·3	...	519 520
Tanjore Pagoda s. <i>Tanjore Station</i>	"	On the S. gopuram of the pagoda opposite the great one in the small fort. Denoted by an urn in the centre. 1808.	10 46 54·96	79 10 32·00	...	489

* To ridge of temple.

† To ground level.

‡ To mark-stone at ground level.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tanjore Palace ... <i>Tanjore</i>	Tanjore	Palace or pointed building in the large fort. 1808.	10 47 22·8	79 10 42·4	... <i>feet</i>	517 518
Tanjore Temple ...	"	Top of the dome of the great Shiva temple (Vimánam). 1877-78.	10 46 52·0	79 10 23·8	* 379	521 522
Taraigudi, LXVI ...	Madura	<i>Vide page 18—F.</i> ...	9 9 17·41	78 25 59·64	$\frac{57}{0}$	80,82
Taraigudi s. <i>Turraygoody</i>	"	On the high ground, about 176 yards S.W. of the principal station of this name: taluk Kamuti. 1809.	9 9 16·13	78 25 54·54	...	574
Tellúr h.s. <i>Telloor H.S.</i>	North Arcot	On a hill close E. of the great mountain of Wandiwash, and about 2 miles N. of the town of Wandiwash: taluk Wandiwash. Denoted by a platform. 1802.	12 31 46·00	79 37 21·61	...	116
Tenimalai Pagoda ... <i>Taenimalli P.</i>	Trichinopoly	On a rock about 12½ miles S. by W. of Iluppúr on the road from Sivaganga to Trichinopoly: Pudukota State. 1809.	10 20 5·5	78 37 47·6	...	545 546
Terani h.s. <i>Terrany H.P.</i>	"	On a hill, about ¼ a mile W. of the village of the same name, 2½ miles N. of Uttatúr Inam village, and the same distance E.N.E. of Padalúr village on the Trichinopoly-Madras road: taluk Përambalúr. Marked on the rock, a little S. of a pillar. 1810.	11 6 9·45	78 54 23·68	...	498 494
Terani Pagoda ... <i>Terrany P.</i>	"	A gopuram in the village so called, about ¼ of a mile E. by S. of Terani h.s. 1810.	11 6 7·2	78 54 39·0	...	495
Tiliadi Pagoda ... <i>Tilliades P.</i>	Tanjore	In the village of that name, about 3 miles W.N.W. of the sea-port town of Tranquebar (Tarangambádi). 1808.	11 2 26·3	79 51 16·8	...	414
Timiri Hill Temple	North Arcot	The western and higher spire of a small temple on a rock, about 1½ miles S. of the large village of Timiri on the high road from Árni to Arcót, 7 miles S.S.W. of the latter, and ¼ of a mile W. of the above mentioned high road: taluk Arcot. 1879-80.	12 48 18·9	79 20 43·8	† 737	154
Timmapurdrug ... <i>Timmapoor Dr.</i>	"	On a small isolated hill at the E. foot of which lies the village of Durgam, and about ¼ of a mile W. by S. of Manasarabad: taluk Polúr. 1802-10.	12 24 9	79 15 7	...	175
Tindivanam s. <i>Tindivanam P.</i>	South Arcot	On the gopuram of a pagoda about ¼ of a mile N. of Tindivanam Railway Station: taluk Tindivanam. 1808.	12 14 2·72	79 41 41·01	...	244
Tirakol Hill Pagoda <i>Terracole H.P.</i>	North Arcot	About 8 miles S.W. by W. of the town of Wandiwash: taluk Wandiwash. 1802-8.	12 27 1·1	79 32 24·0	...	168

* To ball on summit of temple.

† To flat roof of temple.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tirthamalai h.s. <i>Teerteemalli</i>	Salem	On a remarkable stone on the N.W. end of a mass of hills, about 1½ miles S.S.E. of the village of the same name, and 8 miles E.N.E. of the large village of Arúr at the junction of the four main roads, one being from the Railway station of Morappúr. 1803.	12 4 56'25	78 38 34'98	... <i>feet</i>	182
Tiruchérai Pagoda s. <i>Tirricherra P.</i>	Tanjore	About 7 miles S.E. of the town of Kumbakonam on the Railway line from Tuticorin to Madras, and on the high road from Kumbakonam to Tiruválúr. Denoted by the middle urn on the top of the gopuram. 1808.	10 52 38'37	79 29 48'72	...	444
Tiruchérai s.	"	On the ridge of the gopuram of a temple about 84 feet above the ground level, between the 3rd and the 4th kalases from the S. which have been blown down. The station is in the centre of Tiruchérai village, about 7 miles S.E. of Kumbakonam. Denoted by a mark engraved on a small pillar 7½ inches above the ridge of the gopuram. 1879-80.	10 52 38'44	79 29 49'06	152	403
Tirukatpalli Pagoda <i>Tirrikautpilly P.</i>	"	In the fort about 5 miles N.N.W. of Búdalúr Railway Station on the line between Trichinopoly and Tanjore. It is on the main road from Tiruvádi to Trichinopoly. 1808.	10 50 52'2	78 59 43'3	...	514 515
Tirukoilúr Temple	South Arcot	The centre of the eastern and highest gopuram in this town: táluk Tirukoilúr. 1878-79.	11 57 54'0	79 14 49'8	469	239 240
Tirukonam h.s. <i>Tirkoarnum</i>	Trichinopoly	On a hill, about 1½ miles N.W. of the town of Pudukota: Pudukota State. 1809.	10 23 15'63	78 50 6'94	...	532 533
Tirukonam Pagoda <i>Tirkoarnum P.</i>	"	About a mile N.W. of Pudukota: Pudukota State. 1809.	10 23 23'4	78 50 33'9	...	536 537
Tirukonapuram Gopuram	Tanjore	In the village of that name, 9 miles N.E. by N. of Tiruválúr Railway Station on the line from Tanjore to Negapatam. 1879-80.	10 52 1'1	79 44 48'9	† 116	440 441
Tirukudúr Pagoda s. <i>Tirrikuddaoor P.</i>	"	On top of the great pagoda nearly in the middle of the town of Tirukudúr on the road from Chidambaram Station of the South Indian Railway to Tranquebar, and about 5½ miles N.E. of the latter. Denoted by the middle kalas on the pagoda. 1808.	11 4 23'33	79 50 51'03	...	401
Tirukudúr Temple	"	On the centre of the ridge of a gopuram. Marked by a circle and dot. 1887-88.	11 4 23'71	79 50 51'09	...	400
Tirumáluganthakota Temple	Madura	The spire of a small white temple in the centre of stone-built buildings, about 9 miles N.E. by E. of Vilátikulam: táluk Kamuti. 1874-75.	9 11 37'6	78 23 14'9	† 71	582

* To ridge of gopuram.

† To top of central kalas.

‡ To top of spire.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tirumalvádi Pagoda <i>Tirmelwaddy P.</i>	Trichinopoly	Great pagoda close to the left bank of the Coleroon river, and about 3 miles W.N.W. of Tiruvádi at the junction of the two roads from Tanjore and Trichinopoly to the Coleroon river. 1808.	10 53 53.7	79 6 5.2	... feet	510 511
Tirumalvalasa No. 1 s.	Tanjore	On a sand mound covered with thorny jungle, about 7 miles E. of Shiyáli Railway Station on the line from Tuticorin to Madras, about 300 yards S. of the mouth of a large river about 300 yards at its broadest, which narrows as it falls into the sea, and 1 mile E. of the village of that name. The sea is 45 yards to E. A thick wooden post 6 feet long driven 4 feet into the ground denotes the station. 1887-88.	11 14 16.44	79 53 23.49	* 14	382
Tirumalvalasa No. 2 s. <i>Tirmelwassel S.</i>	"	On a mound of earth on the beach, about $\frac{1}{4}$ of a mile S.E. of the village, and on the E. side of the river just at the bend before its entrance into the sea. A long picket in the centre of a mound defines the station. 1808.	11 14 10.02	79 53 26.57	...	388 384
Tirumankuli s.	South Arcot	On a plateau about 90 feet above the general ground level, about $\frac{1}{4}$ a mile E. of the village of this name, $\frac{1}{2}$ of a mile S. of the main road from Tiruvadi to Tiruvéndipuram, and $1\frac{1}{2}$ miles S.W. of the latter place. The South Indian Railway Station at Cuddalore new town is 3 miles to E.: taluk Cuddalore. The station consists of a masonry pillar 3 feet square and 2 feet below, and $2\frac{1}{2}$ feet square and 1 foot above the surface of the ground, which contains three mark-stones, one on the top, the second at the ground level, and the third at the foundation. 1887-88.	11 44 7.76	79 43 56.35	137	382
Tirumiam Hill Tree <i>Tirmium</i>	Trichinopoly	A remarkable tree in the centre of a bastion on a hill. 1809.	10 14 46	78 47 37	...	552
Tirunágésvaram Temple	Tanjore	Ridge of the gopuram, about 4 miles E. of and on the road to the town of Kumbakonam, and 3 miles S.W. by S. of Tiruvadamarudúr Railway Station on the line from Tuticorin to Madras. 1877-78.	10 57 40.3	79 28 13.0	† 173	459 460
Tirunágiri Pagoda s. <i>Tirniherry P.</i>	"	On the top of a high temple in the village of this name. The main road from Shiyáli to Káveripatnam passes close to this temple. The station is in the large hollow where the middle kalas formerly stood. 1808.	11 13 29.56	79 50 30.28	...	381
Tirunágiri s.	"	On the centre of the ridge of a temple in the village of that name. The station is marked by a pillar 1 foot 9 inches square and 1 foot 8 inches high, resting on a platform 4 feet square. There are two mark-stones, one on the top of the pillar and the other 1 foot 8 inches below it. 1887-88.	11 13 29.95	79 50 30.23	...	380
Tirunirankónrai Hill Temple	South Arcot	Spire of the temple built on a rock, about $\frac{1}{4}$ of a mile W.S.W. of the village of this name, 1 mile S.E. of Kunnatúr, and $3\frac{1}{2}$ miles N.W. by N. of Kallamarudúr on the main road from Kíranúr to Tiruvénnánallúr: taluk Tirukoilúr. 1878-79.	11 48 39.1	79 19 24.0	‡ 332	810 811

* To ground level. † To ridge of gopuram, below ornaments. ‡ To top of dome.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tirupanandál Mandap, XXI ...	Tanjore	<i>Vide page 10—F.</i>	11 5 27' 65	79 29 42' 33	<i>feet</i> * 96 32	24
Tirupanandál Temple ...	"	Ridge of the gopuram about 130 yards E. by S. of Tirupanandál Mandap Principal Station. 1877-78.	11 5 27' 2	79 29 46' 2	† 158	445 446
Tirupirambiyam Temple ...	"	Centre ornament on the ridge of a wide red gopuram, about 4 miles N.W. of Kumbakonam town and Railway Station. 1877-78.	11 0 22' 5	79 22 26' 2	‡ 167	449
Tirupugalúr Pagoda s. <i>Trippooloor P.</i> ...	"	On the top of the pagoda in the village so called, about 10½ miles N.W. from the great mosque in Nagore, and 14 miles S.W. from Tranquebar. The middle urn on the top of the pagoda marks the station. 1808.	10 52 59' 09	79 44 41' 50	...	425
Tirupugalúr s. ...	"	On the ridge of the gopuram of a temple 73·1 feet above the level of the ground, between the 3rd and 4th kalases from the north, being distant 1 foot 10 inches from the one and 1 foot 3¼ inches from the other. The kalases are almost all broken. The temple is in the lands of Tirupugalúr village, 10 miles N.N.E. of Tiruválúr Railway Station. A circle and dot engraved on the ridge of the gopuram denotes the station. 1879-80.	10 52 59' 66	79 44 41' 68	98 73	407
Tirupullani Pagoda <i>Tirroopoolany P.</i> ...	Madura	About 6 miles S. of Ramnad: táluk Ramnad. 1809. ...	9 16 53' 7	78 52 3' 4	...	627 628
Tirupullani Temple ...	"	Summit of a big gopuram, about 6 miles S. of Ramnad: táluk Ramnad. 1874-75.	9 16 53' 2	78 52 1' 0	§ 91	629 630
Tirupuvanam Temple ...	Tanjore	Top of the dome of a temple, about 4 miles E.N.E. of Kumbakonam, and 2 miles S.W. of Tiruvadamarudúr Railway Station on the line from Tuticorin to Madras. 1877-78.	10 59 19' 6	79 28 32' 5	|| 184	450 451
Tiruvadamarudúr s. ...	"	On the central of nine kalases of the highest and western gopuram of a temple about 6 miles N.E. of Kumbakonam, and close by the Railway station of Tiruvadamarudúr. The gopuram is 96 feet above the level of the ground. A mark on a pillar 33¼ inches above the ridge of the gopuram denotes the station. 1879-80.	10 59 35' 61	79 29 35' 54	176 96	404
Tiruvádi Pagoda <i>Trividdy P.</i> ...	South Arcot	In the village so called, about a mile S.E. of Panruti Railway Station: táluk Cuddalore. 1802-8.	11 45 45' 3	79 36 19' 3	...	387 388
Tiruvádi Pagoda <i>Triviaur</i> ...	Tanjore	The highest pagoda in this sacred town on the road to Tanjore and on the N. bank of the Cauvery river, about 7¼ miles N.N.W. of Tanjore Railway Station. 1808.	10 52 45' 5	79 8 48' 3	...	512 513
Tiruvádi Temple ...	South Arcot	Top of a kalas on the centre of the gopuram of the conspicuous temple about a mile S.E. of Panruti Station of the South Indian Railway, at the junction of the two roads from Tanjore and Trichinopoly towns to the Coleroon river, and about 6¼ miles N.N.W. of the former town: táluk Cuddalore. 1887-88.	11 45 45' 1	79 36 19' 4	** 180	385 386

* To mark-stone on top of dome, below finial.

† To ridge of gopuram, below ornaments.

‡ To ridge of gopuram.

§ To summit of gopuram.

|| To top of dome, below ornaments.

** To top of spire.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tiruvakarai Temple ...	South Arcot	The great temple shrine on the left bank of the Varáhanadi river, immediately W. of Tiruvakarai village, and 2½ miles N.N.E. of Sittalampat on the main road from Paraiyapuram to Pondicherry: táluk Villupuram. 1878-79.	12 1 34' 1	79 41 41' 9	feet * 165	250
Tiruvalarai Pagoda <i>Trivellary P.</i> ...	Trichinopoly	The large unfinished pagoda on a low rock, about ¼ of a mile N. by W. of the village of the same name, 1¼ miles S.W. of Pudupati village, and ¼ a mile N.E. of Kalavaipati village: táluk Trichinopoly. 1810.	10 57 17' 9	78 42 34' 8	...	501
Tiruválúr Pagoda s. <i>Trivaloor P.</i> ...	Tanjore	On the top of the highest temple in the village of that name on the high road from Kumbakonam to Negapatam, and about ¼ a mile N. of Tiruválúr Station on the Railway line from Tanjore to Negapatam. A small hollow mark on the platform, close to the S. edge of the middle urn, denotes the station. 1808.	10 46 27' 15	79 40 36' 71	...	427 428
Tiruválúr s. ...	"	On a broken kalas, the 3rd from the south and the 9th from the north of the western gopuram of the temple, about 1¼ miles N. of Tiruválúr Railway Station. The gopuram is 103½ feet from ground level to ridge, and has a large stone tank in front of it. A mark engraved on a small masonry pillar, 24.9 inches above ridge, denotes the station. On the N.W. corner of the pavement of the gopuram is a bench-mark denoted by G.T.S., ○ the height of which above the mean sea level B.M. is 39.84 feet. 1879-80.	10 46 29' 50	79 40 27' 81	† 145' 25 103' 3	406
Tiruvannákonam Pagoda <i>Tiruvankolum P.</i> ...	Trichinopoly	Centre pagoda about 4 miles E.S.E. of the town of Pudukota: Pudukota State. 1809.	10 21 17' 1	78 54 58' 6	...	543 544
Tiruvannámalai Hill Mark (helio.)	South Arcot	On a hill, about 1¼ miles N.W. by W. of Tiruvannámalai town: táluk Tiruvannámalai. A circle and dot engraved on the bare rock, 10 feet W. of bonfire site, defines the point. 1878-79.	12 14 24' 50	79 5 57' 80	2682	195 196
Tiruvannámalai h.s. <i>Thavurmali</i> ...	"	On a small isolated hill about 1¼ miles S. by W. of Tiruvannámalai town: táluk Tiruvannámalai. Defined by a platform with a mark-stone. 1810.	12 12 35' 89	79 6 28' 67	...	124
Tiruvannámalai Pagoda <i>Trinomally Pagoda</i> ...	"	In the táluk town of this name. 1808.	12 13 48' 0	79 6 43' 0	...	193
Tiruvannámalai Peak <i>Trinomally</i> ...	"	About ¼ of a mile S. of Melséttipat village on the road to Tiruvannámalai, and 4¼ miles S.W. by S. of this town: táluk Tiruvannámalai. 1810.	12 11 8	79 4 24	...	194
Tiruvarangam h.s. <i>Teerooranga Station</i> ...	"	Close to the village of Jambai near the N. bank of the Pönniár river, and about a mile N.N.W. of Tiruvarangam village pagoda: táluk Kallakurchi. 1803.	12 0 51' 23	79 6 12' 24	...	198 199
Tiruvarangam Pagoda <i>Teerooranga P.</i> ...	"	In the village of this name on the S. bank of the Pönniár river, about a mile W. by N. of Kallipádi, and 2¼ miles N.E. by N. of Sírpanandal: táluk Kallakurchi. 1803.	12 0 4' 7	79 6 14' 8	...	200
Tiruvatúr Pagoda ... <i>Trivatoor P.</i> ...	North Arcot	In the village so called on the left bank of the Chéyár river, and on the high road from Arcot to Wandiwash: táluk Arcot. 1802-3.	12 38 51' 7	79 34 58' 1	...	160

* To top of spire. † To top of station pillar.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tiruvëndipuram s. <i>Trivandipoorum S.</i>	South Arcot	On the high ground, about 400 feet E. of Tiruvëndipuram Temple about 1½ miles S. of the road from Tiruvadi to Tirupáuliyúr, and 4½ miles N.W. by W. of the town of Cuddalore: táluk Cuddalore. It is marked by a block of stone masonry 8 feet square, sunk about 2 feet below the surface of the ground, and rises nearly the same above it, which contains two mark-stones, one in its upper surface and the other at the foundation. The latitude by Aldebaran and the length of the arc between Padari and Tiruvëndipuram are likewise engraved on the mark-stone. 1802-3.	11 44 37.69	79 45 12.98	... <i>feet</i>	208
Tiruvëndipuram Temple	"	Spire of a temple in the lands of and S. of the village so called on the right bank of the Gadilam river, and about ¼ a mile S. of the main road from Tiruvadi to Cuddalore new town: táluk Cuddalore. 1887-88.	11 44 36.8	79 45 9.8	...	348 344
Tiruvilimalalai Pagoda s. <i>Tirrimiyala P.</i>	Tanjore	In the village so called, about 8½ miles N.E. of the large village of Kōdaivásal on the high road from Kumbakonam to Tiruválúr: táluk Nannilam. It is on the top of the temple in the village, and the middle urn marks the station. 1808.	10 56 41.75	79 36 56.43	...	426
Tiruvilimalalai s.	"	On the central of seven kalases of the gopuram of the temple dedicated to Srivilináth Swámi, the ridge of which is 67.3 feet above the ground level. About 8½ miles N.E. of the large village of Kōdaivásal on the high road from Kumbakonam to Tiruválúr: táluk Nannilam. A mark engraved on a temporary masonry pillar built round the central kalas, 55.3 inches above the ridge, denotes the station. 1879-80.	10 56 42.03	79 36 56.56	$\frac{120}{67}$	405
Toniturai Landmark No. 1	Madura	Summit of a masonry beacon on the Toniturai spit, the first landmark E. of Vittilai Mantapam, and about 4 miles W. of Pámban: táluk Ramnad. 1874-75.	9 16 58.8	79 13 6.6	* 24	650 651
Toniturai Landmark No. 2	"	Summit of a masonry beacon on the Toniturai spit, the second landmark E. of Vittilai Mantapam, and about 4 miles W. of Pámban: táluk Ramnad. 1874-75.	9 16 45.8	79 13 9.1	* 29	652 658
Tranquebar Beacon	Tanjore	Flag-staff on ruins of the old fort of Tranquebar. About 42 feet N. of Tranquebar s. 1887-88.	11 1 23.5	79 53 53.6	...	...
Tranquebar Fort s. <i>Tranquebar</i>	"	On the centre of a high square tower in the fort, near the Protestant church. 1808.	11 1 27.23	79 53 44.15	...	415
Tranquebar s.	"	On the highest point of the fort of this sea-port town, 42-feet S. of the Tranquebar Beacon, about 5 miles S.E. of Tirukudúr town. The sea is 848 feet away. The station consists of a masonry pillar 3 feet square and 2 feet high below the surface of the ground, and 2½ feet square and 1 foot high above it, having three mark-stones, one at the foundation, the second at the ground level, and the third on the top of the pillar. A mound of mud has been raised over the station. 1887-88.	11 1 23.05	79 53 53.54	59	416

* To top of beacon.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tree Flag ... <i>Tree</i>	Madura	A single conspicuous tree, on a height in the forest half-way between Koil Kádmundal and Valinokkam. 1809.	9 9 21.3	78 38 47.5	... <i>feet</i>	595
Trichinopoly, Ganapati s. ... <i>Trichinopoly</i>	Trichinopoly	On the platform of the pagoda built on the rocky peak called Thavumanaswámi at the northern end of the town of Trichinopoly, about $\frac{1}{2}$ a mile S. of the Cauvery river, and the same distance S. of Devadanam village: táluk Trichinopoly. 1808.	10 49 37.16	78 44 21.87	...	490 491
Trichinopoly, Panmalai h.s. ... <i>Punmalli Rock</i>	"	On a small hill also called Golden Rock, about $\frac{1}{2}$ a mile E. of the Trichinopoly Central Jail, and the same distance N. of Kottapatti village: táluk Trichinopoly. Denoted by a mark cut on the rock. 1808.	10 46 47.48	78 45 20.02	...	272
Trichinopoly Temple ...	"	On Thavumanaswámi Peak at the N. end of the town of Trichinopoly: táluk Trichinopoly. Denoted by a circle and dot cut on the flat part of the roof of small temple on the summit of the rock, 10 or 12 feet above the floor, and about 270 feet above the street level at the base of the rock. 1870-71.	10 49 36.79	78 44 21.05	517	*
Turaiyúr Hill Pagoda ... <i>Toraor H.P.</i>	"	Highest pagoda on a small isolated hill, about $2\frac{1}{2}$ miles E. by S. of the large village so called on the high road to Trichinopoly, and $1\frac{1}{2}$ miles S. by E. of Kiram-búr village: táluk Musiri. 1810.	11 8 39.4	78 40 26.7	...	487 488
Tuticorin Chimney No. 1 ...	Tinnevelly	Shaft of chimney of North Cotton Screw Press, near N. end of Tuticorin town: táluk Ótapidáram. 1873-74.	8 48 36.8	78 12 10.6	...	*
Tuticorin Chimney No. 2 ...	"	Shaft of chimney of South Cotton Screw Press, near S. end of Tuticorin town: táluk Ótapidáram. 1873-74.	8 47 44.7	78 11 56.2	...	*
Tuticorin Convent ...	"	Sky-light of the Roman Catholic convent chapel about the middle of Tuticorin town: táluk Ótapidáram. 1873-74.	8 48 16.8	78 11 45.9	...	*
Tuticorin Flag-staff ... <i>Tuticorin flag staff</i>	"	About 325 yards S.S.W. of the Port Flag-staff. 1809.	8 47 52.9	78 11 57.1	...	† 567
Tuticorin Light-house ...	"	Shaft of the newly built (1874) Light-house on Hare Island known also as Pándian Tívu: táluk Ótapidáram. 1873-74.	8 47 7.7	78 14 20.9	...	*
Tuticorin Port Flag-staff ...	"	On the north side of the landing at the Custom house jetty: táluk Ótapidáram. 1873-74.	8 48 2.2	78 12 0.0	...	*
Tyága Drug Hill Mark (helio.)	South Arcot	On the highest point of a small isolated hill close S. of the main road from Kallakurchi to Madras, about $\frac{1}{2}$ a mile S. of the village of Tyága Drug, and $1\frac{1}{2}$ miles W. of Périyamámpat village on the above named road: táluk Kallakurchi. Denoted by a circle and dot. 1878-79.	11 44 8.37	79 6 59.30	753	297 298
Tyága Drug h.s. ... <i>Tiaghur Dr.</i>	"	On the highest part of the drug. This is 33 feet N.W. by N. of Tyága Drug Hill Mark: táluk Kallakurchi. 1810.	11 44 8.65	79 6 59.12	...	295 296

* For triangles fixing these points, see Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°.

† For another triangle fixing this point, see Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Tyágai Pagoda ... <i>Theggau P.</i>	South Arcot	In the village so named, about $\frac{1}{2}$ of a mile W. of Siruval village, and 2 miles S. by E. of Përiyamámpat on the main road from Kallakurchi to Madras: táluk Kallakurchi. 1810.	11 42 6.4	79 8 19.9	... <i>feet</i>	308
Udayárpálaiyam Temple ...	Trichinopoly	Spire or centre ornament of the chief gopuram. Immediately N. of the town of Udayárpálaiyam on the road from Trichinopoly to Jayankóndacholapuram, and about 5 miles S.W. of the latter: táluk Udayárpálaiyam. 1878-79.	11 11 21.2	79 20 4.4	* 366	395 396
Udayárpálaiyam Tower ...	"	Centre of the tower of the zamíndár's or poligar's house or palace: táluk Udayárpálaiyam. 1878-79.	11 10 56.4	79 20 4.6	...	397
Ulundúrpet, XI ...	South Arcot	<i>Vide page 8—F.</i> ...	11 40 28.25	79 19 24.61	$\frac{274}{11.0}$	16
Ulundúrpet Temple ...	"	Centre of the gopuram about a mile W. by S. of Nágúr village, and the same distance N.E. of Kíranúr at the junction of the main roads from Kallakurchi, Villupuram, and Trichinopoly: táluk Tirukoilúr. 1878-79.	11 41 58.1	79 20 34.4	† 253	322
Unchini s. ... <i>Woonjinee</i>	Trichinopoly	On the S. bank of a tank on the S.E. side and close to the small village of Unchini, about $\frac{1}{2}$ of a mile N.W. of Sirukadambúr, and the same distance S. by E. of Nallampálaiyam: táluk Udayárpálaiyam. 1810.	11 13 19.47	79 14 51.12	...	488 484
Úrannankudi, LI ...	Madura	<i>Vide page 16—F.</i> ...	9 37 18.98	78 57 32.59	‡ 28.42 §	61
Úrimunai, LXXXIX ...	N. Province of Ceylon	<i>Vide page 23—F.</i> ...	9 28 24.89	79 45 44.06	|| 11.4 I	113
Uttarakoshamangai, LVIII ...	Madura	<i>Vide page 17—F.</i> ...	9 18 49.60	78 46 51.43	¶ 80.02 §	71
Uttarakoshamangai Big Gopuram	"	Summit of the big gopuram of the temple close to the principal station of this name: táluk Ramnad. 1874-75.	9 18 51.2	78 46 51.6	** 150	609 610
Uttarakoshamangai Pagoda ... <i>Tirroovutmunga P.</i>	"	About 110 yards N.E. by N. of the principal station of this name: táluk Ramnad. 1809.	9 18 52.3	78 46 53.4	...	622 623
Uttarakoshamangai Small Gopuram	"	Summit of the small gopuram of the temple, about 80 yards W. of the big gopuram: táluk Ramnad. 1874-75.	9 18 51.4	78 46 49.1	** 94	607 608
Uttaránmerúr Pagoda ... <i>Ootramalloor</i>	Chingleput	A ruined pagoda in the fort situated in the large village of this name on the N.E. side and on the main road from Wandiwash to Chingleput: táluk Madurántakam. 1802-8.	12 36 49.2	79 47 50.3	...	***
Uttatúr Pagoda ... <i>Ootatoor P.</i>	Trichinopoly	At the S.W. corner of the village of this name on the right bank of the Nudiar river, and 2 miles S.E. by E. of Padalúr village on the Trichinopoly-Madras road: táluk Përambalúr. 1810.	11 4 21.3	78 53 54.4	...	498 499

* To ridge of gopuram, below ornaments. † To ridge of gopuram, at base of ornaments. ‡ To top of rectangular protecting pillar, the assumed height of which above circular pillar is 3.5 feet. § See description of this station. || This height was obtained by observing the height of the tides on a stake driven into the bed of a sheltered pool or pit on the beach, just under the station, and measuring the actual height of the station above the mean sea-level so arrived at: the latter is obviously only approximate; but as the observations were made with some care, the references to sea-level may be reckoned on as very little in error: and the height in terms thereof has been accepted as final in preference to the trigonometrical value. ¶ To upper surface of circular pillar built over temple. ** To summit of gopuram. *** For triangle fixing this point, see Synoptical Volume of the Madras Longitudinal Series.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Vaidáli s. <i>Vaidaully S.</i>	Madura	On the coast, S. of Toniturai, and about 8 miles W. by S. of Pámban. Denoted by a platform with a mark-stone. 1809.	9 16 22' 29"	79 9 3' 08"	... <i>feet</i>	637
Vaippár Church ... <i>Vypar C. Ch.</i>	Tinnevelly	On the left bank of the Vaippár river, about $\frac{1}{2}$ a mile from the sea coast. Vaippár village (1st bit) on the right bank is 2 miles W.N.W.: táluk Ótapidáram. 1809.	9 0 37' 7"	78 18 54' 3"	...	579 580
Vaippár s. ... <i>Vypar Station</i>	"	On a pagoda at the village of the same name (1st bit) on the right bank of the Vaippár river: táluk Ótapidáram. Denoted by a masonry platform. 1809.	9 1 22' 80"	78 17 22' 35"	...	570 571
Vaithisvarankoil Pagoda <i>Vydeesprum P.</i>	Tanjore	About 300 yards W.S.W. of Vaithisvarankoil Temple. 1808.	11 11 43' 0"	79 45 9' 8"	...	402
Vaithisvarankoil Temple	"	Centre kalas of the gopuram at the Railway station of this name on the line from Tuticorin to Madras, about 6 miles N.E. by N. of Májavaram town. 1887-88.	11 11 46' 2"	79 45 18' 2"	...	388
Válai Tíru, LXXVIII	Madura	<i>Vide page 21—F.</i>	9 11 8' 88"	78 59 6' 02"	$\frac{10}{5}$	99 100
Valakkavarankád Gateway <i>Panjalamcoorchy</i>	Tinnevelly	Ruined gateway on the W. bank of a tank, about $\frac{1}{2}$ a mile W.N.W. of Valakkavarankád village, and $1\frac{1}{4}$ miles N.N.E. of Ótapidáram town: táluk Ótapidáram. 1809.	8 55 55	78 4 35	...	564
Valikandapuram Pagoda <i>Volcondah</i>	Trichinopoly	Near the village so called on the high road from Trichinopoly to Madras, and about $6\frac{1}{2}$ miles N.E. by N. of the town of Pērambalúr: táluk Pērambalúr. 1810.	11 18 50' 9"	78 57 29' 1"	...	474 475
Valinokkam h.s. <i>Vallinookum</i>	Madura	On a high red sand-hill projecting into the sea, about 6 miles S. of Shekal village on the high road from Tuticorin to Ramnad, and 11 miles S.W. by W. of Kílakarai. Denoted by a mark-stone. 1809.	9 9 24' 03"	78 41 38' 84"	...	596
Valinokkam Landmark	"	Summit of the masonry beacon on a headland on the coast. 1874-75.	9 9 25' 1"	78 41 55' 9"	* 42	597 598
Vallam, X	South Arcot	<i>Vide page 8—F.</i>	11 39 22' 58"	79 33 40' 60"	$\frac{317}{11' 0}$	11
Vallam Fort s. <i>Vellum</i>	Tanjore	On the turret at the N.W. corner of the ruined fort, about $6\frac{1}{2}$ miles S.W. by W. of Tanjore Railway Station. 1808.	10 43 10' 83"	79 6 18' 92"	...	506 507
Valudalankunam h.s. <i>Vydellumcoonum H.</i>	South Arcot	On a small isolated hill about $\frac{1}{2}$ a mile N. of the village so called, and $1\frac{1}{4}$ miles W. of Mekalúr on the main road from Pēnnatúr to Arcot: táluk Tiruvannámalai. 1803.	12 17 48' 20"	79 15 9' 04"	...	187

* To summit of beacon.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Varakúr h.s. ... <i>Warrior H.</i>	South Arcot	On the S.W. end of a short range, about a mile S.S.E. of the village of this name, and 1½ miles N.E. by N. of Vánapuram: táluk Tiruvannámalai. 1808.	12 7 19' 22"	79 4 35' 98"	... <i>feet</i>	188
Vedáranyam Beacon	Tanjore	Spire of the centre kalas of the eastern of two gopurams of a temple in the centre of the large town of that name, about 6 miles N. by W. of Point Calimere. 1887-88.	10 22 25' 2"	79 53 36' 1"	...	...
Vēlagutta Rock s. <i>Vellagootah</i>	Salem	About 2 miles E. of Singarpet village close S. of the junction of the main roads from the towns of Úttankarai and Tirupatúr. 1808.	12 14 49' 48"	78 41 21' 37"	...	148
Vēlatúr Pagoda ... <i>Vellatoor P.</i>	Tanjore	About 5 miles N. of Ammápet Railway Station on the line from Tanjore to Negapatam. 1808.	10 51 19' 4"	79 22 44' 1"	...	465
Vēllaiyapuram Building (helio.)	Tinnevely	About ¼ of a mile S.E. of Sivampati, 1½ miles N.E. by E. of Arakulam, and 4½ miles S.W. by W. of Vilátikulam on the high road from Madura to Vaippár: táluk Ótapidáram. Marked by a circle and dot cut on the roof. 1874-75.	9 6 3' 51"	78 9 3' 26"	126	568
Vēllakarai s. ...	South Arcot	On a plateau about 85 feet above the general ground level, about 2½ miles W.N.W. of the village of this name, 1½ miles S.W. of Vánamádevi, and 2½ miles S. by W. of Kílarungunam on the main road from Tiruvadi to Tiruvēndipuram: táluk Cuddalore. The station consists of a masonry pillar 3 feet square and 2 feet below, and 2½ feet square and 1 foot above the surface of the ground, which contains three mark-stones, one on the top, the second at the level of the ground, and the third at the foundation. 1887-88. NOTE.—As Colonel Lambton's station of Koomullancooly has disappeared, all his observations have been referred to this station.	11 42 40' 22"	79 41 17' 80"	200	380
Vēllyandal Hill ... <i>Chokumkile</i>	"	About ¼ a mile S.S.E. of the village so called, 1 mile S.E. of Kanjanúr, and 2½ miles S. by E. of Nēmúr on the main road from Villupuram to Arcot: táluk Villupuram. 1802-8.	12 2 44"	79 30 13"	...	286 287
Vēllyanúr Pagoda ... <i>Villanoor P.</i>	French Territory	About 330 yards S.S.W. of Vēllyanúr Temple. 1802-3.	11 54 36' 8"	79 47 48' 3"	...	262
Vēllyanúr Temple	"	Spire of the great temple about a mile S. by E. of Pērambai village, and 5½ miles S.W. by W. of Pondicherry. 1878-79.	11 54 45' 6"	79 47 52' 7"	* 112	261
Vēmbár Church ...	Tinnevely	W. gable of the Roman Catholic church on the coast, about 430 feet S. of the old ruined Roman Catholic church: táluk Ótapidáram. 1874-75.	9 4 47' 3"	78 24 17' 0"	† 51	581
Vēmbár s. <i>Vaimbar C. Ch.</i>	"	On a ruined church close W. of the village of the same name, and about 3½ miles S.E. by E. of Súrangudi village on the high road from Tuticorin to Ramnad: táluk Ótapidáram. Marked by a circle. 1809.	9 4 51' 65"	78 24 17' 33"	...	576 577

* To top of spire.

† To top of W. gable.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Vēnkatāmpet s. ... <i>Vungadumpett S.</i>	South Arcot	On the platform of a large mantapam in ruins about 40 feet high, a few yards in front of the E. face of the great pagoda in the village, about 2 miles N.E. by E. of Kīlūr village, and 5 miles N.E. by N. of the junction of the main roads from Panruti Railway Station, Cuddalore, Chidambaram, and Vriddhāchalam: tāluk Cuddalore. Marked by a circle on the platform. 1808.	11 36 55.13	79 38 39.66	... <i>feet</i>	352
Vēnkatāmpet Temple	"	Centre kalas on the top of the gopuram of the large village temple: tāluk Cuddalore. 1878-79.	11 36 55.0	79 38 37.2	* 207	353
Vēnniyūr, L ...	Madura	<i>Vide page 16—F.</i> ...	9 48 54.83	78 51 19.87	$\frac{98}{1}$	63
Veppūrdrug h.s. ... <i>Vaipoor Dr.</i>	South Arcot	On the S. summit of a small isolated hill, about 1½ miles S.S.E. of the village of Veppūr, and 3 miles W.N.W. of Melāmanjanūr: tāluk Tiruvannāmalai. 1803.	12 8 38.90	78 52 8.45	...	183
Vilangalpat s. ...	"	On a high plateau about 85 feet above the general ground level, 1½ miles W. by N. of Vānamādevi village, and 1 mile S.S.W. of Kīlarungunam on the main road from Tiruvadi to Tiruvēndipuram. The Gadilam river flows to the N. of the station: tāluk Cuddalore. The station consists of a masonry pillar 3 feet square and 2 feet below, and 2½ feet square and 1 foot above the surface of the ground, which contains three mark-stones, one on the top, the second at the ground level, and the third at the foundation. 1887-88.	11 43 55.60	79 41 21.51	† 181	331
Vilangalpat Temple	"	Highest part of a broken spire. Close S.E. of Vilangalpat s.; the temple is in ruins: tāluk Cuddalore. 1887-88.	11 43 51.4	79 41 29.6	‡ 199	342
Vilankād Hill Mark (helio.)	Chingleput	On a rocky hill about ¼ a mile E. of the village of the same name, 9 miles E.S.E. of Acharapākam Station of the South Indian Railway, and 2 miles E.S.E. of Porūr village: tāluk Madurāntakam. In 1887-88 a beacon was built over it in the shape of a rectangular pillar standing on a foundation 4½ feet × 10 feet and 1 foot deep, which tapers to 3 × 2 feet at top. The height of pillar is 10 feet. The breadth of structure faces seawards. For want of room the original circle and dot mark could not be embraced centrally by the structure. There are two mark-stones inserted over the normal of the original one—one 5 feet from the base and the other on the top. Denoted by a circle and dot. 1879-80.	12 20 34.18	79 58 31.18	322	203
Vilankād h.s. ... <i>Vellungeaud H.S.</i>	"	On a hill close to the preceding point. A platform with a mark defines the station. 1802-3.	12 20 34.39	79 58 31.36	...	204
Viluppanankurchi Pagoda s. ... <i>Vellapuncoorchy</i>	Trichinopoly	On a small square pagoda on the N. side and adjoining a small piece of water, about ¼ of a mile N. of the hamlet so called, and 1½ miles E. by N. of the village of Sendurai: tāluk Udayārpālayam. 1810.	11 15 28.76	79 14 31.47	...	480
Vīramalai Hill Pagoda <i>Vellareemalli</i>	"	Great pagoda on a rock, at the N.W. extremity of a hill, about 1½ miles E. of Tōndamangalam village, and 3½ miles W. of Togumalai on the road from Vaiganallūr on the Cauvery to Manapārai Railway Station: tāluk Kulitalai. 1808-9.	10 36 5.2	78 35 15.0	...	§ 529

* To top of gopuram. † To mark-stone at ground level. ‡ To top of temple. § For another triangle fixing this point, see Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°.

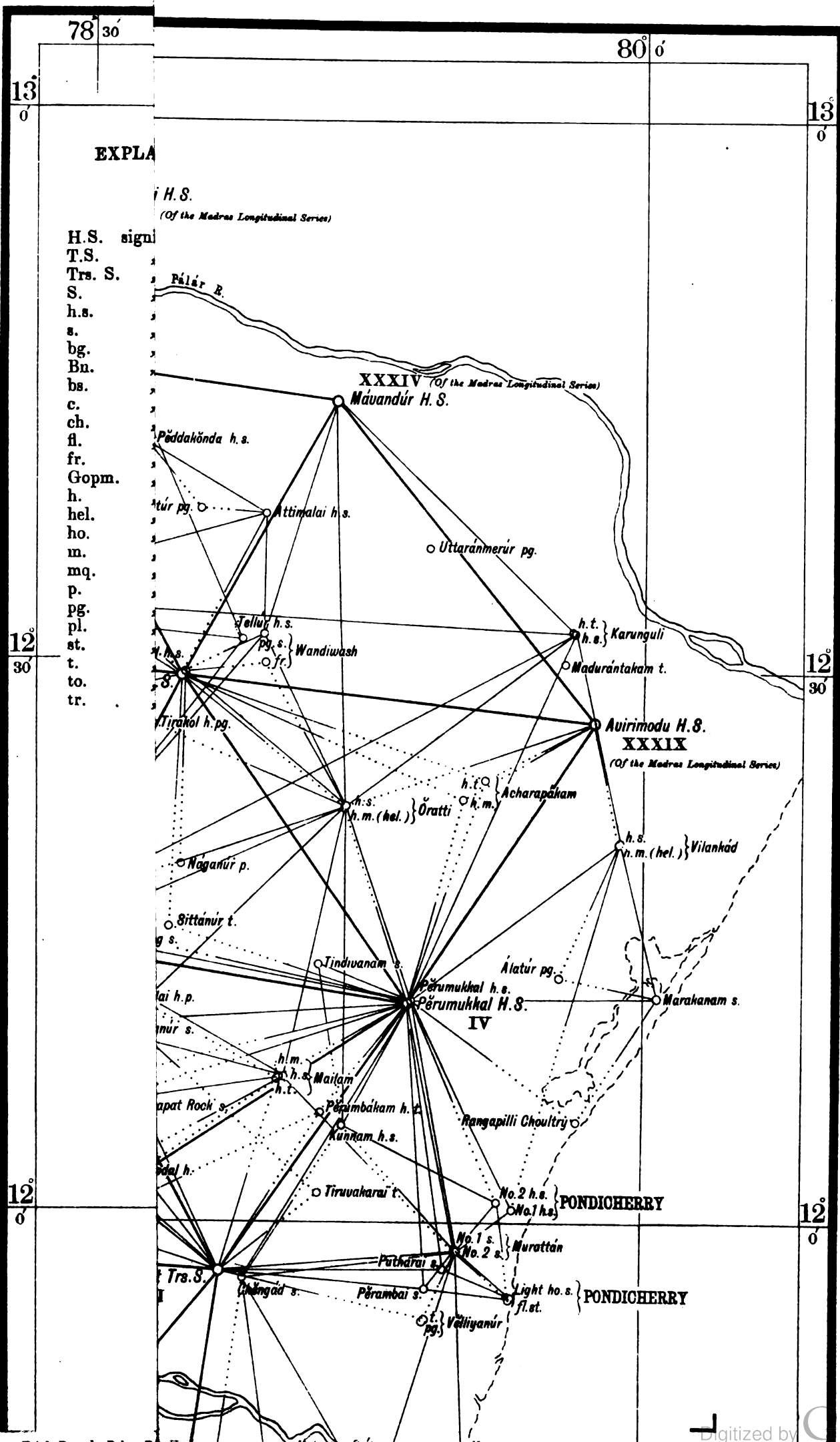
Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure <i>feet</i>	No. of Triangle
Viramangalam, XXVII ...	Tanjore	<i>Vide page 11—F.</i>	10 52 17·97	79 20 59·58	$\frac{106}{10 \cdot 0}$	32, 34
Virudamalai h.s. ... <i>Worathamalli</i>	Trichinopoly	On a hill, about 2 miles N.E. by N. of Tiruppayar village, 2½ miles S.W. by S. of Yésanai large village on the Attúr-Trichinopoly road, and 2 miles N.W. of Alambadi village: táluk Përambalúr. Denoted by a mark. 1810.	11 16 31·59	78 51 3·43	...	470 471
Vriddháchalam Pagoda <i>Virdachellum P.</i>	South Arcot	Highest S.W. pagoda in this town: táluk Vriddháchalam. 1810.	11 30 54·9	79 21 39·1	* 220	320 321
Vulichikal h.s. ... <i>Woolichiculloo</i>	"	On a small isolated hill, about 2½ miles N. by E. of Melravandavadi, and 3½ miles E.S.E. of Anandaradi on the main road from Krishnagiri to Tiruvannámalai: táluk Tiruvannámalai. 1803.	12 14 21·25	78 44 58·52	...	177
Wandiwash Fort ... <i>Vandiwash</i>	North Arcot	Close north of the junction of the roads from Conjeeveram (Kánchivaram) and Árni: táluk Wandiwash. 1802-3.	12 30 27	79 38 39	...	161
Wandiwash Pagoda s. <i>Vandiwash H.</i>	"	On a hill, about 2 miles N. of the town of Wandiwash: táluk Wandiwash. 1802-8.	12 32 1·82	79 38 37·91	...	151
Yélambalúr Hill Pillar <i>Yellambelloor H.</i>	Trichinopoly	About the centre of a small low ridge, ¼ of a mile N. of the village so called, 1½ miles W. of the high road from Trichinopoly to Madras, and 4 miles S.W. of Valikandapuram village on the above mentioned road: táluk Përambalúr. 1810.	11 16 24·6	78 55 21·9	...	476
Yërvádi, LX ...	Madura	<i>Vide page 17—F.</i>	9 13 28·10	78 46 19·26	$\frac{76}{0}$	75
Yërvádi Mosque ...	"	A small masonry mosque 33 feet square in the centre of the village, and about 6 miles S. by W. of Uttarakoshamangai: táluk Muttukulattúr. The point is denoted by a circle and dot cut on the centre of the roof. 1874-75.	9 13 24·77	78 44 57·63	40	602
Yërvádi s. <i>Yerrawaddy</i>	"	About 1½ miles E. of Yërvádi village, and 8½ miles W. of Kílakarai village: táluk Muttukulattúr. Denoted by a mark-stone. 1809.	9 13 20·83	78 46 10·34	...	603
Yésanai h.s. ... <i>Essany H.</i>	Trichinopoly	On a hill, about 2½ miles W. by S. of the village of the same name on the Attúr-Trichinopoly road, 2½ miles N. of Tiruppayar village, and 3 miles S. of Neppantallai village: táluk Përambalúr. Denoted by a mark. 1810.	11 17 25·67	78 50 11·90	...	266

* To ridge of gopuram.

November, 1891.

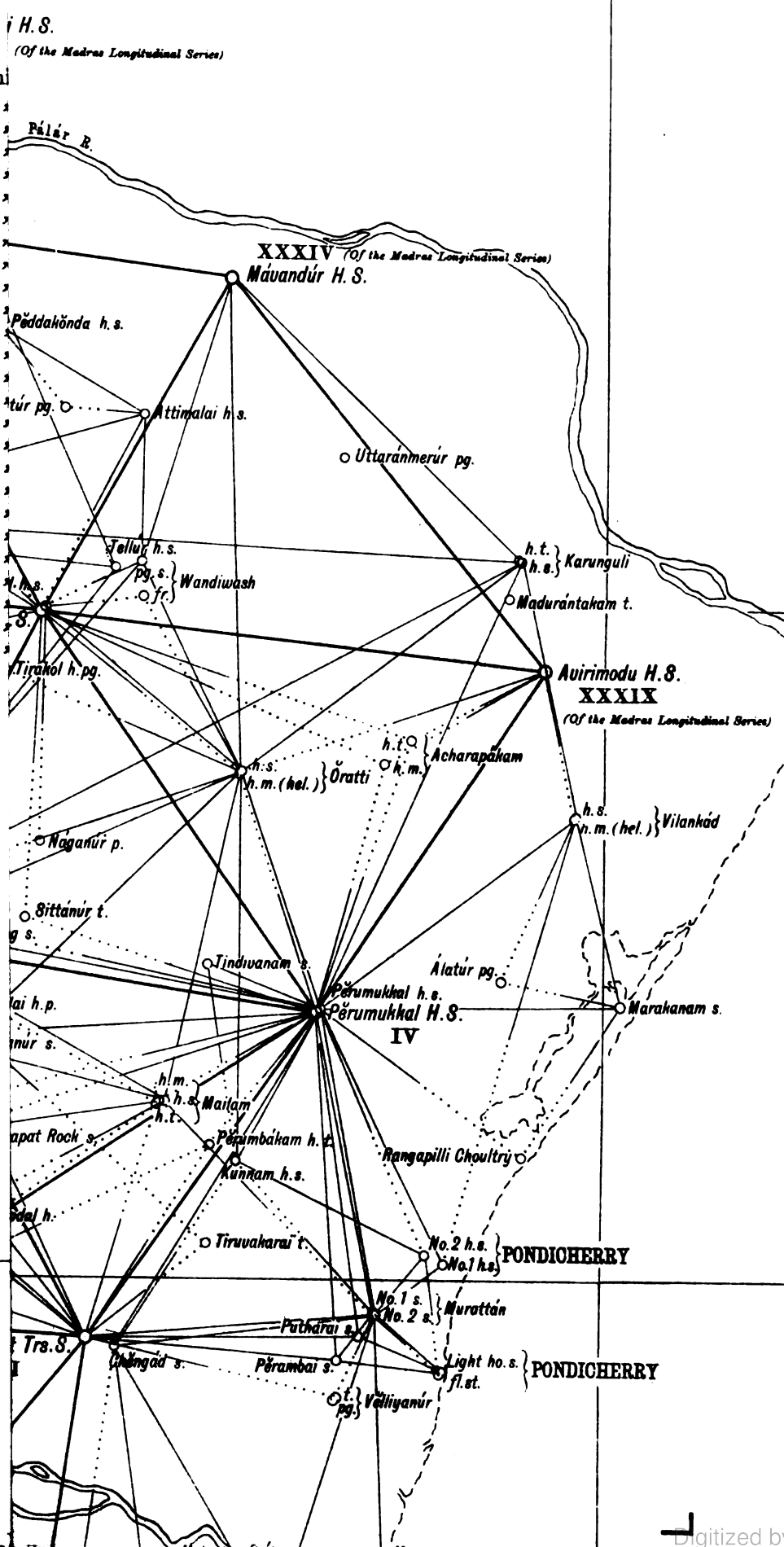
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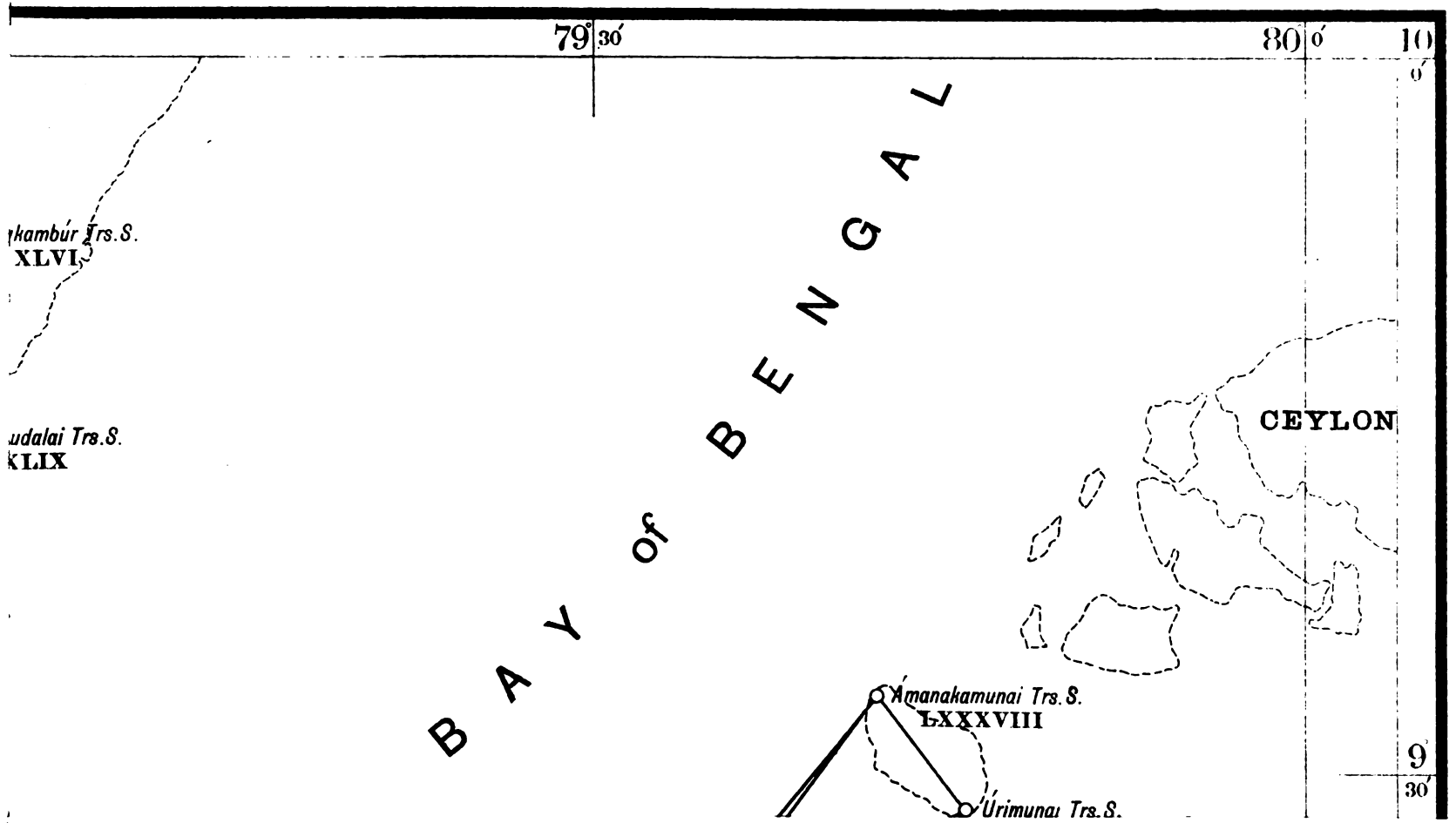
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- T.S.
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- An Account of the Measurement of two Sections of the Meridional Arc of India, bounded by the parallels $18^{\circ} 3' 5''$; $24^{\circ} 7' 11''$; and $29^{\circ} 30' 18''$. By Lieutenant-Colonel Everest, F.R.S., &c., late Surveyor General of India, and his Assistants. London, 1847. (*Out of print*).

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