

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



Photocopyographed at the Office of the Trigonometrical Branch, Survey of India, Debra Dás, January 1901.

SYNOPSIS OF THE RESULTS OF THE OPERATIONS OF
THE GREAT TRIGONOMETRICAL SURVEY OF INDIA
VOLUME XXIV.

DESCRIPTIONS AND CO-ORDINATES
OF THE
PRINCIPAL AND SECONDARY STATIONS AND OTHER FIXED POINTS OF
THE MANGALORE MERIDIONAL SERIES
OR SERIES D
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. THUILLIER, R.E., SURVEYOR GENERAL OF INDIA.



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ERRATA, ADDENDA ET CORRIGENDA.



PAGE			
18— <i>D.</i>	in line 3 of heading	<i>after</i> Principal-Auxiliary	<i>insert</i> and Secondary
19— <i>D.</i>	<i>add foot-note.</i>	For another triangle to Palvan h.s. see Synoptical Volume of the Bombay Longitudinal Series, the value of the common side was less by 2 feet in the triangle given in this volume.	
20— <i>D.</i>	in triangle 109	<i>for</i> Masque	<i>read</i> Mosque
23— <i>D.</i>	<i>add foot-note.</i>	For another triangle to Nagarbetta h.s. see Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°, the value of the common side was the same as in the triangle given in this volume.	
37— <i>D.</i>	in triangle 550, first angle	<i>for</i> 57° 42' 0"	<i>read</i> 57° 42' 2"
"	" " " second line	" 39 33 55, 5'001434, 100331 and 19'002	" 39 33 44, 5'001403, 100324 and 19'001
42— <i>D.</i>	" col. 5, line 4 from bottom	" 243° 55' 30"	" 243° 55' 39"
48— <i>D.</i>	" " 1, " 19 " top	" 63 59 32	63 59 30
56— <i>D.</i>	" lines 11 and 12 from top	" Trigonometrical heights.... hollow.	" Trigonometrical heights always refer to the mark-stone let into the upper surface of the circular pillar or platform or to some conspicuous part of an object observed, except when otherwise stated in this table.
57— <i>D.</i>	in column 3, description of } Amíngad Hill Tower }	" On a conspicuous tower	" A conspicuous tower
67— <i>D.</i>	" col. 1, line 3 from bottom	" <i>Goodadoor</i>	" <i>Goodadoor s.</i>
On Chart No. 1. <i>Indápur h. m. (hel.)</i> incorrectly projected in longitude.			

September, 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.

September, 1891.

J. ECCLES,
In charge of Computing Office.

P R E F A C E .

The Mangalore Meridional Series of which the details are given in this volume, is approximately on the meridian of 75° . From its origin in latitude 18° to the parallel of 15° , it lies at some distance from the coast, but thence southwards to its extremity in parallel 13° , it approaches nearer the sea coast and forms part of the western 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. 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. Bahún 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 Malúncha 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, viz.,

- XXIII. South Konkan Coast Series.

The present is the 26th Synoptical Volume in order of publication and the second 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 1886; 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. Soon after the adjustment of the secondary triangulation in accordance with the principal was taken in hand, and the printing of the volume was resumed in 1891.

The data given in this volume are the following:—

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

Second (page 2—*D.*), a numerical list giving the names corresponding to the numbers.

Third (page 3—*D.*), descriptions of the structure and positions of the principal stations as taken from the original records of the observations.

Fourth (page 13—*D.*), 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 18—*D.*), 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 41—*D.*), the azimuths of surrounding stations and points at principal, principal-auxiliary and secondary stations, the latter arranged in alphabetical order.

Seventh (page 56—*D.*), 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 576 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 depend on the values of the stations of Kem, Alsunda and Bori of the Bombay Longitudinal Series and of Aundh and Kundgol all determined by the Spirit-levelling Operations, and on the trigonometrically determined values of the stations of Kudurēmukha and Ánú of the Madras Longitudinal Series. The manner in which the heights of the remaining stations have been made to accord with these is explained on page 28 of Part I of Volume XII of the *Account of the Operations, &c.* The heights in this volume are referred to the mean level of the sea. It may be here stated that trigonometrically determined heights invariably refer to the upper surface of the masonry pillar or structure on which the instrument stood. Spirit-levelled values refer to the surfaces on which the levelling staff was set: a description of the exact point referred to is given in each instance in footnotes to the pages of the co-ordinate list, commencing on page 56—*D.* In some cases the heights are taken from Topographical Survey maps—reduced to G. T. S. datum—and the surface to which these refer may be assumed to be the ground level.

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 Lists for Bombay, Madras and Nizam's Dominions, and the Mysore Gazetter. 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.

PREFACE.

The charts accompanying this volume show the whole of the principal stations and triangulation, the positions of all the secondary points, and those 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 is to be desired: this arises from the inadequacy of the information entered on the spot by the 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 Captain S. G. Burrard, R.E., 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.

MUSSOOREE, }
 September, 1891. }

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

MANGALORE MERIDIONAL SERIES.

THE MANGALORE MERIDIONAL SERIES.

INTRODUCTION.

The triangulation on the meridian of 75° is divided into three sections, of which the Series under review is the southern, the Khánpisura Meridional the central, and the Gurhágárh Meridional the northern. It is of a length approaching that of the Great Arc, and considerably longer than any other meridional series in India. It extends from the parallel of 33° , to the parallel of 13° , on which the towns of Madras, Bangalore (Béngalúr) and Mangalore (Mangalúr) are situated. In the country traversed by this Series very little triangulation had been executed by Colonel Lambton; his operations on the parallel of Madras did not extend north of Mangalore, and with the exception of a longitudinal series, immediately north of Nagar, which connects the western coast with the general network over the interior, he did not carry out any work near the meridian of 75° .

The Mangalore Meridional Series starts from the Bombay Longitudinal Series in latitude $18\frac{1}{4}^\circ$, its sides of origin being Kem-Alsunda and Alsunda-Bori. At the parallel of $15\frac{1}{2}^\circ$ it is in close proximity with the southern end of the South Konkan Coast Series, and is connected with it by a principal longitudinal series consisting of 6 single triangles. After this junction the meridional series itself becomes a coast series.

The orders for its commencement were issued early in 1861, and the work was given for execution to the Bombay Party under Captain (now Colonel) C. T. Haig, R.E. This party was at the time employed in Gujarát, where it remained for the rest of the field season of 1860-61; but Mr. J. DaCosta, Civil 2nd Assistant, was deputed in January to take up the approximate work, and before his return to Poona (Puna) in the following May he had succeeded in selecting stations forming 5 polygons, which brought the approximate series down to latitude $15\frac{1}{2}^\circ$.

During the field season of 1861-62, the Mangalore Meridional Series remained in abeyance owing to the want of a first class instrument, not one being then available, and the Bombay Party returned to Gujarát where Captain Haig extended the triangulation of the Gujarát Longitudinal Series from the meridian of 73° to its termination on a side of the Khánpisura Meridional Series as well as executing a portion of the Singi Meridional Series.

In October 1862—the instrument known as Barrow's 24-inch Theodolite No. 2 having been sent to Captain Haig—Mr. Anding was sent ahead and ordered to build the stations at the points selected by Mr. DaCosta. Before commencing the final angles, Captain Haig was directed to double the Bombay Longitudinal Series from Bidar as far west as the meridian of Mangalore, in order to ensure a firm base of emanation

Season 1862-63.

PERSONNEL.

Captain C. T. Haig, R.E., 1st Assistant.
 Mr. John Mc Gill, Civil Assistant.
 " G. A. Anding, 2nd Class Sub-Assistant.
 " J. E. Donohoe, 3rd " "

for the new series; whilst so employed he found that with very little extra labour he could also revise the whole of that portion of the Bombay Longitudinal Series. This revision he therefore carried out, and it was not till March 1863 that he was able to begin observing the final angles on the series under review. Meanwhile Mr. McGill, having by the middle of January selected the additional stations required on the Bombay Longitudinal Series, had proceeded to Belgaum (Belgaon), the nearest town to the station of Yalúr, and commenced laying out the small longitudinal chain* that was to connect the Mangalore Meridional with the South Konkan Coast Series. Yalúr-Samshergad was his side of origin, being a flank of one of Mr. DaCosta's approximate polygons, and the chain terminated on a side of the southern figure of the South Konkan Coast Series. Mr. McGill having completed the approximate work, returned to Dhárwár (Dhárvád), and taking up the selection of stations on the meridian of 75° , where Mr. DaCosta had left it, carried the approximate series south to within 30 miles of Mangalore. On this latter work he met with many difficulties, the country being one dense teak jungle; even the tops of the hills were covered with high trees which hindered him from obtaining a good view of the surrounding country; moreover there prevailed at the time a most malignant epidemical fever which had so depopulated the country, that even guides were procurable only with the utmost difficulty; and by the time Mr. McGill closed work, almost the whole of his party were sick.

In February, March and April Captain Haig, working with Barrow's 24-inch Theodolite No. 2, visited the stations of Kem, Alsunda, Bori and Kalas, and then proceeded to Palvan, where a serious accident occurred to the theodolite, which compelled him to close the field season's work. The following account of this untoward event is given by Captain Haig:—
 "On the 17th April 1863, I set up the instrument in the observatory tent on a tower station near the village of Palvan. On the evening of the following day between seven and eight o'clock the outer platform on the west side gave way. Rain had then been falling for about two hours, and there was a very high easterly wind. The pressure and shock given by the observatory tent against the instrument made the stone of the masonry pillar underneath one foot of the stand yield, causing the immediate fall of the instrument. Having examined its position, I perceived that any attempt to remove it in the dark would only do further damage; I therefore secured all the ropes to keep every thing *in statu quo*. On the following morning I succeeded in releasing the instrument from the *débris* of the pillar without further injury.

"The platform was about 14 feet high, built of dry stone masonry with an exterior

* This chain of triangles is now considered a part of the South Konkan Coast Series.

“slope of 1 in 3. I examined the exterior work of the part which remained firm. It “seemed to be perfectly well built. My opinion is that the accident arose from an unequal “yielding of the ground, greater towards the centre of the platform than at the edge. It is “evident that it was not caused by any sudden additional pressure, as the instrument had “been fixed for 28 hours, during which period I had frequently been on the platform, at times “accompanied by 5 or 6 persons. No one was on the platform at the time of the fall. I do not “think the yielding could have been in the platform itself, as it was composed entirely of “stone, and would, if liable to give way, have done so suddenly, when the instrument was “being put up, and the platform was crowded with people.”

In a letter to Major J. T. Walker, R.E., the Superintendent of the Great Trigonometrical Survey, on the subject of this accident Captain Haig writes:—“The sight on the morning of the 19th was one not easily described. The instrument was upside down, resting with “most pressure on the vertical circle and more lightly on the clamping circle, the axis being “fortunately supported by the observatory table; one of the gunbarrel legs of the table was “entangled between a microscope and the clamping circle, and the whole was enveloped in “the fly of the tent. Having made the slope of the *débris*, which consisted entirely of large “loose stones, fit for the descent of the bearers who were to carry the instrument down, the “first step was to remove the fly of the tent. I then took off all the microscopes except C, “the upper part of which had already been wrenched off while the lower was too tightly “screwed to the arm. By passing a rope round the axis and one of the tripod arms and “making it fast to a lever, I was enabled to support the instrument, and have the observatory table and the stand removed. I next placed a pole between the pillars, and managed “to slide the instrument along it upside down. The Y’s being opened when the instrument was raised, the telescope and vertical circle were taken out and at once removed. “The instrument, resting upside down on the pole, and supported in that position on either “side, was then brought down the slope to the stand in the shade of my tent. The lifting “handles being fixed, it was carefully toppled over into three men’s hands, and then placed “on the stand without further damage. The horizontal circle and the axis, the two most “important parts, are, I think, uninjured, as also the telescope and six microscopes. The “bend in the vertical circle is clear of those parts generally used in terrestrial observations; “I am therefore in hopes, that the damage is repairable.”

No time was lost in sending the theodolite to Calcutta, where on the 16th June 1863, it was examined and reported on by the Mathematical Instrument Maker from whose statement it appeared that, besides serious injury to nine other components, a new vertical circle and its connecting parts were essentially necessary: the azimuth-circle could not be tested until the vertical axis was restored to an efficient state. Under these circumstances Major Walker directed the instrument to be despatched to London to Messrs. Troughton and Simms, who renovated so many of its parts that the old instrument may be said to have given place to a new one. The telescope, the vertical circle and the transit-axis were constructed anew; the vertical circle was adapted for shifting round the transit-axis, and the central cube of the telescope was perforated transversely to allow mutual visibility between two collimating telescopes. The pillar-table which had been cracked was renewed, and

advantage was taken of the occasion to have the azimuth circle newly divided by the beautiful dividing engine in the factory of these noted instrument makers and also to have the whole of the microscopes exchanged for others of the newest pattern. This reconstruction was effected so rapidly that the theodolite was absent from the field for only one season.*

During the field season of 1863-64 the party was employed on the triangulation of Káthiáwár (Káthiávád), while the Mangalore Meridional Series remained in abeyance.

Season 1864-65.

PERSONNEL.

Captain C. T. Haig, R.E., 1st Assistant.
Mr. John McGill, Civil Assistant.
„ G. A. Anding, 1st Class Sub-Assistant.
„ A. D. Christie, 3rd „ „
„ C. H. Mc A'Fee, 3rd „ „

In December 1864 on the return of the theodolite work was resumed. Unfortunately the stand of the instrument was not received in the field until the beginning of

February, so that much of the field season was lost. Being thus prevented from continuing the principal triangulation, Captain Haig determined to take some star observations for latitude at Alsunda, a station of the Bombay Longitudinal Series, and one of those from which the Mangalore Meridional Series emanates. To supply the want of the stand three small brass chairs were fitted to that of an 18-inch instrument, just outside the old chairs, and the 24-inch was placed upon it: this method of course admitted of no change of zero. Prime vertical transits were taken to *83 Cancræ* on 21 mornings, and a number of meridian altitudes were observed to six different stars—two close to the zenith, two about 6° N. and S. of the zenith, and two about 12° N. and S. of the zenith. Captain Haig then proceeded to Bori station, where he received the stand for his theodolite on the 4th of February, but owing to rainy and cloudy weather he could not complete observations till the 8th. By the 20th of March the principal triangulation had been carried down to Kundal station in parallel 17° 7'. The out-turn of work during the season consisted of 11 triangles forming two polygons and extending a direct distance of 85 miles. An azimuth of verification was also observed at Páchvad station.

Captain Haig proceeded on six months' furlough to Europe on the 14th April, and during his absence Lieut. C. A. Mc G. Skinner, R.E., held charge of the party. Mr. McGill had in the meanwhile been working on the approximate series: he took the field on the 3rd December, and proceeded south to Bisale station in latitude 13° 35', the last point in the approximate series that he had fixed in 1862-63, and by the middle of February had selected all the stations for the Mangalore Meridional Series, and then, wheeling to the East, for the three following months was employed on the approximate work of the Madras Longitudinal Series: both were however subsequently re-cast by Major B. R. Branfill, as will be explained presently.

In May 1865 the party returned to Poona for the recess, leaving it again for the

Season 1865-66.

PERSONNEL.

Captain C. T. Haig, R.E., 1st Assistant.
Mr. G. A. Anding, 1st Class Sub-Assistant.
„ A. D. Christie, 2nd „ „
„ C. H. Mc A'Fee, 3rd „ „

field in the following November, and on the 21st work was resumed at Kundal station. At almost all the stations of the Dandoba Dongar polygon the party was delayed by rain and clouds, but on entering the Karabgati polygon, the weather cleared and continued fine until the station of

Samshergad was reached. Before completing the Chikk Nandihallígudd polygon, the party

* For a full description of the instrument and the work performed by it, see Appendix No. 2 of Volume II of the *Account of the Operations, &c.*

was delayed a week through the failure of the approximate series: the ray between the two southern stations was found impracticable, and a site for a new station, Kalkera, had consequently to be selected about a mile and a half east of the useless station. This gave the polygon an unsymmetrical shape, but it was the best that could be done, as the adjacent stations of the next polygon had been already built, and the ground was ill-adapted for good selection owing to the lowness of the hills.

On completing the Chikk Nandihallígudd polygon, Captain Haig took up the longitudinal series to Goa (Gova), intending to return and continue work on the Mangalore meridian when the former was finished. The approximate series however again failed, and another serious delay ensued. Páldi, an old station, was not on the highest point of the hill, and was simply a mark cut on the face of a rock. About 200 feet to the north of it was a ridge 15 feet higher, which entirely obstructed the view from the station of Bailúr; consequently a new station, Darsinga, had to be erected on the ridge. Whilst occupied with this work, Captain Haig received intimation that he had been transferred to the Northern Bombay Party, to take the place of Captain D. J. Nasmyth, R.E. He thought it better, however, to try and complete the series to Goa before his departure, but the country was so difficult, and the hills of Jarma and Salili so high and steep, that he was obliged to leave without carrying out his intention.

The districts traversed by the Mangalore Meridional Series this season, form a vast plain studded with solitary peaks, and broken here and there by low ranges of hills. Many of the peaks are crowned by small but well-built forts. The ranges of low hills are generally covered with brushwood, but in some cases their sides are carefully cultivated almost to the very summit. Belgaum and Dhárwár were the only towns of note whose positions were fixed. The former is built on a rock of laterite lying upon the trap of the Deccan; it possesses a fort, about 1000 yards in length and 700 in breadth, which is surrounded by a broad and deep wet ditch cut in hard ground. In 1818, after the overthrow of the Peshwa, the place was invested by a British force, and captured after a 21 days' siege. Dhárwár was formerly a fortified town of considerable strength; according to local tradition it was founded in 1403 by one Dhár Ráo, an officer in the Forest Department under Rám Rája, the Hindu king of Anigundi. The Anigundi kingdom was overthrown by Muhammad Ádil Sháh of Bijápur in 1568 A.D. In 1685 the fort of Dhárwár was captured by the Mughal Emperor of Delhi, and in 1753 fell into the hands of the Mahrattas. On the final overthrow of the Peshwa it came into the possession of the British Government.

During the field season 21 principal triangles were completed, forming one compound figure, one hexagon and one heptagon, and extending a direct distance of 120 miles between the parallels $15\frac{1}{2}^{\circ}$ and $17\frac{1}{4}^{\circ}$: 4 single triangles were also completed on the longitudinal series to Goa, covering a distance of about 30 miles.

On November 1st 1866 Lieutenant Trotter took over charge of the party from Captain

Season 1866-67.

PERSONNEL.

Lieut. H. Trotter, R.E.,	Assistant Surveyor.
Mr. G. A. Anding, Sub-Assistant,	2nd Grade.
„ A. D. Christie,	3rd „
„ J. Bond,	4th „

Haig. Only three stations on the longitudinal series to Goa remained to be visited, so that the party during the field season was to be chiefly employed on the Mangalore Meridional Series in North Kánara (Kánada). The jungles of this district had of late years borne a deadly character,

and enquiries shewed that the earliest possible time for commencing work, with a reasonable chance of the party not being paralysed from fever, was the beginning of February. To ensure reaching the district by this time Lieutenant Trotter proceeded to Bombay early in January, and engaged *pattemárs* (coasting craft) to take himself and his establishment to Goa, where, after a journey of $2\frac{1}{2}$ days in a ten-ton boat, he arrived on the 12th. When Captain Haig visited Goa, the Bombay Government had applied to His Excellency the Governor General of Portuguese India for permission to carry survey operations through this territory: this had been cordially granted. Every assistance was also given to Lieutenant Trotter by the Governor General and his Staff. Orders were issued to the Custom-house authorities all over the district to pass his baggage free, not only of custom-duties but of the usual annoyance of examination and search. Sepoys were also attached to his camp to aid in procuring supplies. No amount of assistance however could avail to remove the physical obstacles presented by the mountains and rivers which had to be traversed to get from one station to another. Hence, although but three stations, Bori, Salili and Agoada, had to be visited, and in no case had more than two angles to be measured at a station, the better part of a month was spent in getting through this small amount of work, in spite of the weather being exceptionally fine and clear.

The district of Goa is 62 miles long and 40 broad and has a population of 400,000. It is a hilly country and intersected by numerous rivers which are generally navigable. In the days of its glory Goa was the chief *entrepôt* of commerce between the east and the west. But with the downfall of the Portuguese Empire it lost its commercial importance, and its trade has now dwindled into insignificance.

Having completed his observations at the stations in Goa territory, Lieutenant Trotter tried to go straight across the Gháts to Dhárwár, but was unable to do so owing to the difficulty of procuring carriage. The road moreover was reported as being just then exceedingly unhealthy. Agoada, however, being on the sea coast, the party was able to embark on *pattemárs* immediately after closing work, and sailed for Kárwár (Kárvár) which was reached on the evening of the 3rd of February, and marching *viâ* the Arbail ghát, a very roundabout but good road, proceeded to Samtráni, 24 miles north of Yéllápur. There carts were exchanged for bullocks and coolies, and the party diverged to Kánsërudí, one of the west flank stations of the Ganigudd polygon, which was reached on the 16th of the same month. The centre and south-west flank stations of this polygon are in the dense Kánara forests, the best wooded in Western India.

Indúr station was reached at the end of March without any further check. In a letter on the subject of the best time of day for observing, Lieutenant Trotter writes:—"In Goa the air was clear, and the weather on the whole very favorable, the morning heliotropes being best and steadiest, a very unusual occurrence as far as my experience goes, but caused, I imagine, by the sea breeze which at that time of the year used not to set in till evening, continuing till late at night, causing wonderfully clear mornings and a very steady atmosphere. As the sun got up mists gradually rose, and by 10 or 11 o'clock the air would be very thick and becoming, later in the day, impenetrable by rays from either afternoon heliotropes or lamps, which latter would generally be good signals early in the

“morning. Above the Gháts, when I took up the series, the weather was somewhat the same, in that, before the sun rose the air used to be very clear, but the moment the sun got above the horizon mists rose with it, and what was a few minutes before a verdant landscape, became almost miraculously transformed into an apparently foaming sea, with the tops of the highest hills, like green and rocky islands, towering above the general level, the moving clouds having the appearance of rolling billows; altogether a most magnificent spectacle, not unimproved by the brilliant flashes of the heliotropes seen over this sea of clouds. This appearance is not lasting, however, for the mists soon rise, enveloping everything, and not generally dispersing till 9 or 10 A. M.

“These phenomena occurred early in the season, and of course observations to morning heliotropes were rarely if ever attainable. The afternoons were generally thickish, but used to clear towards sunset, and the air purified by the sea breeze was generally good for lamps. Later in the season however these mists, instead of rising about sunrise, used generally to begin to form about 8 or 9 o'clock in the evening, when, just as we had fairly commenced working to lamps, then bright and clear, first one lamp and then another would suddenly disappear, not to show again till the next evening, while the mists would at last rise and surround the observatory tent. These mists never cleared off in time for morning heliotropes, and consequently for the greater part of the season nearly the whole of the observations were taken in the afternoon, when the signals were generally good. On one occasion I took no less than fifty-seven single measures of angles working to afternoon heliotropes. In April and May the work was very much interfered with by passing storms, though these were so local, that sometimes I have gone on steadily working to capital heliotrope signals, when perhaps the sun never shone on my own station the whole afternoon, and the hill seemed surrounded by storms.”

In the Kánara district the smoke from the burning jungles greatly hindered Lieutenant Trotter's progress, especially when there was no wind. Every year towards the end of February the villagers begin to burn these jungles, and until the heavy rains set in they light the fires regularly every day at two or three o'clock in the afternoon. The stations in this district would have been avoided, if possible, at that particular season, but it was unfortunately the only time they could be visited with impunity from fever, the curse of the district. Mr. Christie, who was working in Kánara in January 1866, states that when he was marching, the coolies used, as a regular thing, to put down their loads for two or three hours in the middle of the day, have their bout of fever and then go on again.

Having taken the precaution of not entering these jungles till the healthy season, Lieutenant Trotter's party for a couple of months escaped with comparatively little illness; but after the first heavy rains had fallen in April, Mr. Christie's party which was in advance building stations, was the first to suffer, and at one time the whole of his camp was down with fever. The observations of the Bhedagávegudda compound figure were finished at Chandragutti station on the 20th of May, closing the field season's operations. On the afternoon of that day Lieutenant Trotter, and on the following day his observatory assistant, Mr. Bond, were attacked with fever. All the signal parties and nearly the whole of the standing camp were suffering more or less. The fever was not of a malignant type, but its effects were

unfortunately more insidious than was thought, as is evident from the fact that although only one man actually died in the field, yet two died afterwards at Bangalore, and another while on his journey home on leave.

During the field season 13 principal triangles were completed, forming a hexagon and a compound figure, and extending a direct distance of 65 miles: the remaining 2 single triangles on the longitudinal series to Goa were also completed.

When Lieutenant Trotter commenced his operations in 1866, 165 miles of the Mangalore Meridional Series remained for completion, of which 65 miles had been accomplished by May 1867. The remaining portion was expected to prove exceptionally difficult; the country over which the principal triangulation was to pass, was hilly, wild and thinly populated; the climate was bad, and carriage was only to be procured with great difficulty. For five years no opportunity occurred of completing it, and it was not till the end of 1872 that the work was taken in hand. When the Survey party commenced operations at the beginning of the field season of 1872-73, they had before them an exceptionally large amount of work. In addition to the gap of 100 miles in the Mangalore Meridional Series, they had also to complete the Madras Longitudinal Series to the coast. Taking advantage of the first break of fine weather in the north-east monsoon rains, the party took the field at Bangalore on the 20th of October, and after a march of about 300 miles commenced operations, in the middle of November, on the terminal side Chandragutti-Halēbail of Lieutenant Trotter's triangulation of 1866-67. Lieutenant McCullagh had charge of the main party and executed the final observations with Troughton and Simms' 24-inch Theodolite No. 1, with Mr. Laseron as recorder and office assistant.

Season 1872-73.

PERSONNEL.

Major B. R. Branfill, Dy. Supt., 2nd Grade.	
Lt. J. E. McCullagh, R.E., Asst. Supt., 1st Grade.	
Mr. J. W. Mitchell, Asst. Surveyor, 1st "	
" O. V. Norris, " " 3rd "	
" C. D. Potter, " " 3rd "	
" E. W. Laseron, " " 3rd "	

Major Branfill himself undertook the examination and completion of the approximate series. He at once decided to reject the stations selected by Mr. Mc Gill west of the Gháts, and to carry the series entirely east of them. Commencing work at Hukaligudda station, he visited in succession the stations of Hugadi, Siddeshvar, Kōdashádri, Bisale, Hēbbe and Valkunji, and rejoined the main party at Ságar on the 3rd of January. Between many of the stations there were no roads, and the party on several occasions was obliged to leave its camp and baggage for periods of a week or two: on one occasion the main party was for three weeks separated from its camp and supplies. During the season final observations were completed at 16 hill stations forming a compound figure, a quadrilateral and a hexagon. Two sets of azimuth observations were taken this season, but in order to push on the triangulation to the utmost and ensure its completion they were postponed to the last. Lieutenant McCullagh took one set at Koramúr finishing on the 27th of March, and Major Branfill observed the other at Mangalore, a station now appertaining to the Madras Longitudinal Series. By the 15th of April the party had returned to Bangalore, and the Mangalore Meridional Series had been completed.

The country traversed during the last season is one of great beauty and interest. Superficially it consists of forest-clad hills and valleys of no great height or depth, diversified

by open grassy glades and downs, many streams and rivers, precipitous cliffs and prominent peaks. The prime feature of the country is the irregular ridge line of the Western Gháts, running generally N. N. W. and S. S. E., at a distance of 10 to 30 miles from the western coast, and rising from a height of 1,500 feet in Sunda to 3,500 feet in Manjarabad. This part of the country is called the "Malnád" (*lit.* rain-district) from the excessive amount of rain which falls here. On the western slopes and summits of the Gháts the rainfall from May to October is very heavy, from 150 to perhaps 300 inches or more falling in a single season; and this combined with frequent dense fogs and clouds, night and morning when there is no rain, and also with the moisture wafted in from the west by the sea-breeze during the hot months from February to May, produces and reproduces such a vigorous growth of plants and trees, that the people can hardly keep their clearings free from jungle. Numerous peaks rise 500 to 1,000 feet above the average height of the range, but few of them exceed 3,600 feet above the sea; Chandragutti (2,800), Kōdashátri (4,400) and Kudurēmukha (6,200) stand out very conspicuously above all the rest, and are only equalled by Meruti in the Tungabhadra Doáb, and surpassed only by the Chandra-drona, now also commonly called the Bababudan from the name of a Muhammadan Pír who died about 1850, and who is reported to have first introduced the coffee plant into Mysore (Maisúr).

The passes over the mountains are numerous, being on the average only 10 miles apart; and though mostly disused and impracticable now, attest the fact that there was formerly much traffic between Mysore and the west coast. The population of the Malnád has greatly diminished from what it was in former times. The large towns which once existed, and particularly the city of Nagar, named Haidar Nagar by Haidar Ali, are almost abandoned; and, judging from the frequency of the deserted rice-fields, the rural population has also probably decreased in recent times.

Slavery, or rather domestic serfdom, was once general in this part of the country, but is now disappearing. The introduction of coffee is supposed to be the main cause of its decline. The coffee planters require labourers and offer high wages, and in order to obtain them, pay largely in advance, a temptation that serfs, who had been accustomed to receive only their food and clothing, were unable to withstand.

In the general reduction of the Southern Trigon, the portions of the errors, which fell to the share of the Mangalore Meridional Series and were dispersed throughout it, were as follows:—

In	Latitude	...	...	— 0"·036
„	Longitude	...	...	+ 0·231
„	Azimuth	...	...	— 0·665
In side	Logarithm	...	...	— 0·000,0021,8
		giving a ratio of about ·32 of an inch per mile.		

Secondary Triangulation.

A large amount of secondary triangulation was carried out by Captain Haig in the field-season of 1865-66; numerous points such as mosques, forts and temples were fixed, not only in the area embraced by the principal series, but also for considerable distances from its flanks; and the positions of the two cantonment stations of Belgaum and Dhárwár were determined. In the following year, whilst waiting for the unhealthy season in Kánara to pass, Lieutenant Trotter executed some minor triangulation in the neighbourhood of Indápur. Major Francis, the Survey and Settlement Commissioner, Northern Division, Bombay Presidency, was anxious to get some of his revenue boundary marks laid down carefully by trigonometrical observations, as a test of the accuracy of the work of his own assistants, and for the purpose of having accurate data for the construction of his own maps. The first thing to be ascertained before commencing the work, was the state of the secondary stations of the Great Trigonometrical Survey, the operations of which had passed through a portion of the district. On examination none of the secondary points were to be found, with one single exception, although the names were in existence in the records, and their latitudes, longitudes, azimuths and heights had been accurately determined. Apparently in many instances these stations had originally consisted of a single stone imbedded, perhaps, in the centre of a large flat field on the top of a high piece of ground, with no means whatever of identifying it. These marks were useless without the most minute and accurate description of their whereabouts, as the ground is either so wildly undulating, that search might be made for hours before the highest point in the neighbourhood could be found, or else it consists of high, flat table-lands extending from one fourth of a mile to several miles in length, and generally covered with stones large and small. These table-lands are so flat, that if three or four different men were sent at different times, it is probable that no two of them would select the same spot as the highest. Unless, therefore, very careful descriptions of these stations were forthcoming, it was almost useless making search for them. Unfortunately no descriptions of any sort were to be found, and hence only one station was discovered. As it was therefore impossible to make use of any former secondary work, Lieutenant Trotter determined to break up the principal triangulation afresh, and to cover the whole of the district to be surveyed with a net-work of triangles having sides from three to five miles in length. The new stations were built with great care, and an accurate description of each recorded.

In the field season of 1872-73, the positions and heights of a number of secondary stations and 53 unvisited points were fixed: some stations of Colonel Lambton's triangulation were found, with mark-stones in position, and connected: and other points of the old survey were also connected, but as no station marks were found, their identification was not exact.

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S. G. BARRARD.

MANGALORE MERIDIONAL SERIES.

PRINCIPAL TRIANGULATION. ALPHABETICAL LIST OF STATIONS.

Alsunda	XIX.	Karabgati	XV.
	(Of the Bombay Longitudinal Series).		
Ánúr	VI.	Karigudd	XVII.
	(Of the Madras Longitudinal Series).		
Athni	XI.	Karēkyatanhalli	XXXII.
Aundh	VI.	Kathárigad	XVIII.
Bhedasgávegudda	XXXI.	Katphal	V.
Bisale	XLIV.	Kem	XVII.
Bori	XXII.		(Of the Bombay Longitudinal Series).
	(Of the Bombay Longitudinal Series).	Kōdashádri	XLII.
Chandragutti	XXXIV.	Kolanhatti	XIX.
Chikk Nandihallígudd	XX.	Koramúr	XXXIX.
Dandoba Dongar	IX.	Kudurēmukha	III.
Daphlápúr	X.		(Of the Madras Longitudinal Series).
Dindēmane	XXXVIII.	Kundal	VIII.
Ganigudd	XXVI.	Kundgol	XXVII.
Halēbail	XXXV.	Majala	XII.
Hatarvat	XIV.	Manikeri	XVI.
Hēbbe	XLVI.	Mávinhúnda	XIII.
Hirēgudda	XLV.	Menshigudda	XXXIII.
Hirēkummígudd	XXI.	Navalúr	XXIV.
Hōnnavalli	XL.	Páchvad	IV.
Hugadi	XLI.	Palsi	VII.
Hukaligudda	XXXVI.	Palvan	III.
Indúr	XXIX.	Rámanköp	XXX.
Kalas	I.	Samshergad	XXIII.
Kalkera	XXV.	Siddeshvar	XLIII.
Kaltigudda	XXXVII.	Sulki	II.
Kánsērudi	XXVIII.	Valkunji	XLVII.
		Yalúr	XXII.

MANGALORE MERIDIONAL SERIES.

PRINCIPAL TRIANGULATION. NUMERICAL LIST OF STATIONS.

XVII	} Of the Bombay Longitudinal Series. {	Kem.	XXIV	.	.	.	.	.	Navalúr.
XIX		Alsunda.	XXV	.	.	.	.	.	Kalkera.
XXII		Bori.	XXVI	.	.	.	.	.	Ganigudd.
I	.	Kalas.	XXVII	.	.	.	.	.	Kundgol.
II	.	Sulki.	XXVIII	.	.	.	.	.	Kánsërudí.
III	.	Palvan.	XXIX	.	.	.	.	.	Indúr.
IV	.	Páchvad.	XXX	.	.	.	.	.	Rámanköp.
V	.	Katphal.	XXXI	.	.	.	.	.	Bhedasgávegudda.
VI	.	Aundh.	XXXII	.	.	.	.	.	Karëkyatanhalli.
VII	.	Palsi.	XXXIII	.	.	.	.	.	Menshigudda.
VIII	.	Kundal.	XXXIV	.	.	.	.	.	Chandragutti.
IX	.	Dandoba Dongar.	XXXV	.	.	.	.	.	Halëbail.
X	.	Daphlápúr.	XXXVI	.	.	.	.	.	Hukaligudda.
XI	.	Athni.	XXXVII	.	.	.	.	.	Kaltigudda.
XII	.	Majala.	XXXVIII	.	.	.	.	.	Dindëmane.
XIII	.	Mávinhúnda.	XXXIX	.	.	.	.	.	Koramúr.
XIV	.	Hatarvat.	XL	.	.	.	.	.	Hönnavalli.
XV	.	Karabgati.	XLI	.	.	.	.	.	Hugadi.
XVI	.	Manikeri.	XLII	.	.	.	.	.	Ködashádri.
XVII	.	Karigudd.	XLIII	.	.	.	.	.	Siddeshvar.
XVIII	.	Kathárigad.	XLIV	.	.	.	.	.	Bisale.
XIX	.	Kolanhatti.	XLV	.	.	.	.	.	Hirëgudda.
XX	.	Chikk Nandihallígudd.	XLVI	.	.	.	.	.	Hëbbe.
XXI	.	Hirëkummígudd.	XLVII	.	.	.	.	.	Valkunji.
XXII	.	Yalúr.	III	} Of the Madras Longitudinal Series. {					Kudurëmukha.
XXIII	.	Samshergad.	VI						Ánúr.

MANGALORE MERIDIONAL SERIES.

DESCRIPTION OF PRINCIPAL STATIONS.

All the Principal Stations hereafter described are situated on hills. With the exception of Station II which is denoted simply by a mark-stone imbedded on the summit of a temple, each consists of a circular and isolated pillar of masonry either perforated or solid, 3 to $3\frac{1}{2}$ feet in diameter and generally about 5 feet in height, though in certain cases the heights vary from 1 to 8 feet. In the centre and upper surface of the pillar is embedded a stone on which is engraved a mark (circle and dot) in the normal of one or more similar marks below, the lowermost mark being in some instances cut on the rock *in situ*. Around the pillar and level with its upper surface a platform of stones, or of stones and earth—16 feet in diameter or from 12 to 16 feet square—is built for the accommodation of the observatory tent: in a few cases the platform had to be supported by logs of wood. In the northern portion of the Series, down to station XL, all the pillars are of the perforated kind, access to the ground level or lower mark at these stations being obtained by an aperture through the platform and pillar. At the remaining stations the pillars are of the solid kind.

All the stations except XVII of the Bombay Longitudinal Series and XXVIII, XXX, XXXI and XXXIII of this Series have their upper marks protected by small pillars of masonry in the form of a frustum of a pyramid, 28 inches square at base, 20 inches at top and $3\frac{1}{2}$ feet in height. These protecting pillars carry sufficiently accurate marks on their upper surfaces for Topographical and Revenue Survey purposes as shewn at page 74 of Volume II of the *Account of the Operations &c.*

The following descriptions have been compiled from those given by the Officers who executed the Series and others who visited certain of the stations subsequently, supplemented in the majority of cases, as regards adjacent villages and places from the Topographical Survey Maps of the country traversed, and corrected, so far as the local sub-divisions in which the several stations are situated, from the latest Annual Reports furnished by the District Officers to whose charge the stations were committed.

The orthography is based on the official lists published under the orders of the Government of India, except that the long *é* is unaccented as in all previous volumes of this series, and the short *e* is shewn thus, *è*; the same remarks apply to *o*. Final vowels and those in well-known terminals are unaccented. When the popular spelling of a name has been accepted by Government, its correct transliteration is given in parenthesis where the name occurs for the first time.

XVII.—(*Of the Bombay Longitudinal Series*). Kem Hill Station, lat. $18^{\circ} 11'$, long. $75^{\circ} 21'$ —observed at in 1838, 1863 and 1865—is situated on a low flat-topped hill. There are two knolls nearly of the same height as the station, each distant about 2 miles, the one to the W. and the other to the N.W., the former being crowned by a temple. The station lies about 2 miles E. by N. of the Railway station of Kem on the G. I. P. Line. It is in the lands of the village of Kem, taluka Karmála, district Sholápur (Solápur).

The station of 1838 consisted of the usual circle and dot mark cut on a large stone at the level of the ground. When visited in 1863, the mark was found in position: over this a circular, perforated and isolated pillar of masonry 4.8 feet high was built, carrying a mark-stone in its upper surface. The pillar is enclosed in a platform of loose stones, through which and the central pillar an aperture was constructed giving access to the lower mark. In 1865 the station was found in good order. When visited in 1870 for Latitude Observations and in 1878-79 by the Levelling Party, the upper mark-stone was found intact. The directions and distances of the circumjacent villages are:—Bhagevádi E.S.E., mile $\frac{3}{4}$; Pathurti N., miles $2\frac{1}{4}$; Jákhla E.S.E., miles 2; Kem W.S.W., miles 2; and Malori W.N.W., miles $3\frac{1}{4}$.

XIX.—(*Of the Bombay Longitudinal Series*). Alsunda Hill Station, lat. $18^{\circ} 27'$, long. $75^{\circ} 3'$ —observed at in 1837 and 1863—is situated on the highest part near the western brow on the summit of a flat-topped hill

which extends nearly a mile from S.E. to N.W. with a breadth of about 300 yards; it lies $3\frac{1}{2}$ miles N. by W. of Korti on the road from Pomalvádi to Karmála and $1\frac{1}{4}$ miles W. of the road from Korti to the village of Alsunda. The station is in the lands of the village of Alsunda, taluka Karjat, district Ahmednagar (Ahmadnagar).

The station of 1837 consisted of a platform with the usual mark on top and another cut on a large stone 5.69 feet below at the level of the ground. When visited in 1863, the lower mark was found in position: over this a circular, perforated and isolated pillar of masonry 5 feet high was built carrying a mark-stone in its upper surface. The pillar is enclosed in a platform of earth and stones 16 feet in diameter, through which and the central pillar an aperture was constructed giving access to the lower mark. When visited in 1881-82 by the Levelling Party, the station was found protected by a rectangular pillar of masonry 2 feet high built over the circular pillar, the whole covered over by a large mound of earth and stones. The directions and distances of the circumjacent villages are:—Alsunda N.E. by N., miles 2; Bauauri N.W. by N., miles $3\frac{1}{2}$; Chilavádi S.W., miles 3; and Malungi E., miles 5.

XXII.—(Of the Bombay Longitudinal Series). Bori Hill Station, lat. $18^{\circ} 25'$, long. $74^{\circ} 40'$ —observed at in 1838, 1863 and 1865—is situated near the northern extremity of an extensive plateau rising about 250 feet above the G. I. P. Railway line, which runs through the Bhíma valley north of the station. It lies about 1 mile S.W. of the Railway station of Boribýál. The station is in the lands of the village of Boribýál, taluka Bhimthadi, district Poona (Puna).

The station of 1838 consisted of a platform with the usual mark on top and another 5.1 feet below at the level of the ground. When visited in 1863, the lower mark was found in position: over this a circular, perforated and isolated pillar of masonry 5.1 feet high was built, carrying a mark-stone in its upper surface. The pillar is enclosed in a platform of earth and stones 16 feet in diameter through which and the central pillar an aperture was constructed giving access to the lower mark. In 1865 the station was found in good order. When visited in 1878-79 and 1881 by the Levelling Party, the station was found protected by a rectangular masonry pillar 31 inches high built over the circular pillar, a cylindrical stone with dot and circle engraved on it was found fitted loosely into this rectangular pillar, the whole enclosed in a large mound of earth and stones. The directions and distances of the circumjacent villages are:—Bori S.E. by E., miles $1\frac{1}{2}$; Alegaon N.E. by N., miles $2\frac{1}{2}$; Khorauri N.N.W., miles $2\frac{1}{2}$; and Mallad (on the road from Pátas to Kumbhárgaon) S.W. by S., miles $3\frac{1}{2}$.

I. Kalas Hill Station, lat. $18^{\circ} 9'$, long. $74^{\circ} 52'$ —observed at in 1837, 1863 and 1865—is situated on a wide plateau of sandstone formation rising about 100 feet above the plain, about $2\frac{1}{2}$ miles E.S.E. of the village of Kalas, 1 mile N.E. of the village road between Kalas and Shelgaon, and $5\frac{1}{4}$ miles N.N.E. of the village of Haturneh on the road from Baramati to Nimbgaon. The station is situated in the lands of the village of Rui, taluka Indápur, district Poona.

The station of 1837 consisted of a platform about 9 feet high having a mark in its upper surface and another 1.58 below. In 1863 the station was rebuilt consisting of a platform of earth and stones enclosing a perforated pillar of masonry 7.1 feet high, the upper portion of which is circular and isolated. There are two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the latter. No change appears to have been made in 1865. When visited in 1879 by the Levelling Party, the station was found intact. The directions and distances of the circumjacent villages are:—Rui N.E. by E., miles $2\frac{1}{2}$; Vehali S.E. by E., miles 4; Shelgaon S. by E., miles $3\frac{1}{2}$; Barna S.W., miles $2\frac{1}{2}$; and Nhavi E.N.E., miles $3\frac{1}{2}$.

II. Sulki Hill Station, lat. $17^{\circ} 46'$, long. $74^{\circ} 56'$ —observed at in 1865—is on the summit of a small Hindu Temple, built on a high conical hill, $2\frac{1}{4}$ miles S.S.E. of Berad village on the road from Málsiras to Mhasvad. It is identical with an old station of the same name of the Bombay Longitudinal Series, fixed in 1837. The station is in the lands of the village of Garvad, taluka Málsiras, district Sholápur.

The station is denoted by a mark-stone imbedded on the summit of the temple. The directions and distances of the circumjacent villages are:—Jalbhavi W. by S., miles $2\frac{1}{2}$; Máudki W.N.W., miles $3\frac{1}{2}$; and Tarangphal E.N.E., miles $2\frac{1}{2}$.

III. Palvan Hill Station, lat. $17^{\circ} 50'$, long. $74^{\circ} 29'$ —observed at in 1865—is situated on the highest of a number of flat-topped hills, $1\frac{1}{2}$ miles E.N.E. of the village of Palvan, $10\frac{1}{2}$ miles S. of the town of Phaltan and $3\frac{1}{2}$ miles S. by W. of Girvi village. The station is in the lands of the village of Palvan, taluka Mán, district Sátára.

The station consists of a platform of stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other at the ground level; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Ghora E., mile 1; Gaidhara S.W. by S., miles $1\frac{1}{2}$; Bhápka W.N.W., miles $2\frac{1}{2}$; and Bhorka N.N.W., miles $2\frac{1}{2}$.

IV. Páchvad Hill Station, lat. $17^{\circ} 31'$, long. $74^{\circ} 42'$ —observed at in 1865—is situated on a flat-topped hill, the highest point of the range, $2\frac{1}{4}$ miles S.S.E. of the village of Kukudvad, $11\frac{1}{2}$ miles S.W. of the town of Mhasvad on the road from Sátára to Pandharpur. The station is in the lands of the village of Kukudvad, taluka Mán, district Sátára.

The station consists of a platform of stones enclosing a circular, perforated and isolated pillar of masonry 5·1 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Katera S., mile 1; Mana W. by N., mile 1; Pokra N. by E., mile 1; and Valai E.N.E., miles 3.

V. Katphal Hill Station, lat. $17^{\circ} 33'$, long. $75^{\circ} 4'$ —observed at in 1865—is on a conical shaped hill rising about 200 feet above the surrounding country, and lies $5\frac{3}{4}$ miles S.W. by W. of the village of Mahud on the road from Khánápur to Pandharpur, and $1\frac{1}{4}$ miles S.E. of Katphal village on the same road. The station is in the lands of the village of Katphal, taluka SÁngola, district Sholápur.

The station consists of a platform of stones enclosing a circular, perforated and isolated pillar of masonry about 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other at the ground level; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Chikk Mahad N.E., miles $3\frac{1}{4}$; Achakdani S.E., miles $2\frac{1}{4}$; Umbargaon W. by S., miles $4\frac{1}{4}$; and Bangad N.E. by N., miles $1\frac{1}{4}$.

VI. Aundh Hill Station, lat. $17^{\circ} 33'$, long. $74^{\circ} 24'$ —observed at in 1865—is situated on the centre of a flat portion rising 20 feet abruptly above the summit of the flat-topped hill, 2 miles N.E. of the large village of Aundh, 11 miles E. by S. of the town of Rahimatpur on the road to Sátára. The station is in the lands of the village of Aundh, thána Aundh, Sátára Agency.

The station consists of a platform of stones enclosing a circular, perforated and isolated pillar of masonry 5·1 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other at the ground level; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Gusavi S.E. by E., mile $\frac{3}{4}$; Varúr N.N.E., miles $1\frac{1}{4}$; Kumta E.N.E., miles $2\frac{1}{4}$; and Gopuj S.E. by E., miles 3. When visited in 1878-79 by the Levelling Party the station was found intact.

VII. Palsi Hill Station, lat. $17^{\circ} 13'$, long. $74^{\circ} 53'$ —observed at in 1865—is situated on a ridge rising abruptly from the hill to a height of about 20 feet, and lies $1\frac{1}{2}$ miles E.S.E. of the village of Palsi which is about $\frac{1}{2}$ a mile N. of the road from Karád to Bijápur. The station is in the lands of the village of Kusavdi, taluka Tásgaon, district Sátára.

The station consists of a platform of stones enclosing a circular, perforated and isolated pillar of masonry about 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other at the ground level; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Báuúr N.E. by E., miles 3; Pácheqaon E. by S., miles $3\frac{1}{4}$; Jarandi S., miles 2; and Hivra W. by N., miles $3\frac{1}{4}$.

VIII. Kundal Hill Station, lat. $17^{\circ} 8'$, long. $74^{\circ} 27'$ —observed at in 1865—is situated on a high flat-topped hill, about 1 mile N.W. of the village of Kundal which lies about $\frac{1}{2}$ a mile off the road from Karád to Tásgaon. The station is in the lands of the village of Kundal, thána Kundal, Sátára Agency.

The station consists of a platform of rubble stones enclosing a circular, perforated and isolated pillar of masonry 5·1 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Kumbhargaoon N.E. by N., mile 1; Dudhondi S.W. by S., miles 2; Devarashta N. by W., miles $2\frac{1}{4}$; and Bálavdi N.E. by E., miles $4\frac{1}{4}$.

IX. Dandoba Dongar Hill Station, lat. $16^{\circ} 55'$, long. $74^{\circ} 47'$ —observed at in 1865—is situated on the highest part of a flat-topped range of hills on the boundary of the villages of Bhosa, Kharsang, Khandrajuri and Málgaon, and lies about 9 miles N.E. of the town of Miraj on the road from Kolhápur to Athni. The hill is named after the large Hindu temple which stands on it at a distance of $\frac{1}{2}$ a mile N.N.E., of the station. It is in the lands of the village of Malgaon, pargana and state of Miraj, Southern Marátha Agency.

The station consists of a platform of rubble stones enclosing a circular, perforated and isolated pillar of masonry 5·2 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other at the ground level; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Kharsang N.E., miles $3\frac{1}{4}$; Khandrajuri S.E. by E., miles $3\frac{1}{4}$; Bhosa N.W., miles $2\frac{1}{4}$; and Malgaon S.S.W., miles $4\frac{1}{4}$.

X. Daphlápur Hill Station, lat. $17^{\circ} 2'$, long. $75^{\circ} 10'$ —observed at in 1865—is situated on a low hill, about $3\frac{1}{2}$ miles N.E. by E. of the village of Daphlápur and 7 miles W. by S., of the town of Jath on the road from Karád to Bijápur. The station is in the lands of the village of Daphlápur, Daphlápur State, Sátára Agency.

The station consists of a platform of rubble stones enclosing a circular, perforated and isolated pillar of masonry 4·8 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other at the ground level; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Khalati S.E. by S., miles $1\frac{1}{4}$; Vasháu E.N.E., miles $2\frac{1}{4}$; Kanti N.E. by N., miles $2\frac{1}{4}$; and Belunki W. by N., miles $2\frac{1}{4}$.

XI. Athni Hill Station, lat. $16^{\circ} 43'$, long. $75^{\circ} 9'$ —observed at in 1865—is situated on a plateau having its surface slightly undulating, about $2\frac{1}{2}$ miles S. of the road from Miraj to Bijápur, and the same distance E.S.E. of Athni. The station is in the lands of the village of Athni, taluka Athni, district Belgaum (Belgaon).

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Barchi E.N.E., miles 4; Katkeri E.S.E., miles 2; Ratnapur S.E. by S., miles $2\frac{1}{2}$; and Sukanhati W.S.W., miles 4.

XII. Majala Hill Station, lat. $16^{\circ} 47'$, long. $74^{\circ} 29'$ —observed at in 1865—is situated on a flat-topped hill, about $\frac{1}{2}$ of a mile N.N.E. of the small village of Majala which lies $\frac{3}{4}$ of a mile N. of the high road from Kolhápur to Shirol. The station is in the lands of the village of Majala, taluka Álta, Kolhápur Agency.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in the upper surface of the pillar and the other 5 feet below; an aperture gives access to the lower mark. When visited in 1872 for Latitude Observations the station was found intact. The directions and distances of the circumjacent villages are:—Álta W. by S., miles 3; Nejh N.W., miles $1\frac{1}{2}$; and Kumbhoj N. by W., miles 3.

XIII. Mávinhúnda Hill Station, lat. $16^{\circ} 25'$, long. $74^{\circ} 50'$ —observed at in 1865—is situated on the western brow of a flat-topped hill, about 14 miles E. of the town of Chikodi, and 17 miles N. of the town of Gokák a mile S.W. of the high road between Hukeri and Manoli. The station is in the lands of the village of Mávinhúnda, taluka Shirol, Kolhápur Agency.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. When visited in 1872 for Latitude Observations the station was found intact. The approximate directions and distances of the circumjacent villages are:—Hubarhalli N.W., miles $2\frac{1}{2}$; Budihal W. by N., miles $2\frac{1}{2}$; Mávinhúnda S. by W., miles $1\frac{1}{2}$; and Baikud E. by N., miles 3.

XIV. Hatarvat Hill Station, lat. $16^{\circ} 21'$, long. $74^{\circ} 32'$ —observed at in 1865—is situated on an elevation rising some 20 feet above the hill on which the village of Hatarvat is. The station lies $7\frac{1}{2}$ miles E.S.E. of the town of Nipáni, and $6\frac{1}{2}$ miles N. of that of Sankeshvar on the high road to Belgaum. The station is in the lands of the village of Hatarvat, taluka Chikodi, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Nari N.W. by N., miles $2\frac{1}{2}$; Bidarhalli E. by N., miles $2\frac{1}{2}$; and Bhar S.S.W., miles $2\frac{1}{2}$.

XV. Karabgati Hill Station, lat. $16^{\circ} 8'$, long. $74^{\circ} 50'$ —observed at in 1865—is situated on a slight elevation on a very elevated table-land, about a mile S. of the Márkándeya river, a branch of the Ghatprabha, and 3 miles S.W. by S. of Gokák near the road from Hukeri to Saundatti (Sanvadatti). The station is in the lands of the village of Gokák, taluka Gokák, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Hatti W. by N., miles 3; Kelvi S.E., miles $3\frac{1}{2}$; and Puranhatti N.E. by E., miles $4\frac{1}{2}$.

XVI. Manikeri Hill Station, lat. $16^{\circ} 9'$, long. $75^{\circ} 7'$ —observed at in 1865—is situated on a slight elevation (about 10 feet high) on a flat-topped hill at the foot of which lies the village of Manikeri; it is $9\frac{1}{2}$ miles S.W. by W. of Yádvád on the road from Gokák to Kaládgi. The station is in the lands of the village of Manikeri, taluka Gokák, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Kaligudi N.E., miles 2; Kaujalgi N. by W., miles $3\frac{1}{2}$; Baghalla W. by S., miles 4; and Melikeri S.S.W., miles 2.

XVII. Karigudd Hill Station, lat. $16^{\circ} 6'$, long. $74^{\circ} 29'$ —observed at in 1866—is situated on a conical hill about $5\frac{1}{2}$ miles W. by S. of the town Yamkanmardi near the high road from Sankeshvar to Belgaum, and 4 miles N. of the Ghatprabha river. The station is in the lands of the village of Bidarvádi, taluka Chikodi, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet

high, which contained two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The upper mark-stone was removed by some villagers shortly after the observations were completed. The approximate directions and distances of the circumjacent villages are:—Bugarkatti N., mile 1; Kot S.W., miles 2; and Bidarhalli S. miles $1\frac{1}{2}$.

XVIII. Kathárigad Hill Station, lat. $15^{\circ} 54'$, long. $75^{\circ} 1'$ —observed at in 1866—is situated on a bastion of the ruined hill fort of Kathárigad about 3 miles S. of the high road from Belgaum to Kaládgi, and $3\frac{1}{2}$ miles E.N.E. of Murgod. The station is in the lands of the village of Murgod, taluka Parasgad, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in the upper surface of the pillar and the other 4.9 feet below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Halki W.N.W., miles 4; Romapur S.W. by W., miles $1\frac{1}{2}$; and Samapur S.E. by S., miles $1\frac{1}{2}$.

XIX. Kolanhatti Hill Station, lat. $15^{\circ} 55'$, long. $74^{\circ} 45'$ —observed at in 1866—is situated on a range of flat-topped hills running from E. to W. and lying about 2 miles W. of the village of Deshnúr and the same distance N. of the high road from Belgaum to Kaládgi. The station is in the lands of the village of Deshnúr, taluka Sampgaon, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in the upper surface of the pillar and the other 5 feet below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Kolanhatti S.E. by E., mile 1; Kardigudi S.W. by S., miles 3; and Nelseri E., miles 4.

XX. Chikk Nandihallígudd Hill Station, lat. $15^{\circ} 38'$, long. $74^{\circ} 51'$ —observed at in 1866—is situated on a small hill lying immediately E. of the high road from Kittúr to Bailhongal, and about $2\frac{1}{2}$ miles N.E. of the former town. The station is in the lands of the village of Chikk Nandihalli, taluka Sampgaon, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Chikk Nandihalli N.N.W., miles $1\frac{1}{2}$; Ouradi S., mile 1; Dimati W.N.W., miles 2; and Sigihalli E., miles 3.

XXI. Hirékummígudd Hill Station, lat. $15^{\circ} 44'$, long. $75^{\circ} 15'$ —observed at in 1866—is situated on a flat-topped hill locally called Fakír Sahib, at the foot of which lies the village of Hirékummi. There are three mosques on the hill, one called Bara Imám is 30 yards N.E. of the station, and the other two 100 yards to the W. The station is 10 miles S.E. by S. of the town of Manoli, and 6 miles E.S.E. of that of Saundatti. The station is in the lands of the village of Hirékummi, taluka Parasgad, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5.1 feet high, which contains one mark-stone (the lower); an aperture gives access to it. The approximate directions and distances of the circumjacent villages are:—Chikk Kummi E.N.E., mile 1; Dubal N. by E., mile $\frac{1}{2}$; Hirékummi S.S.W., mile $\frac{1}{2}$; and Harlapur N.W. by N., miles $2\frac{1}{2}$.

XXII. Yalúr Hill Station, lat. $15^{\circ} 45'$, long. $74^{\circ} 34'$ —observed at in 1866—is situated near the S.W. corner of the ramparts of the hill fort of Yalúr lying 2 miles E. of the high road from Belgaum to Haliyál, and about 7 miles S. of the cantonment of Belgaum. The station is in Kurundvád State, Southern Marátha Agency.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in the upper surface of the pillar and the other 6 feet below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Yalúr N. by W., miles 2; Sulge N.W. by N., mile 1; Desúr W.S.W., miles $1\frac{1}{2}$; and Naganhatti S.E. by S., miles $1\frac{1}{2}$.

XXIII. Samshergad Hill Station, lat. $15^{\circ} 34'$, long. $74^{\circ} 34'$ —observed at in 1866—is situated on the highest of the three conical shaped hills, about $3\frac{1}{2}$ miles W. by S. of the village of Nandgad, and $5\frac{1}{2}$ miles S. by E. of the town of Khánápur on the high road from Belgaum to Nandgad. The station is in the lands of the village of Nandgad, taluka Khánápur, district Belgaum.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Naikol S.W. by W., miles $1\frac{1}{2}$; Sawargali N.W. by N., mile 1; and Hirébhalke S.W., miles 2.

XXIV. Navalúr Hill Station, lat. $15^{\circ} 26'$, long. $75^{\circ} 6'$ —observed at in 1866 and 1867—is situated on a small hill about a mile N. of the high road from Hubli (Hubballi) to Dhárwár (Dhárvád), and 4 miles S.E. by E. of the cantonment of Dhárwár. The station is in the lands of the village of Navalúr, taluka and district Dhárwár.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5.1 feet high, which contains two mark-stones, one in the upper surface of the pillar and the other below; an aperture gives access to the lower mark. When visited in 1867, it is presumed from the absence of any remarks in the original records that the station was found in good order and that no alteration was made in its construction. In 1872 it was visited for Latitude Observations when the station was found intact. The approximate directions and distances of the circumjacent villages are:—Navalúr W.N.W., mile $\frac{1}{2}$; Satúr S.W. by S., miles $1\frac{1}{2}$; and Rayapur S.E., miles $1\frac{1}{2}$.

XXV. Kalkera Hill Station, lat. $15^{\circ} 25'$, long. $74^{\circ} 55'$ —observed at in 1866 and 1867—is situated on a hill lying immediately S. of the high road from Dhárwár to Huliýál, and about 9 miles N.E. by E. of the latter place. The station is in the lands of the village of Kalkera, taluka and district Dhárwár.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in the upper surface of the pillar and the other $4\frac{1}{2}$ feet below, (the lower mark being cut on a large mass of stone buried flush with the ground); an aperture gives access to the lower mark. When visited in 1867, it is presumed from the absence of any remarks in the original records that the station was found in good order and that no alteration was made in its construction. The approximate directions and distances of the circumjacent villages are:—Kalkera N.E. by N., mile $\frac{1}{2}$; Honapur N.W. by W., miles $2\frac{1}{2}$; and Devgiri E.S.E., miles $1\frac{1}{2}$.

XXVI. Ganigudd Hill Station, lat. $15^{\circ} 15'$, long. $74^{\circ} 57'$ —observed at in 1867—is situated on a sacred hill known by the name of Ganigudd, about $6\frac{1}{2}$ miles N.W. of the large village of Kalghatgi on the road between Haliýál and Taras, and 6 miles W. of the road from Dhárwár to Kalghatgi. The station is in the lands of the village of Galginkatti, taluka Kalghatgi, district Dhárwár.

The station consists of a platform 4 feet high, enclosing a circular, perforated and isolated pillar of masonry, which contains two marks, one in its upper surface and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Guladköp N.W. by N., miles $1\frac{1}{2}$; Kudalgi S.W., miles 4; and Hasambi E.N.E., miles $2\frac{1}{2}$.

XXVII. Kundgol Hill Station, lat. $15^{\circ} 15'$, long. $75^{\circ} 17'$ —observed at in 1867—is situated on an elevated piece of ground on the S. side of the fort of Kundgol on the high road from Hubli to Ránebennúr and about 9 miles E.S.E. of the former place. The station is close to a Muhammadan Idgah. It is in the lands of the village of Kundgol, taluka Kundgol, district Dhárwár.

The station consists of a platform 10 feet high, enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in its upper surface and the other below; an aperture gives access to the lower mark. When visited in 1871-72 for Latitude Observations and in 1873-74 by the Levelling Party, the station was found in good preservation. The approximate directions and distances of the circumjacent villages are:—Sirúr S.E., miles $2\frac{1}{2}$; Bedebal S. by E., miles 2; and Benkahalli N.E. by E., miles $3\frac{1}{2}$.

XXVIII. Kánsërudi Hill Station, lat. $15^{\circ} 12'$, long. $74^{\circ} 40'$ —observed at in 1867—is situated on a flat-topped hill about 2 miles S. of the Káli river, and 9 miles S.E. by E. of the large village of Supa. It is probably within about 15 feet of the point occupied by "Kanusirudy" of Colonel Lambton's triangulation. The station is in the lands of the village of Sambrani, taluka Supa, district North Kánara (Kánada).

The station consists of a platform of stones (supported by logs of wood) enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in its upper surface and the other 5.67 feet below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Kánsërudi N.E., miles 2; Kulagi S. by E., miles 3; and Manhai S.W. by W., miles $3\frac{1}{2}$.

XXIX. Indúr Hill Station, lat. $15^{\circ} 1'$, long. $75^{\circ} 5'$ —observed at in 1867—is situated on a moderately high hill about 1 mile E. of the village of the same name, and 2 miles N.E. of the road between the large villages of Bammigatti and Mundgod, and $5\frac{1}{2}$ miles S.E. of the former. It is probably within about 20 feet of the point occupied by "Indoor" of Colonel Lambton's triangulation. The station is in the lands of the village of Indúr, taluka Yellápur, district North Kánara.

The station consists of a platform 5 feet high, enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in its upper surface and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Masikeri E. by S., miles $1\frac{1}{2}$; Nandikatta W. by N., miles $3\frac{1}{2}$; and Harshanagiri N.E. by N., miles 2.

XXX. Rámanköp Hill Station, lat. $15^{\circ} 0'$, long. $74^{\circ} 49'$ —observed at in 1867—is situated on a hill lying about a mile N. of the road from Yellápur to Mundgod and $4\frac{1}{2}$ miles E.N.E. of the former place, which is on the high road from Dhárwár to Yellápur. It is probably within about 35 feet of the point occupied by “Oolakerra” of Colonel Lambton’s triangulation. The station is in the lands of the village of Sahasrahalli, taluka Yellápur, district North Kánara.

The station consists of a platform of loose stones enclosing a circular, perforated and isolated pillar of masonry 5 feet high, which contains two mark-stones, one in its upper surface and the other below; an aperture gives access to the lower mark. The approximate directions and distances of the circumjacent villages are:—Ittinbail N.W. by N., miles $1\frac{1}{2}$; Samgoli W.S.W., miles $2\frac{1}{4}$; and Rámanköp N., mile $\frac{1}{4}$.

XXXI. Bhedasgávegudda Hill Station, lat. $14^{\circ} 47'$, long. $74^{\circ} 58'$ —observed at in 1867—is situated on a hill sloping up so gradually from the S. that it is practicable for carts almost to its top. It is on the road from Hisalúr to Mundgod, and about 9 miles E.N.E. of Sonda. It is probably within about 45 feet of the point occupied by “Bairdusigaon” of Colonel Lambton’s triangulation. The station is in the lands of the village of Bhedasgaon, taluka Sirsi, district North Kánara.

The station consists of a platform of logs of wood (covered over with earth) enclosing a circular, perforated and isolated pillar of masonry, which is 8 feet in height above the second mark-stone. The approximate directions and distances of the circumjacent villages are:—Bhedasgávegudda S., miles 2; Togarhalli S.E. by S., miles $1\frac{1}{2}$; and Hamalagarh N., miles $2\frac{1}{4}$.

XXXII. Karėkyatanhalli Hill Station, lat. $14^{\circ} 40'$, long. $75^{\circ} 17'$ —observed at in 1867—is situated on a rather high isolated hill at the foot of which is the village of the same name: it lies 3 miles N.N.E. of the village of Tiluvali on the high road from Sirsi to Harihar, and $4\frac{1}{4}$ miles N.E. of Mudi on the right bank of the Varda river. The station is in the lands of the village of Karėkyatanhalli, taluka Hángal, district Dhárwár.

The station consists of the usual platform enclosing a circular, perforated and isolated pillar of masonry, which contains three mark-stones, one in the upper surface of the pillar and the other two 5.00 and 5.88 feet respectively below it. The upper portion of the pillar, down to the second mark-stone is perforated. The directions and distances of the circumjacent villages are:—Betnalla W.S.W., miles 2; Guddada Malápur S.S.E., miles 5; Kusmur on the banks of the Varda river, E.N.E., miles 3; Malápur E.S.E., mile 1; and Honkaur S.W. by W., miles $3\frac{1}{4}$.

XXXIII. Menshigudda Hill Station, lat. $14^{\circ} 45'$, long. $74^{\circ} 43'$ —observed at in 1867—is situated on the southern end of a very high hill which forms one of a lofty range running N. and S., about 9 miles W. of the large village of Sonda, and 5 miles S. of the Gangávali river. It is probably within about 30 feet of the point occupied by “Mainsi” of Colonel Lambton’s triangulation. The station is in the lands of the village of Menshi, taluka Sirsi, district North Kánara.

The station consists of the usual platform enclosing a circular, perforated and isolated pillar of masonry, which contains three mark-stones, one in its upper surface and the others at 5 and 5.67 feet respectively below it; an aperture gives access to the second mark. The approximate directions and distances of the circumjacent villages are:—Halligudda S.W. by S., miles 4; Negse S.E., miles $5\frac{1}{2}$; and Maviukėre W. by S., miles $5\frac{1}{4}$.

XXXIV. Chandragutti Hill Station, lat. $14^{\circ} 26'$, long. $74^{\circ} 59'$ —observed at in 1867 and 1872—is situated near the N.W. corner of a small temple on the highest point of a very high hill $1\frac{1}{2}$ miles N.W. by W. of the village of Chandragutti. The hill, on which are the ruins of a very large fort, slopes up gradually from the village on the S. and falls rather abruptly about 700 feet on the N. side. It is probably within about 40 feet of the point occupied by “Chandergooty” of Colonel Lambton’s triangulation. The station is in the lands of the village of Chandragutti, taluka Sórab, district Shimōga (Shivamōgga).

The station consists of a platform enclosing a circular, perforated and isolated pillar of masonry, which contains three mark-stones, one in its upper surface and the others at 5.04 and 5.67 feet respectively below it; an aperture gives access to the second mark. When visited in 1872 the station was found intact. The directions and distances of the circumjacent villages are:—Baragvali N.N.W., mile 1; Kodambi W. by N., miles $2\frac{1}{2}$; Katavai S. by E., miles 2; and Yėdgōppa E. by N., miles $1\frac{1}{2}$.

XXXV. Halėbail Hill Station, lat. $14^{\circ} 30'$, long. $74^{\circ} 42'$ —observed at in 1867 and 1872—is situated on a hill 3 miles S. of the head of the Devimanighát on the road from Sirsi to Kumta, about $14\frac{1}{2}$ miles from the former town. The hill is locally known as Bairágigudda: it rises about 500 feet above the general level of the adjoining country to the N.E.; to the S. and W. it slopes off gradually to the low country on the coast. It is probably within a few feet of the point occupied by “Byrachidonghur” of Colonel Lambton’s triangulation. The station is in the lands of the village of Halėbail, taluka Siddápur, district North Kánara.

The station consists of a platform enclosing a circular, perforated and isolated pillar of masonry, which contains three mark-stones, one in its upper surface and the other two 5 and 5.71 feet respectively below it; an aperture gives access to the second

mark. When visited in 1872, the upper mark-stone was found apparently intact. The azimuths and estimated distances of the circumjacent villages are:—Bandla 173°, miles 3; Hoskera 196°, miles 4½; Tallakera 194°, mile 1; and Kesirkuni 170°, mile ¾.

XXXVI. Hukaligudda Hill Station, lat. 14° 17', long. 74° 48'—observed at in 1872—is situated on the highest point of a range of hills skirting the north bank of the Shirávati river, about 5½ miles N.W. of the Gersöppa falls, and ½ a mile N. of the road from Gersöppa (Gerusöppa) to the above named falls. It is probably within about 10 feet of the point occupied by “Hoklee Heeragooda” of Colonel Lambton’s triangulation. The station is in the lands of the village of Alhalli, taluka Siddápur, district North Kánara.

The station consists of a platform of stones enclosing a circular, perforated and isolated pillar of masonry, which contains three mark-stones, one in its upper surface, the second 4.75 feet below and the third below the second; an aperture gives access to the second mark. The azimuths and estimated distances of the circumjacent places are:—Itige (spire of temple) 198°, miles 4; Kanhalli 230°, mile ¾; Bongiri 233°, miles 7; and Bailhalli 233°, miles 3.

XXXVII. Kaltigudda Hill Station, lat. 14° 22', long. 74° 35'—observed at in 1872—is situated on the highest point of a group of hills rising about 2200 feet above the village of Sálakoru, from which there is a commanding view all round, about 3 miles S. of the road from Siddápur to Kumta on the sea coast, and 10 miles N.E. of the town of Honávar. The station is probably within about 20 feet of the point occupied by “Kulteegooda” of Colonel Lambton’s triangulation. It is in the lands of the village of Hodke, taluka Honávar, district North Kánara.

The station consists of a platform of earth and stones enclosing a circular, perforated and isolated pillar of masonry, which contains two mark-stones, one in its upper surface and the other 5 feet below it; an aperture gives access to the lower mark. The approximate directions and distances of the following villages (though none are visible from the station) are:—Chandávar W.N.W., miles 4½; Dávali N., miles 3½; and Kundbálla S., miles 4½.

XXXVIII. Dinděmane Hill Station, lat. 14° 8', long. 74° 43'—observed at in 1873—(also called Chikkadhalligudda) is on a peak of the Western Gháts which closely overlooks the low country and the coast line to the west. The station is easily approached from the village of Kanúr near the head of the Govardhangiri pass, and lies about 6½ miles S. of the ruins of Gersöppa on the Shirávati river. It is identical with “Dindimunnee” station of Colonel Lambton’s triangulation, the mark of which was found engraved on the rock and adopted for the lower mark of the present station. The station is in the lands of the village of Kanúr, taluka Ságar, district Shimöga.

The station consists of a platform of earth and stones about 12 feet square, enclosing a circular, perforated and isolated pillar of masonry 5 feet high and 3 feet in diameter, which contains two marks, one on a stone embedded in the upper surface of the pillar and the other engraved on the rock at the ground level; an aperture gives access to the lower mark. The directions and distances of the circumjacent villages are:—Govardhangiri Drug N.N.W., miles 3½; Kanúr N.E. by E., miles 1½; Samane W.N.W., miles 1½; Chikkadhalli S., miles 1½; and Huralgal N., miles 1½.

XXXIX. Koramúr Hill Station, lat. 14° 8', long. 75° 1'—observed at in 1873—(locally known as Koramúr Kota) is situated on a somewhat isolated peak rising about 500 feet above its base, towards the eastern part of the Talguppe-Ikkeri range. It is 4½ miles W.S.W. of the town of Ságar, and 2½ miles S.W. by S. of Kugavi village on the road from Talguppe to Ságar. The station is identical with “Koramoorgooda” station of Colonel Lambton’s triangulation, the mark of which was found engraved on the rock and adopted as the lower mark of the present station. The station is in the lands of the village of Nijagar Khandaka, taluka Ságar, district Shimöga.

The station consists of a platform of earth and stones about 16 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter and 3 feet high; there are two marks, one on a stone imbedded in the upper surface of the pillar and the other below it engraved on the rock *in situ*. The directions and estimated distances of the circumjacent villages are:—Tumbi S.S.W., mile ¾; Dombé N. by E., miles 1½; Shervanti (on the road from Talguppe to Ságar) N. by W., miles 3; and Bálehalli E. by S., mile 1.

XL. Hönnavalli Hill Station, lat. 14° 17', long. 75° 13'—observed at in 1872 and 1873—is situated on the western point of a short ridge forming part of a chain of hills running almost parallel to and at a distance of nearly 2 miles S.E. of the road from Ságar to Sirákköppa, and about 4½ miles E. of the large village of Ulavi at the junction of the above mentioned road with one from the town of Sörab. It is identical with the station of “Hönnavully or Gootygooda” of Colonel Lambton’s triangulation, the mark of which was found engraved on the rock and adopted as the lower mark of the present station. The station is in the lands of the village of Hönnavalli, taluka Sörab, district Shimöga.

The station consists of a platform of earth and stones enclosing a solid, circular and isolated pillar of masonry; there

are three marks, the first on a stone imbedded in the upper surface of the pillar, the second 1·46 feet below it and the third on the rock 3·17 feet below the second. The directions and distances of the circumjacent villages are:—Kánhalli W. by S., miles 2½; Kanúr N.W. by W., miles 1½; Hönavalli N.W. by N., mile 1; Hösur N.N.W., miles 1½; Indvalli N.E. by N., miles 1½; and Guttanhalli S.E., miles 2.

XLI. Hugadi Hill Station, lat. 13° 54', long. 75° 14'—observed at in 1873—is situated on the highest and south-easternmost point of a hill rising about 800 feet above its base, 3½ miles N.W. by W. of Humchikatte on the road from Tirthahalli to Shimöga, and 3 miles S.E. by E. of Kodúr. It is identical with the station of "Hoogadeegooda" of Colonel Lambton's triangulation, the mark of which was found and adopted as the lower mark of the present station. The station is in the lands of the village of Hugadi, taluka Nagar, district Shimöga.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter, which contains three marks, one in the upper surface of the pillar and the other two at 1·67 and 3·84 feet respectively below it. The directions and distances of the circumjacent villages are:—Mallaliköppa E.S.E., miles 1½; Kargarsu N.N.E., miles 1½; Hugadi E. by S., miles 1½; Kadeshakvalli N.W. by W., mile 1; and Mallúr S.W. by W., miles 1½.

XLII. Ködashedri Hill Station, lat. 13° 51', long. 74° 55'—observed at in 1873—is situated on the Shikhara or head of the great hill of this name of the Western Gháts, on the boundary of South Canara (Kánada) and Mysore (Maisúr), 3½ miles S.S.E. of the traveller's bungalow at Nágodi on the high road from the Kólurghát to Kolúrkatte. The station is 13·7 feet N. of the north wall of the Shikhara temple (a stone building occupying the centre of the peak), and about 25 feet E.N.E. of the centre of an old platform and pile of earth and stones supposed to be the site of the station of "Kodaichee Puwudum" of Colonel Lambton's triangulation; this old platform has been removed and a rough stone mark set in mortar has been erected in its place. The station is in the lands of the village of Vallurmane, taluka Ságar, district Shimöga.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter, which contains two mark-stones, one imbedded in the upper surface of the pillar and the other set in the laterite rock 2·54 feet below it. The directions and distances of the circumjacent villages are:—Walúr N., miles 1½; Bilikal S.E. by S., miles 2½; and Bacheri N.W. by N., miles 2.

XLIII. Siddeshvar Hill Station, lat. 13° 41', long. 75° 16'—observed at in 1873—is situated on the highest part of a rocky hill rising about 400 feet above its base, about a mile W. of the town of Tirthahalli on the high road from Mangalore (Mangalúr) to Shimöga. The station is 431 feet E.N.E. of the small dilapidated temple near the western end of the summit. No trace of Colonel Lambton's station "Sidaeshwaragooda" was found. The station is in the lands of the village of Surali Balëbail, taluka Kavaledurga, district Shimöga.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter, which contains two mark-stones, one in the upper surface of the pillar and the other 2·27 feet below it at the ground level. The directions and distances of the circumjacent villages are:—Mulbagal W.S.W., miles 2; Tumadi S., mile 1; Bintalla W., miles 1½; and Surali W.N.W., mile ½.

XLIV. Bisale Hill Station, lat. 13° 35', long. 75° 5'—observed at in 1873—is situated on the summit of a bare hill of the Western Gháts immediately overlooking the country and the sea coast to the west, about 6 miles N.W. by W. of the travellers' bungalow at Agumbe (Águmbi) on the high road from Mangalore to Shimöga, and 16 miles S.W. by W. of the town of Tirthahalli on the same road. It is identical with the station of "Bisslygooda" of Colonel Lambton's triangulation, the mark-stone of which was found and adopted as the lower mark of the present station. The station is in the lands of the village of Hösur, taluka Kavaledurga, district Shimöga.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter, which contains two mark-stones, one in the upper surface of the pillar and the other 1·94 feet below it. The directions and distances of the circumjacent villages are (though none are visible from the station):—Kaivakikëre S.E. by S., miles 4½; Yëlëmane E. by N., miles 5; and Malki N.E., miles 4½.

XLV. Hirëgudda Hill Station, lat. 13° 24', long. 75° 27'—observed at in 1873—is situated on the southernmost and highest point of a range of hills running northwards from the Sita stream, about 2 miles E. of the travellers' bungalow at Sulibële on the road between Bálëhönnúr and Hariharpur, and 5 miles S.E. by E. of Baggunji. The station is 16 feet S.E. of the highest rock on the summit. It is in the lands of the village of Hirëgudda, taluka Köppa, district Kadúr.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry 3½ feet in diameter, which contains two mark-stones, one in the upper surface of the pillar and the other 1·9 feet below it. The directions and distances of the circumjacent villages are:—Hirëgudda E. by S., mile ½; Álageshvara W.N.W., miles 1½; and Sunkargudda S., mile 1.

XLVI. Hēbbe Hill Station, lat. $13^{\circ} 32'$, long. $75^{\circ} 38'$ —observed at in 1873—is situated on the extreme western peak of the northern bend of the horse shoe formed by the Chandradrona (commonly called the Bábá Budan) range of hills. It lies 2 miles E. by N. of the travellers' bungalow at Hēbbe on the high road from Yēdēhalli to Chikmagalúr. The station is in the lands of the village of Hēbbe, taluka Lakvalli, district Kadúr.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two marks, one engraved on the rock *in situ* and the other 0·98 of a foot above it on a stone imbedded in the upper surface of the pillar. The directions and distances of the circumjacent villages are:—Kargal S. by E., miles $1\frac{1}{2}$; Hippala S.E., miles 2; Karivani E., miles $3\frac{1}{2}$; and Kármati N.W. by W., miles $2\frac{1}{2}$.

XLVII. Valkunji Hill Station, lat. $13^{\circ} 21'$, long. $75^{\circ} 7'$ —observed at in 1873—is situated on the conspicuous peak immediately above the Andár pass, about 9 miles S.W. by W. of Kigga, and 13 miles W.S.W. of the large village of Sringeri. The station is in the lands of the village of Vurvani, taluka Kōppa, district Kadúr.

The station consists of a platform of earth and stones 16 feet square, enclosing a solid, circular and isolated pillar of masonry $3\frac{1}{2}$ feet in diameter, which contains two mark-stones, one in the upper surface of the pillar and the other 1·42 feet below it at the ground level. The directions and distances of the circumjacent villages are:—Arane S.E. by E., miles $2\frac{1}{2}$; Kēre E. by S., miles $4\frac{1}{2}$; and Karuchar E., miles $3\frac{1}{2}$.

III.—(Of the Madras Longitudinal Series). Kudurēmukha Hill Station, lat. $13^{\circ} 8'$, long. $75^{\circ} 18'$ —observed at in 1872 and 1873—is situated on the highest point of the lofty group of peaks, which stands out prominently from the Western Gháts; the peak on which the principal station is fixed is called “Funk Point” by the district officers and the residents of Mangalore, the former of whom have built a bungalow about a mile E.N.E., some 20 minutes' walk from the station. Another peak $\frac{3}{4}$ of a mile to the E. by S. of the present station, called “Mukh Head”, was originally adopted as a station and built upon but was abandoned as being unsuitable for connecting the Mangalore Meridional and the Madras Longitudinal Series. The peak called Pándukal by the Natives and “Midge Point” by the Europeans, is a mile W. by N. and has been fixed as a secondary station and marked by a circle and dot engraved on the rock. These three peaks are on the ridge or watershed of the mountain which is the boundary between South Canara and Mysore. The station is most easily reached from the town of Bellat Angádi by a cart road $7\frac{1}{2}$ miles to Nágúr at the E.S.E. foot of the mountain, whence the ascent, about 5,600 feet, is made by a well traced bridle path of $12\frac{1}{2}$ miles to the bungalow above mentioned. The station is in the lands of the village of Samse, taluka Vastára, district Kadúr.

The station 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 mark-stones, one in the upper surface of the pillar and the other 1·21 feet below it. When again visited in 1873, it is presumed from the absence of any remarks in the original records that the station was found in good order and no alteration in its construction was made. The directions and distances of the circumjacent villages are:—Allat Angádi S.S.W., miles $6\frac{1}{2}$; Bangavádi E.S.E., miles $7\frac{1}{2}$; Jamalabad S. by E., miles $7\frac{1}{2}$; and Bangár E. by N., miles $2\frac{1}{2}$.

VI.—(Of the Madras Longitudinal Series). Ánúr or Rangaswámigiri Hill Station, lat. $13^{\circ} 19'$, long. $75^{\circ} 42'$ —observed at in 1872 and 1873—is situated on the southernmost peak of the Madlakal group of hills, 2 or 3 miles W.N.W., of Ánúr on the road from Múdagēre to Yēdēhalli, 8 miles W. of the town of Chikmagalúr, and $4\frac{1}{2}$ miles N.W. of Vastára. A cart road from Chikmagalúr and Vastára runs to Ánúr, whence the ascent to the station of about 3,000 feet is made by a foot and bridle path through the Basgodu Coffee estate. The station is in the lands of the village of Hanucharvalli, taluka Chikmagalúr, district Kadúr.

The station 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 the rock *in situ* and the other 2·23 feet above it on a stone imbedded in the upper surface of the pillar. When revisited in 1873, the station was found in a good state of preservation and no alteration in its construction appears to have been made. The directions and distances of the circumjacent villages are:—Kashige W. by S., miles $1\frac{1}{2}$; Koligunhalli S.E., mile $\frac{3}{4}$; Mávinguri S.S.W., mile $\frac{3}{4}$; and Baigúr W. by N., miles $1\frac{1}{2}$.

April, 1888.

M. W. ROGERS,
In charge Computing Office.

MANGALORE MERIDIONAL SERIES.

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle	Distance		
				Log. feet	Feet	Miles
1	Alsunda, XIX	1'35	77 21 37'33	5'2207263	166236'5	31'484
	Kem, XVII	1'34	46 26 7'41	5'0914777	123446'2	23'380
	Kalas, I	1'35	56 12 15'26	5'1509952	141577'8	26'814
2	Kalas, I	1'05	66 17 38'24	5'1206309	132017'3	25'003
	Alsunda, XIX	1'05	54 48 58'77	5'0713019	117842'5	22'319
	Bori, XXII	1'05	58 53 22'99	5'0914777	123446'2	23'380
3	Kem, XVII	1'89	43 18 20'17	5'1599448	144525'6	27'372
	Kalas, I	1'89	84 36 33'22	5'3217655	209780'7	39'731
	Sulki, II	1'89	52 5 6'61	5'2207263	166236'5	31'484
4	Kalas, I	1'70	57 56 30'72	5'1982699	157859'2	29'898
	Sulki, II	1'71	71 10 9'00	5'2462346	176292'8	33'389
	Palvan, III	1'70	50 53 20'28	5'1599448	144525'6	27'372
5	Bori, XXII	1'63	52 51 17'52	5'2462346	176292'8	33'389
	Kalas, I	1'64	94 56 54'93	5'3430953	220341'0	41'731
	Palvan, III	1'63	32 11 47'55	5'0713019	117842'5	22'319

NOTE.—1. The value of the side is given in the same line with the opposite angle.
 2. Stations Kem, XVII, Alsunda, XIX and Bori, XXII, appertain to the Bombay Longitudinal Series.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
6	Sulki, II	1'27	58	24	16'29	5'1439868	139311'4	26'385
	Palvan, III	1'26	46	45	41'39	5'0760999	119151'6	22'567
	Páchvad, IV	1'27	74	50	2'32	5'1982699	157859'2	29'898
7	Palvan, III	.88	48	57	30'93	5'0262187	106223'0	20'118
	Páchvad, IV	.89	49	28	40'47	5'0296144	107056'8	20'276
	Aundh, VI	.89	81	33	48'60	5'1439868	139311'4	26'385
8	Aundh, VI	1'29	77	21	25'73	5'2279770	169035'1	32'014
	Páchvad, IV	1'28	64	49	25'27	5'1952869	156778'6	29'693
	Kundal, VIII	1'28	37	49	9'00	5'0262187	106223'0	20'118
9	Páchvad, IV	1'49	61	26	46'45	5'1918212	155532'5	29'457
	Kundal, VIII	1'49	45	52	47'77	5'1041976	127115'2	24'075
	Palsi, VII	1'49	72	40	25'78	5'2279770	169035'1	32'014
10	Sulki, II	.81	74	57	43'22	5'1095349	128687'1	24'373
	Páchvad, IV	.80	41	37	58'64	4'9470694	88525'7	16'766
	Katphal, V	.80	63	24	18'14	5'0760999	119151'6	22'567
11	Páchvad, IV	1'20	67	46	59'92	5'1542642	142647'5	27'017
	Katphal, V	1'19	55	35	3'39	5'1041976	127115'2	24'075
	Palsi, VII	1'20	56	37	56'69	5'1095349	128687'1	24'373
12	Palsi, VII	1'19	61	35	31'61	5'1505955	141447'6	26'789
	Kundal, VIII	1'18	43	7	48'18	5'0411566	109940'2	20'822
	Dandoba Dongar, IX	1'19	75	16	40'21	5'1918212	155532'5	29'457
13	Kundal, VIII	1'08	50	44	23'82	5'0617698	115284'2	21'834
	Dandoba Dongar, IX	1'09	57	27	16'21	5'0986801	125510'5	23'771
	Majala, XII	1'09	71	48	19'97	5'1505955	141447'6	26'789
14	Dandoba Dongar, IX	1'56	69	35	46'74	5'2537487	179369'6	33'972
	Majala, XII	1'57	73	21	43'55	5'2633148	183364'3	34'728
	Mávinhúnda, XIII	1'56	37	2	29'71	5'0617698	115284'2	21'834
15	Majala, XII	1'35	37	24	16'47	5'0412546	109965'0	20'827
	Mávinhúnda, XIII	1'35	60	21	45'87	5'1968583	157346'9	29'801
	Hatarvat, XIV	1'36	82	13	57'66	5'2537487	179369'6	33'972
16	Palsi, VII	.99	72	34	48'60	5'1320032	135519'9	25'667
	Dandoba Dongar, IX	.98	56	42	5'98	5'0745071	118715'4	22'484
	Daphlápúr, X	.98	50	43	5'42	5'0411566	109940'2	20'822
17	Daphlápúr, X	1'15	71	52	42'35	5'1672542	146978'7	27'837
	Dandoba Dongar, IX	1'15	46	55	18'81	5'0529230	112959'6	21'394
	Athni, XI	1'15	61	11	58'84	5'1320032	135519'9	25'667
18	Dandoba Dongar, IX	1'72	54	2	44'36	5'1862495	153549'9	29'081
	Athni, XI	1'73	75	9	48'84	5'2633148	183364'3	34'728
	Mávinhúnda, XIII	1'72	50	47	26'80	5'1672542	146978'7	27'837
19	Dandoba Dongar, IX	1'34	40	41	43'71	5'1968583	157346'9	29'801
	Majala, XII	1'34	110	46	1'60	5'3534102	225636'9	42'734
	Hatarvat, XIV	1'34	28	32	14'69	5'0617698	115284'2	21'834
20	Mávinhúnda, XIII	.90	78	5	22'34	5'1334473	135971'3	25'752
	Hatarvat, XIV	.90	49	36	3'11	5'0245965	105827'0	20'043
	Karabgati, XV	.90	52	18	34'55	5'0412546	109965'0	20'827

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
21	Hatarvat, XIV	.86	62	9	29.34	5.0908386	123264.7	23.346
	Karabgati, XV	.86	40	34	45.08	4.9575147	90680.7	17.174
	Karigudd, XVII	.86	77	15	45.58	5.1334473	135971.3	25.752
22	Karigudd, XVII	.75	40	46	36.94	4.9250695	84153.0	15.938
	Karabgati, XV	.75	66	9	9.32	5.0713226	117848.1	22.320
	Kolanhatti, XIX	.75	73	4	13.74	5.0908386	123264.7	23.346
23	Karabgati, XV	.59	58	13	12.10	4.9689882	93108.3	17.634
	Kolanhatti, XIX	.59	71	34	37.65	5.0166817	103915.8	19.681
	Kathárigad, XVIII	.58	50	12	10.25	4.9250695	84153.0	15.938
24	Mávinhúnda, XIII	.82	45	4	35.56	4.9948226	98814.9	18.715
	Karabgati, XV	.83	85	36	33.56	5.1434818	139149.5	26.354
	Manikeri, XVI	.82	49	18	50.88	5.0245965	105827.0	20.043
25	Karabgati, XV	.68	57	7	40.78	4.9869381	97037.2	18.378
	Manikeri, XVI	.68	64	4	55.88	5.0166817	103915.8	19.681
	Kathárigad, XVIII	.68	58	47	23.34	4.9948226	98814.9	18.715
26	Kathárigad, XVIII	.73	61	4	0.39	5.0267450	106351.8	20.142
	Kolanhatti, XIX	.73	68	55	9.40	5.0545619	113386.6	21.475
	Chikk Nandihalligudd, XX	.73	50	0	50.21	4.9689882	93108.3	17.634
27	Kolanhatti, XIX	.69	69	33	31.37	5.0464716	111294.0	21.078
	Chikk Nandihalligudd, XX	.68	46	52	43.61	4.9379867	86693.5	16.419
	Yalúr, XXII	.68	63	33	45.02	5.0267450	106351.8	20.142
28	Yalúr, XXII	.56	66	11	35.26	5.0205522	104846.1	19.857
	Chikk Nandihalligudd, XX	.56	37	35	47.70	4.8445728	69915.4	13.242
	Samshergad, XXIII	.57	76	12	37.04	5.0464716	111294.0	21.078
29	Samshergad, XXIII	.69	38	26	11.65	4.9237741	83902.2	15.891
	Chikk Nandihalligudd, XX	.70	90	35	33.92	5.1302064	134960.4	25.561
	Kalkera, XXV	.69	50	58	14.43	5.0205522	104846.1	19.857
30	Chikk Nandihalligudd, XX	.41	33	35	21.35	4.7985554	62886.2	11.910
	Kalkera, XXV	.41	98	50	20.30	5.0504569	112320.0	21.273
	Navalúr, XXIV	.41	47	34	18.35	4.9237741	83902.2	15.891
31	Kathárigad, XVIII	.90	82	27	20.59	5.1503636	141372.1	26.775
	Chikk Nandihalligudd, XX	.89	44	52	46.00	5.0027086	100625.6	19.058
	Hirékummigudd, XXI	.89	52	39	53.41	5.0545619	113386.6	21.475
32	Chikk Nandihalligudd, XX	1.05	56	26	52.19	5.0887598	122676.1	23.234
	Hirékummigudd, XXI	1.04	49	43	55.40	5.0504569	112320.0	21.273
	Navalúr, XXIV	1.05	73	49	12.41	5.1503636	141372.1	26.775
33	Kalkera, XXV	.31	82	57	49.71	4.9165485	82518.0	15.628
	Navalúr, XXIV	.30	47	53	33.24	4.7901705	61683.7	11.683
	Ganigudd, XXVI	.30	49	8	37.05	4.7985554	62886.2	11.910
34	Navalúr, XXIV	.60	84	1	28.06	5.0677694	116887.8	22.138
	Ganigudd, XXVI	.60	51	22	40.76	4.9629426	91821.1	17.390
	Kundgol, XXVII	.59	44	35	51.18	4.9165485	82518.0	15.628
35	Kundgol, XXVII	.74	46	59	55.52	4.9578889	90758.8	17.189
	Ganigudd, XXVI	.74	62	37	48.88	5.0422118	110207.7	20.873
	Indúr, XXIX	.75	70	22	15.60	5.0677694	116887.8	22.138

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
36	Ganigudd, XXVI	.63	°	'	"	4.9811941	95762.2	18.137
	Indúr, XXIX	.64	58	40	46.51	5.0144534	103384.0	19.580
	Rámanköp, XXX	.63	54	3	38.70	4.9578889	90758.8	17.189
37	Kalkera, XXV	.50	62	4	6.81	5.0122710	102865.8	19.482
	Ganigudd, XXVI	.50	85	56	22.69	5.0649687	116136.5	21.996
	Kánsérudi, XXVIII	.50	31	59	30.50	4.7901705	61683.7	11.683
38	Ganigudd, XXVI	.66	52	13	40.68	4.9580082	90783.8	17.194
	Kánsérudi, XXVIII	.67	64	10	46.86	5.0144534	103384.0	19.580
	Rámanköp, XXX	.66	63	35	32.46	5.0122710	102865.8	19.482
39	Indúr, XXIX	.60	59	13	22.35	4.9696340	93246.8	17.660
	Rámanköp, XXX	.60	58	51	3.93	4.9679432	92884.5	17.592
	Bhedasávegudda, XXXI	.61	61	55	33.72	4.9811941	95762.2	18.137
40	Rámanköp, XXX	.59	58	7	40.52	4.9594746	91090.8	17.252
	Bhedasávegudda, XXXI	.59	61	29	28.70	4.9743125	94256.8	17.852
	Menshigudda, XXXIII	.59	60	22	50.78	4.9696340	93246.8	17.660
41	Bhedasávegudda, XXXI	.91	82	28	47.07	5.1657359	146465.7	27.740
	Menshigudda, XXXIII	.91	59	27	13.28	5.1046010	127233.4	24.097
	Chandragutti, XXXIV	.90	38	3	59.65	4.9594746	91090.8	17.252
42	Menshigudda, XXXIII	.74	43	35	16.85	5.0080000	101859.1	19.292
	Chandragutti, XXXIV	.74	38	53	36.33	4.9673582	92759.5	17.568
	Halébail, XXXV	.74	97	31	6.82	5.1657359	146465.7	27.740
43	Indúr, XXIX	.87	53	2	29.13	5.0746230	118747.1	22.490
	Bhedasávegudda, XXXI	.87	88	16	25.43	5.1718409	148539.1	28.132
	Karékýatanhalli, XXXII	.87	38	41	5.44	4.9679432	92884.5	17.592
44	Bhedasávegudda, XXXI	1.09	65	49	41.01	5.1266203	133850.6	25.350
	Karékýatanhalli, XXXII	1.09	60	8	12.99	5.1046010	127233.4	24.097
	Chandragutti, XXXIV	1.09	54	2	6.00	5.0746230	118747.1	22.490
45	Bhedasávegudda, XXXI	.65	38	53	32.41	4.9673582	92759.5	17.568
	Menshigudda, XXXIII	.65	103	2	31.13	5.1581465	143928.4	27.259
	Halébail, XXXV	.65	38	3	56.46	4.9594746	91090.8	17.252
46	Halébail, XXXV	.56	56	42	25.10	4.9524792	89635.3	16.976
	Chandragutti, XXXIV	.56	51	30	45.59	4.9239589	83938.1	15.897
	Hukaligudda, XXXVI	.57	71	46	49.31	5.0080000	101859.1	19.292
47	Chandragutti, XXXIV	.64	54	44	11.27	4.9751599	94440.8	17.887
	Hukaligudda, XXXVI	.65	74	27	44.33	5.0470322	111437.7	21.106
	Koramúr, XXXIX	.64	50	48	4.40	4.9524792	89635.3	16.976
48	Hukaligudda, XXXVI	.45	82	41	56.67	5.0229695	105431.3	19.968
	Koramúr, XXXIX	.44	34	36	58.28	4.7809116	60382.6	11.436
	Dindémáne, XXXVIII	.45	62	41	5.05	4.9751599	94440.8	17.887
49	Dindémáne, XXXVIII	.84	56	19	56.07	5.0332199	107949.3	20.445
	Koramúr, XXXIX	.84	69	17	31.82	5.0839530	121325.7	22.978
	Kódashádri, XLII	.84	54	22	32.11	5.0229695	105431.3	19.968
50	Koramúr, XXXIX	.88	63	11	10.03	5.0677016	116869.6	22.134
	Kódashádri, XLII	.87	61	17	26.00	5.0601375	114851.7	21.752
	Hugadi, XLI	.87	55	31	23.97	5.0332199	107949.3	20.445

PRINCIPAL TRIANGULATION. TRIANGLES.

No. of Triangle	Station	Spherical Excess	Corrected Plane Angle			Distance		
						Log. feet	Feet	Miles
51	Halēbail, XXXV	.36	63	22	12.97	4.8949334	78511.5	14.870
	Hukaligudda, XXXVI	.36	43	44	47.05	4.7834059	60730.4	11.502
	Kaltigudda, XXXVII	.36	72	52	59.98	4.9239589	83938.1	15.897
52	Hukaligudda, XXXVI	.38	87	18	40.23	4.9857614	96774.6	18.329
	Kaltigudda, XXXVII	.37	38	33	17.48	4.7809116	60382.6	11.436
	Dindēmane, XXXVIII	.37	54	8	2.29	4.8949334	78511.5	14.870
53	Chandragutti, XXXIV	.69	49	25	27.94	4.9544357	90040.0	17.053
	Koramūr, XXXIX	.69	60	30	54.71	5.0136420	103191.1	19.544
	Hönnavalli, XL	.69	70	3	37.35	5.0470322	111437.7	21.106
54	Koramūr, XXXIX	.81	81	35	16.46	5.1308984	135175.6	25.601
	Hönnavalli, XL	.81	57	11	37.44	5.0601375	114851.7	21.752
	Hugadi, XLI	.80	41	13	6.10	4.9544357	90040.0	17.053
55	Hugadi, XLI	.73	90	3	32.05	5.1499588	141240.4	26.750
	Ködashedri, XLII	.73	34	6	11.74	4.8986788	79191.5	14.998
	Siddeshvar, XLIII	.73	55	50	16.21	5.0677016	116869.6	22.134
56	Ködashedri, XLII	.73	33	40	11.94	4.8938054	78307.9	14.831
	Siddeshvar, XLIII	.73	56	49	55.76	5.0727380	118232.8	22.393
	Bisale, XLIV	.73	89	29	52.30	5.1499588	141240.4	26.750
57	Hugadi, XLI	1.01	56	36	28.64	5.0727380	118232.8	22.393
	Ködashedri, XLII	1.01	67	46	24.13	5.1175588	131086.7	24.827
	Bisale, XLIV	1.01	55	37	7.23	5.0677016	116869.6	22.134
58	Siddeshvar, XLIII	.76	90	30	20.70	5.1619809	145204.8	27.501
	Bisale, XLIV	.75	56	51	36.65	5.0848991	121590.3	23.028
	Hirēgudda, XLV	.75	32	38	2.65	4.8938054	78307.9	14.831
59	Bisale, XLIV	.80	54	28	19.15	5.0725678	118186.5	22.384
	Hirēgudda, XLV	.80	36	25	1.33	4.9355697	86212.4	16.328
	Valkunji, XLVII	.81	89	6	39.52	5.1619809	145204.8	27.501
60	Valkunji, XLVII	.83	60	18	14.24	5.0472406	111491.2	21.116
	Hirēgudda, XLV	.82	52	38	53.51	5.0087143	102026.8	19.323
	Kudurēmukha, III	.83	67	2	52.25	5.0725678	118186.5	22.384
61	Hirēgudda, XLV	.84	95	39	49.86	5.1859637	153448.9	29.062
	Kudurēmukha, III	.83	38	1	53.78	4.9777375	95003.0	17.993
	Ānūr, VI	.83	46	18	16.36	5.0472406	111491.2	21.116
62	Siddeshvar, XLIII	.79	35	32	29.70	4.9177488	82746.4	15.672
	Hirēgudda, XLV	.80	85	47	23.69	5.1521798	141964.5	26.887
	Hēbbe, XLVI	.79	58	40	6.61	5.0848991	121590.3	23.028
63	Hirēgudda, XLV	.52	56	50	44.43	4.9308887	85288.2	16.153
	Hēbbe, XLVI	.52	68	50	16.75	4.9777375	95003.0	17.993
	Ānūr, VI	.52	54	18	58.82	4.9177488	82746.4	15.672

NOTE.—Stations Kudurēmukha, III and Ānūr, VI appertain to the Madras Longitudinal Series.

March, 1891.

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

MANGALORE MERIDIONAL SERIES.
SECONDARY TRIANGULATION. TRIANGLES.

PRINCIPAL-AUXILIARY 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			Theodolite used	No. of Triangle	Station	Corrected Plane Angle ° ' "	Distance			Theodolite used	
			Log. feet	Feet	Miles					Log. feet	Feet	Miles		
64	Bori, XXII Kalas, I Sedatek Hill Temple	69 7 23 17 10 9	5.042721	110337	20.897	Inch 24	69	Khandāli Anavli Laul	s. h.s. s.	128 44 49 19 3 12 32 11 59	5.148007	140607	26.630	Inch 18
			4.542319	34859	6.602	"					4.769772	58853	11.146	"
			5.071302	117842	22.319	"					4.982581*	96069	18.195	"
65	Bori, XXII Kalas, I Dāduri Hill Temple	52 45 0 16 50 12	5.000383	100088	18.956	"	70	Anavli Laul Sulki	h.s. s. h.s.	71 24 4 65 8 44 43 27 12	5.287273	193764	36.698	"
			4.561334	36420	6.898	"					5.268356	185505	35.134	"
			5.071302	117842	22.319	"					5.148007	140607	26.630	"
66	Kem, XVII Sulki, II Indápur Hill Mark (heliotrope)	31 56 29 21 48 24	5.138700	137626	26.065	"	71	Laul Sulki Kem Hill Pagoda	s. h.s.	86 40 10 21 31 34	5.308817	203618	38.564	"
			4.985132	96635	18.302	"					4.874129	74839	14.174	"
			5.321766	209781	39.731	"					5.287273	193764	36.698	"
67	Kem, XVII Kalas, I Baura Hill Mark (heliotrope)	29 14 19 61 34 46	4.909589	81206	15.380	"	72	Laul Sulki Tembhurni	s. h.s. s.	32 58 7 14 48 31 132 13 22	5.153468	142386	26.967	"
			5.104996	146216	27.692	"					4.825272	66876	12.666	"
			5.220726	166236	31.484	"					5.287273	193764	36.698	"
68	Kalas, I Sulki, II Baura Hill Mark (heliotrope)	23 1 49 24 28 30	4.884696	76682	14.523	"	73	Sulki Tembhurni Baura No. 1 Hill Pagoda	h.s. s.	31 33 0 27 29 28	4.938918	86880	16.455	"
			4.909589	81206	15.380	"					4.884491	76646	14.516	"
			5.159945	144526	27.372	"					5.153468	142386	26.967	"

* This base is taken from the Synoptical Volume of the Bombay Longitudinal Series in which the continuation of the triangulation will be found.

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 Kem, XVII and Bori, XXII appertain to the Bombay Longitudinal Series.

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	
74	Sulki Laul Baura No. 1 Hill Pagoda	h.s. s. s.	5.180108 4.884491 5.287273	151394 76646 193764	28.673 14.516 36.698	Inch 18 "	87	Páchvad, IV Kundal, VIII Jaigaon Hill Mark (heliotrope)	67 41 3 43 54 34	5.225770 5.100639 5.227977	168178 126078 169035	31.852 23.878 32.014	Inch 24 "
75	Kem, XXVII Kalas, I Baura No. 2 Hill Pagoda	h.s. s. h.s.	4.909629 5.164473 5.220726	81214 146040 166236	15.381 27.659 31.484	15 "	88	Páchvad, IV Aundh, VI Jaigaon Hill Mark (heliotrope)	2 51 36 162 17 18	4.315504 5.100639 5.026219	20678 126078 106223	3.916 23.878 20.118	" "
76	Anavli Khandáli Abir Bábhulgaon	h.s. s. h.s.	4.778957 4.719783 4.982581	60111 52455 96009	11.385 9.935 18.195	18 "	89	Palvan, III Páchvad, IV Aundh Hill Temple	53 37 32 55 9 11	5.073624 5.081917 5.143987	118474 120758 139311	22.438 22.871 26.385	" "
77	Anavli Sulki Abir Bábhulgaon	h.s. "	5.211160 4.719783 5.268356	162615 52455 185505	30.798 9.935 35.134	" "	90	Páchvad, IV Aundh, VI Aundh Hill Temple	5 40 30 134 53 25	4.218442 5.073624 5.026219	16536 118474 106223	3.132 22.438 20.118	" "
78	Anavli Sulki Paddak Pagoda	h.s. "	5.115920 4.773493 5.268356	130593 59360 185505	24.734 11.242 35.134	" "	91	Páchvad, IV Aundh, VI Bushangad Hill Fort Tree	19 42 10 55 56 48	4.567797 4.958287 5.026219	36966 90842 106223	7.001 17.205 20.118	" "
79	Anavli Abir Bábhulgaon Paddak Pagoda	h.s. "	4.568481 4.773493 4.719783	37024 59360 52455	7.012 11.242 9.935	" "	92	Páchvad, IV Kundal, VIII Bushangad Hill Fort Tree	45 7 17 31 31 34	5.090282 4.958287 5.227977	123107 90842 169035	23.316 17.205 32.014	" "
80	Kalas, I Sulki, II Shingunapur Hill Temple	h.s. "	4.952817 5.100850 5.159945	89705 126139 144526	16.990 23.890 27.372	24 "	93	Aundh, VI Kundal, VIII Tadsar Hill Temple	10 47 42 19 53 1	4.760055 5.019148 5.195287	57551 104508 156779	10.900 19.793 29.693	" "
81	Kalas, I Palvan, III Shingunapur Hill Mark (heliotrope)	h.s. "	4.857597 5.100774 5.246235	72044 126117 176293	13.645 23.886 33.389	" "	94	Páchvad, IV Aundh, VI Revansidh Hill Temple	76 41 22 45 45 59	5.088150 4.955194 5.026219	122564 90197 106223	23.202 17.083 20.118	" "
82	Kalas, I Palvan, III Katphal Hill Mark (heliotrope)	h.s. "	5.192588 4.853977 5.246235	155807 71446 176293	29.509 13.531 33.389	" "	95	Aundh, VI Kundal, VIII Revansidh Hill Temple	31 35 28 50 45 7	4.918387 5.088150 5.195287	82868 122504 156779	15.695 23.201 29.693	" "
83	Bori, XXII Kalas, I Katphal Hill Mark (heliotrope)	h.s. "	4.853977 4.844864 5.071302	71446 69962 117842	13.531 13.250 22.319	" "	96	Sulki, II Páchvad, IV Hingui Hill Temple	36 22 21 14 21 23	4.960348 4.581638 5.076100	91274 38163 119152	17.287 7.228 22.567	" "
84	Bori, XXII Kalas, I Kalas Hill Temple	h.s. "	4.195862 5.009603 5.071302	15699 102236 117842	2.973 19.363 22.319	" "	97	Sulki, II Páchvad, IV Itki Hill Mark (heliotrope)	62 35 22 33 48 59	5.027101 4.824311 5.076100	106439 66728 119152	20.159 12.638 22.567	" "
85	Bori, XXII Kalas, I Palvan	h.s. "	5.252767 5.341712 5.071302	178064 219640 117842	33.895 41.599 22.319	15 "	98	Páchvad, IV Palsi, VII Itki Hill Mark (heliotrope)	75 36 1 45 41 20	5.158594 5.027101 5.104198	144077 106439 127115	27.287 20.159 24.075	" "
86	Páchvad, IV Aundh, VI Jámh Hill Temple	h.s. "	4.656779 5.146523 5.026219	43329 140127 106223	8.206 26.539 20.118	24 "	99	Páchvad, IV Katphal, V Atpádi Hill Temple	20 50 44 56 13 44	4.671948 5.040420 5.109535	46084 109754 128687	8.898 20.787 24.373	" "

NOTE.—Stations Kem, XVII and Bori, XXII appertain to the Bombay Longitudinal Series.

MANGALORE MERIDIONAL 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	
100	Páchvad, IV Palsi, VII Átpádi Hill Temple	46 56 17 56 56 56	4'980770 5'040420 5'104198	95669 109754 127115	18.119 20.787 24.075	Inch 24 "	Majala, XII Mávinhúnda, XIII Datváđ Hill Temple	7 43 55 6 27 14	4'993310 4'915243 5'253749	98471 82270 179370	18.650 15.581 33.972	Inch 24 "	
101	Páchvad, IV Katphal, V Bánur Hill Temple	59 13 33 59 21 15	5'100056 5'100633 5'109535	135909 126076 128687	23.846 23.878 24.373	"	Dandoba Dongar, IX Majala, XII Ingaldi Mosque	65 20 44 61 19 31	5'116040 5'100729 5'061770	130629 126104 115284	24.740 23.883 21.834	"	
102	Páchvad, IV Palsi, VII Bánur Hill Temple	8 33 28 82 34 54	4'276906 5'100633 5'104198	18919 126076 127115	3.583 23.878 24.075	"	Majala, XII Hatavrat, XIV Ingaldi Mosque	49 26 32 53 53 7	5'089386 5'116040 5'196858	122853 130629 157347	23.268 24.740 29.801	"	
103	Palsi, VII Dandoba Dongar, IX Pundi Hill Temple	37 14 54 51 52 30	4'823157 4'936998 5'041157	66551 86496 109940	12.604 16.382 20.822	"	Mávinhúnda, XIII Hatavrat, XIV Ingaldi Temple	88 21 39 28 12 56	5'089575 4'764421 5'041255	122906 58133 109965	23.278 11.010 20.827	"	
104	Dandoba Dongar, IX Majala, XII Pundi Hill Temple	80 51 29 32 6 30	5'092084 4'823157 5'061770	123619 66551 115284	23.413 12.604 21.834	"	Dandoba Dongar, IX Daphlápur, X Ghorpadi Hill Temple	30 29 41 64 15 15	4'838898 5'088091 5'132003	69008 122487 135520	13.070 23.108 25.667	"	
105	Kundal, VIII Majala, XII Tasgaon Temple	57 13 36 38 19 35	5'025425 4'893213 5'098680	106029 78201 125511	20.081 14.811 23.771	"	Daphlápur, X Athni, XI Kundlapur Hill Temple	108 19 20 31 15 11	5'218453 4'956063 5'052923	165368 90378 112960	31.320 17.117 21.394	"	
106	Dandoba Dongar, IX Majala, XII Tasgaon Temple	65 20 41 33 28 46	5'025425 4'808595 5'061770	106029 64357 115284	20.081 12.189 21.834	"	Athni, XI Mávinhúnda, XIII Dandoba Hill Temple	75 58 55 50 31 2	5'267936 5'168580 5'186250	185326 147428 153550	35.100 27.922 29.081	"	
107	Dandoba Dongar, IX Majala, XII Kavtha Temple	54 2 2 24 6 43	4'979276 4'683346 5'061770	95340 48122 115284	18.057 9.114 21.834	"	Majala, XII Mávinhúnda, XIII Dandoba Hill Temple	74 6 40 37 18 58	5'267936 5'067479 5'253749	185326 116810 179370	35.100 22.123 33.972	"	
108	Mávinhúnda, XIII Hatavrat, XIV Miraj Mosque	83 5 42 59 14 27	5'252029 5'189348 5'041255	178661 154649 109965	33.837 29.290 20.827	"	Dandoba Dongar, IX Athni, XI Athni Masjid (heliotrope)	2 34 19 62 50 48	3'860506 5'157800 5'167254	7253 143814 146979	1.374 27.237 27.837	"	
109	Dandoba Dongar, IX Mávinhúnda, XIII Miraj Mosque	48 45 26 14 18 36	5'189348 4'706167 5'263315	154649 50836 183364	29.290 9.628 34.728	"	Hatarvat, XIV Karabgati, XV Basvarna Dipmal	60 33 4 15 41 34	5'086002 4'578220 5'133447	121900 37863 135971	23.087 7.171 25.752	"	
110	Dandoba Dongar, IX Majala, XII Nimsirgaon Temple	4 39 43 32 10 43	4'193880 5'010284 5'061770	15627 102396 115284	2.960 19.393 21.834	"	Karabgati, XV Karigudd, XVII Basing Hill Temple	29 14 59 111 57 33	4'982898 5'261220 5'090839	96139 182482 123265	18.208 34.501 23.346	"	
111	Majala, XII Hatavrat, XIV Nejh Hill Temple	134 13 32 3 18 59	5'222799 4'129823 5'196858	167032 13484 157347	31.635 2.554 29.801	"	Hatarvat, XIV Karigudd, XVII Hukeri Mosque	52 25 24 39 33 55	4'856706 4'761886 4'957515	71911 57794 90681	13.620 10.946 17.174	"	
112	Majala, XII Hatavrat, XIV Panhála Mark (heliotrope)	100 29 25 32 54 51	5'328290 5'070715 5'196858	212956 117683 157347	40.333 22.289 29.801	"	Karabgati, XV Karigudd, XVII Hukeri Masjid	34 59 34 33 19 30	4'881220 4'862586 5'090839	76071 72876 123265	14.407 13.802 23.346	"	

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				
126	Hatarvat, XIV Karigudd, XVII Hukeri Masjid	55	46	39	4.881220	76071	14.407	Inch 24	139	Katharigad, XVIII Kolanhatti, XIX Birapadeva Rock	106	15	24	5.024352	105767	20.032	Inch 24
		43	56	16	4.805071	63837	12.090	"			16	3	33	4.483972	30477	5.772	"
					4.957515	90681	17.174	"						4.968988	93108	17.634	"
127	Hatarvat, XIV Karigudd, XVII Sidihal Temple	30	46	19	4.669930	46766	8.857	"	140	Chikk Nandihalligudd, XX Yalür, XXII Kardigudi	39	34	20	4.854196	71482	13.538	"
		66	27	25	4.923236	83708	15.871	"			57	44	38	4.977223	94891	17.972	"
					4.957515	90681	17.174	"			82	41	2	5.046472	111294	21.078	"
128	Hatarvat, XIV Karabgati, XV Sidihal Temple	31	23	11	4.891112	77824	14.739	"	141	Kolanhatti, XIX Chikk Nandihalligudd, XX Kardigudi	44	36	51	4.977223	94891	17.972	"
		34	6	38	4.923236	83799	15.871	"			7	18	24	4.235101	17183	3.254	"
					5.133447	135971	25.752	"			128	4	45	5.026745	106352	20.142	"
129	Hatarvat, XIV Karabgati, XV Pavitraged Hill Fort	21	11	22	4.820522	66149	12.528	"	142	Kolanhatti, XIX Kardigudi Murgod Idgah	111	2	12	4.915769	82370	15.600	"
		26	47	47	4.916475	82504	15.626	"			57	44	9	4.872887	74025	14.134	"
					5.133447	135971	25.752	"						4.235101	17183	3.254	"
130	Hatarvat, XIV Karigudd, XVII Pavitraged Hill Fort	40	58	8	4.785960	61089	11.570	"	143	Chikk Nandihalligudd, XX Kardigudi	7	21	33	4.535997	34356	6.507	"
		62	18	45	4.916475	82504	15.626	"			13	21	35	4.792218	61975	11.738	"
					4.957515	90681	17.174	"						4.977223	94891	17.972	"
131	Karabgati, XV Karigudd, XVII Garikethra Hill Temple	19	1	22	4.910859	81444	15.425	"	144	Yalür, XXII Kardigudi Belgaum Fort	56	54	34	4.777381	59894	11.343	"
		10	32	9	4.659812	45689	8.653	"			32	18	48	4.582223	38214	7.238	"
					5.090839	123265	23.346	"			90	46	38	4.854196	71482	13.538	"
132	Karigudd, XVII Kolanhatti, XIX Karabgati Referring Mark	47	16	17	4.974117	94214	17.844	"	145	Chikk Nandihalligudd, XX Samshergad, XXIII Yalür Hill Temple	37	43	59	4.846665	70253	13.306	"
		65	58	15	5.068712	117142	22.186	"			76	17	51	5.047385	111528	21.123	"
					5.071323	117848	22.320	"						5.020552	104846	19.857	"
133	Karabgati, XV Karigudd, XVII Karabgati Referring Mark	62	34	34	5.068712	117142	22.186	"	146	Kolanhatti, XIX Chikk Nandihalligudd, XX Yalür Hill Temple	69	46	32	5.047385	111528	21.123	"
		6	29	39	4.173953	14926	2.827	"			46	44	33	4.937321	86561	16.394	"
					5.090839	123265	23.346	"						5.026745	106352	20.142	"
134	Karabgati, XV Kolanhatti, XIX Kalikupigad Tower	2	27	43	4.085986	12189	2.309	"	147	Katharigad, XVIII Hirékummigudd, XXI Hüli Hill Tower	40	14	47	4.396908	24941	4.724	"
		14	47	20	4.859943	72434	13.719	"			35	37	1	4.911971	81653	15.465	"
					4.925070	84153	15.938	"						5.002709	100626	19.058	"
135	Karabgati, XV Manikeri, XVI Chimar Hill Temple	38	11	31	4.999823	99959	18.932	"	148	Katharigad, XVIII Navalür, XXIV Hirékummigudd Dargah	43	42	19	5.090764	123243	23.342	"
		104	7	49	5.195282	156777	29.693	"			34	27	2	5.003901	100902	19.110	"
					4.994823	98815	18.715	"						5.241972	174571	33.063	"
136	Karabgati, XV Manikeri, XVI Hunkupa Temple	19	41	44	4.541453	34790	6.580	"	149	Katharigad, XVIII Hirékummigudd, XXI Hirékummigudd Dargah	0	21	51	2.843628	698	0.132	"
		53	29	30	4.918927	82971	15.714	"			113	10	44	5.003901	100902	19.110	"
					4.994823	98815	18.715	"						5.002709	100626	19.058	"
137	Karabgati, XV Manikeri, XVI Kuribet Hill Temple	78	37	17	4.986258	96885	18.349	"	150	Hönnavalli, XL Koramür, XXXIX Chandragutti	70	4	27	5.047023	111435	21.105	C.T.I.
		12	18	8	4.333398	21057	3.988	"			60	29	39	5.013505	103158	19.538	"
					4.994823	98815	18.715	"			49	25	54	4.954436	90040	17.053	"
138	Manikeri, XVI Katharigad, XVIII Sarseri Mosque	20	54	20	4.560293	36332	6.881	"	151	Koramür, XXXIX Chandragutti Hukaligudda	50	49	9	4.952602	89661	16.981	"
		51	27	48	4.901156	79645	15.084	"			54	43	42	4.975128	94434	17.885	"
					4.986938	97037	18.378	"			74	27	9	5.047023	111435	21.105	"

* Base deduced by two sides and included angle.
† C.T.I. stands for "Circular Transit Instrument"—probably a small theodolite with complete vertical circle.

MANGALORE MERIDIONAL SERIES.

Triangle No.	Station	Corrected Plane Angle	Distance			Station	Corrected Plane Angle	Distance			Theodolite used
			Log. feet	Feet	Miles			Log. feet	Feet	Miles	
152	Chandragutti Hukaligudda Haléball	h.s. " "	4.892781 5.002808 4.952602	78123 100649 89661	14.796 19.062 16.981	165	39 36 55 80 12 53 60 10 12	4.820793 5.009860 4.954497	66190 102296 90053	12.536 19.374 17.055	Inch 18 "
153	Hukaligudda Haléball Kaltigudda	h.s. " "	4.751192 4.894946 4.892781	56389 78514 78123	10.680 14.870 14.796	166	70 4 24 65 13 41 44 41 55	4.946792 4.931082 4.820793	88469 85444 66190	16.756 16.183 12.536	"
154	Haléball Kaltigudda Achuvi	h.s. " "	4.953803 4.884316 4.751192	89909 76615 56389	17.028 14.511 10.680	* 167	47 14 38 80 36 35 52 8 47	4.915240 5.043537 4.946792	82270 110544 88469	15.581 20.936 16.756	"
155	Haléball Achuvi Bairárigudda	h.s. " "	4.861328 3.793681 4.884316	72665 6218 76615	13.762 1.178 14.511	168	72 33 11 95 58 24	4.358710 5.039585 5.057675	22841 109543 114202	4.326 20.747 21.629	"
156	Bairárigudda Achuvi Menshigudda	h.s. " "	4.915506 4.907482 4.861328	82320 92786 72665	15.591 17.573 13.762	169	40 28 46 85 24 50	4.943403 5.129049 5.039585	87782 134787 109543	16.625 25.528 20.747	"
157	Achuvi Menshigudda Höttegudda	h.s. " "	5.039779 4.955876 4.915506	109592 90339 82320	20.756 17.110 15.591	170	51 57 11 73 39 14	5.043822 5.129049 5.057675	110617 134787 114202	20.950 25.528 21.629	"
* 158	Menshigudda Höttegudda Ulvi	h.s. " "	4.882030 5.053833 5.039779	76213 113196 109592	14.434 21.439 20.756	171	23 56 20 107 58 27	4.759651 5.023045 5.129049	57498 105450 134787	10.890 19.972 25.528	9
159	Bairárigudda Menshigudda Naunagiri (new)	h.s. " "	5.083160 5.033739 4.967482	121104 108078 92786	22.936 20.469 17.573	172	24 41 2 59 40 18	4.444339 4.821456 4.759651	27819 66291 57498	5.269 12.555 10.890	"
160	Menshigudda Naunagiri (new) Bhedasávegudda	h.s. " "	4.926235 4.959504 5.083160	84379 91097 121104	15.981 17.253 22.936	173	83 16 48 20 19 50	4.900471 4.891094 4.444339	79519 77821 27819	15.060 14.739 5.269	"
161	Menshigudda Bhedasávegudda Kolakérra	h.s. " "	4.969609 4.974341 4.959504	93241 94263 91097	17.659 17.853 17.253	174	60 43 46 58 17 50 60 58 24	4.890062 4.879207 4.891094	77636 75719 77820	14.704 14.341 14.739	"
162	Bhedasávegudda Kolakérra Indúr	h.s. " "	4.981180 4.967812 4.969609	95759 92856 93241	18.136 17.586 17.659	175	37 58 0 73 0 42	4.890062 4.708866 4.900471	77636 51152 79519	14.704 9.688 15.060	"
163	Kolakérra Indúr Dúgingiri	h.s. " "	5.057675 5.048851 4.981180	114202 111905 95759	21.629 21.194 18.136	176	54 2 20 62 52 0 63 5 40	4.847989 4.889182 4.890062	70468 77479 77636	13.346 14.674 14.704	"
164	Kolakérra Dúgingiri Kánsérudi	h.s. " "	4.954497 4.957890 5.048851	90053 90759 111905	17.055 17.189 21.194	177	36 43 37 100 50 0 42 26 23	4.847989 5.063477 4.900471	70468 115738 79519	13.346 21.920 15.060	"

* The continuation of the triangulation will be found in the Synoptical Volume of the South Konkan Coast 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		
178	Majjigadda Navalgund Umachgi	h.s. s. "	5.176793 5.126864 4.847989	150243 133926 70468	28.455 25.305 13.346	191	Hanamsagar Nagarbetta Amingad Hill Tower	h.s. " "	53 18 18 25 12 23	5.132737 4.857943 5.219866	135749 72101 165908	25.710 13.655 31.422	Inch 18 "
179	Navalgund Umachgi Jalihal	s. " h.s.	5.057959 5.251826 5.176793	114277 178577 150243	21.643 33.821 28.455	192	Hanamsagar Amingad Hill Tower Sarur	h.s. " "	41 56 23 25 3 51	5.055956 5.194992 4.857943	113751 156672 72101	21.544 29.673 13.655	9 "
180	Jalihal Umachgi Kallakapa	h.s. s. h.s.	5.042988 4.880380 5.057959	110405 75924 114277	20.910 14.380 21.043	198	Hanamsagar Kandagal Hill Tree Sarur	h.s. " "	51 34 16 28 16 0	5.095832 5.194992 4.877249	124690 156672 75379	23.616 29.673 14.276	" "
181	Kallakapa Umachgi Linganbanda	h.s. s. h.s.	5.136677 4.870209 5.042989	136986 74167 110405	25.944 14.047 20.910	194	Hanamsagar Nagarbetta Hungund Hill Peak	h.s. " "	25 49 36 16 16 37	5.032623 4.841078 5.219866	107801 69355 165908	20.417 13.135 31.422	18 "
182	Umachgi Linganbanda Kopal	s. h.s. "	5.079490 5.163718 5.136677	120085 145787 136986	22.743 27.611 25.944	195	Nagarbetta Hungund Hill Peak Kapila Sangam	h.s. " s.	22 45 36 119 14 31	4.679392 4.881148 5.032623	47796 76059 107801	9.052 14.405 20.417	9 "
183	Linganbanda Kopal Udalkal	h.s. " "	5.061737 4.842834 5.079490	115276 69636 120085	21.832 13.189 22.743	196	Nagarbetta Kandagal Hill Tree Kapila Sangam	h.s. " s.	63 13 26 77 59 28	5.035038 4.881148 5.074687	108402 76059 118764	20.531 14.405 22.493	" "
* 184	Linganbanda Udalkal Guddadur	h.s. " "	4.871993 4.874336 4.842834	74472 74875 69636	14.105 14.181 13.189	197	Hanamsagar Nagarbetta Hira Shevankati Hill Tower	h.s. " "	27 37 43 16 23 54	5.044157 4.828615 5.219866	110702 67393 165908	20.966 12.764 31.422	18 "
185	Kallakapa Linganbanda Hanamsagar	h.s. " "	4.917864 4.658555 4.870209	82768 45557 74167	15.676 8.628 14.047	198	Guddadur Hanamsagar Hira Shevankati Hill Tower	h.s. " "	45 3 59 51 10 12	4.828615 4.870171 4.976050	67393 74160 94635	12.764 14.045 17.923	" "
186	Guddadur Linganbanda Hanamsagar	h.s. " "	4.917864 4.976050 4.874336	82768 94635 74875	15.676 17.923 14.181	199	Linganbanda Guddadur Karidigudda	h.s. " "	53 16 40 66 20 58 60 22 22	4.839114 4.897086 4.874336	69042 78902 74875	13.076 14.944 14.181	9 "
187	Guddadur Hanamsagar Nagarbetta	h.s. " "	5.219866 5.168608 5.376957	165908 147437 238208	31.422 27.924 45.115	200	Linganbanda Hanamsagar Karidigudda	h.s. " "	20 18 52 72 14 20 87 26 48	4.458840 4.897086 4.917864	28763 78902 82768	5.448 14.944 15.676	" "
188	Hanamsagar Nagarbetta Mutagi Hill Pagoda	h.s. "	5.168608 5.376957 5.219866	147437 238208 165908	27.924 45.115 31.422	201	Kallakapa Jalihal Arsabidda	h.s. " "	51 43 29 37 4 47 91 11 44	4.775368 4.660738 4.880380	59617 45787 75924	11.291 8.672 14.380	" "
189	Hanamsagar Nagarbetta Kandagal Hill Tree	h.s. "	5.074687 4.877249 5.219866	118764 75379 165908	22.493 14.276 31.422	202	Kallakapa Hanamsagar Arsabidda	h.s. " "	57 38 56 61 26 14 60 54 50	4.643844 4.660738 4.658555	44040 45787 45557	8.341 8.672 8.628	" "
190	Guddadur Hanamsagar Kandagal Hill Tree	h.s. "	4.877249 4.771207 4.976050	75379 59048 94635	14.276 11.183 17.923	203	Hanamsagar Arsabidda Hungund Hill Pagoda	h.s. "	85 1 48 60 0 34	4.884044 4.823252 4.643844	76567 66566 44040	14.501 12.607 8.341	" "

* The continuation of the triangulation will be found in the Synoptical Volume of the Great Arc Meridional Series, Section 8^o to 18^o.

MANGALORE MERIDIONAL 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	
204	Hanamsagar Nagarbetta Huangund Hill Pagoda	22 22 26 13 38 53	5°03'09.43 4°82'32.52 5°21'98.66	107385 66566 165908	20.338 12.607 31.422	217	Kopal Udarkal Gadjantargarh Highest Redoubt	55 51 57 78 1 56	5°12'19.45 5°19'45.14 5°06'17.37	132417 156500 115276	25.079 29.640 21.832	18 " " "
205	Kallakapa Arsabidda Shantigiri Hill Tower	55 23 22 67 40 15	4°65'28.60 4°70'35.93 4°66'07.38	44964 50535 45787	8.516 9.571 8.672	218	Kopal Linganbada Gadjantargarh Highest Redoubt	21 31 26 113 56 51	4°79'81.42 5°19'45.14 5°07'94.90	62826 150500 120085	11.899 29.640 22.743	" " "
206	Umachgi Kallakapa Shantigiri Hill Tower	27 3 21 69 21 38	4°70'35.93 5°01'69.08 5°04'29.88	50535 103970 110405	9.571 19.691 20.910	219	Udarkal Linganbada Timmappa Lingam Pillar	41 41 47 20 55 39	4°71'73.59 4°44'73.12 4°84'28.34	52163 28010 69636	9.879 5.305 13.189	9 " " "
207	Kallakapa Arsabidda Karigudda	38 4 10 85 32 33 56 23 17	4°53'02.09 4°73'88.79 4°66'07.38	33901 54812 45787	6.421 10.381 8.672	220	Udarkal Guddadur Timmappa Lingam Pillar	104 11 51 18 27 38	4°93'22.58 4°44'73.12 4°87'19.93	85755 28010 74472	16.241 5.305 14.105	18 " " "
208	Kallakapa Shantigiri Hill Tower Karigudda	17 19 12 66 24 48	4°21'52.73 4°73'88.79 4°70'35.93	16416 54812 50535	3.109 10.381 9.571	221	Udarkal Linganbada Hulikal	10 26 27 51 3 9	4°15'71.69 4°78'97.87 4°84'28.34	14360 61629 69636	2.720 11.672 13.189	" " "
209	Arsabidda Shantigiri Hill Tower Hokund	49 17 29 87 31 18	4°53'29.57 4°48'85.05 4°65'28.60	34116 30801 44964	6.461 5.834 8.516	222	Udarkal Timmappa Lingam Pillar Hulikal	31 15 20 21 5 21	4°60'62.73 4°78'97.87 4°44'73.12	40390 61629 28010	7.650 11.672 5.305	9 " " "
210	Arsabidda Karigudda Hokund	31 25 11 64 37 26 83 57 23	4°24'97.20 4°48'85.05 4°53'02.09	17771 30801 33901	3.366 5.834 6.421	223	Linganbada Timmappa Lingam Pillar Huligudda	62 50 40 94 42 50	4°66'81.08 4°30'06.01 4°71'73.59	46570 19980 52163	8.820 3.784 9.879	" " "
211	Kallakapa Karigudda Devalayapur Hill Tree	36 2 10 34 57 0	4°53'28.40 4°52'12.95 4°73'88.79	34107 33212 54812	6.460 6.200 10.381	224	Kopal Linganbada Tallakalu Village Burj	73 26 45 20 51 45	5°06'23.34 4°63'32.23 5°07'94.90	115434 42887 120085	21.863 8.123 22.743	18 " " "
212	Karigudda Arsabidda Devalayapur Hill Tree	21 26 17 80 11 52	4°10'21.09 4°53'28.40 4°53'02.09	12651 34107 33901	2.396 6.460 6.421	225	Hirekummigudd, XXI Navalur, XXIV Nargund Hill Mark (heliotrope)	117 46 33 19 21 55	5°20'29.60 4°77'67.27 5°08'87.60	159573 59804 122676	30.222 11.326 23.234	24 " " "
213	Kallakapa Hanamsagar Nagapangudda Hill Fort	120 50 28 16 31 25	4°76'15.42 4°28'17.01 4°65'85.55	57749 19129 45557	10.937 3.623 8.628	226	Hirekummigudd, XXI Navalur, XXIV Nargund Hill Temple	113 49 51 21 7 49	5°20'02.79 4°79'58.73 5°08'87.60	158591 62499 122676	30.036 11.837 23.234	" " "
214	Kallakapa Arsabidda Nagapangudda Hill Fort	63 11 32 24 40 38	4°61'16.59 4°28'17.01 4°66'07.38	40894 19129 45787	7.745 3.623 8.672	227	Umachgi Linganbada Nargund Fort	132 31 3 25 12 9	5°42'53.94 5°18'71.10 5°13'66.77	266314 153854 136986	50.438 29.139 25.944	18 " " "
215	Hanamsagar Nagapangudda Hill Fort Malgitti	11 28 30 80 4 21	4°06'68.17 4°76'79.36 4°76'15.42	11663 58605 57749	2.209 11.099 10.937	228	Umachgi Kallakapa Nargund Fort	99 49 1 47 58 19	5°30'82.22 5°18'71.10 5°04'29.88	204090 153854 110405	38.653 29.139 20.910	" " "
216	Arsabidda Hanamsagar Malgitti	98 34 1 33 26 19 47 59 40	4°76'79.36 4°51'39.94 4°64'36.44	58605 32658 44040	11.099 6.185 8.341	229	Nargund Fort Umachgi Hirehandigol	33 47 35 46 52 35 99 19 50	4°93'81.21 5°05'01.46 5°18'71.10	86720 113801 153854	16.424 21.553 29.139	9 " " "

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	
230	Jalihal Umachgi Hirchandigol	30 36 44 107 14 26 42 8 50	4.938121 5.211246 5.057959	86720 162647 114277	16.424 30.804 21.643	9 " "	248	Navalur, XXIV Kalkera, XXV Dharwar Kacheri	33 29 34 13 29 4	4.676396 4.302283 4.798555	47467 20058 62886	8.990 3.799 11.910	Inch 24 "
231	Navalgund Umachgi Hirchandigol	26 3 24 23 29 50 130 26 46	4.938121 4.896050 5.176793	86720 78714 150243	16.424 14.908 28.455	" " "	244	Kundgol Fort Navalgund Dharwar Small Koil	68 50 47 53 30 23	5.106442 5.041953 5.063477	127774 110142 115738	24.200 20.860 21.920	9 " "
232	Majjigudda Navalgund Hirchandigol	80 53 58 36 58 32 62 7 30	4.896050 4.680769 4.847989	78714 47948 70468	14.908 9.081 13.346	" " "	245	Kundgol Fort Duingiri Dharwar Small Koil	34 18 21 54 47 27	4.880682 5.041953 5.129649	75977 110142 134787	14.390 20.860 25.528	" " "
233	Majjigudda Soanahi Unkal	54 8 30 79 34 40 46 16 50	4.940852 5.024892 4.891094	87267 105899 77821	16.528 20.057 14.739	" " "	246	Chikk Nandihalligudd, XX Navalur, XXIV Narendra Hill Temple	4 3 24 5 25 27	4.683401 4.809278 5.050457	48239 64458 112320	9.136 12.208 21.273	24 " "
234	Majjigudda Navalgund Unkal	67 1 20 73 21 59 39 36 41	5.007554 5.024892 4.847989	101755 105899 70468	19.272 20.057 13.346	" " "	247	Chikk Nandihalligudd, XX Dharwar Narendra Hill Temple	7 2 14 15 13 2	4.478369 4.809278 4.908502	30086 64458 93004	5.698 12.208 17.614	" " "
235	Kushgal Navalgund Dharwar Large Koil	114 18 36 30 41 30 34 59 54	5.090285 4.838534 4.889182	123108 68950 77479	23.316 13.059 14.674	" " "	248	Hirakummigudd, XXI Navalur, XXIV Hebli Hill Idgah	9 52 47 28 2 11	4.534701 4.972361 5.088760	34253 93834 122676	6.487 17.772 23.234	" " "
236	Navalgund Unkal Dharwar Large Koil	20 25 11 107 35 26 51 59 23	4.653777 5.090285 5.007554	45059 123108 101755	8.534 23.316 19.272	" " "	249	Navalur, XXIV Dharwar Hebli Hill Idgah	115 49 25 41 24 52	4.668480 4.534701 4.301772	46610 34253 20034	8.828 6.487 3.794	" " "
237	Navalgund Dharwar Large Koil Parasged Fort	60 22 40 50 9 54	5.057990 5.004119	114285 100953	21.645 19.120	" "	250	Navalur, XXIV Kundgol, XXVII Hubh Hill Mark (heliotrope)	8 33 19 4 35 15	4.778690 4.509183 4.902943	60074 32299 91821	11.378 6.117 17.390	" " "
238	Navalgund Unkal Parasged Fort	80 47 51 49 20 6	5.118519 5.004119	131377 100953	24.882 19.120	" "	251	Hirchandigal Umachgi Pallavainumath Building	66 25 5 16 48 51	4.903285 4.402459 4.938121	80036 25262 86720	15.158 4.784 16.424	9 " "
239	Navalgund Dharwar Large Koil Yelhima Hill Pagoda	70 49 51 38 18 42	5.090215 4.907337	123088 80786	23.312 15.300	" "	252	Umachgi Navalgund Pallavainumath Building	40 18 41 30 7 51	5.013467 4.903285 5.176793	103149 80036 150243	19.536 15.158 28.455	" " "
240	Navalgund Unkal Yelhima Hill Pagoda	91 15 2 37 57 44	5.118259 4.907337	131298 80786	24.867 15.300	" "	253	Umachgi Hirchandigol Kanavinagamayi Hill Tower	34 20 40 70 25 0	4.704104 4.926819 4.938121	50595 84493 86720	9.582 16.002 16.424	" " "
241	Chikk Nandihalligudd, XX Kalkera, XXV Dharwar	30 36 32 85 20 36 64 2 52	4.676805 4.968502 4.923774	47512 93004 83902	8.999 17.614 15.891	24 " "	254	Majjigudda Hirchandigol Harti-basapagudda Hill Flag	53 16 30 65 58 10	4.623893 4.700609 4.680769	44045 50180 47948	8.342 9.505 9.081	" " "
242	Navalur, XXIV Kalkera, XXV Dharwar	33 36 17 13 29 45 132 53 58	4.676805 4.301772 4.798555	47512 20034 62886	8.999 3.794 11.910	" " "	255	Umachgi Majjigudda Kapatgudda Hill	52 48 27 50 27 23	5.039852 5.025740 5.126864	109611 106106 133926	20.760 20.096 25.365	" " "

MANGALORE MERIDIONAL 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	
256	Soanshi Majjigudda Kapatgudda Hill	s. h.s. h.s.	5.039853 5.159558 4.891094	109611 144397 77821	20.760 27.348 14.739	269	Matikati Koil Soanshi Kundur-nersagi Hill Pagoda	117 22 0 38 26 0	5.062189 4.907249 4.726438	115395 80770 53264	21.855 15.297 10.088	9 "
257	Majjigudda Soanshi Nilgund Hill Tree	h.s. s. s.	4.870917 4.477650 4.891094	74288 30037 77821	14.070 5.689 14.739	270	Ganigudd, XXVI Kundgol, XXVII Devigudda Hill Mark (heliotrope)	30 20 16 57 35 57	4.771426 4.904558 5.007769	59078 98755 116888	11.189 18.704 22.138	24 "
258	Kushgal Soanshi Nilgund Hill Tree	s. "	4.870917 4.998910 4.870207	74288 99749 75719	14.070 18.892 14.341	271	Kongaon Kudalgaon Marsingal	56 30 31 61 43 24 61 46 5	4.932947 4.946610 4.946792	83743 88432 88469	15.860 16.749 16.756	18 "
259	Kushgal Navalgund Kallur Hill Building	s. "	5.048303 5.006312 4.889182	111764 101464 77479	21.167 19.217 14.674	272	Tinai Kongaon Marsingal	87 32 52 24 6 4 68 21 4	4.946610 4.558039 4.915240	88432 36144 82270	16.749 6.845 15.581	" "
260	Majjigudda Kushgal Kallur Hill Building	h.s. s.	5.006311 4.616474 4.890062	101464 41350 77636	19.217 7.831 14.704	273	Marsingal Tinai Pevadi	83 18 37 33 28 52 63 12 31	4.604389 4.349029 4.558039	40215 22337 36144	7.617 4.231 6.845	" 9
261	Majjigudda Soanshi Gunjalhalli Hill	h.s. s.	4.553579 4.726761 4.891094	35775 53304 77821	6.776 10.095 14.739	274	Kudalgaon Tinai Kuvesi	16 53 34 57 36 27 105 29 59	4.522894 4.686173 5.043537	33334 96866 110544	6.313 18.346 20.936	18 9
262	Majjigudda Kushgal Gunjalhalli Hill	h.s. s.	4.942247 4.726761 4.890062	87548 53304 77636	16.581 10.095 14.704	275	Kudalgaon Marsingal Kayorli	54 34 30 49 37 32 75 47 58	4.847515 4.818281 4.922947	70391 65808 83743	13.332 12.464 15.860	18 9
263	Kushgal Soanshi Matikati Koil	s. "	4.726438 5.027607 4.879207	53264 106563 75719	10.088 20.182 14.341	276	Kongaon Marsingal Kayorli	37 2 43 12 8 33 130 48 44	4.847515 4.390527 4.946610	70391 24577 88432	13.332 4.655 16.749	18 9
264	Unkal Soanshi Matikati Koil	h.s. s. "	4.726438 5.014120 4.940852	53264 103305 87267	10.088 19.565 16.528	277	Kudalgaon Marsingal Avadi	75 14 31 20 40 34 84 4 55	4.910698 4.473146 4.922947	81414 29727 83743	15.419 5.630 15.860	18 9
265	Matikati Koil Soanshi Rangiri Hill Tree	s. "	4.708377 4.912863 4.726438	51095 81821 53264	9.677 15.496 10.088	278	Kudalgaon Avadi Timoli	44 7 0 71 36 30 64 16 30	4.361161 4.495706 4.473146	22970 31312 29727	4.350 5.930 5.630	18 9
266	Soanshi Hulikati Rangiri Hill Tree	s. h.s.	5.029764 4.708377 4.821456	107094 51095 66291	20.283 9.677 12.555	279	Dugingiri Kansarudi Magarvada	87 51 50 21 24 23 70 43 47	4.979236 4.541808 4.954497	95331 34818 90053	18.055 6.594 17.055	18 "
267	Matikati Koil Soanshi Rattigiri Hill Building	s. "	4.715838 4.749342 4.726438	51980 56149 53264	9.845 10.634 10.088	280	Kudalgaon Kansarudi Magarvada	78 20 51 58 48 30 42 50 39	4.979236 4.920469 4.820793	95331 83266 66190	18.055 15.770 12.536	" "
268	Soanshi Hulikati Rattigiri Hill Building	s. h.s.	4.934350 4.715837 4.821456	85971 51980 66291	16.282 9.845 12.555	281	Dugingiri Kansarudi Sid Hill Pagoda	41 38 46 81 29 11	4.854073 5.026747 4.954497	71462 106352 90053	13.534 20.142 17.055	" "

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		
282	Magarvada Kánsérudi Sid Hill Pagoda	h.s. " " " " " "	4.854073 4.934580 4.979236	71462 86016 95331	13.534 16.291 18.055	Inch 18 " " "	295	Kolakërri Indúr Gudehönnúr	h.s. " " " " " "	37 35 55 23 39 40 118 44 25	4.823695 4.641773 4.981180	66634 43830 95759	12.620 8.301 18.136	Inch 18 " " "
283	Kánsérudi Kúdalgaon Zayurli	h.s. " " " " " "	4.668110 4.742056 4.820793	46570 55215 66190	8.820 10.457 12.536	" " " " " "	296	Dúgingiri Indúr Gudehönnúr	h.s. " " " " " "	34 9 15 40 2 37 105 48 8	4.823695 4.882867 5.057675	66634 76360 114202	12.620 14.462 21.629	18 " " "
284	Magarvada Kúdalgaon Zayurli	h.s. " " " " " "	4.668110 4.646198 4.920469	46570 44279 83266	8.820 8.386 15.770	18 " " "	297	Indúr Kolakërri Unchikatta Fort Tree	h.s. " " " " " "	90 28 43 22 31 20	5.017142 4.600403 4.981180	104046 39848 95759	19.702 7.547 18.136	18 " " "
285	Magarvada Zayurli Dúgi	h.s. " " " " " "	4.533712 4.421460 4.646198	34175 26391 44279	6.473 4.998 8.386	18 9 "	298	Indúr Kundgol Fort Bírváli Fort Tree	h.s. s. " " " " " "	22 55 13 8 46 32	4.913775 4.506776 5.043822	81993 32120 110617	15.529 6.083 20.950	9 " " "
286	Kánsérudi Zayurli Sambrani	h.s. " " " " " "	4.550367 4.651128 4.742056	35511 44785 55215	6.726 8.482 10.457	18 9 "	299	Indúr Vadigutta Bírváli Fort Tree	h.s. " " " " " "	21 49 10 120 18 25	4.140770 4.506776 4.358710	13828 32120 22841	2.619 6.083 4.326	18 " " "
287	Dúgingiri Kánsérudi Haliyál Fort Flag Staff	h.s. " " " " " "	4.819959 4.619167 4.954497	66063 41607 90053	12.512 7.880 17.055	18 " " "	300	Kolakërri Bhedasgávegudda Uliapagudda	h.s. " " " " " "	48 45 20 39 14 53	4.846035 4.771056 4.969609	70151 59028 93241	13.286 11.179 17.659	" " "
288	Kúdalgaon Kánsérudi Haliyál Fort Flag Staff	h.s. " " " " " "	4.819959 4.784010 4.820793	66063 60815 66190	12.512 11.518 12.536	" " " " " "	301	Indúr Bhedasgávegudda Uliapagudda	h.s. " " " " " "	43 53 1 22 41 17	4.846035 4.591444 4.967812	70151 39034 92856	13.286 7.393 17.586	" " "
289	Kalkera, XXV Granigudd, XXVI Haliyál Kacheri (heliotrope)	h.s. " " " " " "	4.776512 4.676085 4.790171	59774 47433 61684	11.321 8.984 11.683	24 " " "	302	Uliapagudda Bhedasgávegudda Mundasáli	h.s. " " " " " "	52 53 40 74 15 6	4.764162 4.764395 4.846035	58098 58129 70151	11.003 11.009 13.286	" " "
290	Kolakërri Kánsérudi Haradakisur	h.s. " " " " " "	4.751684 4.838572 4.957890	56453 68950 90759	10.692 13.060 17.189	18 " " "	303	Indúr Bhedasgávegudda Mundasáli	h.s. " " " " " "	34 25 36 30 12 23 115 22 1	4.764162 4.713513 4.967812	58098 51703 92856	11.003 9.792 17.586	" " "
291	Dúgingiri Kánsérudi Haradakisur	h.s. " " " " " "	4.751684 4.675438 4.954497	56453 47363 90053	10.692 8.970 17.055	18 " " "	304	Indúr Mundasáli Arvisomapur Fort Tree	h.s. " " " " " "	116 34 24 26 59 39	4.891331 4.596777 4.713513	77863 39516 51703	14.747 7.484 9.792	" " "
292	Kánsérudi Haradakisur Hangaon	h.s. " " " " " "	4.821390 4.484272 4.751684	66281 30498 56453	12.553 5.776 10.692	18 9 "	305	Indúr Bírváli Fort Tree Arvisomapur Fort Tree	h.s. " " " " " "	35 19 56	4.358948 4.596777 4.506776	22853 39516 32120	4.328 7.484 6.083	9
293	Hangaon Haradakisur Hukali	h.s. " " " " " "	4.868898 4.501905 4.821390	73943 31762 66281	14.004 6.016 12.553	" " " " " "	306	Kolakërri Uliapagudda Mudunúr Fort	h.s. " " " " " "	29 33 10 26 5 40	4.547343 4.497004 4.771056	35265 31449 59028	6.679 5.956 11.179	18 " " "
294	Kolakërri Haradakisur Hukali	h.s. " " " " " "	4.868898 4.685243 4.838572	73943 48444 68956	14.004 9.175 13.060	18 9 "	307	Indúr Uliapagudda Nandikatte Tower	h.s. " " " " " "	31 30 5 24 29 55	4.390972 4.290573 4.591444	24602 19524 39034	4.659 3.698 7.393	" " "

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No of Triangle	Station	Corrected Plane Angle		Distance			No of Triangle	Station	Corrected Plane Angle		Distance			No of Triangle	Station	Corrected Plane Angle		Distance			Theodolite used	Inch
		°	'	Log. feet	Feet	Miles			°	'	Log. feet	Feet	Miles			°	'	Log. feet	Feet	Miles		
808	Indúr Uliapagudda Sanuváli	h.s.	"	82 46 9 35 52 35 01 21 10	4'644678 4'416072 4'591444	44124 26066 39034	8'357 4'937 7'393	821	Bhedaságvegudda, XXXI Menshigudda, XXXIII Bomanhalli Hill Mark (heliotrope)	39 54 40 35 23 47	4'781176 4'736764 4'959475	60419 54546 91091	11'443 10'331 17'252	"	24							
809	Mundasáli Uliapagudda Sanuváli	h.s.	"	45 37 16 24 41 53 109 40 51	4'644678 4'411542 4'764395	44124 25795 58129	8'357 4'886 11'009	822	Menshigudda, XXXVIII Halébail, XXXV Bomanhalli Hill Mark (heliotrope)	67 38 45 38 41 14	4'951320 4'781176 4'967358	89396 60419 92759	16'931 11'443 17'568	"	"							
810	Indúr Sanuváli Mundgod Fort	h.s.	"	23 26 30 44 21 0	4'049229 4'294049 4'416072	11200 19681 26066	2'121 3'728 4'937	823	Chandragutti, XXXIV Halébail, XXXV Sirsi	45 53 10 47 6 5	4'864689 4'873433 5'008000	73230 74719 101859	13'869 14'151 19'292	"	"							
811	Mundasáli Uliapagudda Masti-ka-Dongar	h.s.	"	43 27 30 33 42 0 102 50 30	4'612875 4'519567 4'764395	41009 33080 58129	7'767 6'265 11'009	824	Achuvi Kaltigudda Kudainigudda	72 29 2 41 51 59 65 38 59	4'973646 4'818648 4'953803	94112 65864 89909	17'824 12'474 17'028	"	C.T.I.							
812	Mundasáli Masti-ka-Dongar Pála	h.s.	"	50 57 20 51 47 30 77 15 10	4'420635 4'425699 4'519567	26341 26650 33080	4'989 5'047 6'265	825	Kaltigudda Kudainigudda Basrádurg	57 16 24 36 27 0 86 16 36	4'899494 4'748439 4'973646	79340 50032 94112	15'027 10'612 17'824	"	"							
813	Menshigudda Kolakérra Karkabail Hill Tree	h.s.	"	28 50 40 77 51 7	4'676485 4'983212 4'974341	47477 96208 94263	8'992 18'221 17'853	826	Kaltigudda Basrádurg Diudémaue, XXXVIII	95 53 54 55 34 9 28 31 57	5'067017 4'985676 4'748439	116686 96756 56032	22'100 18'325 10'612	"	"							
814	Menshigudda Höttegudda Karkabail Hill Tree	h.s.	"	65 14 15 51 34 44	5'047303 4'983212 5'039779	111507 96208 109592	21'119 18'221 20'756	827	Höttegudda Menshigudda Kanchémalai Hill Tree	72 44 10 21 38 14	5'021025 4'607732 5'039779	104960 40528 109592	19'879 7'676 20'756	"	18							
815	Kolakérra Karkabail Hill Tree Yellápur Fort	h.s.	"	34 53 55 120 5 40	4'496860 4'365429 4'676485	31395 23197 47477	5'946 4'393 8'992	828	Ulvi Menshigudda Kanchémalai Hill Tree	55 34 28 61 36 15	5'021025 5'048971 5'053833	104960 111936 113196	19'879 21'200 21'439	"	"							
816	Bhedaságvegudda Menshigudda Sonda	h.s.	"	16 23 4 22 47 26 140 49 30	4'609373 4'747118 4'959504	40679 55862 91097	7'704 10'580 17'253	829	Kudainigudda Achuvi Tulshigudda Hill Tree	54 19 25 61 53 2	4'775488 4'811225 4'818648	59633 64748 65864	11'294 12'203 12'474	"	C.T.I.							
817	Achuvi Menshigudda Kadabal	h.s.	"	30 21 29 68 18 35 81 19 56	4'624132 4'888602 4'915506	42085 77375 82320	7'971 14'654 15'591	880	Höttegudda Achuvi Tulshigudda Hill Tree	38 16 3 31 29 24	4'775488 4'701525 4'955876	59633 50295 90339	11'294 9'526 17'110	"	18							
818	Bhedaságvegudda Menshigudda Kadabal	h.s.	"	25 52 11 83 18 56 70 48 53	4'624132 4'981358 4'959504	42085 95798 91097	7'971 18'144 17'253	881	Höttegudda Achuvi Ankola Numazgudda	55 15 29 51 0 0 73 44 31	4'888328 4'864103 4'955876	77326 73131 90339	14'645 13'851 17'110	"	9							
819	Bhedaságvegudda Menshigudda Hulakal	h.s.	"	21 45 31 47 23 29 110 51 0	4'557936 4'855793 4'959504	36136 71745 91097	6'844 13'588 17'253	882	Tulshigudda Hill Tree Achuvi Ankola Numazgudda	19 30 36 43 19 23	4'888328 4'462803 4'775488	77326 29027 59633	14'645 5'498 11'294	"	18							
820	Kadabal Menshigudda Hulakal	h.s.	"	58 50 1 35 55 27 85 14 32	4'557936 4'394057 4'624132	36136 24777 42085	6'844 4'693 7'971	883	Tulshigudda Hill Tree Ankola Numazgudda Ankola Fort	23 1 50 146 20 10	3'985093 4'311466 4'462803	9663 20486 29027	1'820 3'880 5'498	"	"							

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	
334	Achuvi Kudainigudda Anjdiv Island Flag Staff	51 24 49 102 30 26	5°068601 5°165148 4°818648	117112 146267 65864	22.180 27.702 12.474	C.T.I. " "	347	Kudainigudda Kaltigudda Dareshtar Hill Platform	29 7 54 41 23 4	4°686623 4°819529 4°973646	48599 65998 94112	9.204 12.500 17.824	C.T.I. " "
335	Kudainigudda Achuvi Gokarn	68 51 0 12 29 30 98 39 30	4°793340 4°158678 4°818648	62136 14410 65864	11.768 2.729 12.474	Inch 18 9	348	Kaltigudda Basrādurg Dareshtar Hill Platform	15 53 20 55 4 28	4°210254 4°686623 4°748439	16228 48599 56032	3.073 9.204 10.612	" "
336	Kaltigudda Basrādurg Rājāmandurg Platform	57 50 40 80 30 6	4°853541 4°919864 4°748439	71374 83150 50032	13.518 15.748 10.612	C.T.I. " "	349	Kaltigudda, XXXVII Dindēmane, XXXVIII Basrādurg Island	95 42 5 28 52 38	5°068024 4°754066 4°985761	116956 56763 96775	22.151 10.751 18.329	Inch 24 " "
337	Kudainigudda Basrādurg Rājāmandurg Platform	40 46 20 5 46 30	4°853541 4°041286 4°899494	71374 10997 79340	13.518 2.083 15.027	" "	350	Halēbail, XXXV Kaltigudda, XXXVII Basrādurg Island	13 6 10 152 51 38	4°754066 5°057733 4°783406	56763 114217 60730	10.751 21.632 11.502	" "
338	Achuvi Kudainigudda Mirjān Fort	29 0 24 52 8 14	4°509520 4°721200 4°818648	32324 52626 65864	6.122 9.967 12.474	" "	351	Kaltigudda, XXXVII Dindēmane, XXXVIII Honāvar Monument	75 51 25 27 54 54	4°985062 4°668825 4°985761	96619 46647 96775	18.299 8.835 18.329	" "
339	Achuvi Kaltigudda Kumta Base N. End	60 13 22 81 2 54	4°904065 4°799762 4°953803	80180 63061 89909	15.186 11.943 17.028	" "	352	Kaltigudda Basrādurg Kasārgod	33 45 36 84 45 37 61 28 47	4°549476 4°802805 4°748439	35439 63505 56032	6.712 12.027 10.612	C.T.I. " "
340	Achuvi Kaltigudda Kumta Base S. End	44 32 53 81 2 54	4°805158 4°869289 4°953803	63850 74010 89909	12.093 14.017 17.028	" "	353	Kaltigudda Hukaligudda Kasārgod	100 42 15 44 39 11	5°040483 4°802805 4°894946	109770 63505 78514	20.790 12.027 14.870	" "
341	Achuvi Kumta Base N. End Kumta Base S. End	15 40 29 112 17 20 52 2 11	4°334661 4°869289 4°799762	21610 74010 63061	4.093 14.017 11.943	" "	354	Halēbail, XXXV Kaltigudda, XXXVII Topibenagudda Hill Peak	1 0 53 156 5 9	3°441530 4°801177 4°783406	2764 63267 60730	0.523 11.982 11.502	24 " "
342	Kaltigudda Basrādurg Māsūr Hill Pagoda	53 28 33 68 38 2	4°725582 4°789615 4°748439	53160 61605 56032	10.068 11.668 10.612	" "	355	Halēbail, XXXV Hukaligudda, XXXVI Topibenagudda Hill Peak	62 21 19 45 45 25	4°893386 4°801177 4°923959	78232 63267 83938	14.817 11.982 15.897	" "
343	Kudainigudda Basrādurg Māsūr Hill Pagoda	29 19 31 17 38 34	4°725582 4°517151 4°899494	53160 32897 79340	10.068 6.230 15.027	" "	356	Hukaligudda, XXXVI Kaltigudda, XXXVII Haravalligudda Hill Peak	23 14 18 54 55 43	4°500372 4°817247 4°894933	31650 65652 78512	5.994 12.434 14.870	" "
344	Kaltigudda, XXXVII Dindēmane, XXXVIII Kumta Light House	135 24 4 16 27 41	5°158621 4°764550 4°985761	144086 58150 96775	27.289 11.013 18.329	24 " "	357	Hukaligudda, XXXVI Dindēmane, XXXVIII Haravalligudda Hill Peak	64 4 23 61 47 9	4°826109 4°817247 4°780912	67005 65652 60383	12.690 12.434 11.436	" "
345	Kudainigudda Kaltigudda Kumta Hill Redoubt	24 35 0 17 46 15	4°764282 4°629772 4°973646	58114 42636 94112	11.006 8.075 17.824	C.T.I. " "	358	Menshigudda Achuvi Kukdimahni	58 0 30 57 32 28 64 27 2	4°888657 4°886424 4°915506	77385 76988 82320	14.656 14.581 15.591	18 " "
346	Kaltigudda Basrādurg Kumta Hill Redoubt	39 30 9 73 9 24	4°586858 4°764282 4°748439	38624 58114 56032	7.315 11.006 10.612	" "	359	Hukaligudda Koramūr, XXXIX Uvinmanai Tree	110 47 8 15 51 58	5°041575 4°507585 4°975128	110046 32180 94434	20.842 6.095 17.885	C.T.I. " "

MANGALORE MERIDIONAL 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	
360	Kaltigudda	h.s.	4.507585	32180	6.095	873	Dindēmane, XXXVIII	13 4 53	4.181561	15190	2.877	Inch 24	
	Hukaligudda	"	4.898118	79089	14.979		Karikalgudda	101 22 44	4.818188	65794	12.461		7
	Uvinmanai Tree	"	4.894946	78514	14.870		Rākshagudda Hill Mark (heliotrope)		4.785970	61090	11.570		
361	Hukaligudda	h.s.	4.782975	60670	11.491	874	Dindēmane, XXXVIII	41 3 57	4.848815	70602	13.372	24	
	Bairāgigudda	"	4.507585	32180	6.095		Koramūr, XXXIX	37 44 54	4.818188	65794	12.461		
	Uvinmanai Tree	"	4.923952	83937	15.897		Rākshagudda Hill Mark (heliotrope)		5.022970	105431	19.968		
362	Uvinmanai Tree	h.s.	4.597621	39593	7.499	875	Hukaligudda, XXXVI	15 12 30	4.330525	21405	4.054	7	
	Bairāgigudda	"	4.440241	27941	5.292		Karikalgudda	158 24 37	4.477475	30024	5.686		
	Kalladagudda	"	4.782975	60670	11.491		Jog Bungalow		3.957572	9069	1.718		
363	Hukaligudda	h.s.	4.597621	39593	7.499	876	Chandragutti, XXXIV	14 14 0	4.565359	36759	6.962	24	
	Bairāgigudda	"	4.771023	59023	11.179		Koramūr, XXXIX	33 57 32	4.921751	83512	15.817		
	Kalladagudda	"	4.923952	83937	15.897		Talaguppe Bungalow		5.047032	111438	21.106		
364	Chandragutti	h.s.	4.583738	38348	7.263	877	Chandragutti, XXXIV	13 24 50	4.415035	26004	4.925	"	
	Hukaligudda	"	4.923298	8310	15.873		Koramūr, XXXIX	70 23 22	5.023626	105591	19.998		
	Handigudda	"	4.952602	89661	16.981		Sāgar Bungalow		5.047032	111438	21.106		
365	Hukaligudda	h.s.	4.695009	49546	9.384	878	Hugadi, XLI	53 9 4	5.094896	124422	23.565	C.T.I.	
	Handigudda	"	4.502241	31786	6.020		Hōnnavalli, XL	66 27 42	5.153958	142547	26.998		
	Bilgi	"	4.583738	38348	7.263		Kalavarangan	60 23 14	5.130898	135176	25.001		
366	Hukaligudda	h.s.	3.943376	8778	1.662	879	Hōnnavalli, XL	70 51 42	5.212847	163248	30.918	"	
	Uvinmanai Tree	"	4.502241	31786	6.020		Kalavarangan	63 4 50	5.187731	154075	29.181		
	Bilgi	"	4.507585	32180	6.095		Anūr		5.094896	124422	23.565		
367	Hukaligudda	h.s.	4.354149	22602	4.281	880	Kalavarangan	49 43 58	5.149236	141005	26.706	"	
	Uvinmanai Tree	"	4.533434	34153	6.468		Anūr		5.234501	171594	32.499		
	Banigiri Hill Pagoda	"	4.507585	32180	6.095		Bātigudda	62 3 19	5.212847	163248	30.918		
368	Chandragutti, XXXIV	h.s.	4.925122	84163	15.940	881	Anūr		4.964279	92104	17.444	"	
	Koramūr, XXXIX	"	4.558410	36175	6.851		Bātigudda	57 30 46	5.079401	120061	22.739		
	Siddāpur	"	5.047032	111438	21.106		Gabgaddi	82 9 51	5.149236	141005	26.706		
369	Hukaligudda, XXXVI	h.s.	4.925122	84163	15.940	882	Bātigudda	60 46 34	4.978836	95244	18.039	"	
	Koramūr, XXXIX	"	4.750465	57078	10.810		Gabgaddi	61 39 51	4.982534	96058	18.193		
	Siddāpur	"	4.975160	94441	17.887		Narsimdevaragudda	57 33 35	4.964279	92104	17.444		
370	Chandragutti	h.s.	4.806825	64095	12.139	883	Gabgaddi	60 34 39	4.987719	97212	18.411	"	
	Hukaligudda	"	4.550102	35490	6.722		Narsimdevaragudda	60 50 26	4.988837	97462	18.459		
	Kolag'gudda Hill Flag	"	4.952602	89661	16.981		Bēttadmallappangudda	58 34 55	4.978836	95244	18.039		
371	Dindēmane, XXXVIII	h.s.	4.931749	85457	16.185	884	Anūr		4.980532	95616	18.109	"	
	Koramūr, XXXIX	"	4.785970	61090	11.570		Hōnnavalli, XL	46 35 20	5.050751	112396	21.287		
	Karikalgudda	h.s.	5.022970	105431	19.968		Badankatte	95 14 30	5.187731	154075	29.181		
372	Hukaligudda, XXXVI	h.s.	4.785970	61090	11.570	885	Chandragutti	60 48 39	4.980532	95616	18.109	"	
	Dindēmane, XXXVIII	"	3.957572	9069	1.718		Hōnnavalli, XL	48 49 11	4.916098	82432	15.612		
	Karikalgudda	h.s.	4.780912	60383	11.436		Badankatte	70 22 10	5.013505	103158	19.538		

* Base deduced by two sides and included angle. † The continuation of the triangulation will be found in the Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°.

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	Chandragutti Badankatte Nannagiri (old)	57 32 26 90 35 39	4.842347 4.638693 4.916098	6958 43320 82432	13.174 8.243 15.612	389	Bhedasgavagudda Badengod No. 1 Hangal Pir Jugah Tree	43 44 45 84 1 25	4.673346 4.831211 4.731470	47135 67797 53885	8.927 12.840 10.206	Inch 18 "
387	Chandragutti Halibail Nannagiri (old)	89 26 32 67 5 13	5.038482 4.638693 5.002808	109265 43320 100049	20.694 8.243 19.062	400	Chandragutti Badankatte Maligar Hill Pagoda	28 10 23 124 20 5	4.925873 5.168658 4.916098	84309 147455 82432	15.968 27.927 15.612	c.t.i. "
388	Mundasali Bhedasgavagudda Badengod No. 1	45 30 23 84 13 14 50 16 23	4.731470 4.875997 4.764162	53885 75157 58098	10.206 14.234 11.003	401	Chandragutti Badankatte Adur Fort	22 41 51 136 47 44	4.958069 5.207071 4.916098	90796 161091 82432	17.196 30.510 15.612	"
389	Bhedasgavagudda Nannagiri (new) Badengod No. 1	34 56 46 37 30 38 107 32 36	4.704926 4.731470 4.926235	50690 53885 84379	9.600 10.206 15.981	402	Chandragutti Badankatte Mulgund Hill Pagoda	19 59 26 132 58 45	4.792456 5.122876 4.916098	62009 132702 82432	11.744 25.133 15.612	"
390	Badengod No. 1 Bhedasgavagudda Badengod No. 2	35 28 44 5 19 37 139 11 39	4.679956 3.883956 4.731470	47858 7655 53885	9.064 1.450 10.206	403	Badengod No. 1 Nannagiri (new) Doddikoppa Pagoda	94 5 9 47 3 11	4.906253 4.771860 4.704926	80585 59137 50690	15.262 11.200 9.600	18 "
391	Mundasali Bhedasgavagudda Badengod No. 2	43 51 14 78 53 37 57 15 9	4.679956 4.831123 4.764162	47858 67783 58098	9.064 12.838 11.003	404	Badengod No. 1 Nannagiri (new) Halibail Hill Pagoda	92 27 33 50 47 17	4.927561 4.817158 4.704926	84637 65638 50690	16.030 12.432 9.600	"
392	Badengod No. 1 Bhedasgavagudda Gutimma Hill Tree	36 50 56 7 8 28	4.667716 3.984295 4.731470	46528 9045 53885	8.812 1.827 10.206	405	Chandragutti Nannagiri (old) Anavatti Fort	50 29 34 99 34 44	4.828026 4.934568 4.638693	67302 86014 43520	12.747 16.290 8.243	c.t.i. "
393	Mundasali Bhedasgavagudda Gutimma Hill Tree	43 33 24 77 4 46	4.667716 4.818314 4.764162	46528 65813 58098	8.812 12.465 11.003	406	Nannagiri (old) Badankatte Anavatti Fort	8 59 5 73 39 27	4.039538 4.828026 4.842347	10953 67302 69558	2.074 12.747 13.174	"
394	Badengod No. 1 Gutimma Hill Tree Badengod Fort	44 20 0 57 55 10	3.900630 4.046250 3.984295	7955 11124 9645	1.507 2.107 1.827	407	Chandragutti Honnavalli, XL Jedda Fort	91 18 39 58 25 37	5.082965 4.785473 5.013505	121050 61020 103158	22.926 11.557 19.538	"
395	Bhedasgavagudda, XXXI Karekyatanhalli, XXXII Chenapur Hill Mark (heliotrope)	40 29 25 69 42 26	4.914643 5.074357 5.074623	82157 118074 118747	15.560 22.476 22.490	408	Chandragutti Nannagiri (old) Banavasi Pagoda	29 49 19 72 10 36	4.344911 4.626926 4.638693	22126 42357 43520	4.191 8.022 8.243	"
396	Mundasali Bhedasgavagudda Hotanahalli Tower	140 38 3 17 8 8	4.988565 4.655574 4.764162	97401 45245 58098	18.447 8.569 11.003	409	Karekyatanhalli, XXXII Chandragutti, XXXIV Karigudda Hill Mark (heliotrope)	21 39 33 19 57 32	4.871472 4.837541 5.126620	74383 68792 133851	14.088 13.029 25.350	24 "
397	Mundasali Badengod No. 1 Hotanahalli Tower	95 7 40 29 38 22	4.959631 4.655574 4.875997	91124 45245 75157	17.258 8.569 14.234	410	Chandragutti Honnavalli, XL Bettadkurah Hill Platform	50 42 34 45 20 39	4.904643 4.868012 5.013505	80287 73792 103158	15.206 13.976 19.538	c.t.i. "
398	Mundasali Bhedasgavagudda Hangal Pir Jugah Tree	81 33 57 40 28 29	4.831212 4.648254 4.764162	67797 44489 58098	12.840 8.426 11.003	411	Chandragutti Honnavalli, XL Toggarshi Hill Pagoda	37 43 39 60 37 11	4.804815 4.958339 5.013505	63799 90853 103158	12.083 17.207 19.538	"

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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	
412	Chandragutti Badankatte Togarshi Hill Pagoda	h.s. " "	4.551927 4.958339 4.916098	35639 90853 82432	6.750 17.207 15.612	"	Kopal Kapatgudda Pagoda Huvinahadgalli Hill Pagoda	h.s. s. s.	11 21 45 48 31 47	4.505702 5.085857 5.148259	32041 121859 140689	6.068 23.079 26.646	"
413	Chandragutti Badankatte Donangundi Pagoda	h.s. " "	4.780247 5.078985 4.916098	61553 119946 82432	11.658 22.717 15.612	"	Béttadmallappangudda Kapatgudda Pagoda Huvinahadgalli Hill Pagoda	h.s. s. s.	33 11 52 53 7 12	4.505702 4.670326 4.766396	32041 46809 58398	6.068 8.865 11.060	"
414	Béttadmallappangudda Anékalgudda Ramesvarambanda	h.s. " "	4.800483 5.087668 5.102703	77711 122368 126679	14.718 23.176 23.992	"	Huvinahadgalli Hill Pagoda Kopal Mundárgidrug Hill Fort	h.s. h.s. s.	30 41 27 91 58 32	5.011338 4.794030 5.085857	102645 62234 121859	19.440 11.787 23.079	"
415	Anékalgudda Béttadmallappangudda Kapatgudda Pagoda	h.s. " "	4.766396 5.187200 5.102703	58398 153886 126679	11.060 29.145 23.992	"	Kopal Mundárgidrug Hill Fort Moranhalli	h.s. s. "	17 40 19 21 1 37 141 18 4	4.697554 4.770161 5.011338	49837 58064 102645	9.439 11.156 19.440	"
416	Ramesvarambanda Béttadmallappangudda Kapatgudda Pagoda	s. h.s. s.	4.766396 5.066135 5.087668	58398 116449 122368	11.060 22.055 23.176	"	Huvinahadgalli Hill Pagoda Mundárgidrug Hill Fort Moranhalli	h.s. s. "	70 56 55 63 20 57	4.697554 4.818346 4.794030	49837 65818 62234	9.439 12.466 11.787	"
417	Kopal Béttadmallappangudda Kapatgudda Pagoda	h.s. " "	4.766396 5.148259 5.211800	58398 140689 162855	11.060 26.646 30.844	Inch 9 "	Anékalgudda Ramesvarambanda Holáguni Pagoda	h.s. s. "	51 45 46 82 22 20	4.929661 5.030679 4.890483	85047 107320 77711	16.107 20.326 14.718	C.T.I. "
418	Béttadmallappangudda Kapatgudda Pagoda Kandkal	h.s. s. "	4.381726 4.798155 4.766396	24084 62828 58398	4.561 11.899 11.060	"	Anékalgudda Béttadmallappangudda Holáguni Pagoda	h.s. " "	17 3 37 52 25 32	4.598120 5.030679 5.102703	39639 107320 126679	7.507 20.326 23.992	"
419	Anékalgudda Béttadmallappangudda Kandkal	h.s. " "	4.798155 5.131750 5.102703	62828 135441 126679	11.899 25.652 23.992	"	Béttadmallappangudda Kandkal Singtáur Fort	h.s. s. "	16 34 6 54 24 41	4.277625 4.732744 4.798155	18951 54044 62828	3.589 10.236 11.899	"
420	Béttadmallappangudda Kandkal Hampasagar Fort	h.s. s. "	4.670591 4.921921 4.798155	46837 83545 62828	8.871 15.823 11.899	"	Béttadmallappangudda Kapatgudda Pagoda Mágala Fort	h.s. s. "	32 0 56 63 31 36	4.538903 4.812470 4.766396	34586 64934 58398	6.550 12.298 11.060	"
421	Anékalgudda Béttadmallappangudda Hampasagar Fort	h.s. " "	4.921921 4.989299 5.102703	83545 97566 126679	15.823 18.478 23.992	"	Béttadmallappangudda Narsindevaragudda Kalhalli	h.s. " "	56 2 3 39 31 27 84 26 30	4.908514 4.793498 4.987719	81005 62158 97212	15.342 11.772 18.411	"
422	Ramesvarambanda Béttadmallappangudda Kopaldurg Fort	s. h.s. "	5.211878 4.686786 5.087668	162884 48617 122368	30.849 9.208 23.176	"	Gabgaddi Narsindevaragudda Kalhalli	h.s. " "	50 6 36 21 18 59 102 34 25	4.908514 4.549004 4.978836	81005 35474 95244	15.342 6.718 18.039	"
423	Béttadmallappangudda Kandkal Batkerra Pagoda	h.s. s. "	4.779680 5.030526 4.798155	60212 107282 62828	11.404 20.319 11.899	"	Béttadmallappangudda Kalhalli Shrimantagad Pagoda	h.s. " "	78 55 0 76 0 53	5.158260 5.153368 4.793498	143966 142353 62158	27.266 26.961 11.772	"
424	Kandkal Hampasagar Fort Batkerra Pagoda	s. " "	4.400844 4.779680 4.670591	25168 60212 46837	4.767 11.404 8.871	"	Béttadmallappangudda Gabgaddi Shrimantagad Pagoda	h.s. " "	76 22 8 65 12 12	5.182069 5.153368 4.988837	152394 142353 97462	28.863 26.961 18.459	"

† Base taken from the Great Arc Series. * Base deduced by two sides and included angle.

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		
438	Béttadmallappangudda Kalhalli Galaganát Pagoda	h.s. " "	4 876317 4 997503 4 793498	75217 99427 62158	14 246 18 831 11 772	451	Narsimdevargarudda Bátigudda Teligudda Hill Pagoda	h.s. " "	37 38 28 40 23 49	4 777906 4 803696 4 982534	59966 63635 96058	11 357 12 052 18 193	C.T.I. " "
439	Béttadmallappangudda Kapagudda Pagoda Galaganát Pagoda	h.s. s. "	4 912225 4 997503 4 766396	81701 99427 58398	15 474 18 831 11 060	452	Narsimdevargarudda Bátigudda Sarutigudda Building	h.s. " "	29 6 50 54 19 21	4 672515 4 895113 4 982534	47045 78544 96058	8 910 14 876 18 193	" " "
440	Béttadmallappangudda Kalhalli Holal Fort	h.s. " s.	4 711421 4 974608 4 793498	51454 94340 62158	9 745 17 867 11 772	453	Gabgaddi Narsimdevargarudda Sarutigudda Building	h.s. " "	55 0 52 28 26 45	4 895113 4 659377 4 978836	78544 45664 95244	14 876 8 649 18 039	" " "
441	Kalhalli Gabgaddi Mailara Pagoda	h.s. " "	4 633423 4 760279 4 549904	42995 57581 35474	8 143 10 905 6 718	454	Narsimdevargarudda Bátigudda Airani Hill Pagoda	h.s. " "	29 57 4 81 24 25	4 711761 5 008531 4 982534	51495 101984 96058	9 753 19 315 18 193	" " "
442	Béttadmallappangudda Gabgaddi Mailara Pagoda	h.s. " "	4 633423 5 025915 4 988837	42995 106149 97462	8 143 20 104 18 459	455	Gabgaddi Narsimdevargarudda Airani Hill Pagoda	h.s. " "	84 6 50 27 36 31	5 008531 4 676810 4 978836	101984 47513 95244	19 315 8 999 18 039	" " "
* 443	Narsimdevargarudda Béttadmallappangudda Karéddigudda	h.s. " "	4 765547 4 574603 4 428248	58284 37549 26807	11 039 7 112 5 077	456	Narsimdevargarudda Karéddigudda Kanchétrattimppan Hill Pagoda	h.s. " "	124 37 17 16 51 59	4 784019 4 331268 4 662925	60816 21442 46018	11 518 4 061 8 715	" " "
444	Béttadmallappangudda Karéddigudda Kulhalli Pagoda	h.s. " "	4 765547 4 574603 4 428248	58284 37549 26807	11 039 7 112 5 077	457	Narsimdevargarudda Bátigudda Kanchétrattimppan Hill Pagoda	h.s. " "	4 0 53 1 53 19	4 815505 4 488269 4 982534	65389 30780 96058	12 384 5 830 18 193	" " "
445	Narsimdevargarudda Karéddigudda Jitnakatta Hill Platform	h.s. " "	4 658290 4 460600 4 662925	45529 28880 46018	8 623 5 470 8 715	458	Narsimdevargarudda Bátigudda Huehangidrug Pagoda	h.s. " "	47 51 22 22 53 3	4 877635 4 597350 4 982534	75446 39569 96058	14 289 7 494 18 193	" " "
446	Karéddigudda Jitnakatta Hill Platform Harpanahalli Fort	h.s. s. "	4 455640 4 436905 4 658290	28552 27347 45529	5 408 5 179 8 623	459	Gabgaddi Narsimdevargarudda Huehangidrug Pagoda	h.s. " "	19 49 58 105 24 57	4 597350 5 050884 4 978836	39569 112430 95244	7 494 21 294 18 039	" " "
447	Karéddigudda Jáikalgudda Hill Platform Harpanahalli Fort	h.s. s. "	4 513847 4 436905 4 280368	32647 27347 19071	6 183 5 179 3 612	460	Gabgaddi Narsimdevargarudda Köndaji Hill Platform	h.s. " "	43 0 4 41 44 43	4 814456 4 804021 4 978836	65231 63683 95244	12 354 12 061 18 039	" " "
448	Narsimdevargarudda Bátigudda Mailaringangudda Pagoda	h.s. " "	5 063826 5 185068 4 982534	115831 153133 96058	21 938 29 002 18 193	461	Narsimdevargarudda Bátigudda Köndaji Hill Platform	h.s. " "	15 48 52 28 5 54	4 576851 4 814456 4 982534	37744 65231 96058	7 149 12 354 18 193	" " "
449	Béttadmallappangudda Narsimdevargarudda Mailaringangudda Pagoda	h.s. " "	5 185068 5 174865 4 987719	153133 149577 97212	29 002 28 329 18 411	462	Siddeshvar, XLIII Hébbe, XLVI Vimaldi	h.s. " "	63 29 44 39 21 26	5 114974 4 965394 5 152180	130309 92341 141965	24 680 17 489 26 887	" " "
450	Gabgaddi Narsimdevargarudda Teligudda Hill Pagoda	h.s. " "	4 803696 4 618301 4 978836	63635 41524 95244	12 052 7 864 18 039	468	Hugudi, XLI Siddeshvar, XLIII Vimaldi	h.s. " "	69 0 53 57 47 12	4 965394 4 922066 4 898679	92341 83677 79192	17 489 15 848 14 998	" " "

* The continuation of the triangulation will be found in the Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°. † Base taken from the Great Arc Series.

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No of Triangle	Station	Corrected Plane Angle			Distance			Theodolite used
		o	'	"	Log. feet	Feet	Miles	
464	Hugadi, XLI	51	1	58	5'045290	110992	21'021	c.t.l.
	Kalavarangan	35	53	7	4'922606	82677	15'848	
	Vimaldi	93	4	55	5'153958	142547	26'998	
465	Vimaldi	65	36	50	5'193823	156251	29'593	"
	Kalavarangan	74	4	22	5'217407	164971	31'244	
	Kalingráyan	40	18	48	5'045290	110992	21'021	
466	Kalavarangan	39	28	42	5'003889	100899	19'110	"
	Kalingráyan	40	26	33	5'012611	102946	19'497	
	Timmappangudda	100	4	45	5'193823	156251	29'593	
467	Bátigudda	37	21	42	5'012611	102946	19'497	"
	Kalavarangan	107	48	13	5'234501	171594	32'499	
	Timmappangudda	60	45	27	5'100331	125989	23'861	
468	Kalingráyan	74	54	42	5'144300	139412	26'404	"
	Timmappangudda	44	19	51	5'003889	100899	19'110	
	Shigakal	63	46	19	5'103017	126770	24'009	
* 469	Kalingráyan	42	0	36	4'896295	78758	14'916	c.t.l.
	Shigakal	9	29	45	4'915798	82375	15'601	
	Kalangavi	80	34	24	5'144300	139412	26'404	
470	Bátigudda	112	23	34	5'072382	118136	22'374	"
	Timmappangudda	8	44	23	4'288120	19414	3'677	
	Harihar Fort	42	0	36	4'896295	78758	14'916	
471	Bátigudda	45	58	58	4'915826	82381	15'602	"
	Timmappangudda	61	19	35	5'002200	100508	19'036	
	Harihar Fort	8	44	23	4'288120	19414	3'677	
472	Bátigudda	45	58	58	4'915826	82381	15'602	"
	Timmappangudda	61	19	35	5'002200	100508	19'036	
	Hallur Hill Pagoda	8	44	23	4'288120	19414	3'677	
473	Bátigudda	45	37	57	4'985549	96727	18'320	"
	Timmappangudda	80	26	17	5'125246	133428	25'270	
	Katgi Hill Tree	5	038891	109368	20'714			
474	Kalavarangan	69	1	36	4'985549	96727	18'320	"
	Timmappangudda	27	21	56	4'677762	47617	9'018	
	Katgi Hill Tree	5	012611	102946	19'497			
475	Kalavarangan	43	44	42	4'621652	41846	7'925	"
	Katgi Hill Tree	51	53	19	4'677762	47617	9'018	
	Hönnáli Fort	25	16	54	4'739477	54888	10'395	
476	Kalavarangan	126	46	28	5'012611	102946	19'497	"
	Timmappangudda	30	4	18	4'656739	45367	8'592	
	Hönnáli Fort	53	55	7	4'804338	73171	13'858	

* The continuation of the triangulation will be found in the Synoptical Volume of the Great Arc Meridional Series, Section 8° to 18°.

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	Hönnavalli, XL Hugadi, XLI Karadibetta Hill Peak	43 14 38 28 16 48	4.989639 4.829459 5.130898	97642 67524 135176	18.493 12.789 25.601	503	Timmappangudda Chelur Fort Holtihal Hill Pagoda	32 31 45 108 4 43	4.616157 4.863606 4.688111	41320 73048 48765	7.826 13.835 9.236	C.T.I. "
491	Kalavarangan Hönnavalli, XL Kumsibetta Hill Tree	51 43 42 21 53 53	5.007791 4.684534 5.094896	101810 48365 124422	19.282 9.160 23.505	504	Bátigudda Timmappangudda Maradi	39 27 46 61 32 3 79 0 11	4.850108 4.990979 5.038891	70812 97944 109368	13.411 18.550 20.714	" " 36
492	Vimaldi Kalavarangan Yédéval Hill Tree	7 47 1 20 19 53	4.503767 4.912937 5.045290	31898 81835 110992	6.041 15.499 21.021	505	Shigakal Timmappangudda Maradi	18 18 30 15 40 17 146 1 13	4.850108 4.784554 5.100331	70812 60891 125989	13.411 11.532 23.861	Inch 36 C.T.I. 36
493	Kalavarangan Timmappangudda Yédéval Hill Tree	93 13 11 16 54 47	5.039307 4.503767 5.012611	109473 31898 102946	20.734 6.041 19.497	506	Shigakal Maradi Máyakonda Fort	36 5 48 37 58 6	4.571796 4.590606 4.784554	37308 38959 60891	7.066 7.379 11.532	" "
494	Kalavarangan Yédéval Hill Tree Háranhalli Fort	27 2 4 50 22 32	4.274699 4.606570 4.503767	18823 40418 31898	3.565 7.655 6.041	507	Shigakal Maradi Bharamnáyakandurga Platform	60 18 23 9 46 0	4.750230 4.040885 4.784554	56264 10987 60891	10.656 2.081 11.532	" "
495	Kalavarangan Kumsibetta Hill Tree Háranhalli Fort	37 50 28 85 42 57	4.473545 4.606570 4.684554	29754 40418 48395	5.935 7.655 9.160	508	Timmappangudda Kálingráyan Kanigiri Mallápur Hill Pagoda	73 30 57 20 9 23	4.986554 4.542076 5.003889	96951 34840 100899	18.362 6.598 19.110	C.T.I. "
496	Kalavarangan Timmappangudda Sasávehalli Fort	7 9 56 16 47 53 156 2 11	4.499912 4.864814 5.012611	31616 73251 102946	5.988 13.873 19.497	509	Shigakal Kálingráyan Kanigiri Mallápur Hill Pagoda	43 47 51 40 36 4	4.986554 4.959818 5.144300	96951 91163 139412	18.362 17.266 26.404	36 C.T.I.
497	Kalavarangan Katgi Hill Tree Sasávehalli Fort	76 11 32 36 46 0	4.887021 4.864814 4.677762	77254 73251 47617	14.631 13.873 9.018	510	Shigakal Maradi Santébennúr Mosque	30 22 42 62 4 41	4.488852 4.731202 4.784554	30821 53852 60891	5.837 10.199 11.532	36 "
498	Timmappangudda Hallúr Hill Pagoda Chelur Fort	77 14 52 69 9 47	4.934355 4.688111 4.915826	85972 48765 82381	16.283 9.236 15.602	511	Shigakal Kálingráyan Vadamaradi Hill Pagoda	16 35 55 17 22 23	4.852914 4.872134 5.144300	71271 74496 139412	13.498 14.109 26.404	" C.T.I.
499	Kalavarangan Timmappangudda Chelur Fort	30 46 14 127 0 2	4.688111 4.819198 5.012611	48765 65947 102946	9.236 12.490 19.497	512	Shigakal Maradi Vadamaradi Hill Pagoda	46 2 26 80 17 10	4.735636 4.872134 4.784554	54405 74496 60891	10.304 14.109 11.532	36 "
500	Timmappangudda Chelur Fort Anéveri Round Turret	28 51 45 79 1 46	4.393335 4.701629 4.688111	24736 50397 48765	4.685 9.528 9.236	513	Shigakal Maradi Dummi Hill Pagoda	78 23 39 56 8 4	4.922553 4.850785 4.784554	83667 70923 60891	15.846 13.432 11.532	" "
501	Kalavarangan Timmappangudda Anéveri Round Turret	29 14 50 59 37 59	4.701629 4.948607 5.012611	50397 88840 102946	9.528 16.826 19.497	514	Shigakal Timmappangudda Channagiri Fort	36 20 46 56 22 45	4.873629 5.021322 5.100331	74753 105032 125989	14.158 19.892 23.861	" C.T.I.
502	Kalavarangan Timmappangudda Chitnahalli Hill Pagoda	43 2 18 13 59 55	4.922933 4.472471 5.012611	83740 29680 102946	15.860 5.621 19.497	515	Timmappangudda Kálingráyan Channagiri Fort	18 31 57 38 21 28	4.583051 4.873629 5.003889	38287 74753 100899	7.251 14.158 19.110	" "

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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	
516	Shigakal Timmappangudda Rangandurga Pagoda	h.s. " "	5°02'6.126 5°11'25.99 5°10'33.1	106200 129598 125989	20.114 24.545 23.861	Inch 36 C.T.I.	Hudalgudda Bhatkaldurg Murdeswar Hill Fort	63 48 22 53 46 23 62 25 15	4°6'9.529 4°6'45.291 4°6'86.205	49151 44187 48552	9.309 8.369 9.195	C.T.I. " "	
517	Timmappangudda Kalingsayan Rangandurga Pagoda	h.s. " "	7 40 45 107 2 11	148.42 106200 100899	2.811 20.114 19.110	" " "	Hudalgudda Bhatkaldurg Jalikulund Rock	27 25 59 83 16 36	4°37'86.44 4°71'22.18 4°68'62.05	23914 51549 48552	4.529 9.763 9.195	" " "	
518	Basradurg Kasargod Kasargod Pagoda	s. h.s. "	7 23 34 29 22 17	7619 29041 35439	1.443 5.500 6.712	" " "	Kaltigudda, XXXVII Dindemane, XXXVIII Shirali Island	37 47 12 96 3 6	4°9'14.912 5°12'32.20 4°98'57.61	82208 133420 96775	15.570 25.269 18.329	Inch 24 "	
519	Kaltigudda, XXXVII Dindemane, XXXVIII Netrani Island	h.s. "	59 6 48 81 26 17	130709 150611 96775	24.755 28.525 18.329	24 "	Kaltigudda Hukaligudda Govardhangiridurga Platform	36 55 9 73 23 54	4°70'14.92 4°90'43.51 4°89'49.46	50291 80233 78514	9.525 15.196 14.870	C.T.I. " "	
520	Dindemane, XXXVIII Koramur, XXXIX Ambargudda	h.s. "	61 41 26 50 5 23 68 13 11	99957 87688 105431	18.931 16.494 19.968	C.T.I. " "	Hukaligudda Dindemane, XXXVIII Govardhangiridurga Platform	13 53 9 46 13 20	4°22'31.28 4°70'14.92 4°78'09.40	16716 50291 60387	3.166 9.525 11.437	" " "	
521	Koramur, XXXIX Hugadi, XLI Kodashadri	h.s. "	63 11 50 55 31 24 61 16 46	116893 107901 114852	22.139 20.447 21.752	" " "	Koramur, XXXIX Kodashadri, XLII Yedamale Hill Peak	42 33 51 77 54 25	4°9'27.084 5°08'80.25 5°03'32.20	84720 122469 107949	16.045 23.195 20.445	24 " "	
522	Koramur, XXXIX Ambargudda Kodashadri	h.s. "	4°55'07.95 5°03'32.66 4°99'98.14	35546 107901 99957	6.732 20.447 18.931	" " "	Hukaligudda, XXXVI Koramur, XXXIX Yedamale Hill Peak	71 37 5 61 20 41	5°08'80.25 5°05'40.27 4°97'51.60	122469 113247 94441	23.195 21.448 17.887	" " "	
523	Dindemane, XXXVIII Koramur, XXXIX Kodashadri	h.s. "	56 20 32 69 16 53 54 22 35	107961 121316 105431	20.447 22.977 19.968	" " "	Dindemane, XXXVIII Koramur, XXXIX Chalkinbarra Peak	81 33 35 38 38 3	5°08'15.61 4°88'17.16 5°02'29.70	120659 76158 105431	22.852 14.424 19.968	" " "	
524	Dindemane, XXXVIII Kodashadri Hudalgudda	h.s. "	84 28 25 4 49'15.38 5°08'39.18	122289 31013 121316	23.161 5.874 22.977	" " "	Hukaligudda, XXXVI Koramur, XXXIX Devakonda Hill Peak	58 22 55 77 46 33	5°06'48.47 5°12'40.70 4°97'51.60	116104 133251 94441	21.989 25.237 17.887	" " "	
525	Kodashadri Hudalgudda Halligiri Gunjanagudda	h.s. "	5°02'77.08 4°92'35.66 5°08'73.89	106588 83862 122289	20.187 15.883 23.161	" " "	Koramur, XXXIX Kodashadri, XLII Devakonda Hill Peak	26 7 50 85 50 45	4°70'89.93 5°06'48.47 5°03'32.20	51274 116104 107949	9.711 21.989 20.445	" " "	
526	Dindemane, XXXVIII Basradurg Bhatkaldurg	s. h.s.	84 24 17 35 41 50 59 53 53	134233 78700 116686	25.423 14.905 22.100	" " "	Koramur, XXXIX Kodashadri, XLII Karnigudda Hill Peak	27 1 55 93 56 35	4°75'57.62 5°09'01.1 5°03'32.20	57222 125606 107949	10.837 23.789 20.445	" " "	
527	Dindemane, XXXVIII Ambargudda Bhatkaldurg	h.s. "	68 32 45 51 28 52 59 58 23	93618 78700 87088	17.731 14.905 16.494	" " "	Dindemane, XXXVIII Bhatkaldurg Baidur Head Mark	25 5 45 103 35 53	4°63'11.07 4°99'12.57 4°89'59.76	42767 98007 78700	8.100 18.562 14.905	C.T.I. " "	
528	Hudalgudda Halligiri Gunjanagudda Bhatkaldurg	h.s. "	39 28 59 24 4 8 116 26 53	75696 48552 106588	14.336 9.195 20.187	" " "	Hudalgudda Bhatkaldurg Baidur Head Mark	32 18 33 110 20 0	4°63'11.07 4°87'52.27 4°68'62.05	42767 75029 48552	8.100 14.210 9.195	" " "	

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	
542	Kōdashādrī, XLII Bisale, XLIV Yelgudda Hill Peak	125 25 20 16 16 18	5.191548 4.727898 5.072738	155435 53444 118233	29.438 10.122 22.393	555	Vimaldi Basavangudda Chēubasappa Pagoda	27 58 41 68 55 43	4.552081 4.850728 4.877622	35652 70913 75443	6.752 13.431 14.289	C.T.I. " " "
543	Bisale, XLIV Valkunji, XLVII Yelgudda Hill Peak	142 53 52 24 2 32	5.362006 5.191548 4.935570	230147 155435 80212	43.589 20.438 16.328	556	Vimaldi Basavangudda Koramūrgudda	67 48 15 55 45 15 56 26 30	4.923371 4.874119 4.877622	83825 74838 75443	15.876 14.174 14.289	" " "
544	Koramūr, XXXIX Kōdashādrī, XLII Amanagudda Hill Peak	61 13 3 49 22 50	5.004640 4.942182 5.033220	101074 87535 107949	19.143 16.579 20.445	557	Basavangudda Koramūrgudda Basavankōlal	110 26 31 " " 31 50 45	5.172789 4.987573 4.923371	148864 97179 83825	28.194 18.405 15.876	" " "
545	Koramūr, XXXIX Hōnnavalli, XL Amanagudda Hill Peak	83 33 25 47 19 1	5.073075 4.942182 4.954436	118325 87535 90040	22.410 16.579 17.053	558	Basavangudda Basavankōlal Hannēgudda	19 3 56 108 59 1 " "	4.605414 5.067045 4.987573	40310 116693 97179	7.634 22.101 18.405	" " "
546	Hōnnavalli, XL Koramūr, XXXIX Amanagudda Platform	47 17 5 83 38 42	4.942323 5.073517 4.954436	87564 118445 90040	16.584 22.433 17.053	559	Basavankōlal Hannēgudda Kugaukal	62 16 57 78 22 49 " "	4.750472 4.794412 4.605414	56295 62289 40310	10.662 11.797 7.634	" " "
547	Kalavarangan Hōnnavalli, XL Amanagudda Platform	50 1 21 76 22 15	5.073517 5.176715 5.094896	118445 150215 124422	22.433 28.450 23.505	560	Basavangudda Basavankōlal Kensamagudda	31 27 21 31 21 50 " "	4.755929 4.754788 4.987573	57007 56858 97179	10.797 10.768 18.405	" " "
548	Hugadi, XLI Kōdashādrī Anantapur Fort	103 19 8 25 10 11 51 30 41	5.162336 4.802874 5.067790	145324 63515 116893	27.523 12.029 22.139	561	Basavangudda Danavādi Pagoda Kensamagudda	39 20 44 103 56 29 " "	4.729263 4.754788 4.939716	53612 56858 87039	10.154 10.768 16.485	" " "
549	Hugadi, XLI Amanagudda Platform Anantapur Fort	54 21 10 25 13 40	4.719983 4.802874 4.439726	52479 63515 27525	9.939 12.029 5.213	562	Basavangudda Kensamagudda Bēnkipur Fort	30 3 44 " " 124 23 28	4.538014 4.472953 4.754788	34515 29713 56858	6.537 5.628 10.768	" " "
550	Kālingrāyan Kalavarangan Basavangudda	57 42 0 39 33 55	5.124315 5.001434 5.193823	133142 100331 150251	25.216 19.002 20.593	563	Hannēgudda Basavankōlal Tarikēre Fort	102 30 57 51 16 38 " "	4.358262 4.702773 4.605414	22817 50440 40310	4.321 9.553 7.634	" " "
551	Vimaldi Kalavarangan Basavangudda	89 1 41 34 30 38	5.124315 4.877622 5.045290	133142 75443 110992	25.216 14.289 21.021	564	Hannēgudda Basavankōlal Ajimpur	112 45 34 " " 47 13 46	4.704467 4.739555 4.605414	50637 18791 40310	9.590 3.559 7.634	" " "
552	Vimaldi Basavangudda Hōle Hōnnūr	91 25 24 46 27 24	4.843890 5.017237 4.877622	69806 104049 75443	13.221 19.706 14.289	565	Hannēgudda Ajimpur Bagavalli Pagoda	47 22 5 74 5 0 " "	4.209675 4.325985 4.273955	16206 21183 18791	3.069 4.012 3.559	" " "
553	Basavangudda Hōle Hōnnūr Danavādi Pagoda	92 32 33 53 14 45	4.690075 4.939716 4.843890	48986 87039 69806	9.278 16.485 13.221	566	Vimaldi Hugadi, XLI Siddeshvar	53 3 10 " " 57 35 58	4.868747 4.907251 4.922605	79204 92737 83677	15.001 17.564 15.848	" " "
554	Hēbbe, XLVI Vimaldi Shimōga	24 10 53 89 31 25 66 17 42	4.765944 5.153240 5.114974	58297 142312 130309	11.041 26.953 24.680	567	Hugadi, XLI Siddeshvar Kavalēdurga Mantapam	30 1 16 65 18 14 84 40 30	4.599872 4.858967 4.898747	39799 72272 79204	7.538 13.688 15.001	" " "

MANGALORE MERIDIONAL 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	Siddeshvar Kavaleedurga Mantapam Bisale, XLIV	h.s. s. h.s.	4° 77' 12.28 4° 89' 14.25 4° 59' 9.72	59051 77880 39799	11.184 14.750 7.538	581	Hugadi, XLI Siddeshvar, XLIII Ravigudda Hill Peak	39° 30' 19" 57° 11' 7"	4° 70' 52.06 4° 82' 01.46 4° 89' 86.79	50723 67011 79192	9.607 12.691 14.998	Inch 24 "
569	Kavaleedurga Mantapam Bisale, XLIV Mulugudda	s. h.s. h.s.	4° 77' 8.37 4° 62' 20.5 4° 77' 12.28	60024 42482 59051	11.368 8.046 11.184	582	Hugadi, XLI Siddeshvar, XLIII Kavaleedurga Hill Temple	30° 21' 5" 65° 17' 16"	4° 60' 43.37 4° 85' 00.72 4° 89' 86.79	40210 72289 79192	7.616 13.691 14.998	" " "
570	Bisale, XLIV Mulugudda Avaragudda	h.s. " "	4° 93' 97.11 4° 81' 52.25 4° 77' 8.37	87038 65347 60024	16.485 12.376 11.368	583	Hugadi, XLI Kōdashādrī, XLII Kavaleedurga Hill Temple	59° 42' 28" 37° 49' 19"	5° 00' 77.07 4° 85' 00.72 5° 06' 77.02	101790 72289 116870	19.278 13.691 22.134	" " "
571	Bisale, XLIV Avaragudda Kāchanmalai	h.s. " "	4° 76' 8.398 4° 81' 9.203 4° 81' 52.25	58668 65957 65347	11.111 12.492 12.376	584	Mulugudda Gudikal Kavaleedurga Hill Temple	62° 31' 13" 56° 13' 17"	4° 65' 65.16 4° 62' 20.8 4° 65' 14.06	45344 42482 44813	8.588 8.046 8.487	C.T.I. " "
572	Avaragudda Kāchanmalai Swarnanadigudda	h.s. " "	4° 79' 78.78 4° 83' 33.95 4° 76' 8.398	62788 68139 58668	11.892 12.905 11.111	585	Kavaleedurga Hill Temple Mulugudda Haiderghar	78° 15' 24" 84° 11' 43"	4° 10' 97.36 4° 62' 12.54 4° 62' 20.8	12875 41808 42482	2.438 7.918 8.046	" " "
573	Kāchanmalai Swarnanadigudda Umikal	h.s. " "	4° 78' 9.325 4° 68' 4.168 4° 79' 78.78	61564 48325 62788	11.660 9.152 11.892	586	Kōdashādrī Halligiri Gunjanagudda Kund Bagavadigudda No. 1	60° 41' 16" 86° 59' 48"	4° 65' 21.77 4° 86' 46.62 4° 92' 35.66	44893 73225 83862	8.502 13.868 15.883	" " "
574	Swarnanadigudda Umikal Indraligudda	h.s. " "	4° 76' 37.95 4° 07' 21.4 4° 78' 9.325	58049 12001 61564	10.994 2.273 11.660	587	Mulugudda Avaragudda Kund Bagavadigudda No. 2	72° 21' 4" 60° 55' 49"	4° 86' 03.13 4° 97' 22.47 4° 93' 97.11	72496 94896 87038	13.730 17.973 16.485	" " "
575	Umikal Indraligudda Santurkopaligudda	h.s. " "	4° 84' 18.67 4° 74' 9.229 4° 76' 37.95	69481 56134 58049	13.159 10.632 10.994	588	Avaragudda Kund Bagavadigudda No. 2 Gurunagudda	47° 5' 9" 94° 34' 48"	4° 65' 42.67 4° 72' 04.36 4° 86' 03.13	45109 53264 72496	8.543 10.088 13.730	" " "
* 576	Umikal Santurkopaligudda Partamalaigudda	h.s. " "	4° 71' 03.77 4° 51' 04.40 4° 74' 9.229	51331 32392 56134	9.722 6.135 10.632	589	Avaragudda Gurunagudda Anaigudda	105° 8' 11" 68° 7' 37"	3° 82' 20.4 4° 74' 35.48 4° 82' 36.9	6733 55405 53264	1.275 10.493 10.088	" " "
577	Mulugudda Kavaleedurga Mantapam Gudikal	h.s. s. h.s.	4° 65' 63.71 4° 65' 14.06 4° 62' 20.5	45328 44813 42482	8.585 8.487 8.046	590	Avaragudda Anaigudda Kokadigudda	77° 34' 0" 54° 32' 4"	4° 70' 30.58 4° 82' 36.9 4° 74' 35.48	50473 66431 55405	9.559 12.582 10.493	" " "
578	Hugadi, XLI Kavaleedurga Mantapam Gudikal	h.s. s. h.s.	4° 65' 63.71 4° 68' 75.24 4° 85' 89.67	45328 48609 72272	8.585 9.223 13.688	591	Avaragudda Kokadigudda Swarnanadigudda	78° 42' 55" 72° 57' 23"	4° 51' 81.32 4° 83' 33.95 4° 82' 36.9	32971 68139 66431	6.244 12.905 12.582	" " "
579	Gudikal Mulugudda Nagar Flag Staff	h.s. " "	4° 50' 91.23 4° 19' 24.99 4° 65' 14.06	32204 15578 44813	6.116 2.950 8.487	592	Kund Bagavadigudda No. 2 Gurunagudda Coondapoor Fort Flag Staff	23° 53' 46" 31° 36' 4"	4° 34' 58.28 4° 45' 70.21 4° 65' 42.67	22173 28683 45109	4.199 5.432 8.543	" " "
580	Hugadi, XLI Kōdashādrī, XLII Ravigudda Hill Peak	h.s. " "	4° 95' 68.38 4° 82' 01.46 5° 06' 77.02	90539 67011 116870	17.148 12.691 22.134	598	Bisale, XLIV Valkunji, XLVII Coondapoor Mark	110° 8' 35" 41° 29' 35"	5° 23' 14.02 5° 08' 00.18 4° 93' 55.70	170373 120231 86212	32.268 22.771 16.328	24 " "

* The continuation of the triangulation will be found in the Synoptical Volume of 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	
594	Kōdashādrī, XLII Bisale, XLIV Coondapoor Mark.	66 32 23 49 1 35	5°08'00"18 4°9'55"443 5°07'27"38	120231 98956 118233	22.771 18.742 23.393	607	Hirēgudda, XLV Valkunji, XLVII Āgumbe Hill Mark	27 9 52 71 31 29	4°73'70"66 5°05'40"00 5°07'56"8	54584 113397 118186	10.338 21.477 22.384	Inch 24 "
595	Kund Bagavadigudda No. 2 h.s. Gurunagudda Basarūr Hill Mark	19 38 50 27 19 8	4°31'70"13 4°45'21"37 4°65'42"67	20750 28383 45109	3.930 5.304 8.543	608	Bisale, XLIV Hirēgudda, XLV Āgumbe Hill Mark	28 42 52 9 15 10	5°05'46"00 4°57'92"17 5°16'19"81	113397 37950 145205	21.477 7.188 27.501	"
596	Indraligudda Santurkopaligudda Kāp Battery	40 14 25 101 59 6	4°66'16"67 4°63'85"86 4°84'18"67	45885 43510 69481	8.690 8.240 13.159	609	Bisale, XLIV Valkunji, XLVII Narsiparvata Hill Mark	27 22 18 50 8 48	4°60'84"89 4°83'11"42 4°93'55"70	40597 67786 86212	7.689 12.838 16.328	"
597	Svarnanadigudda Indraligudda Dariya Bahādur Garh Island	63 50 21 96 56 58	4°51'50"10 4°55'87"44 4°07'21"4	32735 36203 12001	6.200 6.857 2.273	610	Siddeshvar, XLIII Bisale, XLIV Narsiparvata Hill Mark	43 26 36 83 57 39	4°83'11"42 4°99'13"65 4°89'38"05	67786 98031 78308	12.838 18.567 14.831	"
598	Indraligudda Kāp Battery Dariya Bahādur Garh Island	70 5 35 43 33 44	4°64'99"44 4°51'50"10 4°63'85"86	44663 32735 43510	8.459 6.200 8.240	611	Siddeshvar Koramūrgudda Kōppadurga Fort	48 10 49 52 24 42	4°79'10"99 4°81'75"1 4°91'13"35	61816 65728 81533	11.708 12.448 15.442	C.T.I. "
599	Kāp Battery Santurkopaligudda Uchilgudda	36 37 12 129 40 59	4°55'10"23 4°14'97"65 4°66'16"67	35565 14118 45885	6.736 2.674 8.690	612	Koramūrgudda Kōppadurga Fort Hannikal	47 42 33 60 45 49	4°71'93"56 4°82'73"03 4°79'10"99	52403 67190 61816	9.925 12.725 11.768	"
600	Indraligudda Santurkopaligudda Uchilgudda	51 28 18 98 4 42	4°55'10"23 4°73'95"72 4°84'18"67	35565 54900 69481	6.736 10.398 13.159	613	Hirēgudda, XLV Hēbbe, XLVI Gangagiri Hill Peak	14 17 36 34 52 56	4°43'13"13 4°79'61"30 4°91'77"49	26997 62536 82746	5.113 11.844 15.672	24 "
601	Uchilgudda Santurkopaligudda Kunjargudda Pagoda	89 13 2 42 45 48	4°67'97"6 4°51'16"68 4°55'10"23	47838 32484 35565	9.060 6.152 6.736	614	Hirēgudda, XLV Ānūr, VI Gangagiri Hill Peak	42 33 9 40 50 3	4°81'07"54 4°79'61"30 4°97'77"38	64678 62536 95003	12.250 11.844 17.993	"
602	Parmalaligudda Santurkopaligudda Kunjargudda Pagoda	39 36 58 97 12 43	4°67'97"6 4°87'17"51 4°71'03"77	47838 74430 51331	9.060 14.097 9.722	615	Hēbbe, XLVI Ānūr, VI Woddigudda Hill Mark	14 42 50 35 53 49	4°44'76"12 4°81'09"33 4°93'08"89	28029 64704 85288	5.309 12.255 16.153	"
603	Siddeshvar, XLIII Hirēgudda, XLV Akhibēttadarashigudda Hill Peak	77 12 27 28 51 24	5°09'12"81 4°78'58"03 5°08'48"99	123390 61066 121590	23.369 11.566 23.028	616	Hirēgudda, XLV Hēbbe, XLVI Woddigudda Hill Mark	49 28 9 54 7 27	4°81'09"33 4°83'87"28 4°91'77"49	64704 68981 82746	12.255 13.065 15.672	"
604	Hirēgudda, XLV Valkunji, XLVII Akhibēttadarashigudda Hill Peak	40 11 41 73 16 19	4°91'98"1 5°09'12"81 5°07'25"68	83154 123390 118186	15.749 23.369 22.384	617	Hēbbe, XLVI Ānūr, VI Bāba Budan No. 1	40 5 24 58 30 46 81 23 50	4°744'68"2 4°866'68"28 4°930'889	55550 73558 85288	10.521 13.931 16.153	"
605	Siddeshvar, XLIII Hirēgudda, XLV Kundadagudda Hill Mark	54 57 49 24 44 35	5°00'51"17 4°71'36"93 5°08'48"99	101185 51724 121590	19.164 9.796 23.028	618	Hēbbe, XLVI Bāba Budan No. 1 Bāba Budan No. 2	28 50 37 60 13 58 90 55 25	4°550'110 4°805'229 4°866'68"28	35490 63860 73558	6.722 12.095 13.931	24 7 "
606	Hirēgudda, XLV Valkunji, XLVII Kundadagudda Hill Mark	44 18 30 57 4 8	4°92'53"65 5°00'51"17 5°07'25"68	84210 101185 118186	15.949 19.164 22.384	619	Hirēgudda, XLV Ānūr, VI Bāba Budan No. 1 Hill Peak	18 44 16 107 26 20	4°577'58"2 5°050'32"1 4°977'73"8	37808 112285 95003	7.161 21.266 17.993	24 "

* Base deduced by two sides and included angle. NOTE.—Station Ānūr, VI appertains to 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				
620	Hirēgudda, XLV Hēbbe, XLVI Bāba Budan No. 1 Hill Peak	38	6	29	4.842126	69523	13.167	"	680	Bisale, XLIV Valkunji, XLVII Shitebhumi Peak	24	23	10	4.818998	65917	12.484	"
621	Koramūgudda Hainikal Bāba Budan Pagoda	45	22	17	5.050321	112285	21.266	"	681	Valkunji, XLVII Kudurēmukha, III Shitebhumi Peak	26	29	8	5.127107	134001	25.379	"
622	Hēbbe, XLVI Anūr, VI Totalappangiri Hill Temple	105	53	26	4.917749	82746	15.672	"	682	Hirēgudda, XLV Kudurēmukha, III Gangrikal Peak	34	20	29	4.935570	86212	16.328	"
623	Hirēgudda, XLV Anūr, VI Madlakal Hill Peak	3	37	39	4.997615	99452	18.836	c.t.l.	683	Hirēgudda, XLV Valkunji, XLVII Gangrikal Peak	25	0	55	4.716933	52111	9.870	"
624	Hirēgudda, XLV Hēbbe, XLVI Madlakal Hill Peak	39	41	52	5.128412	134404	25.455	"	684	Valkunji, XLVII Gangrikal Peak	46	26	0	4.818998	65917	12.484	"
625	Hirēgudda, XLV Anūr, VI Niragundarāya Hill Peak	3	10	16	4.827303	67190	12.725	"	685	Bisale, XLIV Valkunji, XLVII Gangamūla Peak	25	0	55	5.008714	102027	19.323	"
626	Hirēgudda, XLV Anūr, VI Mertiparvata Hill Temple	69	44	31	3.895971	7864	1.489	"	686	Hirēgudda, XLV Anūr, VI Kudurēmukha	40	11	17	4.730593	53776	10.185	"
627	Hēbbe, XLVI Anūr, VI Mertiparvata Hill Temple	3	10	16	4.899799	79396	15.037	"	687	Hirēgudda, XLV Kudurēmukha	7	21	33	4.924337	84011	15.911	"
628	Bisale, XLIV Valkunji, XLVII Guligundi Peak	69	53	7	4.930889	85288	16.153	"	688	Hirēgudda, XLV Anūr, VI Bangārbelige Hill Peak	25	0	55	5.047241	111491	21.116	"
629	Hirēgudda, XLV Anūr, VI Guligundi Peak	53	40	29	4.977738	95003	17.993	"	689	Hirēgudda, XLV Valkunji, XLVII Kudurēmukha Hill Mark	40	11	17	4.740773	55052	10.427	"
		53	40	29	4.903099	80002	15.152	"			7	21	33	4.783423	52896	10.018	"
		69	53	7	4.969612	93242	17.659	"			6	56	40	4.098363	49930	9.456	"
		53	40	29	4.917749	82746	15.672	"			13	44	14	4.698363	49930	9.456	"
		12	31	45	4.524289	33442	6.334	"			142	3	22	5.111552	129286	24.486	"
		25	30	58	4.822197	60404	12.577	"			93	56	37	5.179291	151110	28.619	"
		84	13	57	4.977738	95003	17.993	"			47	12	41	5.045937	111157	21.052	"
		56	1	47	4.999277	99834	18.908	"			6	29	59	4.164334	14599	2.765	"
		78	51	27	4.619891	41676	7.893	"			53	1	40	5.013001	103039	19.515	"
		33	22	3	4.977738	95003	17.993	"			87	26	38	5.045937	111157	21.052	"
		109	21	42	4.930889	85288	16.153	"			48	42	27	4.977738	95003	17.993	"
		40	3	13	4.893764	78300	14.830	"			50	51	12	5.136725	137002	25.947	"
		50	7	30	5.128112	134311	25.438	"			61	36	42	5.013000	103039	19.515	"
					4.935570	86212	16.328	"			5.072568	118186	22.384				

NOTE.—Stations Kudurēmukha, III and Anūr, VI appertain to the Madras Longitudinal Series.

May, 1891.

J. ECCLES,

In charge of Computing Office.

MANGALORE MERIDIONAL 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
ACHUVI h.s. Mirjan Fort Kumta Base S. End Kumta Base N. End Kudainigudda Gokarn	31 6 31 32 10 46 47 51 15 60 6 55 72 36 25	AJIMPUR s. Bagavalli Pagoda Basavankólal Hannégudda	40 45 41 h.s. 67 36 55 " 114 50 41	ANANTAPUR FORT s. Hugadi, XLI Amanagudda Platform Kódashádrí	4 54 38 30 8 18 h.s. 56 25 19
Ankola Numagudda Anjidiy Island Flag Staff Tulshigudda Hill Tree Hóttégudda Menshigudda Kadabal Kukdimahni Bairágigudda Halébail Kaltigudda	102 29 21 s. 111 31 44 121 59 57 h.s. 153 29 21 " 232 8 18 " 262 29 47 " 289 40 46 " 305 23 22 " 309 4 41 " 347 37 53	ALSUNDA, XIX Kalas, I Bori, XXII Kem, XVII AMBARGUDDA h.s. Bhatkaldurg Dindémáne, XXXVIII Koramúr, XXXIX Kódashádrí	30 39 33 51 85 28 33 33 3 3 17 54 83 h.s. 99 42 9 151 11 1 219 24 12 " 312 38 4	ANAVLI h.s. Sulki Paddak Pagoda Ahir Bábhulgaon Laul Khandáli	h.s. 105 51 36 124 23 28 " 162 26 6 s. 177 15 40 " 196 18 52
AHIB-BABHULGAON h.s. Paddak Pagoda Sulki Khandáli Anavli	63 33 18 h.s. 90 13 42 s. 225 24 27 h.s. 342 25 16	ANAIGUDDA h.s. Gurunagudda Avaragudda Kokadigudda	h.s. 209 55 30 " 278 3 7 " 355 37 7	ANEKALGUDDA h.s. Béttadmállappangudda Holágundi Pagoda Kapatgudda Pagoda Kandkal Hampaságur Fort Rámesvarambanda	h.s. 70 40 28 87 44 5 s. 92 0 7 " 98 9 2 " 111 55 2 " 139 29 51
	388 340 339 824 885 881 834 829 157 156 317 358 155 154 154				565 564 564 1 2 1 527 520 520 522 589 589 590
	79 77 76 76				70 78 76 69 69

NOTE.—Stations Alsuuda, XIX, Bori, XXII and Kem, XVII appertain to the Bombay Longitudinal Series.

MANGALORE MERIDIONAL SERIES.

Name of station with azimuths of surrounding points	o' "	No. of triangle giving distance	Name of station with azimuths of surrounding points	o' "	No. of triangle giving distance	Name of station with azimuths of surrounding points	o' "	No. of triangle giving distance
ANKOLA FORT s.			AUNDH, VI			BADENGOD No. 1 h.s.		
Ankola Numazugudda	s. 82 8 59	333	Tadar Hill Temple	5 32 28	93	Naungiri (new)	h.s. 30 57 49	389
Tulshigudda Hill Tree	228 29 9	333	Aundh Hill Temple	52 16 44	90	Badengod Fort	s. 131 1 21	394
			Jaigaon Hill Mark (heliotrope)	115 6 1	88	Bhedasvegudda	h.s. 138 30 25	388
ANKOLA NUMAZUGUDDA s.			Jámb Hill Temple	142 41 16	86	Badengod No. 2	" 173 59 9	390
Höttégudda	h.s. 208 41 30	331	Paivan, III	195 49 29.31	7	Gutimma Hill Tree	" 175 21 21	392
Tulshigudda Hill Tree	239 6 44	332	Páchvad, IV	277 23 18.80	7	Mundasáli	" 188 46 48	388
Ankola Fort	s. 262 8 34	333	Revansidh Hill Temple	323 9 18	94	Hótanhalli Tower	" 218 25 10	397
Achuví	h.s. 282 26 7	331	Bushangad Hill Fort Tree	333 20 7	91	Hángal Pír Jugah Tree	222 31 50	399
			Kundal, VIII	354 44 45.81	8	Dóddikoppa Pagoda	296 52 40	403
						Hallibail Hill Pagoda	298 30 16	404
ANUR, VI			AVADI h.s.			BADENGOD No. 2 h.s.		
Bangárbelige Hill Peak	62 23 20	638	Marsingal	h.s. 136 26 52	277	Bhedasvegudda	h.s. 133 10 51	390
Kudurémukha	63 53 6	636	Timoli	" 148 55 17	278	Mundasáli	" 190 26 0	391
Kudurémukha, III	64 47 29.73	61	Kúdalgaoon	" 220 31 47	277	Badengod No. 1	" 272 22 30	390
Niragundaráya Hill Peak	85 34 49	625						
Merúparvata Hill Temple	86 33 19	626	AVARAGUDDA h.s.			BAIRAGUDDA h.s.		
Hirégudda, XLV	111 5 46.93	61	Swarnanadigudda	h.s. 21 51 39	572	Achuví	h.s. 125 25 53	155
Woddingudda Hill Mark	129 30 57	615	Kokadigudda	" 50 11 21	590	Menshigudda	" 183 35 46	156
Gangagiri Hill Peak	151 55 50	614	Anaigudda	" 98 5 17	589	Naungiri (new)	" 257 18 42	159
Hébbe, XLVI	165 24 46.28	63	Gurunagudda	" 104 49 29	588	Kalladagudda	" 298 20 17	362
Madlakal Hill Peak	180 50 18	623	Kund Bagavadigudda No. 2	" 143 9 32	587	Uvinmanai Tree	" 319 54 31	361
Totalappangiri Hill Temple	205 6 38	622	Mulugudda	" 215 30 36	570	Hukaligudda	" 337 49 51	361
Bába Budan No. 1 Hill Peak	218 32 7	619	Bisale, XLIV	" 259 4 18	570	Haléball	" 357 51 51	155
Bába Budan No. 1 h.s.	223 55 32	617	Káchanmalai	" 323 4 2	571			
ANUR h.s.			BABA BUDAN No. 1 h.s.			BALAHALIGUDDA h.s.		
Hónnavalli, XL	41 4 33	379	Bába Budan No. 1	h.s. 5 34 58	618	Hónnavalli, XL	181 37 5	479
Badankatte	h.s. 79 14 43	384	Hébbe, XLVI	96 30 23	618	Madigadgudda Fort	s. 231 3 57	481
Gabgaddi	" 246 28 59	381	Bába Budan No. 2	h.s. 185 34 50	618	Kalavarangan	h.s. 270 25 24	479
Bátigudda	" 286 48 22	380				Hugadi, XLI	356 39 37	480
Kalavarangan	" 355 1 5	379	BABA BUDAN No. 2 h.s.			BANIGIRI HILL PAGODA s.		
			Bába Budan No. 1	h.s. 5 34 58	618	Hukaligudda	h.s. 53 2 17	367
			Hébbe, XLVI	96 30 23	618	Uvinmanai Tree	118 28 33	367
ARSABIDDA h.s.			BADANKATTE h.s.			BASAVANGUDDA h.s.		
Nagapangudda Hill Fort	5 36 3	214	Chandragutti	h.s. 64 46 44	385	Koramúrgudda	h.s. 48 58 29	556
Maigiti	h.s. 18 34 36	216	Naungiri (old)	96 38 39	386	Vimaldi	" 104 43 44	551
Shántigiri Hill Tower	48 35 40	205	Anavatti Fort	" 170 18 6	406	Kalavarangan	" 161 11 25	550
Karigudda	66 27 58	207	Maligar Hill Pagoda	189 6 49	400	Chénbasappa Pagoda	s. 173 39 27	555
Jalihal	" 72 7 9	201	Mulgund Hill Pagoda	197 45 29	402	Höle Hönnúr	" 196 9 8	552
Hokund	" 97 53 9	209	Adúr Fort	201 34 28	401	Danavádi Pagoda	" 237 0 53	558
Hungund Hill Pagoda	" 220 0 1	203	Anúr	h.s. 259 10 4	384	Béngipur Fort	h.s. 243 55 30	562
Hanamásagar	" 280 0 35	202	Donangundi Pagoda	312 46 7	413	Kálingráyan	" 267 4 37	560
Kallakapa	" 340 55 25	201	Tógarsahi Hill Pagoda	332 56 8	412	Hannégudda	h.s. 279 28 2	558
Deválárapur Hill Tree	" 346 16 6	212	Hónnavalli, XL	354 24 34	384	Basavankólal	" 298 31 58	557
			ATHNI, XI					
Mávinhúnda, XIII	45 31 56.66	18	Donangundi Pagoda	312 46 7	413			
Dandoba Dongar, IX	120 41 47.22	17	Tógarsahi Hill Pagoda	332 56 8	412			
Dandoba Hill Temple	121 30 52	119	Hónnavalli, XL	354 24 34	384			
Kundlapur Hill Temple	150 38 36	118	BADENGOD FORT s.					
Daphlápur, X	181 53 47.21	17	Gutimma Hill Tree	253 5 49	394			
Athni Masjid (heliotrope)	183 32 35	121	Badengod No. 1	h.s. 311 0 59	394			

NOTE.—Stations Anúr, VI and Kudurémukha, III 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
BASAVANKOLAL h.s.	° ' "	BETADMALAPPANGUDDA h.s.	° ' "	BHEDASGAVEGUDDA h.s.	° ' "
Koramūrgudda	86 44 36	Kalhalli	39 39 21	Uliapagudda	181 22 4
Basavangudda	h.s.	Gabguddi	42 12 13	Indūr	h.s.
Tarikēra Fort	118 35 21	Maiarlingamgudda Pagoda	56 53 12	Mundasāli	204 3 21
Kensamagudda	s.	Maiara Pagoda	66 5 48	Hotahalli Tower	234 15 44
Hannēgudda	h.s.	Holal Fort	70 3 0	Hāngal Pir Jugah Tree	251 23 52
Ajampur	227 34 22	Galaganāt Pagoda	88 45 46	Gutimma Hill Tree	274 44 13
Kugankal	s.	Māgala Fort	111 59 10	Badengod No. 2	311 20 30
	h.s.	Shrimantagad Pagoda	118 34 21	Badengod No. 1	313 9 21
	289 51 19	Kapatgudda Pagoda	144 0 6	Nannagiri (new)	318 28 58
		Singtalūr Fort	149 58 14		353 25 44
BASRADURG s.		Kandkal	166 32 20		
Kudainigudda	h.s.	Huvinahgalli Hill Pagoda	177 11 58		
Rājāmandurg Platform	167 58 3	Batkēra Pagoda	195 10 42		
Kunta Hill Redoubt	175 18 45	Holēgundi Pagoda	197 59 51		
Māsura Hill Pagoda	179 50 7	Hampasāgar Fort	200 14 34		
Darashvar Hill Platform	193 23 41	Kopal	201 47 28		
Kalgigudda	248 28 9	Kopaldurg Fort	203 21 13		
Dindēmane, XXXVIII	303 2 18	Rāmesvarambanda	214 16 32		
Kasārgod Pagoda	325 50 12	Ānēkalgudda	250 35 13		
Kasārgod	333 13 46	Karēddigudda	324 51 29		
Bhatkaldurg	339 44 8	Narsindevaragudda	343 37 18		
		Kulhalli Pagoda	354 52 38		
BATIGUDDA h.s.		BHATKALDURG h.s.			
Timmappangudda	h.s.	Jalikulund Rook	129 39 16		
Kalavarangan	44 50 51	Murdeshvar Hill Fort	159 9 29		
Katgi Hill Tree	55 38 43	Basrādurg	159 46 6		
Hallūr Hill Pagoda	55 59 44	Hudēlgudda	212 55 52		
Ānūr	106 54 10	Dindēmane, XXXVIII	219 39 59		
Harihar Fort	122 24 20	Āmbargudda	279 38 22		
Maiarlingamgudda Pagoda	133 7 2	Baidūr Head Mark	323 15 52		
Airani Hill Pagoda	143 47 5	Halligiri Gunjanagudda	329 22 45		
Gabgaddi	164 24 56				
Saratigudda Building	170 52 9				
Telgigudda Hill Pagoda	184 47 41				
Kōndaji Hill Platform	197 5 36				
Kanchkēra Hill Pagoda	223 18 11				
Narsindevaragudda	225 11 30				
Huchangidrug Pagoda	248 4 33				
Maradi	330 33 0				
BELGAUM FORT s.		BHEDASGAVEGUDDA h.s.			
Kardigudi	h.s.	Kadabal	54 45 16		
Yalūr, XXII	268 13 45	Hulakal	58 51 56		
	359 0 23	Sonda	64 14 23		
		Menshigudda	80 37 27		
		Kolakēra	142 7 11		
BENKIPUR FORT s.					
Basavangudda	h.s.				
Kensamagudda	57 1 53				
	s.				
	181 25 21				

NOTE.—Stations Bori, XXII and Alanda, XIX appertain to the Bombay Longitudinal Series.

MANGALORE MERIDIONAL 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			
CHANDRAGUTTI, XXXIV Halébail, XXXV Menshigudda, XXXIII Sirsí Bhedasávegudda, XXXI Karékayatanhalli, XXXII Karigudda Hill Mark (helio.) Hónnavalli, XL Ságar Bungalow Koramúr, XXXIX	42 41 323 41 44 409 53 377 47	101 11 51' 30 140 5 28' 38 147 5 1 178 9 28' 93 232 11 36' 01 252 9 8 305 31 24' 62 341 32 3 354 56 53' 24	CHIKK NANDIHALLIGUDD, XX Kolanhatti, XIX Sampaon Mosque Katharigad, XVIII Hirékumminigudd, XXI Navendra Hill Temple Navalúr, XXIV Dhárwár Kalkera, XXV DANAVADI PAGODA s. Kensamagudda Basavargudda Hóle Hónnúr DANDOBA DONGAR, IX Hatavát, XIV Miraj Mosque Nimsraon Temple Majala, XII Kavtha Temple Kundal, VIII Tásraon Temple Pundi Hill Temple Palsi, VII Ghorpadi Hill Temple Daphlápur, X Athni Masjid (heliotrope) Athni, XI Mávinhúnda, XIII Ingalgi Mosque DAPHLAPUR, X Athni, XI Dandoba Dongar, IX Kundlapur Hill Temple Palsi, VII Ghorpadi Hill Temple DHARWAR LARGE KOIL s. Parasgad Fort Yelhima Hill Pagoda Navalgund Kushgal Unkal DHARWAR s. Kalkera, XXV Chikk Nandihalligudd, XX Narendra Hill Temple Hebli Hill Idgah Navalúr, XXIV	160 37 3' 23 160 40 12 210 37 54' 17 255 30 41' 06 307 54 10 311 57 34' 30 s. 314 56 24 345 32 56' 06 s. 11 3 50 h.s. 50 24 34 s. 103 39 19 23 32 19' 87 43 23 43 59 34 22 64 14 4' 92 118 16 7 121 41 22' 21 129 34 46 145 5 34 196 58 3' 61 223 10 30 253 40 10' 57 298 1 12 300 35 30' 54 354 38 16' 62 358 53 21 1 53 58' 40 73 46 41' 89 110 13 18 124 29 48' 29 138 1 57 199 23 35 211 14 47 249 33 29 s. 284 33 23 h.s. 301 32 52 70 56 31 134 59 23 150 12 25 256 37 41 298 2 33	DINEMANE, XXXVIII Baidúr Head Mark Bhatkaldurg Hudeligudda Shirái Island Neiráni Island Basrádurg Island Basrádurg Honavar Monument Kunta Light House Haravalligudda Hill Peak Kaltigudda Kaltigudda, XXXVII Govardhangiridurga Platform Hukaligudda, XXXVI Hukaligudda Kariakigudda Ráktshagudda Hill Mark (helio.) Koramúr, XXXIX Kódashádrí, XLII Kódashádrí Ambargudda Chalkinbarra Peak DUGINGRI h.s. Gudehónnúr Kolakérra Haradakisur Kánsérudí Kúdalgroon Síd Hill Pagoda Halyál Fort Flag Staff Magarvada Dhárwár Small Koil Kundgol Fort Hulikati Vadigutta Indúr Dusei h.s. Zayurli Magarvada GABGANDI h.s. Airani Hill Pagoda Anúr Mailara Pagoda Shrimantagad Pagoda Béttadmállappangudda Kalhalli	26 143 26 31 246 30 241 29 561 553 553 19 109 110 13 107 106 108 12 117 16 121 17 14 114 237 239 235 235 236 241 241 247 249 242	14 36 18 39 42 3 50 16 49 56 35 38 71 12 27 123 46 6 s. 124 6 20 124 43 50 136 11 3 144 59 38 152 38 17 152 38 44' 28 160 33 57 206 46 46' 93 s. 206 47 17 215 19 2 228 23 55 269 27 52' 43 325 47 49' 33 s. 325 48 24 331 9 18 351 1 27 1 7 39 17 4 25 36 16 0 69 7 19 108 44 14 110 46 5 112 10 9 156 59 9 220 13 46 275 1' 13 298 57 33 315 29 59 326 58 24 29 47 31 296 44 7 6 50 51 66 33 43 132 42 10 156 57 10 222 9 22 226 37 25	540 526 524 531 519 349 326 351 344 357 326 52 533 48 533 371 373 48 49 523 520 536 296 163 291 164 165 281 287 279 245 169 171 168 163 285 285 455 381 442 487 383 485

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
GAGGADI h.s. Narsimdevargudda Huchangidurg Pagoda Telgigudda Hill Pagoda Kondaji Hill Platform Saratigudda Building Batigudda Harihar Fort	382 459 450 460 453 881 470	HAIDERGARH s. Mulugudda Kavaladurga Hill Temple	585 585	HANAMBSAGAR h.s. Mutagi Hill Pagoda Hungund Hill Peak Hungund Hill Pagoda Satur Nagarbetta Hira Shevankati Hill Tower Kandagal Hill Tree Karidigudda Guddadur Linganbada	188 194 208 192 187 197 189 200 186 185
GANTGUDD, XXVI Ramankop, XXX Kanserudi, XXVIII Haliyal Kacheri (heliotrope) Kalkera, XXV Navalur, XXIV Kundgol, XXVII Devigudda Hill Mark (helio.) Indur, XXIX	36 37 289 33 33 34 270 35	HAIRKAL h.s. Koppadurga Fort Koramurgudda Baba Budan Pagoda	612 612 621	HANGAON h.s. Kanserudi Haradakisur Hukali	292 292 298
GOKARN h.s. Achuvi Kudainigudda	885 885	HALEBAIL, XXXV Topibenagudda Hill Peak Kaltigudda, XXXVII Basradurg Island Menshigudda, XXXIII Bhedasagvegudda, XXXI Bomanhali Hill Mark (helio.) Sirsi Chandragutti, XXXIV Hukaigudda, XXXVI	854 51 850 42 45 822 323 42 46	HANNEGUDDA h.s. Basavankolal Tarikere Fort Basavangudda Ajampur Kugankal Bagavalli Pagoda	558 563 558 564 559 565
GUDDADUR h.s. Timmapa Lingam Pillar Linganbada Hanamsagar Karidigudda Hira Shevankati Hill Tower Kandagal Hill Tree Nagarbetta Udalkal	220 184 186 199 198 190 187 184	HALIGIRI GUNJANAGUDDA h.s. Bhatkaldurg Hudeligudda Kodashadri Kund Bagavadigudda No. 1	528 525 525 586	HARAKISUR h.s. Kolakerra Hukali Hangaon Kanserudi Dugingiri	290 298 292 290 291
GUDEHONNUR h.s. Kolakerra Dugingiri Indur	295 296 295	HAMPASAGAR FORT s. Bettadmallappangudda Kandkal Batkerra Pagoda Anekalgudda	420 420 424 421	HARAHALLI FORT s. Kamsibetta Hill Tree Kalavarangan Yedeval Hill Tree	495 494 494
GUDIKAL h.s. Mulugudda Nagar Flag Staff Hugadi, XLI Kavaladurga Mantapam Kavaladurga Hill Temple	577 579 578 577 584	HANAMBSAGAR h.s. Kallakapa Nagapangudda Hill Fort Malgitti Arsabidda Amingad Hill Tower	185 213 215 202 191	HARANAHALLI FORT s. Jitnakatta Hill Platform Jajikaligudda Hill Platform Kariddigudda	446 447 446

MANGALORE MERIDIONAL SERIES.

Name of station with azimuths of surrounding points	No. of Triangle or distance	Name of station with azimuths of surrounding points	No. of Triangle or distance	Name of station with azimuths of surrounding points	No. of Triangle or distance
HATABAYAT, XIV Karigudd, XVII Panbala Mark (heliotrope) Nejh Hill Temple Majala, XII Miraj Mosque Dandoba Dongar, IX Ingalgi Mosque Ingalgi Temple Basvarna Dipmal Mávinhúnda, XIII Karabgati, XV Hukeri Masjid Hukeri Mosque Pavitraged Hill Fort Sidihal Temple	21 112 111 15 108 19 115 116 122 15 20 126 124 129 127	HIREHANDIGOL h.s. Majigudda Navalgund Nargund Fort Jalihal Umachgi Pallavanumath Building Kanavinaganunayi Hill Tower Harti-basapagudda Hill Flag	282 231 229 230 229 251 253 254	HONNAVALLI, XL Chandragutti, XXXIV Chandragutti Jédá Fort Béttakurali Hill Platform Badankatte Togarshi Hill Pagoda Anúr Udagani Fort Chandrakal Hösúr Fort Kalavarangan Kumsibétta Hill Tree Karadibétta Hill Peak Hugadi, XLI	58 150 407 410 384 411 379 484 482 486 378 491 490 54
HEBBE, XLVI Woddingudda Hill Mark Gangagiri Hill Peak Mertiparvata Hill Temple Hirégudda, XLV Siddeshvar, XLIII Vimaldi Shimóga Bába Budan No. 2 Bába Budan No. 1 Bába Budan No. 1 Hill Peak Totalappangiri Hill Temple Madlakal Hill Peak Anúr, VI	615 618 627 62 62 462 554 618 617 620 622 623 63	HIREKUMMIGUDD, XXI Hebli Hill Idgah Navalur, XXIV Chikk Nandihalligudd, XX Kathárigad, XVIII Húli Hill Tower Hirékumigudd Dargah Nargund Hill Mark (heliotrope) Nargund Hill Temple	248 82 81 81 147 149 225 226	HORTEGUDDA h.s. Tulshigudda Hill Tree Ankola Numazgudda Ulvi Karkabail Hill Tree Menshigudda Achuvi Kanchénmalai Hill Tree	330 331 158 314 157 157 327
HIREGUDDA, XLV Mertiparvata Hill Temple Bangárbelige Hill Peak Kudurémukha Kudurémukha, III Kudurémukha Hill Mark Gangrikal Peak Valkunji, XLVII Agumbe Hill Mark Bisale, XLIV Akabéttadarashigudda Hill Peak Kundadagudda Hill Mark Siddeshvar, XLIII Hébbe, XLVI Gangagiri Hill Peak Bába Budan No. 1 Hill Peak Woddingudda Hill Mark Madlakal Hill Peak Anúr, VI Niragundaráya Hill Peak	628 637 636 60 639 632 59 607 58 603 605 58 62 613 619 616 623 61 625	HOLE HONNUR s. Basavangudda Vimaldi Danavádi Pagoda HONNALI FORT s. Kalavarangan Kargi Hill Tree Kote Mallúr High Turret Devar Hónnái Pagoda Timmappangudda HONNAVALLI, XL Bálahalligudda Hill Peak Bálahalligudda Amanagudda Hill Peak Amanagudda Platform Koramúr, XXXIX	552 552 553 475 475 477 478 476 488 479 545 546 53	HUGADI, XLI Kavaledurga Hill Temple Kavaledurga Mantapam Bisale, XLIV Ravigudda Hill Peak Gudikal Kódashátri, XLII Kódashátri Amanagudda Platform Koramúr, XXXIX Bálahalligudda Hill Peak Bálahalligudda Hill Peak Hónnavallur, XL Anantapur Fort Karadibétta Hill Peak Kalavarangan Vimaldi Siddeshvar, XLIII Siddeshvar	541 528 530 529 524 524 525 582 567 57 580 578 50 583 549 50 480 489 54 548 490 378 464 55 566

NOTE.--Stations Anúr, VI and Kudurémukha, III appertain to the Madras Longitudinal Series.

Name of station with azimuths of surrounding points	No. or distance giving	Name of station with azimuths of surrounding points	No. or distance giving	Name of station with azimuths of surrounding points	No. or distance giving
HUKALI h.s. Hangaoon Haradakisur Kolakerra	298 298 294	HULIKATI h.s. Dúgingiri Kundgol Fort Soanahi Rámgiiri Hill Tree Rattigiri Hill Building	171 171 172 266 268	KACHANMALAI h.s. Umíkal Svarnanadigudda Avarnigudda Bisale, XLIV	573 572 571 571
HUKALIGUDDA, XXXVI Devakónda Hill Peak Yédamale Hill Peak Dindémame, XXXVIII Haravalligudda Hill Peak Topibenagudda Hill Peak Kaltigudda, XXXVII Halébail, XXXV Chandragutti, XXXIV Siddápur Karikalagudda Koramúr, XXXIX Jog Bungalow	587 585 48 356 355 51 46 46 369 372 47 375	INDRALIGUDDA h.s. Uchilgudda Káp Battery Dariya Bahádur Garh Island Svarnanadigudda Umíkal Santurkopalagudda	600 596 597 574 574 575	KADABAI h.s. Achuvi Menshigudda Hulikal Bhedaságvegudda	317 317 820 318
HUKALIGUDDA h.s. Dindémame, XXXVIII Govarchangiridurga Platform Kasárgod Kaltigudda Halébail Bairágigudda Kalladagudda Uvimmanai Tree Bilgi Chandragutti Banigiri Hill Pagoda Kolagigudda Hill Flag Handigudda Koramúr, XXXIX	588 532 353 153 152 361 363 359 365 151 367 370 364 151	INDUR, XXIX Bhedaságvegudda, XXXI Rámanikóp, XXX Ganigud, XXVI Kundgol, XXXVII Karékýatanhalli, XXXII	39 36 35 35 48	KALAS, I Shingnapur Hill Temple Shingnapur Hill Mark (helio.) Palvan, III Palvan Kathpal Hill Mark (heliotrope) Kalas Hill Temple Bori, XXII Dáduri Hill Temple Sedatek Hill Temple Kems, XIX Alunda, XVII Baura No. 2 Hill Pagoda Baura Hill Mark (heliotrope) Sulki, II	80 81 4 85 82 84 2 65 64 1 1 75 67 3
HUKAL h.s. Kadabal Menshigudda Bhedaságvegudda	320 319	INDUR h.s. Mundgol Fort Bhedaságvegudda Uliapagudda Kolakerra Nandikatte Tower Gudehonnúr Dúgingiri Unchikatta Fort Tree Bírváli Fort Tree Vadigutta Kundgol Fort Arisonapur Fort Tree Sanuvali Mundasáli	170 304 308 303	KALAYARANGAN h.s. Vimaldi Háranhalli Fort Hugudi, XLI Kumsibéttá Hill Tree Amanagudda Platform Bálahalligudda Hónnavalli, XL Chandrakal Madigadgudda Fort Béttadmállappan Hill Pillar Anúr Katgi Hill Tree Bátigudda Kote Mallur High Turret Hónnáli Fort Devar Hónnáli Pagoda	464 494 378 491 547 479 378 482 481 487 379 474 380 477 475 478
HUKALIGUDDA s. Linganbanda Timmapa Lingam Pillar	223 223	JALIHAI h.s. Hiréhandigol Navalgund Arsabidda Kallakapa Unnachi	230 179 201 180 179	KALAYARANGAN h.s. Vimaldi Háranhalli Fort Hugudi, XLI Kumsibéttá Hill Tree Amanagudda Platform Bálahalligudda Hónnavalli, XL Chandrakal Madigadgudda Fort Béttadmállappan Hill Pillar Anúr Katgi Hill Tree Bátigudda Kote Mallur High Turret Hónnáli Fort Devar Hónnáli Pagoda	464 494 378 491 547 479 378 482 481 487 379 474 380 477 475 478
HUKAL h.s. Linganbanda Udarkal Timmapa Lingam Pillar	221 221 222	JEDDA FORT s. Chandragutti Hónnavalli, XL	407 407	KALAYARANGAN h.s. Vimaldi Háranhalli Fort Hugudi, XLI Kumsibéttá Hill Tree Amanagudda Platform Bálahalligudda Hónnavalli, XL Chandrakal Madigadgudda Fort Béttadmállappan Hill Pillar Anúr Katgi Hill Tree Bátigudda Kote Mallur High Turret Hónnáli Fort Devar Hónnáli Pagoda	464 494 378 491 547 479 378 482 481 487 379 474 380 477 475 478

NOTE.—Stations Kem, XVII, Alunda, XIX and Bori, XXII appertain to the Bombay Longitudinal Series.

Name of station with azimuths of surrounding points	No. of triangle sightings	Name of station with azimuths of surrounding points	No. of triangle sightings	Name of station with azimuths of surrounding points	No. of triangle sightings
KALAYARANGAN h.s. Timmappangudda Sasavehalli Fort Chelur Fort Anéveri Round Turret Kahingrayan Chitnahalli Hill Pagoda Basavangudda Yedéval Hill Tree	466 496 499 501 465 502 550 492	h.s. 262 7 16 s. 269 17 12 " 284 21 0 h.s. 291 22 6 " 301 35 58 " 305 9 34 " 341 9 42 " 355 20 27	158 54 8 h.s. 160 56 8 " 218 35 4 " 302 25 15	211 201 185 181	KANSEKUDI h.s. Hangaon Kongaon Sid Hill Pagoda Kudalgaon Zayurli Haliyál Fort Flag Staff Magaryada Dúgingiri Sambrani Haradakieur Kolakérra
KALHALLI h.s. Gabgaddi Mailara Pagoda Holal Fort Galaganát Pagoda Shrimantagad Pagoda Béttadmállappangudda Narsimdevaragudda	485 441 440 438 486 434 484	h.s. 46 38 32 " 94 47 49 s. 107 41 50 " 127 23 36 h.s. 143 36 44 " 219 37 37 " 304 4 7	10 24 5 17 15 44 31 43 41 48 28 18 68 18 58 108 0 57 221 10 34 70 294 3 35 04 332 36 52 90 348 59 18	531 354 519 351 349 344 51 51 52 856	KALP BATTERY s. Dariya Bahádur Garh Island Indraligudda Santurkopalgudda Uchilgudda
KALINGRAYAN h.s. Basavangudda Vimaldi Kalavarangan Timmappangudda Kanigiri Mallápur Hill Pagoda Channugiri Fort Vadamaradi Hill Pagoda Shigakal Rangandurga Pagoda Kalangavi	550 465 465 466 508 515 511 468 517 469	h.s. 63 59 32 " 81 22 44 " 121 41 32 " 162 8 5 h.s. 182 17 28 " 200 29 33 h.s. 205 31 9 " 222 53 32 " 260 10 16 " 286 39 51	34 44 44 h.s. 68 30 20 s. 84 23 40 h.s. 108 0 29 " 113 14 30 " 121 58 53 " 124 35 39 " 125 46 44 " 126 21 0 " 167 38 43 " 225 30 39 " 270 28 54 " 294 2 29 " 330 57 38 " 332 36 26	352 325 347 345 340 342 339 324 336 154 153 360 153 532 326	KALPATGUDDA PAGODA s. Mágalá Fort Galaganát Pagoda Kopal Kandkal Rámesvarabanda Huvinahadgalli Hill Pagoda Anékaligudda Béttadmállappangudda
KALKERA , XXV Kánsérudi, XXVIII Haliyál Kacheri (heliotrope) Samshegadi, XXIII Chikk Nandihalligudd, XX Dhárwár Dhárwár Kacheri Navalúr, XXIV Ganigudd, XXVI	37 289 29 29 241 243 30 33	49 26 11 38 52 16 20 114 35 38 21 165 33 53 34 s. 250 54 29 " 250 55 10 " 264 24 14 05 " 347 22 4 06	40 56 22 s. 54 51 56 225 10 33 248 20 8 h.s. 278 3 8 " 346 31 41	482 418 423 420 419 418	KALPILÁ SANGAM s. Hungund Hill Peak Nagarbétta Kaudágal Hill Tree
KALLADAGUDDA h.s. Hukaligudda Bairáragudda Uvinmanai Tree	363 362 362	h.s. 3 6 32 " 118 21 46 " 351 19 50		482 418 418	KARAGATI , XV Kalkupigad Tower Kolanhatti, XIX Karigudd, XVII Sidihál Temple Pavitrágad Hill Fort Garikethra Hill Temple Rasing Hill Temple Hukeri Masjid Hataravat, XIV Basvarna Dipmal Karabgati Referring Mark Mávinhúnda, XIII Kuribet Hill Temple Chimar Hill Temple Hunkupa Temple Manikeri, XVI Kathárigad, XVIII
KALLAKAPA h.s. Umachgi Nargund Fort Nagapangudda Hill Fort Shántigiri Hill Tower Jalihal Karigudda	180 218 223 205 180 207	s. 36 11 8 " 84 9 27 " 97 44 36 h.s. 105 32 46 " 109 12 39 " 122 51 58	229 22 13 53 261 21 44 53 325 32 32 05	87 87 88	KANDKAL s. Singtálúr Fort Kapatgudda Pagoda Batkérra Pagoda Hampaségar Fort Anékaligudda Béttadmállappangudda
KANSEKUDI , XXVIII Kalkera, XXV Ganigudd, XXVI Rámankóp, XXX	180 218 205 180 207	h.s. 36 11 8 " 84 9 27 " 97 44 36 h.s. 105 32 46 " 109 12 39 " 122 51 58		87 87 88	KARAGATI , XV Kalkupigad Tower Kolanhatti, XIX Karigudd, XVII Sidihál Temple Pavitrágad Hill Fort Garikethra Hill Temple Rasing Hill Temple Hukeri Masjid Hataravat, XIV Basvarna Dipmal Karabgati Referring Mark Mávinhúnda, XIII Kuribet Hill Temple Chimar Hill Temple Hunkupa Temple Manikeri, XVI Kathárigad, XVIII

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

Name of station with azimuths of surrounding points	No. of triangle ranging distance	Name of station with azimuths of surrounding points	No. of triangle ranging distance	Name of station with azimuths of surrounding points	No. of triangle ranging distance
KARIGUDI h.s. Yalúr, XXII Belgaum Fort Kolanhatti, XIX Murgod Idgah Sampgson Mosque Chikk Nandihaligudd, XX	140 144 141 142 143 140	55 57 42 88 16 30 205 11 55 262 56 4 319 55 5 333 16 40	KARIKALGUDDA h.s. Dindémane, XXXVIII Hukaligudda, XXXVI Kákshagudda Hill Mark (helio.) Koramúr, XXXIX Jog Bungalow	871 872 873 871 875	35 20 30 116 36 44 293 57 46 304 53 53 318 12 7
KAREDDIGUDDA h.s. Narsimdevaregudda Kanchérratimappan Hill Pagoda Jitnakatta Hill Platform Harpanahalli Fort Kulhali Pagoda Béttadmallappangudda Jájkalgudda Hill Platform	443 456 445 446 444 443 447	7 41 17 24 33 16 44 27 41 80 48 51 123 57 23 144 52 57 168 18 13	KARABGOD h.s. Basrárturg Kasárgod Pagoda Kaltigudda Hukaligudda	852 518 852 853	153 14 26 h.s. h.s. 214 43 13 259 22 24
KAREKYYATANHALLI, XXXII Karigudda Hill Mark (heliotrope) Chandragutti, XXXIV Bhedasávegudda, XXXI Indúr, XXIX Chenapur Hill Mark (heliotrope)	409 44 43 43 895	30 36 34 52 16 6 76 112 24 20 84 151 5 27 15 182 6 47	KATHARIGAD, XVIII Chikk Nandihaligudd, XX Kolanhatti, XIX Karabgati, XV Sarseri Mosque Birapádeva Rock Manikeri, XVI Háli Hill Tower Hirékummingudd Daygah Hirékummingudd, XXI Navalúr, XXIV	26 23 23 138 189 25 147 148 31 148	30 40 35 04 91 44 36 16 141 56 47 00 149 16 23 198 0 0 200 44 11 03 297 58 27 307 51 23 308 13 13 56 351 33 42
KARIDIGUDDA h.s. Hanamságar Guddadur Linganbanda	200 199 199	83 24 13 295 35 3 355 57 35	KATPHAL, V Bánur Hill Temple Átpádi Hill Temple Palsi, VII Páchvad, IV Sulki, II	101 99 11 10 10	24 10 54 27 18 25 27 57 4 82 83 32 9 41 146 56 28 34
KARIGUDD, XVII Rasing Hill Temple Hatarvat, XIV Hukeri Mosque Hukeri Masjid Pavitrágad Hill Fort Sidihal Temple Garikethra Hill Temple Karabgati Referring Mark Karabgati, XV Kolanhatti, XIX	128 21 124 125 130 127 181 182 21 22	154 12 45 188 54 31 79 228 28 27 232 50 48 251 13 17 255 21 57 255 38 9 259 40 39 266 10 18 23 306 56 55 92	KAVALEBURGA MANTAPAM s. Bisale, XLIV Mulugudda Gudikal Hugadi, XLI Siddeshvar	568 569 577 567 567	28 45 11 99 4 58 100 21 15 201 51 57 286 32 27
KARIGUDDA h.s. Shántigiri Hill Tower Hokund Arsabidda Deválayapur Hill Tree Kallakappa	208 210 207 211 207	9 14 36 181 49 5 246 26 31 267 52 48 302 49 48	KAYORLI h.s. Kongoon Marsingal Kúdalgaon	276 275 275	34 33 24 h.s. h.s. 165 22 8 241 10 6
KEM, XVII Sulki, II Baura No. 2 Hill Pagoda Baura Hill Mark (heliotrope) Indápur Hill Mark (heliotrope) Kalas, I Alsunda, XIX	8 75 67 66 1 1	43 38 59 87 57 42 49 57 43 3 75 35 29 86 57 21 92 133 23 30 68	KOLAKEREA h.s. Menshigudda Yellipur Fort Karkabail Hill Tree Hukali Kán-sérudi Haradakisur	161 315 313 294 164 290	h.s. h.s. h.s. h.s. h.s. h.s.

NOTE.—Stations Kem, XVII and Alsunda, XIX appertain to the Bombay 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
KOLAKERRA h.s. Dúgingiri Gudehónnú Uchekhatta Fort Tree Mudunú Fort Indú Uliapagudda Bhedaságvegudda	163 295 297 306 162 300 161	89 32 14·09 124 9 12·81 h.s. 124 9 25 124 50 47 127 17 8 140 1 23 140 59 46 160 51 36 174 57 17·86 174 58 34 235 28 13·26 245 20 39 265 32 31 317 3 30·53 319 1 38 319 6 55	48 47 151 871 874 859 878 868 47 150 53 377 488 50 544 546	KUDALGAON h.s. Haliyal Fort Flag Staff Dúgingiri Zayurli Kánsérudi	288 165 288 165
KORAMUR, XXXIX Dindémáne, XXXVIII Hukaliagudda, XXXVI Hukaliagudda Kárikaigudda Rákshagudda Hill Mark (helio.) Uvinmanai Tree Telaçuppe Bungalow Siddápur Chandragutti, XXXIV Chandragutti Hónnavalli, XL Ságar Bungalow Bálahalligudda Hill Peak Hugadi, XLI Amanagudda Hill Peak Amanagudda Platform	141 27 146 22 132 22 184 139 23 142 26	47 28 24 99 53 6 172 29 26 228 55 56 266 38 40 314 23 34 359 45 51	611 611 556 556 557 621 612	KUDUREMUKHA h.s. Hirégudda, XLV Ánúr, VI Bangárbelige Hill Peak	636 636 637
KOLANRATTI, XIX Kardigudi Yalúr, XXII Yalúr Hill Temple Karigudd, XVII Karagati Referring Mark Karabgati, XV Kalikupig Tower Birapadeva Rock Katharigad, XVIII Murgod Idgah Chikk Nandhalligudd, XX	167 271 276 166 166	h.s. h.s. h.s. h.s. h.s. h.s. h.s. h.s. h.s. h.s. h.s.	KUDUREMUKHA h.s. Basavanköial Hanñégudda	559 559	
KONGAON h.s. Tinai Marsingal Káyorli Kúdalgaon Kánsérudi	167 271 276 166 166	h.s. h.s. h.s. h.s. h.s. h.s.	KUDUREMUKHA h.s. Achuvi Menšigudda	358 358	
KOPAL h.s. Béttadmállappangudda Huvinahadgalli Hill Pagoda Kapaçagudda Pagoda Moranhalli Mundárgidurg Hill Fort Tallakalu Village Burj Umachgi Gadjantargah Highest Redoubt Linganbanda Udalkal	417 425 417 428 427 224 182 217 182 183	137 34 3 171 13 29 185 45 4 240 4 29 292 12 43 301 24 8 305 43 28 312 50 57 330 18 28 334 51 22 342 10 28	334 335 329 324 338 337 324 343 845 347 325	KUMTA BASE N. END h.s. Achuvi Kumta Base S. End	339 339 341
KORAMUR, XXXIX Ködashádri, XLII Ködashádri Ambaragudda Devakónda Hill Peak Karnigudda Hill Peak Chalkinbarra Peak Yédamale Hill Peak	49 521 520 537 539 586 584	40 32 39 54 3 46 61 12 40 84 24 50 84 39 39 101 18 24 115 47 10 270 29 14	277 166 275 274 278 167 271 280	KUMTA BASE S. END h.s. Kumta Base N. End Achuvi Kaligudda	341 340 340 340
KUDALGAON h.s. Avadi Kongraon Káyorli Kuveśi Tímoli Tinai Marsingal Magarvada	49 521 520 537 539 586 584	h.s. h.s. h.s. h.s. h.s. h.s. h.s.	KUDALGAON h.s. Tadsaon Hill Temple Jaigraon Hill Mark (heliotrope) Aunth, VI Bushangad Hill Fort Tree Páçhvad, IV Revansidh Hill Temple Palsi, VII Tásgaon Temple Dandoba Dongar, IX Majala, XII	98 87 8 92 8 95 9 105 12 13	

NOTE.—Stations Kudurémukha, III and Ánúr, VI pertain to the Madras Longitudinal Series.

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
KUND BAGAVADIGUDDA No. 1 h.s. 133 5 33 Halligiri Gunjanagudda h.s. 220 5 21 Kódashédrí "	586 586	LINGANBANDA h.s. Kopal h.s. 0 11 56 Huligudda s. 14 55 32 Tullakalu Village Burj " 21 3 41 Umachigi " 68 50 4 Nargund Fort " 94 8 13 Gadjuntargarh Highest Redoubt 114 8 47 Kalknappa h.s. 122 28 9 Hanamsagar " 155 38 48 Kavdigudda " 175 57 40 Guddadur " 229 14 20 Udarkal " 291 9 13 Timmapa Lingam Pillar " 312 4 52 Hulikal " 342 12 22	182 223 224 181 227 218 181 185 199 384 188 219 221	MAJIGUDDA h.s. Gunjalhalli Hill s. 11 22 41 Soanahi " 34 42 59 Kundgol Fort h.s. 55 2 49 Unkal h.s. 88 51 29 Kushgal s. 93 0 49 Navalgund h.s. 155 52 49 Hirshandigol h.s. 236 46 47 Umachigi s. 244 52 54 Harti-basapagudda Hill Flag 290 2 17 Kapatigudda Hill 295 20 17 Nilgund Hill Tree 322 39 4 Kallúr Hill Building 339 32 12	261 173 173 283 174 176 232 178 254 255 257 260
KUND BAGAVADIGUDDA No. 2 h.s. 10 12 57 Gurunagudda h.s. 34 6 43 Coondapour Fort Flag Staff h.s. 262 11 59 Mulugudda " 323 7 48 Avaraigudda " 350 34 7 Basarúr Hill Mark	588 592 587 587 595	MADIGANUDDA FORT s. Shikárpur Fort h.s. 46 18 13 Bálahalligudda h.s. 51 7 38 Chandrakal " 73 8 13 Béttadmállappan Hill Pillar " 308 4 3 Kalavarangan " 339 1 6	485 481 488 487 481	MALGITTI h.s. Arsabidda h.s. 198 34 8 Hanamsagar " 246 33 48 Nagapangudda Hill Fort " 326 38 9	216 215 215
KUNDGOL FORT s. Indúr h.s. 40 43 33 Vadigutta " 41 0 44 Hulikati " 47 1 55 Birvali Fort Tree " 49 30 5 Dúgingiri " 95 7 8 Dhárwár Small Koil s. 129 25 29 Kushgal s. 165 58 35 Navalgund " 198 16 16 Majigudda h.s. 234 59 53 Soanahi s. 311 23 15	170 169 171 298 169 244 175 177 173 172	MAGALA FORT s. Kapatigudda Pagoda s. 228 24 55 Béttadmállappangudda h.s. 291 56 31	488 488	MARADI h.s. Vadamaradi Hill Pagoda h.s. 5 50 30 Timmappangudda h.s. 71 34 33 Bátigudda " 150 34 44 Máyakónda Fort " 247 35 14 Shigakal " 285 33 20 Bharannáyakandurga Platform 295 19 20 Dummi Hill Pagoda 341 41 24 Santébennúr Mosque 347 38 1	25 188 24 187 24 186 185
KUSHGAL s. Matikati Koil s. 1 54 16 Dhárwár Large Koil " 104 36 23 Navalgund " 218 54 59 Majigudda h.s. 272 57 19 Nilgund Hill Tree s. 286 13 10 Kallúr Hill Building 294 54 19 Guvajalhalli Hill 309 59 45 Soanahi s. 333 55 43 Kundgol Fort " 345 58 1	263 235 176 174 258 259 262 174 175	MAGARVADA h.s. Kánsérudi h.s. 47 42 19 Zayurli " 66 20 5 Kúdalkaon " 90 32 58 Síd Hill Pagoda " 93 45 55 Dúsgi " 116 45 11 Dúgingiri " 336 58 32	279 284 280 282 285 279	MARASI h.s. Vadamaradi Hill Pagoda h.s. 5 50 30 Timmappangudda h.s. 71 34 33 Bátigudda " 150 34 44 Máyakónda Fort " 247 35 14 Shigakal " 285 33 20 Bharannáyakandurga Platform 295 19 20 Dummi Hill Pagoda 341 41 24 Santébennúr Mosque 347 38 1	512 504 504 506 505 507 513 510
KUVESI h.s. Tinai h.s. 158 50 32 Kúdalkaon " 264 20 31	274 274	MAJALA, XII Panhála Mark (heliotrope) 95 24 23 Nejb Hill Temple 129 8 30 Kundal, VIII 172 20 34 04 Tásgaon Temple 210 40 9 Pundi Hill Temple 212 2 24 Kavtha temple 220 2 12 Dandoba Hill Temple 243 24 0 Dandoba Dongar, IX 244 8 55 10 Nimsirgaon Temple 276 19 38 Ingali Mosque 305 28 26 Mávinhúnda, XIII 317 30 40 21 Datvid Hill Temple 325 14 35 Hatavrat, XIV 354 54 58 03	112 111 13 105 104 107 120 13 110 114 14 118 15	MARISINGAL h.s. Tinai h.s. 65 50 57 Kúdalkaon " 295 43 48 Avadi " 310 24 22 Pevvadi " 342 32 20 Kayorli " 345 21 20 Kongaon " 357 29 53	272 271 277 273 275 271
LAUL s. Sulki h.s. 62 24 0 Baura No. 1 Hill Pagoda s. 83 53 32 Tembhucni s. 95 22 7 Kem Hill Pagoda 149 4 10 Khandáli " 325 3 17 Anavli h.s. 357 15 16	70 74 72 71 69 69	MASTI-KA-DONGAB h.s. Uliaparudda h.s. 162 13 31 Mundasáli " 265 4 1 Pála " 316 51 31	811 811 812		

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
MATIKATI KOIL s.	° / "	MURUGUDDA h.s.	° / "	NAVARAGUDDA h.s.	° / "	NAVARAGUDDA h.s.	° / "
Unkal	h.s. 166 6 23	Gudikal	h.s. 216 33 28	Kanchkérattimappan Hill Pagoda	63 3 46	Kanchkérattimappan Hill Pagoda	63 3 46
Kushgal	s. 181 54 8	Kavaleedurga Mantapam	s. 279 3 18	Saratigudda Building	74 21 21	Saratigudda Building	74 21 21
Soanshi	" 223 43 38	Kavaleedurga Hill Temple	279 4 41	Airani Hill Pagoda	75 11 35	Airani Hill Pagoda	75 11 35
Rángiri Hill Tree	" 261 9 46	Bisale, XLIV	346 55 55	Telgigudda Hill Pagoda	82 52 59	Telgigudda Hill Pagoda	82 52 59
Rattigiri Hill Building	280 22 57	Haidegarhar	" 357 20 5	Malla-lingamgudda Pagoda	94 20 51	Malla-lingamgudda Pagoda	94 20 51
Kundúr-neraigi Hill Pagoda	341 5 38			Gabragaddi	102 48 6	Gabragaddi	102 48 6
		MUNDARGIDURG HILL FORT s.		Jílnakatta Hill Platform	h.s. 116 59 26	Jílnakatta Hill Platform	h.s. 116 59 26
MAVINHUNDA, XIII		Kopal	h.s. 241 39 29	Kalhali	" 124 7 5	Kalhali	" 124 7 5
Hatarvat, XIV	77 14 48 62	Moranhalli	h.s. 262 41 6	Béttadmállappangudda	" 163 38 32	Béttadmállappangudda	" 163 38 32
Datvád Hill Temple	131 9 22	Huvinhadgalli Hill Pagoda	s. 333 38 1	Karéddigudda	" 187 41 3	Karéddigudda	" 187 41 3
Majjala, XII	137 36 35 85			Huchangidurg Pagoda	" 357 23 9	Huchangidurg Pagoda	" 357 23 9
Miraj Mosque	160 20 31	MUNDASALI h.s.					
Ingalgí Temple	165 36 28	Badengod No. 1	h.s. 8 47 28				
Dandoba Dongur, IX	174 39 7 12	Badengod No. 2	" 10 26 37	NAUNAGIRI (NEW) h.s.	h.s. 77 23 11	NAUNAGIRI (NEW) h.s.	h.s. 77 23 11
Dandoba Hill Temple	174 55 34	Gutimma Hill Tree	" 10 44 27	Bairágigudda	" 123 43 47	Bairágigudda	" 123 43 47
Athni, XI	225 26 35 64	Pála	34 8 7	Menshigudda	" 173 26 4	Menshigudda	" 173 26 4
Manikeri, XVI	314 4 49 01	Bhedaságvegudda	" 54 17 51	Bhedaságvegudda	" 210 56 42	Bhedaságvegudda	" 210 56 42
Karabgati, XV	359 9 25 39	Masti-ka-Dongur	" 85 5 27	Badergod No. 1	" 257 59 53	Badergod No. 1	" 257 59 53
		Ulipagudda	" 128 32 57	Dóðlikoppa Pagoda	" 261 43 59	Dóðlikoppa Pagoda	" 261 43 59
MENSHIGUDDA, XXXIII		Indúr	" 169 39 52	Hallibail Hill Pagoda		Hallibail Hill Pagoda	
Halébail, XXXV	3 36 44 62	Sanuváli	" 174 10 13				
Rámankóp, XXX	200 11 21 48	Arvisomapur Fort Tree	" 196 39 31				
Bhedaságvegudda, XXXI	260 34 12 84	Hotanbaili Tower	273 39 48	NAUNAGIRI (OLD) h.s.	h.s. 7 11 22	NAUNAGIRI (OLD) h.s.	h.s. 7 11 22
Bornanbhalli Hill Mark (helio.)	295 58 0	Hángal Pír Jugah Tree	332 43 54	Chandringutti	" 74 16 35	Chandringutti	" 74 16 35
Chandragutti, XXXIV	320 1 27 04			Halébail	" 267 36 38	Halébail	" 267 36 38
		MURDESHVAR HILL FORT s.		Anavatti Fort	" 276 35 43	Anavatti Fort	" 276 35 43
MENSHIGUDDA h.s.		Hudeigudda	h.s. 276 43 27	Badankatte	" 295 0 46	Badankatte	" 295 0 46
Bairágigudda	h.s. 3 36 1	Bhatkaldurg	" 339 8 42				
Achuví	" 52 11 4			NAVALGUND s.		NAVALGUND s.	
Kanchénmalai Hill Tree	" 84 28 3	NAGARBETTA h.s.		Kundgol Fort	s. 18 17 53	Kundgol Fort	s. 18 17 53
Hórttegudda	" 106 6 17	Kandágal Hill Tree	3 18 30	Kushgal	" 38 57 10	Kushgal	" 38 57 10
Ulvi	" 146 4 18	Híra Shevankati Hill Tower	h.s. 11 5 49	Unkal	h.s. 49 13 29	Unkal	h.s. 49 13 29
Karkabail Hill Tree	" 171 20 32	Hanamásagar	27 29 43	Dhárwár Large Koil	s. 69 38 40	Dhárwár Large Koil	s. 69 38 40
Kolakérá	" 200 11 12	Hungund Hill Pagoda	41 8 36	Dhárwár Small Koil	" 71 48 16	Dhárwár Small Koil	" 71 48 16
Bhedaságvegudda	" 260 33 33	Hungund Hill Peak	43 46 20	Parasgad Fort	130 1 20	Parasgad Fort	130 1 20
Sonda	" 283 20 59	Amingad Hill Tower	52 42 6	Yelhima Hill Pagoda	h.s. 140 28 31	Yelhima Hill Pagoda	h.s. 140 28 31
Naunagiri (new)	" 304 39 33	Kapila Nangam	66 31 56	Jalihal	h.s. 233 19 23	Jalihal	h.s. 233 19 23
Hulakal	" 307 57 2	Mutagi Hill Pagoda	h.s. 126 17 25	Umínchgi	s. 272 49 34	Umínchgi	s. 272 49 34
Kadabal	" 343 52 29	Guddadur	h.s. 355 18 52	Hiréhandigol	h.s. 298 52 58	Hiréhandigol	h.s. 298 52 58
Kukdimahni	" 354 10 34			Pullavainumath Building	302 57 25	Pullavainumath Building	302 57 25
		NARGUND FORT s.		Majigudda	" 335 51 30	Majigudda	" 335 51 30
MORANHALI s.		Kallakappa	h.s. 264 0 9	Kallúr Hill Building	337 12 37	Kallúr Hill Building	337 12 37
Huvinhadgalli Hill Pagoda	19 22 22	Lingambanda	" 273 56 1				
Mundárgidurg Hill Fort	s. 82 43 19	Umínchgi	h.s. 296 12 49	NAVALUR, XXIV		NAVALUR, XXIV	
Kopal	h.s. 224 1 23	Hiréhandigol	h.s. 330 0 24	Ganigudd, XXVI	36 33 30 61	Ganigudd, XXVI	36 33 30 61
				Kalkern, XXV	84 27 4 16	Kalkern, XXV	84 27 4 16
MULTUGUDDA h.s.		NARSIMDEVARAGUDDA h.s.		Dhárwár Kacheri	117 56 38	Dhárwár Kacheri	117 56 38
Avanigudda	h.s. 35 32 36	Bátigudda	h.s. 45 14 31	Dhárwár	s. 118 3 21	Dhárwár	s. 118 3 21
Kund Bagavadigudda No. 2	" 82 15 43	Kauchkérá Hill Pagoda	49 15 24	Chikk Naudhalligudd, XX	132 1 22 93	Chikk Naudhalligudd, XX	132 1 22 93
Nagar Flag Staff	202 33 41	Kóndaji Hill Platform	61 3 23				

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		
NAVALUR, XXIV Narendra Hill Temple Kathárigad, XVIII Hirékumigudd, XXI Hirékumigudd Dargah Nargund Hill Mark (heliotrope) Nargund Hill Temple Hebbi Hill Idgah Kundgol, XXVII Hubli Hill Mark (heliotrope)	246 148 82 148 225 226 248 34 250	o ' " 137 26 50 171 34 53 205 50 36.38 206 1 55 225 12 31 226 58 25 233 52 47 312 32 1.95 321 5 21	PALVAN h.s. Bori, XXII Kalas, I PARTAMALAI GUDDA h.s. Santurkopalgudda Kunjargudda Pagoda Umikal PESVADI h.s. Tinai Marsingal RAMANKOP, XXX Menshigudda, XXXIII Kánsérudi, XXVIII Gaugudd, XXVI Indúr, XXIX Bhedaságvegudda, XXXI RAMESVARABANDA s. Béttadmallappangudda Holgundi Pagoda Kapatgudda Pagoda Kopaldurg Fort Anékalgudda SAMBRANI h.s. Kánsérudi Zayurli SAMSERGAD, XXIII Yalúr Hill Temple Yalúr, XXII Chikk Nandihalligudd, XX Kalkera, XXV SANTURKOPALGUDDA h.s. Uchilgudda Káp Battery Kunjargudda Pagoda Indraligudda Umikal Partamalaigudda	85 85 576 602 576 273 273 40 38 36 36 39 414 430 416 422 414 286 286 145 28 28 29 599 596 601 575 575 576	o ' " 198 37 48 231 1 19 69 25 44 109 2 42 150 12 19 99 20 7 162 32 38 20 12 46.67 145 34 48.56 209 10 21.68 263 14 1.02 322 5 5.56 34 19 32 41 49 56 62 29 37 174 55 14 319 27 36 72 45 19 158 49 29 179 46 0 179 51 13.04 256 3 50.64 294 30 2.99 109 25 22 123 7 11 152 11 10 160 53 40 214 40 36 249 23 53	SANUVALI h.s. Uliapagudda Mungod Fort Indúr Mundasáli SARUR h.s. Hanamásagar Amingad Hill Tower Kandégal Hill Tree SASAVEHALLI FORT s. Kalavarangan Katsi Hill Tree Timmappangudda SHIGAKAL h.s. Kalangavi Dummi Hill Pagoda Rangandurga Pagoda Kálingráyan Bharannáyakandurga Platform Channagiri Fort Vadamaradi Hill Pagoda Santébennúr Mosque Kanigiri Mallapur Hill Pagoda Timmappangudda Maradi Máyakónda Fort SHIMOGA s. Vimaldi Hébbe, XLVI SIDDAPUR h.s. Hukaligudda, XXXVI Chandraguti, XXXIV Koramúr, XXXIX SIDDESHVAR, XLIII Narsiparvata Hill Mark Kundadagudda Hill Mark Akkibéttadarashigudda Hill Peak Bisale, XLIV Kavaledurga Hill Temple Ravigudda Hill Peak Kódashádrj, XLII Hugadi, XLI Vimaldi Hébbe, XLVI Hirégudda, XLV	808 810 808 809 192 192 198 496 497 496 469 513 516 468 507 514 511 510 509 468 505 506 554 554 369 368 368 610 603 603 56 582 581 55 55 462 62 58

NOTE.—Station Bori, XXII appertains to the Bombay Longitudinal Series.

MANGALORE MERIDIONAL 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
SIDDESHVAR h.s. Bisale, XLIV Kavaleurga Mantapam Hugadi, XLI Vimaldi Koramurgudda Koppadurga Fort	568 567 566 566 611 611	SWARNANADIGUDDA h.s. Indraligudda Dariya Bahadur Garh Island Kokadigudda Avarnigudda Kachanmalai Umikal	574 597 591 572 572 573	UCHILGUDDA s. Kap Battery Indraligudda Kunjargudda Pagoda Santurkopaligudda	599 600 601 599
SIRST s. Halabail, XXXV Chandragutti, XXXIV	323 323	TARIKERE FORT s. Hannegudda Basavanköla	568 568	UDAGANI FORT s. Hönnavalli, XL Chandrakal	484 484
SOANSHI s. Kundur-neralgi Hill Pagoda Matikat Koil Hulikati Kundgol Fort Unkal Kushgal Majigudda Nilgund Hill Tree Gunjalhalli Hill Kapatigudda Hill Rangiri Hill Tree Rattigiri Hill Building	269 263 172 172 283 174 173 257 261 256 265 267	TEMBHURNI s. Sulki Baura No. 1 Hill Pagoda Laul	72 73 72	ULAPAGUDDA h.s. Bhedasvegudda Kolakerra Mudunur Fort Nandikatte Tower Indur Sanvasali Mundasali Masti-ka-Dongar	183 219 221 183 217 184
SONDA h.s. Menshigudda Bhedasvegudda	316 316	TIMMAPANGUDDA h.s. Holtihal Hill Pagoda Anveri Round Turret Chelur Fort Yedval Hill Tree Sasavehalli Fort Chitnahalli Hill Pagoda Kalavangan Katgi Hill Tree Hönnali Fort Hallur Hill Pagoda Harihar Fort Batigudda Maradi Shigakal Kangiri Mallapur Hill Pagoda Channagiri Fort Rangandurga Pagoda Kalingrayan	503 500 498 493 496 502 468 473 476 472 471 467 504 468 508 514 516 466	ULVI h.s. Kanchenmalai Hill Tree Höttegudda Menshigudda	328 158 158
SULKI , II Hingni Hill Temple Pachvad, IV Palvan, III Shingnapur Hill Temple Kalas, I Indapur Hill Mark (heliotrope) Baura Hill Mark (heliotrope) Ken, XVII Katphal, V Itki Hill Mark (heliotrope)	96 6 4 80 3 66 68 3 10 97	TIMOLI h.s. Kudalgaon Avadi	278 278	UMACHGI s. Kapatigudda Hill Kanavinagamayi Hill Tower Pallavainumath Building Majigudda Hiréhanidgol Navalgund Nargund Fort Jalihal Shantigiri Hill Tower Kallakapa Linganbada Kopal	255 253 251 178 229 178 227 179 206 180 181 182
SULKI h.s. Baura No. 1 Hill Pagoda Kem Hill Pagoda Tembhurni Laul Ahir Babhulgaon Paddak Pagoda Anayli	73 71 72 70 77 78 70	TINAI h.s. Marsingal Pesvadi Kudalgaon Kongaon Kuvesi	272 273 167 167 274	UMIKAL h.s. Santurkopaligudda Indraligudda Swarnanadigudda Kachanmalai Partamalaigudda	575 574 573 573 576

NOTE.—Station Kem, XVII appertains to the Bombay Longitudinal Series.

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
UNKAL h.s. Dhárwár Large Koil Parasgad Fort Yelmina Hill Pagoda Navalgund Majjigudda Soanshi Matikati Koil	286 288 240 284 283 283 264	VALKUNJI, XLVII Narsiparvata Hill Mark Hirégudda, XLV Guligundi Peak Shitebhuni Peak Gangrikal Peak Gangamula Peak Kudurémukha, III Kudurémukha Hill Mark	609 59 628 630 633 634 60 639	YALUR, XXII Belgaum Fort Kolanhatti, XIX Kardíguđi Chikk Nandilallíguđđ, XX Samsbergad, XXIII	144 27 140 27 28
VADIGUDDA h.s. Indúr Dúgingiri Birvali Fort Tree Kundgol Fort	168 168 299 169	VIMALDI h.s. Siddeshvar, XLIII Siddeshvar Hugadi, XLI Kalavarangan Yédéval Hill Tree Hólo Hóunúr Shimóga Chénbasappa Pagoda Kálingráyan Basavangudda Hébbe, XLVI Koramúrgudda	462 566 463 464 492 552 554 555 465 551 462 556	YELLAPUR FORT s. Karkabail-Hill Tree Kolakétra	315 315
VALKUNJI, XLVII Coondapoor Mark Yelgudda Hill Peak Bisale, XLIV Akibéttadarashigudda Hill Peak Agumbe Hill Mark Kundadagudda Hill Mark	593 543 59 604 607 606	VALKUNJI, XLVII Narsiparvata Hill Mark Hirégudda, XLV Guligundi Peak Shitebhuni Peak Gangrikal Peak Gangamula Peak Kudurémukha, III Kudurémukha Hill Mark	593 543 59 604 607 606	ZAYURLI h.s. Kínsérudi Kúdalgaon Dúgi Magarvada Sambrani	283 283 285 284 286

NOTE.—Station Kudurémukha, III appertains to the Madras Longitudinal Series.

June, 1891.

J. ECCLES,
In charge of Computing Office.

MANGALORE MERIDIONAL 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 s., h s. and t.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 for other 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.

Trigonometrical heights always refer to the upper mark-stone let into the circular isolated pillar, when the latter is solid, and to the upper surface of the pillar on which the theodolite stood, when the pillar is perforated or the tower is hollow. Spirit levelled heights are given to two places of decimals of a foot, and the surfaces to which they refer are indicated in footnotes to this table. 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. In a few cases, where Trigonometrical heights do not exist, but values have been found on the Topographical Survey maps, these values have been reduced to the G. T. Survey datum, where a comparison was possible, and enclosed in brackets, thus [38.31].

The numerals in the last column indicate the triangles given on pages 13—_{D.} to 40—_{D.}, by which the station or point has been fixed; when these numerals are omitted it is to be understood that the triangles were not considered of sufficient importance to print.

Name of Station or point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Achuvi h.s. ... <i>Atchoovee H.S.</i>	North Kánara	On a prodigious mountain below the Gháts, about 10 miles N E. of the Mirján old fort, 5 miles N.E. of Nágúr village, and 8 miles N.N.W. of Herila on the road from Sirsi town to Upenpatan village. From Mirján the road leads to the station by way of Barmúr, a small village with a temple on the mountain: táluks Kumta. The station is marked by a platform having a stone with a circle in the centre. 1813-14.	14 36 40.69	74 32 11.28	feet 2740	154
Ádúr Fort ... <i>Audoor</i>	Dhárwár	N.W. angle of fort on hill top, at junction of the roads from Hángal, Nírgal village and Mulgund: táluks Hángal. 1813-14.	14 46 13.65	75 17 31.23	...	401
Águmbe Hill Mark ...	Shimōga	On a peak of the range of hills running between the boundaries of Mysore and South Canara (Kannada), about a mile S. of Águmbe at the head of the Águmbeghát, 2 miles E. of Somesvar, and 1½ miles N.W. of Mulandúr. Denoted by a circle and dot mark of old survey point, and surmounted by a pile of stones: táluks Kavaledurga. 1872-73.	13 29 27.47	75 8 28.33	2810	607 608

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Ahir Bábhulgaon h.s. <i>Aher Baboolgaon H.</i>	Sholápur	Near the boundary of Pandharpur táluka and Patvardhan State, about 1½ miles W. of the village of the same name, which village is on the road from Pandharpur to the large village of Ashti, and 2½ miles S. of Mendhapuri village: táluka Pandharpur. 1819-20.	17 45 37·88	75 23 55·57	feet ...	76, 77
Airani Fort Palace <i>Iranee</i>	Dhárwár	In village so called on the left bank of the Tungabhadra river, and about 1 mile W. of Sarati, 2½ miles S. by W. of Hirébidare, and 5 miles N. of the town of Harihar. 1813-14.	14 36 10	75 50 43	...	...
Airani Hill Pagoda <i>Iranee H.P.</i>	"	Also called Béttmallappan temple, about 2½ miles W. of the Tungabhadra river, 2½ miles W. by S. of Airani village, and 6½ miles N.N.W. of Harihar. 1813-14.	14 35 51·6	75 48 19·5	...	454 455
Ajimpur s. <i>Ajimpoor</i>	Kadúr	On the cavalier in the centre of the fort close S.W. of the village so called which is near the junction of the roads from Tarikere and Bérúr to Hósdurga, and about 2½ miles E. by N. of Sökki: táluk Tarikere. 1804-5.	13 43 32·72	76 2 36·72	...	564
Akkibéttadarashigudda Hill Peak	Shimöga	Centre of summit of the higher and western point of a double grassy peak, about 11 or 12 miles S.W. of Tirthahalli, 2 miles W. of the high road from Mangalore to Tirthahalli, and 4½ miles N. of Águmbe travellers' bungalow on the above named road: táluk Kavale-durga. 1872-73.	13 34 11	75 8 42	2671	603 604
Alsunda, XIX*	Ahmednagar	<i>Vide page 8—D.</i>	18 26 52·37	75 3 2·29	† 2165·21 7·0	1
Alsunda Hill Pagoda <i>Alsund H.P.</i>	"	On hill, 1½ miles N.W. of village of the same name, 3 miles E. of Banori village, and 4 miles W. of Ambajalgaon village: táluka Karjat. It was refixed in 1832. 1819-20.	18 29 16·1	75 3 14·2	...	‡
Amanagudda Hill Peak	Shimöga	Also known as Jenkaldurga Hill Peak, about 5 miles N.W. of Hugadibétta, and 3 miles S.E. of Mávinhol. 1872-73.	13 57 11	75 10 34	2795	544 545
Amanagudda Platform <i>Jaincudroog</i>	"	Also known as Jenkaldurga Platform on the southern end of a hill, about 1 mile N.N.E. of the small village of Madavalli, and 5½ miles N.E. by E. of the large village of Kalúrkatte at the junction of roads from Nagar, Köllúrgát and Shimöga: táluk Nagar. 1813-14.	13 57 9·8	75 10 33·3	...	546 547
Ambargudda h.s. <i>Ambargooda S.</i>	"	On the Western Gháts, about 7 miles N.W. of Kódashátri and near the village of Maratta: táluk Ságar. The station is denoted by a platform having a markstone at its surface. 1813-14.	13 55 20·78	74 50 6·33	3301	520
Amingad Hill Tower <i>Umeengudda H.</i>	Kaládgi	On a conspicuous tower at the E. extremity of the fortified hill close N. of the town of Amingad: táluka Hungund. 1816-17.	16 3 37·1	75 59 34·3	...	191
Ánaigudda h.s. <i>Aunaegooda</i>	South Canara	On the road from Coondapoor (Kundápura) to Brahnavara, about 5 miles S. of the former place, 2 miles S. of Kótesvar which is also on the same road, and 1½ miles S.W. of Gurnagudda h.s.: táluk Bärkúr. 1802-6.	13 33 48·07	74 44 37·62	...	589

* Of the Bombay Longitudinal Series.

† This height refers to the upper surface of the rectangular protecting pillar 2 feet high, built over the circular pillar.

‡ For triangle fixing this point, see Synoptical Volume of the Bombay Longitudinal Series.

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Anantapur Fort s. <i>Annantapoor</i>	Shimōga	On the S. angle of the fort situated south of a large sheet of water, about $\frac{1}{4}$ mile W.S.W. of Dásikōppa, $3\frac{1}{4}$ miles S.W. of Kannūr, and 4 miles S. by W. of Gavaja close W. of the high road from Sāgar to Tirthahalli: táluk Sāgar. 1813-14.	14 4 39·98	75 15 0·93	feet ...	548 549
Ānavatti Fort <i>Annawutty</i>	"	Flag on the highest bastion at the N.W. angle of the fort N.W. of Ānavatti, about a mile E.S.E. of Kubatūr village, $1\frac{1}{2}$ miles N.W. by N. of Tallūr, and close to the road from Tallūr to Gōndi: táluk Sōrab. 1813-14.	14 34 3·4	75 11 32·1	...	405 406
Anavli h.s. <i>Annawulli S.</i>	Sholápur	On a flat-topped range of hills, about $1\frac{1}{2}$ miles E. by S. of the village so called on the road from Pandharpur to Mangalvedha, $1\frac{1}{2}$ miles W.S.W. of Ránjni, and 2 miles N.N.W. of Shirgaon: táluka Pandharpur. 1819-20.	17 37 22·05	75 26 39·39	[1614]	69
Ānēkalgudda h.s. <i>Anniculgooda s.</i>	Bellary (Ballári)	On a rock, the most conspicuous of a low range of hills running in a north-westerly direction from Kúdligi, about $3\frac{1}{2}$ miles N. of Hōskēre, and $10\frac{1}{2}$ miles N.W. by N. of the táluk town of Kúdligi: táluk Huvinahadgalli. The station is marked by a platform and pile of stoues. 1811-14.	15 2 32·38	76 20 43·75	...	414
Ānēveri Round Turret <i>Amivary</i>	Shimōga	At a bend on the right bank of the Tungabhadra river, about $1\frac{1}{2}$ miles N. by W. of Maidálatu, 1 mile E. by N. of Mangote, and $2\frac{1}{2}$ miles S. by W. of Kurubár Vitlapur: táluk Shimōga. 1813-14.	14 3 30·6	75 47 0·0	...	500 501
Anjidiv Island Flag Staff <i>Anjadeepa</i>	North Kánara	Off Kárwár. 1813-14.	14 45 31·9	74 9 4·5	...	334
Ankola Fort s. <i>Ankola</i>	"	On the bastion near the middle of the northern face of the ruined fort of this sea-port town: sub-division Kumta. 1811-14.	14 39 39·29	74 20 59·66	...	333
Ankola Numazgudda s. <i>Ankola Numazgooda.</i>	"	On the ruins of a Masjid on a low hill close to the sea, and about 2 miles W. of the ruined fort of this sea-port town: sub-division Kumta. 1811-14.	14 39 26·19	74 19 22·14	...	331 332
Ānúr, VI*	Kadúr	<i>Vide page 12—D.</i>	13 18 29·67	75 41 48·43	$\frac{4885}{2·2}$	61, 63
Ānúr h.s. <i>Hunnoor Mullapan H.P.</i>	Dhárwár	On a hill temple, about $\frac{1}{2}$ a mile S. of the village so called, 4 miles E. by N. of Chikk Mulgund fort, and 5 miles N. by E. of Kod town: táluka Kod. 1811-14.	14 35 45·03	75 30 35·25	...	379
Arsabidda h.s. <i>Arisbidda H.S.</i>	Kaládgi	On a hill immediately W. of the village of the same name, about 2 miles S. by E. of Gudúr on the road from Hungund to Belúr: táluka Hungund. The station is marked by a circle and dot on a platform. 1816-17.	15 54 9·82	75 57 32·37	...	201 202
Arsikēre Fort <i>Arsikerra</i>	Bellary	S.W. angle of the fort so called on the road to Harpanahalli, and $9\frac{1}{4}$ miles S.E. by S. of this town: táluk Harpanahalli. 1811-14.	14 40 7·9	76 6 49·2	...	†
Arvisomapur Fort Tree <i>Udduwi Somapoor.</i>	Dhárwár	In the fort on the road from the town of Taras to that of Bankápur, and about $2\frac{1}{2}$ miles S. of the former place: táluka Bankápur. 1816-17.	15 5 25	75 10 19	...	304 305
Athni, XI	Belgaum	<i>Vide page 6—D</i>	16 42 51·64	75 8 53·45	$\frac{2048}{5·0}$	17.

* Of the Madras Longitudinal Series.

† For 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
Athni Masjid (heliotrope) ...	Belgaum	On a hill, about $\frac{1}{2}$ a mile E. of the road from Athni town southward to Sati village, and 3 miles S.S.E. of the former place: táluka Athni. 1866-66.	16 44 3' 42"	75 8 58' 06"	feet 2054	121
Átpádi Hill Temple ...	Sátára Agency	Spire of temple which is also known as Sonár Siddápur, on a hill about $2\frac{1}{2}$ miles N.E. of Átpádi town, $1\frac{1}{2}$ miles S. of Kantoli village on right bank of the Mán river, and 1 mile W. of Deshmukh hamlet: táluka Aundh. 1864-65.	17 26 32' 9"	75 0 29' 7"	...	99,100
Aundh, VI ...	"	<i>Vide page 5—D.</i>	17 33 18' 25"	74 24 2' 23"	$\frac{3134' 19''}{8.6}$	7
Aundh Hill Temple ...	"	Spire of temple which is also known as Yamai, on a hill about 1 mile S.W. of the town of Aundh, and the same distance E.S.E. of Nádosí village on road from Aundh to Bahimatpur: thána Aundh. 1864-65.	17 31 37' 9"	74 21 47' 0"	[3105]	89,90
Avadi h.s. ... <i>Ahwaydi hill</i>	North Kánara	On the highest hill, 5 furlongs E. by N. of village so called, about 4 miles N.N. E. of the town of Supa, and 1 mile W. of the road from Haliyál. 1811-14.	15 19 1' 14"	74 34 33' 09"	...	277
Avaraigudda h.s. ... <i>Avaraegooda</i>	South Canara	On a detached hill also called Choradigudda, about 5 miles E. of Shriyára village on road from Bárkúr to Hósangadi, and $3\frac{1}{2}$ miles N.E. of the former place: táluk Bárkúr. 1802-6.	13 32 30' 92"	74 53 53' 80"	...	570
Bába Budan No. 1 Hill Peak ...	Kadúr	Also known as Mulaingiri peak. Summit of the southern of the Bába Budan or Chandradrona hills, 2 miles W. N. W. of Hóshalli on the road from Chikmagalúr to Santaveri, $2\frac{1}{2}$ miles W. of Dásarahalli, 3 miles N.W. of Alampur, and $2\frac{1}{2}$ miles N. of Hirékolale: táluk Chikmagalúr. 1872-73.	13 23 23	75 45 47	6310	619 620
Bába Budan No. 2 Hill Peak ...	"	Known as Rudhargiri. A prominent peak on the extreme S.W. branch of the Bába Budan or Chandradrona hills, about $1\frac{1}{2}$ miles N.E. by N. of Chinnehalli near the road from Múdgere to Yédéhalli, 4 miles N.W. of Hirékolale, and $3\frac{1}{2}$ miles S. of Jágar: táluk Chikmagalúr. 1872-73.	13 23 32	75 43 17	5684	...
Bába Budan No. 1 h.s. ...	"	Known as Bába Budangiri. On a high point towards the S.E. quarter of the Chandradrona hills, about $2\frac{1}{2}$ miles N.W. by W. of Hébbali near the road from Chikmagalúr to Santaveri, 3 miles W. of Línganahalli, $1\frac{1}{2}$ miles N.N.-W. of Arasinguppe, $2\frac{1}{2}$ miles N. by E. of Dásarahalli, and 6 $\frac{1}{2}$ miles N. of Chikmagalúr: táluk Chikmagalúr. An old platform, about 6 feet in diameter and having a mark-stone securely embedded in it denotes the station. 1872-73.	13 25 6' 44"	75 48 18' 92"	...	617
Bába Budan No. 2 h.s. ... <i>Bababooden</i>	"	Known as Kalhattigiri. On an embankment on the summit of the flat-topped hill to the S.S.E. of the Government houses at Kalhatti, about 2 miles W. of Santaveri travellers' bungalow on the road from Chikmagalúr to Tarikére, and $2\frac{1}{2}$ miles E. by N. of Virupakshikan bungalow: táluk Tarikére. The station was revisited in 1872-73, and is denoted by a circle and dot engraved on a piece of hard stone embedded in the embankment. 1813.	13 30 56' 79"	75 48 53' 91"	6151	618
Bába Budan Pagoda ... <i>Purdaesheemutta P.</i>	"	Known as Pardeshímáta. On the highest part of a range of hills, about $3\frac{1}{2}$ miles N.W. of Allampur village, and 6 miles N.N.W. of Chikmagalúr town whence there is a road to the top of the hill: táluk Chikmagalúr. 1805.	13 23 23' 1"	75 45 47' 4"	...	621

* This height refers to the upper surface of the rectangular protecting pillar built over the circular pillar, the former pillar has been assumed to be $8\frac{1}{2}$ feet high.

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Badankatte h.s. ... <i>Buddencuttæ S.</i>	Shimõga	On the northern extremity of a low hill, about 1 mile S.W. of Tallúr, 1½ miles S.E. by E. of Sománvalli, and 2 miles W. of Munasévali. There is a place of worship and a large tree on the hill. The station is marked by a platform and pile of stones, and is a few feet S.W. of the tree: táluk Sõrab. 1813-14.	14 32 16.29	75 11 50.92	feet [2173]	384 385
Badengod Fort s. <i>Buddengoda</i>	North Kánara	On the N.E. angle of the fort in the village so called, close N. of the road from Sirsi to Hángal, and 8½ miles S.W. by W. of the latter town: sub-division Sirsi. 1811-14.	14 42 1.40	75 3 8.13	...	394
Badengod No. 1 h.s. <i>Buddengoda S.</i>	North Kánara and Dhárwár	On a range of hills running along the boundary of Sirsi and Hángal táluks, the former in North Kánara district and the latter in Dhárwár, about a mile S. of Samasgi village on the road from Badengod to Hángal, and 2 miles S.E. of the former place. 1813-14.	14 40 48.99	75 4 33.65	...	388 389
Badengod No. 2 h.s. <i>Buddengoda</i>	"	On the N. extremity of a range of hills running along the boundary between the Dhárwár and North Kánara districts, on the road from Sirsi to Hángal, and 7½ miles S.W. by W. of the latter town. 1811-14.	14 42 4.49	75 4 25.48	...	390 391
Bagavalli Pagoda ... <i>Buggawhully P.</i>	Kadúr	At the S.W. corner of the village so called, about 3½ miles S.W. of the large village of Ajimpur on the high road from Tarikére to Hõsdurga, 1½ miles W. of Chõnnapur, and 6½ miles N. of Bõrúr: táluk Tarikére. 1802-6.	13 41 31.0	76 0 49.4	...	565
Bahádurbanda Fort <i>Bahaderbunda</i>	Lingsugúr	About 1½ miles S. by E. of Kopal town and railway station: táluk Kushtagi, Nizam's Territory. 1811-14.	15 18 46	76 12 12	...	*
Baidúr Head Mark <i>Bydoor</i>	South Canara	On a hill, about 1½ miles N.W. of Baidúr town on the road from Gangoli at the mouth of the Gargët river to Honávar: táluk Coondapur. 1811-14.	13 52 16.8	74 38 48.8	...	540 541
Bairágigudda h.s. <i>Byrachidorghur</i>	North Kánara	On the same hill and within a few feet of the principal station of Halõbail: táluca Siddápur. 1813-14.	14 29 43.09	74 42 14.35	...	155
Bálahalligudda Hill Peak	Shimõga	Centre of apparently the highest point of a hill, about 5 or 6 miles N.N.W. of Anantapur. 1872-73.	14 9 3	75 13 13	2652	488 489
Bálahalligudda h.s. <i>Bullahullygoda</i>	"	On a hill on the boundary of Shikárpur and Ságár táluks, nearly 3 miles W. by N. of Gavaja, 1½ miles S. by E. of Hõssante, 4½ miles S.S.W. of Bõllandúr, and 3½ miles N. of the high road from Ságár to Tirthahalli. 1813-14.	14 9 1.43	75 13 12.60	...	479 480
Banavási Pagoda ... <i>Banawassee</i>	North Kánara	Towards the southern portion of this large village which is on the road from Badengod to Sõrab, and on the left bank of the Varada river, about 1½ miles W.S.W. of Tigni, 2 miles E. of Kantráji, and 1 mile S. by E. of Kádgod. 1813-14.	14 32 3.0	75 3 31.5	...	408
Bandarangangudda Hill Pagoda <i>Bunda Rungangoda</i>	Bellary	Spire of pagoda on a low rock in the village of the same name, E. of the village road from Tambarhalli to Mutakúr, and about 1½ miles N. by E. of the former: táluk Huvinahadgalli. 1813-14.	15 10 2.4	76 13 30.2	...	*

* For triangles 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
Bangábelige Hill Peak ...	Kadúr	Summit of a prominent peak between Kudurémukha and Balláráyandurga and near the boundary between the districts of South Canara and Kadúr, about 1½ miles S. by E. of Malvádi, 2½ miles S.W. by W. of Bangábelige, and 2½ miles S.W. by S. of Guttórka: táluk Múdgére. 1872-73.	13 7 59	75 21 20	feet 5643	637 638
Banigiri Hill Pagoda s. <i>Bonigherry</i>	North Kánara	On a hill close to the road from Bilgi town to Siddápur, and about midway between them: táluka Siddápur. 1811-14.	14 20 15·81	74 52 14·02	...	367
Bánur Hill Temple ...	Sátára	On the highest point at the N. end of the Bhopalgad Hill Reserve Forest, about ¼ a mile N.E. of Bánur village, 2½ miles S.E. of Hivtad, and 4½ miles S. of Kargani on the left bank of Rámghátnadi: táluka Khánápur. 1864-65.	17 14 27·8	74 55 20·2	...	101 102
Basarúr Hill Mark <i>Bussooroor H.</i>	South Canara	On a hill by the side of the road from Coondapoor to Kandalúr, about 3½ miles E. of the former place: táluk Coondapoor. 1802-6.	13 37 29·16	74 47 19·88	...	595
Basavangudda h.s. <i>Bussangooda</i>	Shimóga	Also known as Rámenkóppa. On the highest point of a forest-clad hill, about 1½ miles S.W. of the village of Rámenkóppa, and 8 miles S.S.E. of the district town of Shimóga. There is only one path which leads to the top of the hill, a difficult one, from the village of Rámenkóppa: táluk Shimóga. 1811-14.	13 48 2·14	75 40 15·71	[2752]	550 551
Basavankólal h.s. <i>Bussunkolol</i>	Kadúr	On a hill, about 1½ miles S.S.W. of Böttadhalli on the road from Shimóga to Kadúr, 2½ miles E. of Doranálu, 2½ miles N.N.E. of Nandi, and 3 miles S.E. by E. of the táluk town and fort of Tarikére: táluk Tarikére. 1805.	13 40 21·32	75 54 41·77	...	557
Basrádurg Island ...	North Kánara	Apparent highest point, covered with forest, off Honávar coast. 1872-73.	14 18 42	74 26 31	...	349 350
Basrádurg s. <i>Busswarajedroog</i>	"	On the fortified island of the same name, about a mile off the Honávar coast, 2½ miles N.W. of the mouth of the Shirávati river and opposite to Táribágh a small village on the sea beach from which place it is most convenient to sail to the durg: táluka Honávar. The station is in the centre of a circular platform about the centre of the hill, a tree supported by a pile of stones defines the station. 1813-14.	14 18 45·85	74 26 36·90	164	325
Basvarna Dipmal ...	Belgaum	Lofty Dipmal. On the top of a range of hills on the road from Chikodi town to that of Hukeri, about 2½ miles S. by W. of the former place, and 8½ miles N. of Manuli a large village on the same road: táluka Chikodi. 1866-66.	16 23 34·0	74 37 41·9	...	122
Bátigudda h.s. <i>Bautygooda S.</i>	Shimóga	On a single hill about ¼ mile S.W. of the road from Harihar to Chitaldroog (Chitra-durga), ¼ a mile W. of the village of Bádi, and 4½ miles W. by N. of Dávangère: táluk Dávangère. The station is west of a Fakír's tomb on the summit, and is marked by a platform and pile of stones. 1813-14.	14 28 59·56	75 53 29·34	[2330]	380
Batkérra Pagoda ... <i>Butkerra P.</i>	Lingsugúr	A white pointed pagoda in the Marátha village, near the fort of Battigiri on the road from Kopaldurg to Hampaságar, the former in Lingsugúr district of the Southern Division of Nizam's Territory and the latter in Bellary district of the Madras Presidency: táluk Kushtagi. 1813-14.	15 12 42·5	76 5 11·3	...	423 424

MANGALORE MERIDIONAL SERIES.

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
Baura Hill Mark (heliotrope) ...	Poona	On a small detached hill, about 3 miles W. of the large village of that name, 5½ miles N.W. of Sáráti village and ferry on the Níra river, and 1½ miles N. by E. of Baura hamlet on the right bank of a branch of the Níra river: táluks Indápur. 1864-65.	17 57 53·45	74 59 30·42	[1741]	67, 68
Baura No. 1 Hill Pagoda <i>Vitoba H.</i> ...	"	On a swell, about 3 miles W. of the large village of that name, and 1½ miles N. by E. of Baura hamlet on the right bank of a branch of the Níra river: táluks Indápur. 1819-20.	17 57 53·1	74 59 30·2	...	73, 74
Baura No. 2 Hill Pagoda <i>Bhaura Hill Pagoda</i> ...	"	On the same hill, close to and N.E. of Baura Hill Mark: táluks Indápur. 1837-38.	17 57 54·3	74 59 32·0	...	75
Belgaum Fort s. ...	Belgaum	On the gate of the fort of Belgaum, about ¼ a mile E. of the town: táluks Belgaum. 1865-66.	15 51 38·92	74 33 58·56	2483	144
Bénkipur Fort s. <i>Benkipoor</i> ...	Shimōga	On the highest turret of the fort of Bénkipur which is on the right bank of the Bhadra river and on the road from Shimōga to Tarikere. The Travellers' bungalow is about ¼ a mile E. of the S.E. corner of this village: táluks Shimōga. 1802-6.	13 50 42·55	75 44 28·72	...	562
Béttadkuráli Hill Platform <i>Bettaakooly</i> ...	"	On a hill immediately W. of the village so called, about 1½ miles E.N.E. of Dandávati river, 2½ miles E.N.E. of Kuppagadi, 3½ miles N. of Udri, and 3½ miles W. of Tattúr: táluks Sōrab. 1813-14.	14 29 38·8	75 11 17·0	...	410
Béttadmállappan Hill Pillar <i>Bettaá Mullapan H.</i> ...	Shimōga-Dhárwár	On the boundary of Dhárwár and Shimōga districts, about 2 miles E.S.E. of a large tank called Madagadkēre, 1½ miles N.N.W. of Márhalli, 3½ miles E. of Matikote, 4½ miles N.E. of Begúr, and 1 mile N. of the high road from Shikárpur to Hōnnáli. 1813-14.	14 19 51·7	75 29 36·0	...	487
Béttadmállappangudda h.s. <i>Bettaá Mullapan H.S.</i> ...	Bellary	On the highest hill of a well known range N. of Harpanahalli, and about 7 miles S. by E. of Huvinahadgalli: táluks Huvinahadgalli. The road to the station is from the village of Kulhalli on the south, about half way there is a temple on the slope and on the summit there is a place of worship and a pile for lighting a lamp, the station is to the south of this pile, and is marked by a platform with a tree in the centre supported by a pyramid of stones. 1813-14.	14 55 35·70	76 0 24·39	[2499]	383
Bharamnýakandurga Platform <i>Burmmaikdroog</i> ...	Chitaldroog	On an isolated hill close W.N.W. of the village so called, about 2½ miles E. of Kálgatta, 4 miles N. by W. of Jájur, and 4½ miles W. of Kandavádi: táluks Hōsdurga. 1812-13.	14 10 54·8	76 10 16·1	...	507
Bhatkaldurg h.s. ... <i>Buttcaldroog</i> ...	North Kánara	On a hill fort now in ruins, on the sea coast and at the mouth and N. bank of the Bhatkal river, about 2 miles S.W. of the town of Bhatkal; the small village of Talagod is N. of the durg: táluks Honávar. The station is over the inner gateway on the left, and is marked by a platform having a mark-stone at its surface. 1813-14.	13 57 56·76	74 34 29·09	137	526 527 528
Bhedasgávegudda, XXXI ...	"	<i>Vide page 9—D.</i>	14 47 28·79	74 58 29·82	$\frac{2278}{8·0}$	39

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

63—D.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Bhedasgávegudda h.s. <i>Bairdusigaon</i>	North Kánara	On a hill on the road from Hisalúr to Mundgod, and about 9 miles E.N.E. of Sonda. The slope of the hill is so gradual from the south that it is practicable for carts. It is probably within about 45 feet of the principal station of the same name: táluks Sirsi. 1811-14.	14 47 29.22	74 58 29.73	feet ...	160
Bilgi s. <i>Bilgy</i>	"	On the ruined rampart, the remains of a small fort on a low hill near the town: táluks Siddápur. 1811-14.	14 21 27.61	74 50 13.62	...	365 366
Birapadeva Rock	Belgaum	Highest white rock on a hill about 2 miles W. by N. of the junction of the high roads from Gokák town to that of Manoli and from the town of Kaládgi to that of Belgaum, and 11 miles N.W. of Manoli: táluks Parasgad. 1865-66.	15 58 51.1	75 2 57.2	...	139
Bírvali Fort Tree <i>Beeruwulli</i>	Dhárwár	A large Banian tree in the fort near the village which is on the road from Yellápur to Taras, and about 4 miles W. by S. of the latter place: táluks Kalghatgi. 1811-14.	15 6 33	75 6 36	...	298 299
Bisale, XLIV	Shimóga	<i>Vide page 11—D.</i>	13 34 33.56	75 4 44.39	$\frac{2855}{1.9}$	56,57
Bomanhalli Hill Mark (heliotrope)	North Kánara	On an isolated hill about a mile S. by E. of the village so called, near the high road from Sirsi town to Sonda, and 3½ miles N. of the former: táluks Sirsi. The station is marked by a paka pillar 3 feet high and 2½ feet in diameter, with two mark-stones, one at the base and the other on the top. 1866-67.	14 40 38.73	74 52 27.24	2209	321 322
Bori, XXII*	Poona	<i>Vide page 4—D.</i>	18 25 7.76	74 40 15.27	$\frac{2005.14†}{7.7}$	2
Bushangad Hill Fort Tree	Sátára	On the S. side of the fort on a detached high hill, about 3½ miles N.W. of Mhasurna village on the road from Umbraj to Pandhárpur, 3½ miles N.N.E. of Chorda on the same road, and 5½ miles E. of Pusesávli town: táluks Khatáv. 1864-65.	17 27 51	74 26 54	[2965]	91,92
Chalkinbarra Peak	Shimóga	Centre of apparent highest point of a peak of the Western Gháts running along the boundary of Mysore and South Canara, about 2 miles W.S.W. of Kárni village, and 12 miles N.W. of Kódashádri: táluks Ságar. 1872-73.	13 55 31	74 45 0	...	586
Chandragutti, XXXIV	"	<i>Vide page 9—D.</i>	14 26 27.56	74 59 11.51	$\frac{2789}{5.0}$	41,44
Chandragutti h.s. <i>Chandergooty</i>	"	On the same hill and within about 40 feet of the principal station of the same name: táluks Sórab. The station is denoted by a platform about 20 feet E. of an old temple. 1813-14.	14 26 27.57	74 59 11.92	2788	150
Chandrakal h.s. <i>Chenderculwora S.</i>	"	On the highest peak of a range of hills running S.S.W. and N.N.E., about 3½ miles S. by E. of Hiréjambúr, 4 miles W. by S. of Múgalgére, 4½ miles E.S.E. of Udagani on the high road to Shikárpur, 4 miles N.W. of Shikárpur town, and 2 miles N. of the road from Shikárpur to Udagani: táluks Shikárpur. The station is denoted by a platform. 1813-14.	14 18 47.00	75 21 11.46	[2636]	482 483

* Of the Bombay Longitudinal Series.

† This height refers to the upper surface of the rectangular protecting pillar 2.58 feet high built over the circular pillar.

MANGALORE MERIDIONAL SERIES.

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
Channagiri Fort ... <i>Chennagherry</i>	Shimōga	High circular bastion on the highest part of the fort on the south side of the road from Bēnkipur to Chitaldroog and towards the western side of the táluk town: táluk Channagiri. 1812-13.	14 1 14·7	75 57 47·0	[2397]	514 515
Chelúr Fort s. ... <i>Eerana Cheloor</i>	"	On the S.E. angle of the fort on the left bank of the Tungabhadra river, about $\frac{1}{2}$ a mile E. of the road from Hönnáli to Shimōga, $1\frac{1}{2}$ miles W. of Hōselingapur, and $2\frac{1}{2}$ miles S.W. of Hōshalli: táluk Hönnáli. 1813-14.	14 6 9·69	75 43 48·66	...	498 499
Chenapur Hill Mark (heliotrope)	Dhárwár	On a treble-peaked isolated hill about $\frac{1}{2}$ a mile W. of village so called near the S. end of a small range of hills S. of Bankápur fort and Bar village, $2\frac{1}{2}$ and 3 miles respectively from them, and 7 miles W. by S. of Húrlíkōp village on the high road from the town of Saranúr to that of Ránebennur: táluka Hángal. The station is marked by a paka pillar 3 feet high and $2\frac{1}{2}$ feet in diameter, with two mark-stones, one at the base and the other on the top. 1866-67.	14 53 34·90	75 17 39·83	...	395
Chēnbasappa Pagoda ... <i>Chenbussuppa</i>	Shimōga	Close to the 167th milestone on the road from Tarikēre to Shimōga, and about 3 miles S.E. by E. of the latter town: táluk Shimōga. 1811-14.	13 53 53·6	75 39 35·7	...	555
Chikk Nandihalligudd, XX	Belgaum	<i>Vide page 7—D.</i>	15 37 56·39	74 51 28·64	$\frac{2606}{5·0}$	26
Chímar Hill Temple	Kolhápura Agency	Spire. On a hill about a mile S.E. of the village so called on the high road from Athni to Mudhol, and $2\frac{1}{2}$ miles N.E. of the town of Mahálingpur on the same road: táluka Mudhol. 1865-66.	16 25 22·7	75 9 53·5	...	135
Chitnahalli Hill Pagoda ... <i>Chutnully H.P.</i>	Shimōga	Pointed pagoda on a low hill, about $3\frac{1}{2}$ miles E. of Saulanga on the road from Shimōga to Hönnáli, $3\frac{1}{2}$ miles S. of Nyámati, and $\frac{1}{2}$ a mile E. of Chitnahalli village: táluk Hönnáli. 1813-14.	14 6 2·5	75 37 6·0	...	502
Coondapoor Fort Flag Staff ... <i>Koondapoor</i>	South Canara	The fort is a little inland from the village on the left bank of the Coondapoor river: táluk Coondapoor. 1802-6.	13 38 10·7	74 43 49·7	...	592
Coondapoor Mark ...	"	In the old fort (Hale Kote) on the Chikkanasál stream, near the ferry and 58 yards N. of the road from the Chikkanasál ferry to Coondapoor. Marked by a circle and dot engraved on stone in a masonry pillar: táluk Coondapoor. 1872-73.	13 38 5·94	74 44 44·62	...	593 594
Dáduri Hill Temple	Ahmednagar	On a hill, about $\frac{1}{2}$ a mile E. of the village so called on E. bank of the Bhíma river, and $1\frac{1}{2}$ miles N. by E. of the large village of Malthan which is $1\frac{1}{2}$ miles N. of the G.I.P. Railway: táluka Karjat. 1864-65.	18 24 58·2	74 46 33·4	...	65
Danavádi Pagoda s. ... <i>Danwaddy Runganaut P.</i>	Shimōga	On the S. extremity of a hill, about a mile N. of the high road from Bēnkipur to Channagiri, $1\frac{1}{2}$ miles E. of Danavádi village and the same distance N. of Rangapur: táluk Shimōga. 1811-14.	13 57 12·59	75 51 36·47	[3011]	553
Dandoba Dongar, IX	Miraj State	<i>Vide page 5—D.</i>	16 55 14·50	74 47 11·51	$\frac{2877}{5·2}$	12

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

65—D.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Dandoba Hill Temple ...	Sangli and Miraj (Senior) States	Spire.—On the top of a range of hills on the boundary of the villages of Bhosa, Kharsang, Khandrajuri and Málgaon, and about 9½ miles N.E. of the town of Miraj: 1865-66.	16 55 34.7	74 47 18.7	feet ...	119 120
Daphlápúr, X ...	Sátára Agency	<i>Vide</i> page 5—D.	17 1 31.12	75 9 31.99	2455 4.8	16
Dareshvar Hill Platform <i>Daraishwar</i> ...	North Kánara	On a hill about ¼ a mile N.W. of Haledápúr on the road from the town of Honávar to that of Kumta, 1½ miles S. of the village from which it derives its name, and 5 miles S. of Kumta town: táluka Honávar. 1811-14.	14 21 22.4	74 27 15.2	...	347 348
Dariya Bahádur Garh Island ... <i>Durrea Bahader Ghur</i>	South Canara	Off Udipi, and about 4 miles W. of it: táluk Bákúr. 1802-6.	13 20 13	74 43 48	...	597 598
Dasrēddi Pagoda ...	Shimōga	Táluk Hönnáli.	14 8 14.8	75 42 38.8	...	...
Datvád Hill Temple ...	Kolhápúr Agency	Dípmal.—On a hill about ¼ a mile N. by E. of the village so called, 3½ miles S.S.W. of Akivat, and 5 miles E. of Borgaon on the high road from Miraj town to that of Nipáni: táluka Shirol. 1865-66.	16 35 46.4	74 37 25.1	...	113
Devakōnda Hill Peak ...	Shimōga	Also called Deva-ka-Malēgudda. Centre of apparent highest point of a peak of the Western Gháts between Mysore and South Canara, about 2 miles N.N.W. of Melmi village, 6 miles W.N.W. of the Kōlur Ghát, and 1½ miles S. of Kárni village on the high road from Baidúr town to Karúr in Mysore: táluk Sagar. 1872-73.	13 54 52	74 46 38	[3614]	537 538
Deválayapur Hill Tree <i>Dewalapor H. Tree</i> ...	Lingsugúr	A large and conspicuous tree on a hill E. of the village so called: táluk Kushtagi, Nizam's Territory. 1816-17.	15 52 8	75 58 3	...	211 212
Devali h.s. ... <i>Daywulli H.S.</i>	North Kánara	About 3½ miles N.N.W. of the village so called, and 2 miles N. of the road leading from Supa táluka across the Western Gháts into the Portuguese Territory of Goa. 1811-14.	15 27 25.17	74 23 31.13	...	...
Devar Hönnáli Pagoda <i>Davur Honelly</i> ...	Shimōga	A white pagoda on the right bank of the Tungabhadra river, about 1½ miles E. of the road from Hönnáli to Harihar, ¼ a mile N.W. of Kammargatte, and 2½ miles E. by S. of Hönnáli: táluk Hönnáli. 1813-14.	14 13 52.6	75 43 33.5	...	478
Devigudda Hill Mark (heliotrope)	Dhárwár	On a hill about ¼ of a mile E. of the high road from the town of Hubli to that of Bankápúr, 2 miles E.S.E. of the town of Taras, and 15½ miles S. of Hubli: táluka Bankápúr. 1866-67.	15 6 49.81	75 12 8.72	...	270
Dhárwár Kacheri ...	"	S.W. corner of Collector's Kacheri, in the town: táluka Dhárwár. 1866-67.	15 27 4.4	75 2 41.4	2501	243
Dhárwár Large Koil s. <i>Darwar S.E. Coil</i> ...	"	On the centre of the terrace of the large and S.E. Koil or pagoda upon a height: táluka Dhárwár. 1816-17.	15 26 26.12	75 3 43.57	...	235 236
Dhárwár s. ...	"	On Collector's Kacheri in the town of Dhárwár: táluka Dhárwár. 1865-66.	15 27 4.60	75 2 41.81	2500	241 242

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Dhárwár Small Koil <i>Darwar N.W. Coil</i>	Dhárwár	Spire of the small conspicuous and N.W. pagoda upon a swell of the table heights: táluca Dhárwár. 1816-17.	15 26 55·0	75 2 42·6	feet ...	244 245
Dhond Hill Pagoda	Poona	On a hill, about 3½ miles S.S.W. of Dhond village, 2½ miles N.E. of Kurkumb village, and 3½ miles E.S.E. of Girim village: táluca Bhimthadi. 1838.	18 25 16·8	74 36 49·9	...	*
Dhond Pagoda	„	The largest of several temples situated at the N.W. corner of the well known village of the same name from which the Dhond and Mamád Railway partly takes its name, and about ¼ of a mile S. of the Bhim river: táluca Bhimthadi. 1838.	18 27 58·8	74 37 43·0	...	*
Dinděmane, XXXVIII	Shimōga	<i>Vide page 10—D.</i>	14 7 57·48	74 42 59·68	$\frac{2335}{5·0}$	48,52
Dōddikōppa Pagoda <i>Bussawadavarugoodi Pag.</i>	„	On a small isolated hill at the S. and E. base of which is a large tank, about ¼ a mile W.N.W. of Dōddikōppa village, ½ mile S. of Nēlikōppa, 1½ miles S.W. of Mudi on the right bank of the Varada river, 2 miles E. of Agasanhalli on the road from Sirsi to Anavatti, and 3½ miles W.S.W. of the Tiluvalli Travellers' Bungalōw: táluk Sōrab. 1811-14.	14 36 23·7	75 13 30·9	1885	403
Donangundi Pagoda <i>Donangootah P.</i>	„	Low building on a brown hill, about 2 miles W.N.W. of Hulginkōppa close S.E. of the road from Shiralkōppa to Hirēkerūr, 3½ miles N.E. by E. of Bēlagavi, and 2½ miles S.E. of Bilaki: táluk Shikārpur. 1813-14.	14 25 21·6	75 19 30·8	...	413
Dúgingiri h.s. <i>Doogingerray</i>	North Kánara	On a hill about 2 miles E.N.E. of Murkavānda village at the junction of several roads, 7 miles E.S.E. of Haliyál town, and the same distance E.N.E. of Sambrani: táluca Supa. 1811-14.	15 17 19·91	74 54 20·81	...	163
Dummi Hill Pagoda <i>Doomee H.P.</i>	Chitaldroog	On the north slope of a detached hill immediately N.W. of the village and S. of the high road from Chitaldroog to Channagiri, about 8½ miles W. by S. of Hōlalkēra a large village on the above high road: táluk Hōsdurga. 1812-13.	14 1 45·8	76 6 6·1	[2660]	513
Dúsgi h.s. <i>Doosgee h.s.</i>	Belgaum	On a hill about 2½ miles W. of the town of Kittúr. Sub-division Sampgaon. 1811-14.	15 24 35·50	74 48 0·73	...	285
Gabgaddi h.s. <i>Gubguddy H.</i>	Bellary	On the S. extremity of the range of hills extending from Kalhalli peak to the Tungabhadra river, about 1½ miles N.W. of the fort of the same name, and 2 miles N. of Halvágál a large village on the road from Harihar town to Hōlal fort: táluk Harpanahalli. A platform and a pile of stones define the station. 1813-14.	14 43 39·41	75 49 17·17	...	381
Gadjantargarh Highest Redoubt <i>Gudjuntergurh</i>	Lingsugúr	The northern and somewhat higher of the two small redoubts or other buildings about 6 furlongs E. by N. of the citadel of the drug, about ¼ a mile E. of the village so called, 9½ miles N. of Yēlburga, and 14 miles W. of Kushtagi: táluk Kushtagi, Nizam's Territory. 1816-17.	15 44 40·7	76 0 59·5	...	217 218
Galaganát Pagoda <i>Galaganaut P.</i>	Dhárwár	A pointed pagoda in the village of the same name close S. of the junction of the Varda and Tungabhadra rivers, about 4 miles N. of Havanúr town, and 7 miles N.N.E. of the town of Gutal from which there is a road to the temple: táluca Karajgi. 1813-14.	14 55 13·8	75 43 30·5	...	438 439

* For triangle fixing this point, see Synoptical Volume of the Bombay Longitudinal Series.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Gangagiri Hill Peak ...	Kadúr	Also called Lakki Parvata, the eastern or highest crag or peak of the sharp rocky ridge, about 3 miles E.S.E. of Bállangi on the left bank of the Bhadra river, 2½ miles N.W. by W. of Kalvashe, 2½ miles N.N.E. of Bidare, 3½ miles W. by S. of Keshavi, and 5 miles S. of Hébbe: táluk Chikmagalúr. 1872-73.	13 27 56	75 36 40	feet 4655	613 614
Gangamúla Peak ...	"	On a minor spur of the Western Gháts towards the N.W. part of the Múdgère táluk. At the source of the Tunga and Bhadra rivers, about 2½ miles N.N.W. of Singsara, and 5½ miles W.N.W. of Malesvara village on the left bank of the Bhadra river: táluk Múdgère 1872-73.	13 14 58	75 13 28	[4774]	634 635
Gangrikal Peak ...	"	Apparent highest point of one of the highest peaks of the range of hills between Merti and Gangamúla, separating Múdgère táluk from that of Kóppa both of the Kadúr district, about 4½ miles S.E. of Shirlu village, and 2½ miles S. by W. of Kirúr village. 1872-73.	13 16 2	75 15 19	[4681]	632 633
Ganigudd, XXVI ...	Dhárwár	<i>Vide</i> page 8—D.	15 14 33·68	74 57 20·50	$\frac{2382}{4·0}$	33
Garikethra Hill Temple ...	Belgaum	Dipmal.—On a detached hill by the high road from Ghopgiri to Pádshahpur, and about 2 miles S.W. of the former; the hill lies between the villages of Huli Gurkit and Gurkit; the latter of which is on the same road: táluka Chikodi. 1865-66.	16 9 34·2	74 42 51·3	...	131
Ghorpadi Hill Temple ...	Miraj State, (Senior)	Dipmal.—Also called Maloi Hill Temple. On the E. extremity of a detached hill, about a mile S. of the village of that name 2½ miles N.E. of the junction of the roads from Miraj to Pandharpur and from Karád to Bijápúr, ½ of a mile N.E. of Nimaj, and 2½ miles W. of the large village of Dudhebhávi: táluka Miraj. 1865-66.	17 9 59·7	75 1 36·0	[2538]	117
Gokarn h.s. ... <i>Gokurn h.s.</i>	North Kánara	On a large stone on the top of a low isolated hill, about 1½ miles N. of the well known large place so called which is on the sea-coast and is a Hindu place of pilgrimage, and 6½ miles S. of the sea-port town of Ankola. Sub-division Kumta. 1811-14.	14 33 36·26	74 22 7·47	...	335
Govardhangiridurga Platform ... <i>Govardangheerry Drg.</i>	Shimóga	On a flat-topped hill close N.E. of a temple, about 3½ miles S. of the ruins of Gersóppa, and 3 miles N.W. by W. of Kánúr: táluk Ságar. The station is marked by a platform and pile of stones. 1813-14.	14 10 33·8	74 42 3·1	...	532 533.
Gudápur Hill Pagoda <i>Goodapoor H.P.</i>	Sátára, Daph-lápur State	On a hill, about a mile E. of Konikonúr village, 4½ miles W.S.W. of Sonyal, and 2½ miles N.W. by N. of Madgyal. 1819-20.	17 9 33·2	75 25 49·0	...	*
Guddadur h.s. ... <i>Goodadoor</i>	Lingsugúr	About ¼ of a mile S.E. of Karagudda, and 3 miles S.W. of Sasivihal village on the road from Tavarigiri to Kandagal village in Kaládgi, district: táluk Kushtagi, Nizam's Territory. 1816-17.	15 48 30·67	76 20 27·44	...	184
Gudehönnúr h.s. ... <i>Goodduhoonor h.s.</i>	North Kánara	On the summit of a low hill about a mile N. of the road from Yellápur to Kalghatgi, and 10 miles from the latter place. 1811-14.	15 4 42·75	74 54 5·47	...	295 296

* For triangle fixing this point, see Synoptical Volume of the Bombay Longitudinal Series.

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
Gudikal h.s. ... <i>Burrykul H.</i>	Shimōga	On a hill known as Hilkunji, about 3 miles N.E. by E. of the town of Nagar on the road from Haidarghat to Kalúrkatti, 2½ miles N. by W. of Belúr village, and 1 mile W. of Gudikal village: táluk Nagar. 1813-14.	13 50 10.51	75 6 57.72	[2680]	577 578
Gugamaldi Building <i>Googamuldee</i>	Bellary	About 10 miles E. by N. of Huvinahadgalli táluk town: táluk Huvinahadgalli. 1813-14.	15 2 45.4	76 7 37.7	...	*
Guligundi Peak ...	Kadúr	Apparent highest point of a peak on the Tungabhadra watershed, about a mile N. of the village after which it is named, 2 miles S.W. of Mugund village, and 8½ miles S. by E. of Sringeri town on the Tunga river: táluk Kōppa. 1872-73.	13 18 22	75 20 16	...	628 629
Gunjalhalli Hill ... <i>Goonjihulli H.</i>	Sángli State Southern Marátha Agency	Highest point of a conspicuous red hill close N. of Hiragunjal and S.W. of Bhagvar. 1816-17.	15 14 16	75 26 31	...	261 262
Gurgigudda Hill Tree <i>Goorgygooda</i>	Kadúr	On the highest top towards the southern extremity of a range of hills, about 3 miles S.W. by W. of Halasúr, 2 miles S. of Lakvalli, and 1½ miles S.E. of the Bhadra river: táluk Tarikere. 1813-14.	13 40 42	75 41 23	...	...
Gurunagudda h.s. <i>Gooroonagooda</i>	South Canara	On a hill about a mile E. of the road from the town of Coondapoor to Brahmavara, 4½ miles S.S.E. of the former place, and 5 miles N.W. of Shriyara on the road from Bárkúr town to Siddápur: táluk Bárkúr. 1802-6.	13 34 45.95	74 45 11.68	...	588
Gutimma Hill Tree <i>Gootima Hill Tree</i>	North Kánara	A very large and conspicuous tree at the N. end of a range of hills running N. and W. along the boundary between the Dhárwár and North Kánara districts, about a mile E. by N. of Badengod village on the road from Sirsi to Hángal, and 7½ miles S.W. by W. of the latter town. 1811-14.	14 42 24	75 4 26	...	392 393
Haidergarh (Haidargarh) s. <i>Hyderghur</i>	Shimōga	On the battery of the fort by the road side from Coondapoor to Nagar, about 6½ miles S. by W. of the latter place, and 1 mile W. of Hulikal village: táluk Nagar. 1802-6.	13 42 5.96	75 2 32.84	...	585
Hainikal h.s. ... <i>Haenikul H.</i>	Kadúr	About a mile W. of Chikagrnhara near the road from Kōppa to Yēdhalli, 3 miles N.N.W. of Megarmakki, and 3½ miles S.W. of Aragi: táluk Kōppa. 1805.	13 27 49.75	75 29 37.09	...	612
Halēbail, XXXV ...	North Kánara	<i>Vide page 9—D.</i>	14 29 43.13	74 42 14.29	$\frac{2279}{6}$	42,45
Halēbail h.s. ... <i>Hullabyle Luckigoomgooda</i>	"	On the same hill as the principal station of the same name and about a mile S. of it: táluca Siddápur. The station is denoted by a platform having a stone with circle and dot in the centre. 1813-14.	14 28 41.46	74 42 16.71	...	152
Haliyál Fort Flag Staff <i>Hulliall</i>	"	Close W. of the town: táluca Supa. 1811-14.	15 19 55.5	74 47 47.0	...	287 288
Haliyál Kacheri (heliotrope) ...	"	N.E. corner of Kacheri: táluca Supa. 1866-67.	15 19 42.7	74 48 39.3	...	289

* For 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
Hallibail Hill Pagoda ... <i>Shyewalingapa Hill Pagoda</i>	Dhárwár	On a small isolated hill close N. of the village so called, about 1½ miles S.E. by S. of Döddiköppa, 1½ miles S. of Mudi on the right bank of the Varda river, 2½ miles E. by N. of Kodihalli, and 3½ miles S.W. of the Tiluvalli Travellers' Bungalow. 1811-14.	14 35 38·1	75 14 21·1	feet 1941	404
Halligiri Gunjanagudda h.s. ... <i>Goonjanagooda</i>	South Canara	On a low hill on the road from Gangoli at the mouth of the Gargat river to Honávar town, about 10½ miles N. by W. of the former place, and 2 miles S. of Naikénkatta village on the same road: táluk Coondapoor. The station is in the lands of the village of Halligiri, and is marked by a platform having a mark-stone at its surface. 1813-14.	13 47 10·57	74 41 0·38	168	525
Hallúr Hill Pagoda ... <i>Hulloor H.P.</i>	Dhárwár	High turret. On the slope towards the eastern extremity of an isolated hill, about ¼ of a mile W. of the Tungabhadra river, and ½ a mile S.W. of Hallúr village. 1813-14.	14 19 41·7	75 39 21·8	...	472
Hampaságar Fort s. ... <i>Humpasaghur</i>	Bellary	On the bastion of the fort on the right bank of the Tungabhadra river, about 12 miles N.E. of Huvinahadgalli town: táluk Huvinahadgalli. 1813-14.	15 8 33·03	76 5 19·54	...	420 421
Hanamságar h.s. ... <i>Hanum Sagur H.S.</i>	Lingsugúr	On a hill N. of the temple of Balaji and Govindráj, about 1½ miles E. of a temple on the same hill, and 18 miles N.W. of the town of Kushtagi: táluk Kushtagi, Nizam's Territory. 1816-17.	15 52 53·78	76 4 56·78	...	185 186
Handigudda h.s. ... <i>Hundygooda</i>	South Canara	On a hill, about ½ a mile N. of the main road from Gersöppa to Ságar, 2½ miles E. by N. of the Gersöppa or Jog Falls, and 4½ miles W. by N. of Talaguppe Travellers' Bungalow on the same road. 1811-14.	14 13 50·77	74 53 19·28	...	364
Hángal Pír Jugah Tree ... <i>Hungul</i>	Dhárwár	The highest of several large trees about the mosque, on the top of a slope. The village of Hángal is about ½ a mile east of the slope: táluks Hángal. 1811-14.	14 46 33	75 9 58	...	898 399
Hangaon h.s. ... <i>Humgaon Hill</i>	North Kánara	On a hill, about 11 miles S.E. by S. of the town of Supa: Sub-division Supa. 1811-14.	15 7 4·00	74 39 3·46	...	292
Hannögudda h.s. ... <i>Hunnygooda</i>	Kadúr	On a hill, about 3½ miles W.N.W. of the large village of Ajimpur on the high road from Tarikére to Hösödurga, 2½ miles E. by N. of Hunasigatta, and 3 miles N.E. by N. of Mákanhalli: táluk Tarikére. The station is marked on a temple. 1805.	13 44 51·01	75 59 43·69	[3338]	558
Hanumandurga Redoubt ... <i>Hanaman Dr.</i>	Shimöga	High turret. About 2½ miles N. of the village of Chikkasandi, and 5½ miles S.E. of Ganadkatte on the high road from Bänkipur to Channagiri: táluk Shimöga. 1812-13.	13 55 42	75 58 14	[3174]	...
Haradakisur h.s. ... <i>Hurudukensoor</i>	North Kánara	On the S. extremity of a ridge, about a mile E. of the road from the town of Haliyál to Tattihalla river, and 10 miles S. of the former. 1811-14.	15 11 1·14	74 49 34·69	...	290 291
Háranhalli Fort s. ... <i>Aurnelly</i>	Shimöga	On the S.E. angle of the fort on the high road from Ainúr to Hönnáli, about 2½ miles N.E. of the former place, and 8 miles S.W. of Kundarikönda gold mines: táluk Shimöga. 1813-14.	14 2 41·34	75 30 23·04	...	494 495

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Haravalligudda Hill Peak ...	North Kánara	The apparent highest point covered with forest, about 8 miles E. of Honávar town, and 3½ miles E.N.E. of Kurva temple on the high road from Honávar to Bilgi: táluca Honávar. 1872-73.	14 17 2	74 36 29	feet ...	356 357
Harihar Fort ... <i>Hurryhur</i>	Shimóga	N.E. angle of the fort, on the right bank of the Tungabhadra river: táluca Dávangère. 1813-14.	14 30 42.7	75 50 42.5	...	470 471
Harpanahalli Fort s. <i>Harponelly</i>	Bellary	On the S.E. angle of the fort in the town of the same name: táluca Harpanahalli. 1813-14.	14 46 59.61	76 1 31.20	...	446 447
Harti-basapagudda Hill Flag ... <i>Hurruti Bussapagoodda</i>	Dhárwár	A small flag on the top of the hill on the side of which the math of Harti-basapa is situated. Near the village of Harti, on the road from Gadag to Mulgund, and about 5 miles N.E. of the latter place: táluca Gadag. 1816-17.	15 20 3	75 36 20	...	254
Hatarvat, XIV ...	Belgaum	<i>Vide page 6—D.</i> ...	16 21 2.67	74 31 45.96	$\frac{2801}{5.0}$	15,19
Hëbbe, XLVI ...	Kadúr	<i>Vide page 12—D.</i> ...	13 32 8.33	75 38 10.66	$\frac{4377}{1.0}$	62
Hebli Hill Idgah ...	Dhárwár	Centre of idgah. On a hill in the town of that name on the high road from Dhárwár to Annigeri town, and about 7¼ miles E. by N. of the former place: táluca Dhárwár. 1865-66.	15 28 51.4	75 10 25.6	...	248 249
Hingni Hill Temple ...	Sátára	Dipmal. Also known as Maleh Hill Temple. On a ridge of the hills between the Sholápur and Sátára districts, about ¼ of a mile S. of the high road from Mhasvad town to Pandharpur, and 7 miles E. by N. of the former place: táluca Mán. 1864-65.	17 39 25.7	74 55 14.9	[2315]	96
Híra Shevankati Hill Tower ... <i>Heere Shevangooti H.B.</i>	Kaládgi	A very conspicuous tower on a small hill, which is the higher and S.E. of two in the lands of the village of the same name, about 1¼ miles W. of Krishnapur village, and 6 miles E. by N. of Ilkal town: táluca Hungund. 1816-17.	15 59 16.2	76 14 23.3	...	197 198
Hirëgudda, XLV ...	Kadúr	<i>Vide page 11—D.</i> ...	13 24 8.40	75 26 50.33	$\frac{3794}{1.9}$	58
Hirëhandigol h.s. <i>Heere Undugolu</i>	Dhárwár	On the highest point of the hill, at the north extremity of the ridge of Inarti rock, about ¼ of a mile N. of Handigol, 1 mile E. of Chikkhandigol, 3 miles N. by W. of Hulkoti on the road from Gadag to Annigeri, and 6 miles W.N.W. of the former place: táluca Gadag. 1816-17.	15 27 14.28	75 35 8.51	...	229 230 231 232
Hirëkummigudd, XXI ...	Belgaum	<i>Vide page 7—D.</i> ...	15 43 45.90	75 14 50.16	$\frac{2487}{5.1}$	31
Hirëkummigudd Dargah ...	„	Also known as Bara Imám. Centre of dome of the Dargah on the hill so called immediately N. of Hirëkummi village, about 6 miles E.S.E. of the town of Saundatti: táluca Parasgad. 1865-66.	15 43 49.2	75 14 56.4	...	148 149

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
Hokund h.s. ... <i>Wokoond H.B.</i>	Lingsugúr	On a hill, about 2 miles W. of Nílragal village fort, 2½ miles S.E. of Govindal, and 2 miles E. by N. of Rámapur: táluk Kushtagi, Nizam's Territory. The station is marked by a circle and dot on the tower upon the rock close N. of the town of Hokund. 1816-17.	15 54 51·67	75 52 19·69	feet ...	209 210
Holágundi Pagoda ... <i>Holagoondy</i>	Bellary	Also called Shidlingam. On a rock on the road from Huvinahadgalli town to Bënnakal fort, and about 5 miles E. of the former place. It is in the lands of Holágundi town: táluk Huvinahadgalli. 1813-14.	15 1 49·6	76 2 29·4	...	430 431
Holal Fort s. ... <i>Hollal</i>	"	On the S.E. bastion of the fort of the same name on the road from the town of Harpanahalli to that of Havanúr, about 2 miles S.E. of the latter place, and 1½ miles S.S.W. of Mágala fort: táluk Huvinahadgalli. 1813-14.	14 50 15·97	75 45 20·21	...	440
Höle Hönnúr s. ... <i>Wholy Honoor</i>	Shimöga	On the right bank of the Bhadra river, about 8 miles N.E. of Shimöga, and 1½ miles W. of Köppa village: táluk Shimöga. 1802-6.	13 59 7·16	75 43 32·96	[1893]	552
Holtihál Hill Pagoda ... <i>Hultihaul H.P.</i>	"	On a hill, about a mile S.W. of the village so called, and 2½ miles E. by N. of Höle Hönnúr on the right bank of the Bhadra river, and 1½ miles S.S.E. of its junction with the Tunga river: táluk Shimöga. 1811-14.	13 59 45·9	75 46 15·8	...	503
Honávar Bungalow ... <i>Honoor</i>	North Kánara	About ¼ of a mile S.W. of Honávar Monument: táluka Honávar. 1813-14.	14 16 33	74 29 6	...	...
Honávar Monument ...	"	Centre of monument erected to the memory of General Hill in 1845, in the town of Honávar: táluka Honávar. 1872-73.	14 17 3·1	74 29 32·1	...	351
Hönnáli Fort s. ... <i>Honally</i>	Shimöga	On the centre bastion or cavalier of the fort in this táluk town on the left bank of the Tungabhadra river: táluk Hönnáli. 1813-14.	14 14 18·63	75 41 32·05	...	475 476
Hönnavalli, XL ...	"	<i>Vide page 10—D.</i>	14 16 32·46	75 13 25·66	$\frac{2777}{4·6}$	53
Hösúr Fort ... <i>Hooseoor</i>	"	S.W. angle of the fort, about 1½ miles S.E. of Hulgin-Köppa village on the road from Shikárpur to Hönnáli, and 2½ miles W. of Ballúr village on the same road: táluk Shikárpur. 1813-14.	14 14 48·1	75 30 37·7	...	486
Hotanhalli Tower ... <i>Wotunhulli</i>	Dhárwár	A small but lofty circular redoubt on the side of a high slope along the road to Savanúr, about 3½ miles E. of Bomanhalli village, the same distance S. of Singapur which is about 4 miles W. of Bánkápúr fort and from which the road leads to the hill top: táluka Hángal. 1811-14.	14 52 36·8	75 14 11·1	...	396 397
Höttegudda h.s. ... <i>Hottaegooda</i>	North Kánara	On a hill, about 4 miles S. of Kuchagaon on the left bank of the Kálinadi, 3½ miles W. by S. of Kiga on a village road which joins the trunk road along the left bank of the Kálinadi, and 1 mile E. by S. of Hannahalli: táluka Kárwár. 1811-12.	14 50 2·34	74 25 20·12	...	157

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Hubli Hill Mark (heliotrope) ...	Dhárwár	On a large isolated hill at the E. foot of which lies the village of Topalgatti, about 2½ miles N.W. of the town of Hubli, 1 mile S.W. of Unkal village on the high road from Hubli to Dhárwár: táluca Hubli. The station is marked by a paka pillar 3 feet high and 2½ feet in diameter, with two mark-stones, one at base and the other on top. 1866-67.	15 21 21·90	75 9 9·95	feet ...	250
Huchangidurg Pagoda <i>Woachingy Dr.</i> ...	Bellary	The pointed pagoda on the highest part of the hill fort of the same name, about 7½ miles S. of Arakere on the high road from Kúdligi town to Harihar, and 4 miles N.N.E. of Alúr village: táluk Harpanahalli. 1813-14.	14 33 38·7	76 5 22·1	[2667]	458 459
Hudeligudda h.s. ... <i>Hoodilligooda</i>	North Kánara	On the summit of a high hill below the Gháts, about 8½ miles E. by S. of Murdeshvar port on the sea coast, and 3½ miles N. by W. of Hádavalle village. The village of Hudel is at the foot of the hill on the S. side; táluca Honávar. The station is marked by a platform with a tree in the centre supported by a pile of stones. 1813-14.	14 4 40·88	74 38 57·28	...	524
Hugadi, XLI ...	Shimōga	<i>Vide page 11—D.</i>	13 54 12·31	75 14 5·72	$\frac{2912}{3·8}$	50,54
Hukali h.s. ... <i>Hookuli</i>	North Kánara	On a hill, about 6½ miles N.W. of the town of Yellápur: Sub-division Yellápur. 1811-14.	15 2 8·52	74 40 55·80	...	298 294
Hukaligudda, XXXVI ...	"	<i>Vide page 10—D.</i>	14 16 52·09	74 47 36·38	$\frac{2620}{4·8}$	46
Hukaligudda h.s. ... <i>Hoklee Heeragooda</i>	"	Within about 10 feet of the principal station of the same name: táluca Siddápur. The station is on a bare top, marked by a platform having a mark-stone at its surface. 1813-14.	14 16 52·09	74 47 36·47	2623	151
Hukeri Masjid ...	Belgaum	Known as Gajbar Sáhib's mosque. On the road from Hukeri to Gokák town, about 1½ miles E. of the former place: táluca Chikodi. 1865-66.	16 13 49·6	74 39 44·1	...	125 126
Hukeri Mosque ...	"	Highest dome. Known as Ain Malik's mosque on the road from Hukeri town to that of Chikodi, about a mile N. of the former place, and 2½ miles S. by E. of Manoli on the same road: táluca Chikodi. 1865-66.	16 14 6·9	74 38 34·4	...	124
Hulakal h.s. <i>Hoolacull</i>	North Kánara	On a mound the ruins of a flanking tower, about 2 furlongs S. by W. of a temple, on a low hill close to the village so called on the road from Sirsi to Sonda, about 7 miles N.W. of the former town, and 4½ miles S.W. of the latter: Subdivision Sirsi. 1811-14.	14 41 21·08	74 48 4·01	...	819 820
Húli Hill Tower ...	Belgaum	On a hill about a mile W. of the village so called, 4½ miles E.N.E. of the town of Saundatti, 3½ miles S.E. of Yakheri village on the high road from Manoli to Nargund town, and the same distance W.S.W. of Húlikatti village on the above named road: táluca Parasgad. 1865-66.	15 47 43·5	75 13 39·3	...	147

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Huligudda s. ... <i>Hooligood H.B.</i>	Lingusúr	On a tower on the height in the village on the road from Kushtagi to Mangalúr, and about 7 miles N. by W. of the latter: táluk Kushtagi, Nizam's Territory. 1816-17.	15 37 14.62	76 9 53.84	feet ...	223
Hulikal h.s. ... <i>Mokhulli</i>	"	On a large and conspicuous piece of rock at the S. end of a very high ridge of slopes, about 3 miles S.E. of Vajrabanda village, 8½ miles N. of Mangalúr, and the same distance S.S.W. of Kushtagi: táluk Kushtagi, Nizam's Territory. 1816-17.	15 38 10.48	76 11 31.43	...	221 222
Hulikati h.s. ... <i>Hoolicuita</i>	Dhárwár	Also called Hulikatta. On a hill about 1½ miles W. of the village so called, and the same distance N. of the town of Taras: táluka Bankápur. The station is marked by a circle and dot on the highest summit (more particularly defined by a single bush) of a ridge of red heights. 1816-17.	15 8 53.02	75 10 2.91	...	171
Hungund Hill Pagoda <i>Hoonugood</i>	Kaládgi	A conspicuous pagoda on the top of the fortified hill N.W. of the town, and about a mile from it: táluka Hungund. 1816-17.	16 3 51.3	76 5 57.2	...	203 204
Hungund Hill Peak <i>Hoonugood</i>	"	Summit of the highest hill on the same range as the pagoda, and about ¼ a mile N.W. of it: táluka Hungund. 1816-17.	16 4 21	76 5 17	...	194
Hunkupa Temple ...	Belgaum	Spire of temple in the lands of the village of the same name on the village road from Beshatti to Tapsi, about 4 miles S. of the former village, 3½ miles W.N.W. of Kanjalgi village, and the same distance S.E. of the Ghatprabha river: táluka Gokák. 1865-66.	16 13 21.3	75 3 15.8	...	136
Huvinahadgalli Hill Pagoda <i>Tinnapan H.P.</i>	Bellary	Spire of the pagoda on the height called Timmappan-gudda, about 3¼ miles N.E. of the town: táluk Huvina-hadgalli. 1816-17.	15 3 19.4	76 0 1.1	...	425 426
Inadagudda h.s. ... <i>Innadagooda</i>	South Canara	On a hill, about 2 miles E. by N. of Palmár village, and 5½ miles N.E. of Mulki fort on the road from Mangalore to Bárkúr: táluk Mangalore. 1811-14.	13 8 43.18	74 53 21.26	...	*
Indápur Hill Mark (heliotrope)	Poona	On a small knoll close N.E. of the Travellers' Bungalow of this Sub-divisional town: Sub-division Indápur. 1864-65.	18 6 49.82	75 4 40.61	...	66
Indraligudda h.s. ... <i>Inderallygooda</i>	South Canara	On a hill, about 2 miles S. by W. of Pákkal village on the road from the town of Údipi to that of Káarakal, 3 miles E. of the former place, and 4½ miles E.N.E. of Udayavara on the road from Bárkúr to Mangalore: táluk Bárkúr. 1802-6.	13 20 5.80	74 49 19.50	...	574
Indúr, XXIX ...	North Kánara	<i>Vide</i> page 8—D.	15 1 29.91	75 4 56.15	$\frac{2319}{5.0}$	85
Indúr h.s. ... <i>Indoor</i>	"	The station is probably within about 20 feet of the principal station of the same name and is in the lands of the village of Indúr: táluka Yellápur. 1811-14.	15 1 30.07	75 4 56.01	...	162

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

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Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Ingalgi Mosque	Belgaum	Centre of dome. In the village lands of Ingalgi on the left bank of the Krishna river, about 4½ miles E. by N. of the large village of Mánjari on the same bank of that river, and 4 miles S.E. of Shirgupi on the road from Kág-vád Post Office to Pádshahpur: táluca Athni. 1865-66.	16 34 24·3	74 47 36·7	feet ...	114 115
Ingalgi Temple	„	Spire of the highest temple in the village lands of Ingalgi about 300 feet S.E. of the mosque: táluca Athni. 1865-66.	16 34 22·6	74 47 39·0	...	116
Itki Hill Mark (heliotrope)	Sholápur	On the top of a ridge between the Sholápur district and the Átpádi state, about a mile E. of Itki, 4 miles W.N.W. of Katphal on the road from Khánápur to Pandharpur, and 2½ miles S.W. of Shingorni: táluca Sàngola. 1864-65.	17 35 23·48	74 59 56·80	[2279]	97,98
Jaigaon Hill Mark (heliotrope)	Sátára	On the top of a hill, about a mile W.N.W. of the village so called, 2½ miles S.W. of Bhosra village, and 3 miles N.N.W. of the town of Aundh: táluca Khatáv. 1864-65.	17 34 45·20	74 20 48·65	[3309]	87,88
Jájikalgudda Hill Platform <i>Jaujeculgooda</i>	Bellary	On a hill, about 5½ miles N.E. of the tálu town of Harpanahalli: táluca Harpanahalli. 1811-14.	14 50 48·2	76 5 27·0	...	447
Jáhihal h.s. <i>Jalihál</i>	Kaládgi	On a hill, about a mile N. of the village of Belúr, and 6½ miles S.E. of Bádámi town: táluca Bádámi. 1816-17.	15 51 8·08	75 47 51·07	...	179
Jalikund Rock <i>Jallycoond</i>	North Kánara	On the Jalikund or Hog Island W. of Bhatkal town in Honávar táluca. 1811-14.	14 0 28·1	74 31 22·1	...	580
Jámb Hill Temple	Sátára	Spire of Dípmal of Rámeshvar temple. On a hill about 1½ miles N. of Jámb village, 5 miles W. of Khatáv a large village on the left bank of the Yerla river, and 4½ miles S.S.W. of Pusegaon on the road from Sátára to Mhasvad: táluca Khatáv. 1864-65.	17 38 59·9	74 19 30·6	...	86
Jédda Fort s. <i>Jeddah</i>	Shimóga	On the N.E. angle of the fort, about 1½ miles N.N.E. of the Varada river, 1½ miles N.W. by N. of Jágatúr, 2½ miles W. by N. of Bankasána, and 3 miles N.E. by N. of the large village of Banavási on the high road from Badengod to Sórab: táluca Sórab. 1813-14.	14 34 47·89	75 5 1·46	...	407
Jítanakatta Hill Platform <i>Jeetnacutta</i>	Bellary	On a detached hill, about a mile E.N.E. of Tallavágal fort on the road from the town of Harpanahalli to that of Harihar, and 6 miles S. by W. of the former: táluca Harpanahalli. 1813-14.	14 42 20·6	76 0 41·4	...	445
Jog Bungalow	Shimóga	Centre of the old thatched bungalow on a low hill on the Mysore side of the river, a little to the S.E. of the Gersóppa or Jog falls, about ¼ of a mile S.W. of Joginmatha on the road from Ságár to Gersóppa, and 1 mile N. of Shirúr: táluca Ságár. 1872-73.	14 13 33·5	74 51 23·9	...	375
Káchanmalai h.s. <i>Kauchillamalli</i>	South Canara	On a hill immediately S. of Shivpur fort, about 3½ miles N.E. of Perdúr on the road from Bárkúr to Uppinagadi, and 4½ miles S.S.W. of Hebra fort on the road from Káral town to Hósangadi: táluca Bárkúr. 1802-6.	13 24 45·70	74 59 51·01	...	571

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

75—D.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kadabal h.s. ... <i>Kudubal S.</i>	North Kánara	On the highest point of a high and bare ridge of hills, about 6 furlongs West of Kadabal, and 8½ miles W. by N. of the town of Sirai: Sub-division Sirai. 1811-14.	14 38 20·55	74 45 12·74	feet ...	317 318
Kalangavi h.s. ... <i>Kullenguvvy S.</i>	Chitaldroog	On the highest of several hills known as Jámapur hills. The station is towards the S. extremity of a rocky mound at the foot of which is the Robbers' cave from which the hill derives its name. The ascent from the village of Jámapur which lies towards the S.E. is easy but circuitous (about 1½ miles): táluk Hölalkére. The station is marked in the usual manner. 1812-13.	13 51 24·31	76 8 51·92	[3081]	469
Kalas, I ...	Poona	<i>Vide page 4—D.</i>	18 9 19·24	74 52 9·41	2007·96 7·1	1
Kalas Hill Temple ...	"	Known as Bairoba's temple. On a detached hill by the side of the village road from Kalas to Daeijh or Dalaj on the Bhíma river, and about a mile N. by E. of the village of Kalas: táluks Indápur. 1864-65.	18 11 15·9	74 50 21·6	[2006]	84
Kalavarangan h.s. <i>Kulvarungangooda S.</i>	Shimöga	On a very high hill of a range running from S.E. to N.W., about 4½ miles W. of Nyámati, 2½ miles S.W. of Yöraganhál, and 2½ miles S. by W. of Belagutti. There is a pagoda and several other religious buildings on the summit of the hill, but the station is on the highest rock a little to the W. of the pagoda. The station is marked by a platform and a pile of stones: táluk Hönnáli. 1813-14.	14 8 52·05	75 32 59·37	[3381]	378
Kalhali h.s. ... <i>Kulhully H.</i>	Bellary	On a high and conspicuous peak, about 8½ miles W. of the town of Harpanahalli, 2 miles N. of the hamlet from which it takes its name, and 5 miles N.W. of Nílunda fort midway between the towns of Huvinahadgalli and Harihar: táluk Harpanahalli. 1813-14.	14 47 40·99	75 53 40·02	...	434 435
Kalukupigad Tower	Belgaum	On a hill, about 2 miles N. by W. of the village of Deahnúr, and 3½ miles N.W. of Nelseri village on the high road from Belgaum to Kaládgi: táluks Sampgaon. 1865-66.	15 56 10·4	74 46 38·4	...	134
Kálingráyan h.s. <i>Kaulingroye H.S.</i>	Shimöga	On a hill on the great mass of mountains south of Chandragutti, about 3 miles W. of Hanumandurga, 5 miles S.E. of Danavádi temple, 3½ miles S.S.E. of Ganadkatte village on the high road from Bénkipur to Channagiri, and 2½ miles W. of Rangandurga hill temple. There is a small village called Basavapur at the western foot of Rangandurga hill whence the road leads to the station: táluk Shimöga. The station mark is cut on a rock, surrounded by a platform; it is surmounted by the trunk of a large tree supported in position by a pile of stones. 1811-14.	13 55 18·96	75 55 30·79	3330	465
Kalkera, XXV ...	Dhárwár	<i>Vide page 8—D.</i>	15 24 30·61	74 55 2·70	2564 4·5	29
Kalladagudda h.s. <i>Culladagooda</i>	North Kánara	On a hill, about 6 miles N.N.W. of Bilgi on the road to Siddápur. 1811-14.	14 26 36·62	74 48 9·04	...	362 363
Kallakapa h.s. ... <i>Cullukupa H.S.</i>	Lingsugúr	On a hill towards the E. extremity of a range of hills, about a mile W. of Jígiri village, and 3 miles N. of Gadjantargarh: táluk Kushtagi, Nizam's Territory. 1816-17.	15 47 0·68	76 0 5·64	...	180

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kalludurga Fort ... <i>Kuldroog</i>	Kadúr	On a hill, about 2 miles W. of the road from Kadúr to Shimöga, 3 miles W. by S. of Kúdlúr, and 1½ miles N. of Múndre which is 7 miles S.E. by E. of Tarikére: táluk Tarikére. 1802-6.	13 38 53	75 56 54	feet...	...
Kallúr Hill Building <i>Kulloor H.</i>	Dhárwár	A small building or other object on a very conspicuous rock near the village, about 3 miles W. of Mulgund town: táluka Gadag. 1816-17.	15 16 29.7	75 30 46.0	...	259 260
Kaltigudda, XXXVII	North Kánara	<i>Vide page 10—D.</i>	14 22 9.86	74 35 27.24	$\frac{2213}{5.0}$	51
Kaltigudda h.s. ... <i>Kutteegooda S.</i>	"	Within 20 feet of the principal station of the same name: táluka Honávar. The station is marked by a platform having a stone with circle and dot in the centre. 1813-14.	14 22 9.64	74 35 27.22	2201	153
Kanavinagamayi Hill Tower <i>Kunnuwi Naguwi-boorj</i>	Dhárwár	On a peak of the Kapalgudda great range, about 3½ miles W. by S. of Pápanáshi village on the road from Gadag to Dambal, and 5 miles S. of the former place: táluka Gadag. 1816-17.	15 20 51.0	75 40 42.3	...	253
Kanchénmalai Hill Tree <i>Kunchimalli</i>	North Kánara	A very conspicuous palm tree on the summit of a lofty hill, about 6 miles N.E. by E. of the seaport of Ankola: táluka Supa. 1811-14.	14 43 20	74 25 29	...	327 328
Kanchkérra Hill Pagoda <i>Kunchikerra</i>	Bellary	A pointed pagoda on a hill near the village so called on the high road from Arsakére to Harihar, about 7½ miles W.S.W. of the former place: táluk Harpanahalli. 1813-14.	14 36 51.4	76 1 6.2	...	457
Kanchkértratimmappan Hill Pagoda <i>Kunchikerra Timmapan H.P.</i>	"	On a hill near the road from Arsakére to Harihar, about 7½ miles W.S.W. of the former place: táluk Harpanahalli. 1813-14.	14 38 34.3	76 1 49.0	...	456
Kandágal Hill Tree <i>Kundagul H. tree</i>	Kaládgi	A conspicuous tree on a remarkable hill, about 2 miles W. by N. of the village so called, same distance S.E. of Krishnapur village, and 8 miles E. of Ilkal town: táluka Hungund. 1816-17.	15 57 38	76 16 51	...	189 190
Kandkal s. ... <i>Kandcul</i>	Bellary	About 1½ miles E. of the right bank of the Tungabhadra river, 1½ miles N.E. of Honaikanhalli, 2½ miles S.E. of Dasanhalli, and 9 miles W.S.W. of Hampaságár: táluk Huvinahadgalli. 1811-14.	15 5 41.67	75 57 55.09	...	418 419
Kanigiri Mallápur Hill Pagoda <i>Kunnigherry Mallapan</i>	Shimöga	On a hill, about a mile W. of Mallápur village, 3 miles E.N.E. of Húshalli, 3½ miles N.E. of Shulekére Travelers' Bungalow, and 2 miles S. by E. of Dödgatta village: táluk Channagiri. 1811-14.	14 11 19.8	75 56 10.2	...	508 509
Kánsérudi, XXVIII	North Kánara	<i>Vide page 8—D.</i>	15 12 1.13	74 40 1.60	$\frac{2190}{5.7}$	37
Kánsérudi h.s. ... <i>Kanusirudy</i>	"	Within about 15 feet of the principal station of the same name: táluka Supa. 1811-14.	15 12 1.17	74 40 1.46	...	164
Káp Battery s. ... <i>Kaup Battery</i>	South Canara	On the Battery on the road, about midway between Udipi and Mulki: táluk Bárkúr. 1802-6.	13 13 23.20	74 46 40.77	...	596

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

77—D.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kapatgudda Hill ... <i>Kapatgoodda</i>	Dhárwár	This is one of the highest tops of the Kapatgudda range of mountains. The hill is about 5½ miles S.W. of Dambal, and 6½ miles E. of Surtúr village: táluka Gadag. 1816-17.	0 1 " 15 15 8	0 1 " 75 45 10	feet ...	255 256
Kapatgudda Pagoda s. <i>Kupputgoodda</i>	"	On a small pagoda at the S. extremity of the lofty ridge of mountains called Kapatgudda terminating on the left bank of the Tungabhadra, about 5 miles N.W. of Huvinahadgalli town on the opposite side of the river, and 18 miles S.S.E. of Dambal town: táluka Gadag. 1813-14.	15 3 24' 19	75 54 34' 06	...	415 416 417
Kapila Sangam s. <i>Capilla Sangam</i>	Kaládgi	In the village land of the same name, about a mile W. of it, and 1½ miles W. by S. of the pagoda at the junction of the Malprabha with the Krishna river: táluka Bágalkot. The station is marked by circle and dot on the extreme N. tower of the town wall now in ruins. 1816-17.	16 12 12' 89	76 6 5' 86	...	195 196
Karabgati, XV ...	Belgaum	<i>Vide page 6—D.</i>	16 7 34' 87	74 50 23' 53	$\frac{2544}{5' 0}$	20
Karabgati Referring Mark ...	"	On a hill, about 2½ miles N.N.W. of the principal station of the same name, 2½ miles W. of the town of Gokák, and the same distance E. of Malimanhatti village on the high road from Kankanvári to Pádshahpur: táluka Gokák. 1865-66.	16 9 41' 54	74 49 4' 29	2478	182 183
Karadibëtta Hill Peak ...	Shimögá	Centre of the apparent highest point, about 2½ miles W. by S. of Kalmáne, 3 miles S. by W. of Arasangère, and 5½ miles N.N.W. of Chóradi close S. of the high road from Ságar to Shimögá: táluk Shikárpur. 1872-73.	14 8 38	75 21 30	2718	490
Kárákal Fort ... <i>Karcul</i>	South Canara	About ¼ a mile N.W. of the great statue. 1802-6.	13 12 32	75 2 23	...	...
Kárákal Great Statue ... <i>Karcul</i>	"	The colossal monolithic figure of Gautama Buddha locally known as Gumpá, about a mile S.E. of the town of Kárákal. The figure which is about 50 feet high is placed on a huge black rock on which there is also a Jain temple or Basti, containing images of the later Buddhist type. 1811-14.	13 12 24' 36	75 2 43' 05	...	*
Kardígudi h.s. ...	Sángli State Kolhápúr Agency	On the top of a hill at the N. foot of which lies the village of Kardígudi on the high road from Belgaum to Kaládgi, and 5½ miles E. of Sambre on the same road. The station is marked by a paka pillar 3 feet high and 2½ feet in diameter, with two mark-stones, one at the base and the other on the top. 1865-66.	15 51 57' 03	74 44 11' 94	2975	140 141
Karëddigudda h.s. <i>Kurdygoodda</i>	Bellary	On a hill, about 4½ miles E. of Harpanahalli, and close N. of the road to this táluk town: táluk Harpanahalli. 1811-14.	14 47 42' 95	76 6 6' 39	...	443
Karëkyatanhalli, XXXII ...	Dhárwár	<i>Vide page 9—D.</i>	14 40 0' 64	75 17 8' 94	$\frac{2101}{5' 0}$	43

* 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
Karidigudda h.s. ... <i>Kurridigoodda H.</i>	Kaládgi and Lingsugúr	On the highest point of a rocky height of a detached hill, about 5 miles E. by N. of Hanamságar, 6 miles W.N.W. of Dotihal village, and 5 miles S. of Ilkal town. On the boundary of the táluks Hungund and Kushtagi. 1816-17.	15 53 26.60	76 9 49.57	feet ...	199 200
Karigudd, XVII ...	Belgaum	<i>Vide page 6—D.</i>	16 6 14.30	74 29 21.72	$\frac{2984}{5.0}$	21
Karigudda Hill Mark (heliotrope)	Shimóga	Near the centre of small range of hills running N. and S., about $\frac{1}{2}$ a mile S.E. of the small village or hamlet of Mattigatta, 1 mile S. of Tudanir on the road to Anavati, and $4\frac{1}{2}$ miles S. of the latter: táluk Sorab. The station is marked by a paka pillar 3 feet high and $2\frac{1}{2}$ feet in diameter, with two mark-stones, one at the base and the other on the top. 1866-67.	14 30 13.36	75 11 12.33	[2279]	409
Karigudda h.s. ... <i>Kurregoodda</i>	Kaládgi and Lingsugúr	On a hill on the boundary between the districts of Kaládgi and Lingsugúr, about $1\frac{1}{2}$ miles N.W. of Nasguni village, 2 miles E.S.E. of Husúr, and 5 miles E. by N. of Belúr town: táluks Bádami and Kushtagi. 1816-17.	15 51 55.52	75 52 13.91	...	207 208
Karikalgudda h.s.	North Kánara	On the highest part of a hill immediately N. of the Shirávati river and N.W. of the Gersóppa or Jog Falls, about $1\frac{1}{2}$ miles S.E. of Hukaligudda principal station: táluks Siddápur. The station is marked by a circle and dot. 1872-73.	14 16 11.80	74 48 58.85	...	371 372
Karkabail Hill Tree <i>Kurkabyle</i>	"	A conspicuous palm tree on a high Ghát on the hill near the village so called, about $1\frac{1}{2}$ miles N. of the road from Yellápur to Ulvi: táluks Supa. 1811-14.	15 0 45	74 40 46	...	318 314
Karnigudda Hill Peak	South Canara	Centre of a peak of the Western Gháts between Mysore and South Canara districts, about $6\frac{1}{2}$ miles E. by N. of Baidúr town on the road from Bhatkal town to Coondapoor, and $2\frac{1}{2}$ miles E. of Gangánád village on the road from Baidúr to Karúr in Mysore: táluk Coondapoor. 1872-73.	13 54 1	74 45 14	[3374]	589
Kasárgod h.s. ... <i>Casargode Hill</i>	North Kánara	On a hill near and W. of the road from Honávar to Mankídurg, about $1\frac{1}{2}$ miles N. of the latter place, and 4 miles S. of the former: táluks Honávar. 1813-14.	14 13 32.02	74 29 19.21	...	352 358
Kasárgod Pagoda ... <i>Casargode P.</i>	"	About $\frac{1}{2}$ a mile E. of the road from Honávar to Mankídurg, $2\frac{1}{2}$ miles S. of the former place, and the same distance S.E. from the mouth of the Shirávati river: táluks Honávar. 1813-14.	14 14 47.5	74 29 22.7	...	518
Katgi Hill Tree ... <i>Kutgy H.</i>	Shimóga	Also known as Chaudigudda. Near the boundary between the districts of Dhárwár and Shimóga, about 3 miles S. by E. of Nágunda, $2\frac{1}{2}$ miles E. by S. of Káginelli, and $2\frac{1}{2}$ miles N.E. by E. of the road from Shikárpur to Hönnáli: táluk Hönnáli. 1813-14.	14 16 32	75 34 49	...	473 474
Kathárigad, XVIII	Belgaum	<i>Vide page 7—D.</i>	15 54 3.70	75 1 20.69	$\frac{2759}{4.9}$	23,25
Katphal, V	Sholápur	<i>Vide page 5—D.</i>	17 33 26.85	75 4 12.37	$\frac{2041}{5.0}$	10

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

79—D.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Katphal Hill Mark (heliotrope)	Poona	On a detached hill, about 1½ miles S.E. of the village, 1 mile N.W. of the road from Baramati town to Diksál G.I.P. Railway Station, and 6½ miles N.E. of the former place: taluka Bhimthadi. 1864-65.	18 13 34·47	74 40 38·04	feet ...	82,83
Kavaledurga Hill Temple <i>Kowlal-droog</i>	Shimoga	Also called Mantapam. On the highest point of the durga, about 2½ miles N.N.E. of Yadur village, and 8½ miles W. by N. of the town of Tirthahalli on the high road from Mangalore to Shimoga: taluk Kavaledurga. 1813-14. It was in 1872-73 refixed.	13 43 6·9	75 9 32·4	† [3051]	582 583 584
Kavaledurga Mantapam s. <i>Kowlal-droog</i>	"	On a hill, about 20 feet N. of Kavaledurga Hill Temple: taluk Kavaledurga. 1813-14.	13 43 7·10	75 9 32·41	...	567
Kavtha Temple ...	Miraj State, (Junior)	Spire. Known as Bithoba temple. At the N.W. side of Nagaoon-Kavtha on the road from Tasegaon town to Kágvád Post Office, about 9½ miles N. by E. of Sàngli town, and 10½ miles N. by W. of the town of Miraj (Senior): taluka Kavtha. 1865-66.	16 59 0·4	74 39 54·8	...	107
Kayorli h.s. <i>Kayworli hill</i>	North Kánara	On the summit of a high hill, about a mile N.E. of the village so called, and 6 miles W.N.W. of the town of Supa. 1811-14.	15 17 30·69	74 28 1·24	...	275 276
Kem, XVII*	Sholapur	<i>Vide page 3—D.</i> ...	18 10 48·90	75 20 51·10	$\frac{1951·21}{4·8}$	1
Kem Hill Pagoda ... <i>Kaimb</i>	"	On a hill, about a mile N. of the Railway Station so called, 2 miles S.E. of Malori village, and ¼ of a mile W. of the road from Kem to Ghoti village: taluka Karmála. 1819-20.	18 11 10·9	75 18 50·7	...	71
Kensamagudda s. <i>Kensamagooda</i>	Shimoga	On the highest part of a range of low hills towards the south-eastern boundary of the Shimoga district, about 6½ miles E.S.E. of Bènkipur on the right bank of the Bhadra river, 2½ miles E. by N. of Kèchhanhalli village, and 1 mile W. by N. of Shiddarhalli village and temple: taluk Shimoga. 1802-6.	13 48 30·71	75 49 52·05	[2991]	560 561
Khandáli s. <i>Khundali</i>	Sholapur	On the N. side of the road from Poona to Sholapur, about 2½ miles N. by E. of the village so called, 2½ miles S.S.W. of the village of Váfla, and ¼ a mile S.E. of the place where the village road from Khandáli to Váfla crosses the high road from Poona to Sholapur: taluka Mádha. 1819-20.	17 52 36·16	75 31 18·84	...	69
Khorti Hill Mark ...	"	On a hill, 2½ miles N.E. by E. of the village of the same name, 2½ miles S.W. of Malunji, and 2½ miles W.N.W. of Marvar village: taluka Karmala. 1863.	18 24 57·42	75 5 42·63	...	†
Ködashádri, XLII ...	Shimoga	<i>Vide page 11—D.</i> ...	13 51 21·96	74 54 32·04	$\frac{4405}{2·5}$	49
Ködashádri h.s. ... <i>Kodaishee Puwudum S.</i>	"	About 25 feet W.S.W. of the principal station of the same name: taluk Sagar. The station is denoted by a circular platform close to the N.W. corner of an old pagoda, surmounted by a pile of stones. 1813-14.	13 51 21·94	74 54 31·81	4414	521 522 523

* Of the Bombay Longitudinal Series.

† This height refers to the base of the temple.

‡ For triangles fixing this point, see Synoptical Volume of the Bombay Longitudinal Series.

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kokadigudda h.s. <i>Kookerygooda</i>	South Canara	On a hill between Sitánadi and Swarnanadi, about $\frac{1}{2}$ of a mile S. of their junction, $2\frac{1}{2}$ miles W.S.W. of Brahmavara, and $1\frac{1}{2}$ miles N.W. of Baikadi both of which are on the road from Bárkúr to Udipi town: táluk Bárkúr. 1802-6.	13 25 28' 90"	74 45 16' 70"	feet ...	590
Kolagigudda Hill Flag <i>Kowlegagootah</i>	North Kánara	On a hill, about $\frac{1}{2}$ of a mile N. of the village so called, $1\frac{1}{2}$ miles W. by N. of Silige, and $1\frac{1}{2}$ miles E. by N. of Sidápúr. 1811-14.	14 20 46' 6"	74 57 42' 5"	[2234]	370
Kolakërta h.s. ... <i>Oolakerra</i>	"	Within about 35 feet of the principal station of Ráman-köp: táluca Yellápúr. 1811-14.	14 59 38' 92"	74 48 45' 57"	...	161
Kolanhatti, XIX ...	Belgaum	<i>Vide page 7—D.</i> ...	15 54 31' 21"	74 45 26' 92"	$\frac{2956}{5'0}$	22
Köndaji Hill Platform <i>Kondojee H.</i>	Shimöga	On the summit of a round-top or S. hill towards the northern extremity of a short range of hills, about 1 mile N.E. by N. of the village of this name, $1\frac{1}{2}$ miles E.S.E. of the village of Kénchanhalli, and 3 miles S.E. by S. of Dugvati on the road from Harpanahalli to Harihar: táluk Dávangère. 1813-14.	14 34 57' 4"	75 55 22' 3"	[2237]	460 461
Kongaon h.s. ... <i>Kongaoon</i>	North Kánara	On a hill, about a mile S.E. of Sulauli village, $1\frac{1}{2}$ miles N. by E. of the place where the road from Supa town to that of Sanguem (Sangi) in Portuguese Territory crosses the ridge, and $8\frac{1}{2}$ miles W. by S. of the former place: táluca Supa. 1811-12.	15 14 9' 93"	74 25 38' 84"	...	166
Kopal h.s. ... <i>Copul</i>	Lingsugúr	On a hill, about a mile W. of the town: táluk Kushtagi, Nizam's Territory. 1816-17.	15 20 35' 17"	76 10 42' 25"	...	182
Kopal Pagoda <i>Eeswuru Pag</i>	"	Known as Ishvara temple. Close N. of Kopal town and Railway Station: táluk Kushtagi, Nizam's Territory. 1816-17.	15 21 6' 3"	76 11 42' 8"	...	*
Kopaldurg Fort ... <i>Kopala Dr.</i>	"	Round bastion on the top of the durg, it is somewhat the highest and most eastern of several similar works. On a hill, about a mile S. of the town: táluk Kushtagi, Nizam's Territory. 1811-14.	15 20 18' 5"	76 11 24' 3"	...	422
Köppadurga Fort ... <i>Kopadroog</i>	Kadúr	On a hill, about $1\frac{1}{2}$ miles N.E. by E. of the large village of Hariharpur on the left bank of the Tunga river and on the road from Agumbe to Köppa, $2\frac{1}{2}$ miles W. of the last named place: táluk Köppa. 1811-14.	13 32 1' 6"	75 21 52' 4"	[2906]	611
Köppamaldi Building <i>Kopamuldee</i>	Shimöga	On a hill, about $1\frac{1}{2}$ miles N. of Adgunte, $2\frac{1}{2}$ miles S.W. by W. of Kadanandihalli, 2 miles E. of Hulginköppa close S.E. of the road from Shirálköppa to Hirékérúr: táluk Shikárpúr. 1813-14.	14 24 43"	75 22 39"	...	...
Koramúr, XXXIX	"	<i>Vide page 10—D.</i> ...	14 8 6' 59"	75 0 51' 25"	$\frac{2525}{3'0}$	47
Koramúrgudda h.s. <i>Koramurgooda</i>	Kadúr	On the highest part of a range running N. and S. on the western side of which flows the Kudargundi river, a tributary of the Tunga, about $4\frac{1}{2}$ miles S.S.E. of the junction of the above named rivers, and $1\frac{1}{2}$ miles S.E. of the small village of Malandúr: táluk Lakvali. 1813-14.	13 38 56' 17"	75 29 34' 29"	[3650]	556

* For 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
Kote Mallúr High Turret <i>Kotumulloor P.</i>	Shimōga	On the right bank of the Tungabhadra river, about $\frac{1}{2}$ a mile N. by W. of Beli Mallúr village, and 3 miles W. of Narasgōndanhalli on the road from Hōnnáli to Harihar: táluk Hōnnáli. 1813-14.	14 16 49·2	75 41 29·5	feet ...	477
Kudainigudda h.s. <i>Koojennce H.S.</i>	North Kánara	On the highest of a range of hills at the mouth of the Aghanáshini or Tadri river, about $2\frac{1}{2}$ miles W. of Tadri Sea Customs Office, and $1\frac{1}{2}$ miles S.E. of Gokarn a place of pilgrimage: táluca Kumta. The station is denoted by a mark-stone imbedded in a platform. 1813-14.	14 31 15·01	74 22 29·86	437	324
Kúdalgaoon h.s. ... <i>Koodulgaon</i>	North Kánara, Belgaum	On a hill between the boundary of Bidi and Supa táluks, about $5\frac{1}{2}$ miles S. of Ghotgalli, and $9\frac{1}{2}$ miles N.N.E. of Supa town; Sidh temple is at the foot of the hill about a mile to N. 1811-14.	15 22 45·19	74 37 50·56	...	165
Kudurémukha, III*	Kadúr	<i>Vide page 12—D.</i>	13 7 40·32	75 18 23·26	$\frac{6207}{1·2}$	60
Kudurémukha Hill Mark	"	Also called Pándukal by the natives and "Midge Point" by the Europeans, 1 mile W. by N. of the principal station of the same name. On the highest rock of the western or north-westernmost point of the Kudurémukha group, near the boundary between the districts of South Canara and Kadúr, about $5\frac{1}{2}$ miles S. of Aroli, and 4 miles S.W. by W. of Malvadi: táluk Vastára. It is marked by a circle and dot engraved on the rock. 1872-73.	13 7 47·46	75 17 47·00	6177	639
Kudurémukha h.s.	"	Commonly called "Mukh Head." Immediately over the remarkable precipice at the S.E. point of the Kudurémukha or Kote-kau-mukh group, near the boundary between the British districts of South Canara and Kadúr: táluk Vastára. The station is marked by a circular masonry pillar, surrounded by a platform, carrying the usual mark-stone in its upper surface. 1872-73.	13 7 28·90	75 18 55·19	...	636
Kugankal h.s. ... <i>Koogunkul</i>	"	On a detached hill of this name in the village lands of Dasarhalli, about $4\frac{1}{2}$ miles E. by N. of Berúr on the high road from Tarikère to Bánávar, and the same distance N.N.E. of Kadúr town: táluk Kadúr. The station consists of a platform enclosing a pillar which contains two marks, one in the upper surface of the pillar and the other about a foot below. When the station was re-visited in 1872-73 the lower mark and the platform of Colonel Lambton's station were found intact. 1805.	13 36 51·28	76 4 35·92	[2687]	559
Kukdimahni h.s. ... <i>Cookdemuhni hill</i>	North Kánara	On the summit of the highest hill, about 10 miles W.S.W. of the town of Sirsi. 1811-14.	14 32 21·91	74 44 33·21	...	358
Kulhalli Pagoda ... <i>Koolhully P.</i>	Bellary	Gateway of the pagoda in the lands of the village of that name on the road from the town of Harpanahalli to that of Huvinahadgalli, about $4\frac{1}{2}$ miles N. of the former place, and 1 mile N.W. of Bágali village on the same road: táluk Harpanahalli. 1813-14.	14 51 10·9	76 0 48·8	...	444
Kumsibétta Hill Tree <i>Koomshybetta</i>	Shimōga	Highest and west tree, about 2 miles N.N.W. of the large village of Kumsi, at the junction of the roads from Shimōga, Hōnnáli and Anantapur, $5\frac{1}{2}$ miles W.N.W. of Hárnhalli, and $2\frac{1}{2}$ miles E.N.E. of Choradi: táluk Shimōga. 1813-14.	14 4 54	75 25 53	...	495

* Of the Madras Longitudinal Series.

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kumta Base N. End h.s. ... <i>Coomptee</i>	North Kánara	On a sand hill, about $\frac{1}{2}$ a mile W. of the large village of Kágal, 6 miles N. of Kumta town, and $\frac{1}{2}$ a mile S. of the foot of Rájámandurg: táluks Kumta. The station, which is about 80 yards from the water's edge, is denoted by a well built platform having a circle cut on stone imbedded in its surface and another sunk in the ground. 1813-14.	14 29 40' 88	74 24 15' 29	feet 13	339
Kumta Base S. End h.s. ... <i>Coomptee</i>	"	On a sand hill close to and E. of Honigudda village at the foot of the hill, about 2 miles N.W. of Kumta: táluks Kumta. The station, which is about 60 yards from the water's edge, is denoted by a well built platform having a circle cut on stone imbedded in its surface and another sunk in the ground. 1813-14.	14 26 19' 33	74 25 30' 12	11	340 341
Kumta Hill Redoubt <i>Coomptee</i>	"	Cocoanut trees in the redoubt close to the sea coast, about $1\frac{1}{2}$ miles W. of Kumta town: táluks Kumta. 1813-14.	14 25 8	74 26 5	...	345 346
Kumta Light-house	"	Centre: táluks Kumta. 1872-73.	14 25 8' 1	74 26 4' 5	...	344
Kundadagudda Hill Mark <i>Koondagooda</i>	Shimóga	On a temple on the E. summit of a small double-topped hill, about $1\frac{1}{2}$ miles W. by N. of the small village of Kunda, $2\frac{1}{2}$ miles E. of the high road from Mangalore to Tirthahalli, 6 miles N.E. of the Travellers' Bungalow on this road, and 10 miles W.N.W. of Hariharpur: táluks Kavaledurga. When re-fixed in 1872-73 the circle mark of Colonel Lambton's point was found engraved on the roof of the temple. 1811-14.	13 33 24' 28	75 12 36' 42	3200	605 606
Kundal, VIII	Sátára Agency	<i>Vide page 5—D.</i>	17 7 30' 24	74 26 30' 28	$\frac{2679}{5' 1}$	8
Kund Bagavadigudda No. 1 h.s. <i>Bugwaddygooda</i>	South Canara	On a hill N.W. of Bagavadi village and S.E. of Kund village both at the foot of the hill, N. of the Chikra nadi, and about $5\frac{1}{2}$ miles N.N.E. of Coondapoor town: táluks Coondapoor. The station is marked by a platform having a mark-stone at its surface. 1813-14.	13 42 6' 43	74 46 33' 09	306	586
Kund Bagavadigudda No. 2 h.s.	"	Within 30 feet of Kund Bagavadigudda No. 1 h.s.: táluks Coondapoor. 1813-14.	13 42 6' 28	74 46 32' 81	...	587
Kundgol, XXVII	Dhárwár	<i>Vide page 8—D.</i>	15 15 15' 28	75 17 13' 82	$\frac{2147' 06''}{10' 0}$	34
Kundgol Fort s. ... <i>Koongul</i>	"	On a Gopuram of the pagoda in the fort close to and W. of Kundgol town: táluks Kundgol. 1811-12.	15 15 21' 79	75 17 12' 51	...	169 170
Kundlapur Hill Temple	Sángli State	Dipmal of a temple dedicated to Baramnáth. On a hill in the lands of the village so called, about $\frac{1}{2}$ a mile E. of the village site, $1\frac{1}{2}$ miles N. of Jákhápur, and 2 miles N.W. of the high road from Miraj to Pandbarpur: táluks Kuchi. 1865-66.	17 6 40' 4	74 54 57' 5	...	118
Kundúr-neralgi Hill Pagoda <i>Kulucóondi H.P.</i>	Dhárwár	A small pagoda on a hill near the villages of Kundúr and Neralgi, and about $2\frac{1}{2}$ miles S. of the town of Bankápur: táluks Hángal. 1816-17.	14 53 19' 9	75 18 56' 5	...	269

* This height refers to the mark-stone in the upper surface of the circular pillar on which the levelling staff stood when determining the height.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Kunjargudda Pagoda <i>Koonjaroo P.</i>	South Canara	On a hill of the same name, about 2½ miles E. of Kalpádi, and 3 miles N.E. of Áradi, both villages are on the road from Udipi to Mulki: taluk Bárkúr. 1811-14.	13 16 14.3	74 49 23.8	feet ...	601 602
Kuribet Hill Temple	Belgaum	Known as Náráyandev temple. On a hill on the left bank of the Ghatprabha river, about 2 miles S.S.E. of the village of Kuribet, and 1½ miles W. by N. of Kelsar on the left bank of the same river and opposite to Gokák town: taluka Gokák. 1865-66.	16 11 2.5	74 50 46.7	...	187
Kurkumb Dipmal ...	Poona	On the main road from Pátas to Ravangaon, about 6 miles E.S.E. of Pátas village, and the same distance W.N.W. of Mallad: taluka Bhimthadi. 1838.	18 23 36.3	74 35 7.6	...	*
Kushgal s. <i>Kooshgul</i>	Dhárwár	Immediately S. of the village and N. of the fort of the same name, about 6 miles N.E. of Hubli town, and 3½ miles S. by E. of Behuti village at the crossing of the roads from Hubli to Nargund and from Dhárwár to Annigeri: taluka Hubli. The station is marked by a circle and dot cut on the terrace of the guard-room on the highest cavalier of the E. face of the fort. 1816-17.	15 23 33.96	75 15 5.80	...	174 175
Kuvesi h.s. <i>Coossay hill s.</i>	North Kánara	On a hill, about 1½ miles N. of the Kuvesi pass across the Western Gháts leading from the Supa taluka into the Portuguese Territory of Goa. 1811-14.	15 21 11.09	74 21 25.20	...	274
Laul s.	Sholápur	About 2 miles S. by W. of the village so called, and ¼ of a mile W. of the road from Bársi Road Railway Station to Shetphal district bungalow: taluka Mádha. 1819-20.	18 0 34.56	75 25 29.76	...	69
Linganbanda h.s. ... <i>Lingunubunda H.S.</i>	Lingsugúr	On a hill S. of and near the village so called, and about 6½ miles S. by W. of the town of Kushtagi: taluk Kushtagi, Nizam's Territory. 1816-17.	15 40 26.08	76 10 46.51	...	181
Madigadgudda Fort s. <i>Muddigudgooda</i>	Shimõga	Also called Kowaspur. On the S.E. angle of the fort on the boundary of Dhárwár and Shimõga districts, about 1½ miles S.S.E. of Belúr, 1 mile S. by W. of Sulikote, and ¼ a mile W. of a large tank called Madagadkère; Kumadvati river flows ¼ of a mile north: taluk Shikárpur. 1813-14.	14 20 52.63	75 28 16.19	...	481
Madlakal Hill Peak	Kadúr	Cannon's nose, highest point of the Basgod or Ánúr hills, about 4½ miles E. by N. of Aniganhalli on the road from Múdgère to Kõppa, 2 miles S.E. of Uttaganhalli, 5½ miles N.W. by N. of Vastára, and 8 miles W. of Chikmagalúr: taluk Chikmagalúr. 1872-73.	13 19 24	75 41 49	5164	623 624
Mágala Fort s. ... <i>Maugala</i>	Bellary	On the N.E. bastion of the fort on the right bank of the Tungabhadra river, about 9 miles W. by S. of the town of Huvinahadgalli, and 5 miles N.W. of Hirahadgalli fort: taluk Huvinahadgalli. 1813-14.	14 59 36.57	75 50 10.02	...	433
Magarvada h.s. ... <i>Magarvudda</i>	North Kánara, Dhárwár	On a hill, about 1½ miles N.E. of the village so called on the road from Haliyál town to Dhárwár, and 5½ miles E.N.E. from the former place. 1811-14.	15 22 37.72	74 52 1.66	...	279 280

* For triangle fixing this point, see Synoptical Volume of the Bombay Longitudinal Series.

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Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Mailara Pagoda ... <i>Mylar P.</i>	Bellary	A pointed pagoda in the village, about a mile from the right or E. bank of the Tungabhadra river, 3 miles S.S.W. of Holal town and fort, and 7½ miles N.W. of Gabgaddi or Karábadi fort on the road from Holal to Harihar in Chitaldroog district: táluks Huvinahadgalli. 1813-14.	14 48 28·6	75 43 55·1	feet ...	441 442
Mailarlingamgudda Pagoda ... <i>Mylarlingangooda P.</i>	Dhárwár	On a hill, about 2½ miles W. of Bevinhalli village on the road from the town of Ránebennur to Honati village, 5½ miles N. of the former place from which there is a road to it: táluks Ránebennur. 1813-14.	14 42 4·3	75 39 7·8	...	448 449
Majala, XII ...	Kolhápúr Agency	<i>Vide page 6—D.</i> ...	16 46 56·82	74 29 22·75	$\frac{2613}{5·0}$	13
Majigudda h.s. ... <i>Mujigoodda</i>	Dhárwár	On a large stone on the ridge of a high swell, about 2 miles N. of the village so called, 2½ miles S. of Annigeri town, and 2 miles E. of Bhadrapur village on the road from Hubli to Annigeri: táluks Navalgund. 1816-17.	15 22 53·87	75 28 18·34	...	173
Malgitti h.s. ... <i>Malligitti H.S.</i>	Lingsugúr	On the same group of hills as Nágapangudda hill fort, and about 1½ miles N. of it: táluks Kushtagi, Nizam's Territory. 1816-17.	15 49 2·82	75 55 45·79	...	215 216
Maligar Hill Pagoda ... <i>Mulligar P.</i>	Dhárwár	White pagoda on the E. slope of the hill, about 2 miles E. of Surleshvar village on the road from Hángal town to Ádúr village: táluks Hángal. 1813-14.	14 46 1·9	75 14 7·0	...	400
Manikeri, XVI ...	Belgaum	<i>Vide page 6—D.</i> ...	16 9 3·57	75 7 13·22	$\frac{2373}{5·0}$	24
Maradi h.s. ... <i>Murruddy H.</i>	Shimõga	On a small isolated hill W. by S. of the village so called, about 1½ miles N.W. by N. of Tangère, 2½ miles S.W. by S. of Báda, and 1½ miles S.E. by E. of Kandagal: táluks Channagiri. 1811-14.	14 14 53·63	76 1 39·09	[2061]	504 505
Marsingal h.s. ... <i>Marsingal</i>	North Kánara	On a hill towards the W. side of the northern boundary of the Supa táluks, about 6½ miles E. by N. of the Támeri Ghát, 13½ miles S.W. of Khánápúr town, and 17 miles N.W. of Supa town of North Kánara district: táluks Supa. 1811-14.	15 28 46·11	74 24 59·40	...	271 272
Masti-ka-Dongar h.s. ... <i>Masteekadonger</i>	"	On the top of a hill, about 14 miles N.E. of the town of Sonda, 8 miles S.W. by S. of the large village of Mundgod on the road from Sirsi to Hubli, and 12 miles N.W. by W. of the town of Hángal. 1811-14.	14 52 37·49	75 0 54·56	...	311
Másur Hill Pagoda ... <i>Mausoor H.P.</i>	"	On a hill, about a mile W. of the road from Kumta town to Aghanáshini river, and 2 miles N. by W. of the former place: táluks Kumta. 1813-14.	14 27 33·1	74 26 35·4	...	342 343
Matikati Koil s. ... <i>Mutticutta H.P.</i>	Dhárwár	On the north face of a ruined temple called Sídh Lingappa Koil on the highest top of the low hill called Basavpagudda: táluks Bankápúr. 1816-17.	15 5 57·72	75 14 29·64	...	263 264
Mávinhúnda, XIII ...	Kolhápúr Agency	<i>Vide page 6—D.</i> ...	16 25 4·19	74 50 7·56	$\frac{2582}{5·0}$	14,18

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Máyakõnda Fort ... <i>Myacondah</i>	Chitaldroog	Flag on the S.W. angle, about 7½ miles S.S.E. of the large village of Anagod on the high road from Dávangère to Chitaldroog, 1 mile N.W. by N. of Héddani, and 3¼ miles E.N.E. of Anaberu: táluk Dávangère. 1812-13.	14 17 14·6	76 7 29·9	feet ...	506
Menshigudda, XXXIII	North Kánara	<i>Vide</i> page 9—D.	14 45 1·28	74 43 13·79	$\frac{2416}{5·0}$	40
Menshigudda h.s. <i>Mainsi H.</i>	"	Within about 30 feet of the principal station of the same name: táluks Sirsi. 1811-14.	14 45 1·53	74 43 13·67	...	156
Mertiparvata Hill Temple	Támkúr	On the conspicuous peak of a range of hills, about 3¼ miles N. of the Bhadra river, 4¼ miles N.N.E. of the large village of Kalasa on the road from Béllatangi to Bále Hönnúr, and 2 miles W. of Totadúru village on a tributary of the Bhadra river: táluk Mad-dagiri. 1872-73.	13 17 29·6	75 24 59·2	5443	626 627
Miraj Mosque ...	Miraj State (Senior)	Centre of dome. Known as Mira Sáhib Masjid. In the town of the same name, and about ¼ a mile W. of the fort: táluks Miraj. 1865-66.	16 49 8·1	74 41 11·9	...	108 109
Mirján Fort ... <i>Mirjan</i>	North Kánara	Bastion near the S.E. angle of an old fort on the road along the right bank of the Aghanáshini or Tadri river, about 4 miles N. of Kumta town: táluks Kumta. 1813-14.	14 29 13·8	74 27 34·5	...	338
Moranhalli s. ... <i>Morunhulli-boorj</i>	Lingsugúr	About midway on the village road from Allawand to Battigiri: táluks Kushtagi, Nizam's Territory. 1816-17.	15 13 35·20	76 3 43·89	...	428 429
Motigudda Hill Tree <i>Berje H.</i>	North Kánara	On a hill, about 8 miles N. by W. of the town of Kumta: táluks Kumta. 1813-14.	14 32 51	74 27 27	...	...
Mudunúr Fort ... <i>Mudunoor</i>	"	Centre of bastion at the N.W. angle of the fort, about 9 miles W.S.W. of Bammigatti which is 6¼ miles S. of Kalghatgi town, and 2 miles S. by E. of Kirvati village on the road from Yellápur to Kalghatgi: sub-division Yellápur. 1811-14.	15 1 56·7	74 53 33·5	...	306
Mulgund Hill Pagoda <i>Mullagoond H.P.</i>	Dhárwár	On a detached hill on the right bank of the Varda river, opposite to Kusnúr village, on the road from Hángal ferry of the above river to Ádúr village, and 3¼ miles S.E. of Alúr fort: táluks Hángal. 1813-14.	14 42 2·0	75 15 3·6	...	402
Mulugudda h.s. ... <i>Mooloogooda</i>	Shimõga	Also called Mavingadde. On a hill of the Western Gháts, about 1¼ miles N. by E. of Haiderghar ghát, 1 mile N.W. of Mavingadde village, and 6 miles S.S.W. of Nagar: táluks Nagar. 1802-6.	13 44 13·52	75 2 26·77	[2542]	569
Mundárgidurg Hill Fort s. ... <i>Gooda Moondragy</i>	Dhárwár	On the highest tower at the N.E. angle of the fort on the road from Dambal to the Tungabhadra river, about 9 miles S.W. of the former: táluks Gadag. 1813-14.	15 12 32·43	75 55 18·96	...	427

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Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Mundasáli h.s. ... <i>Moondusali</i>	North Kánara, Dhárwár	On a range of hills running along the boundary of Sirsi and Hángal talukas, the former in North Kánara district and the latter in Dhárwár, about a mile E. of Hirehalli village on the road from Nagánúr, a large village, to the hill top, and 4 miles E.N.E. of Nagánúr. 1811-14.	14 53 5'63	75 6 30'67	feet ...	302 303
Mundgod Fort ... <i>Moondugoor</i>	North Kánara	N.W. angle of the fort on the road from Sirsi to Hubli, about 14 miles W. by N. of the town of Bankápur: taluka Yellápur. 1811-14.	14 58 17'1	75 4 25'8	...	310
Murdeshvar Hill Fort s. <i>Moordaishwar Dg.</i>	"	On the sea coast, close to and W. of the port of the same name on the road from Honávar to Bhatkal town: taluka Honávar. 1813-14.	14 5 32'31	74 31 31'36	...	529
Murgod Idgah ...	Belgaum	Centre pinnacle. In the town of Murgod, about 15 miles N.W. of Saundatti town: taluka Parasgad. 1865-66.	15 53 37'1	74 58 9'6	...	142
Mutagi Hill Pagoda <i>Magurwaddoo H.P.</i>	Kaládgi	Highest and central spire of a conspicuous pagoda on the top of a very remarkable rock. On a hill, about 2½ miles E. of the village so called, and 4½ miles S.W. of Bágévádi town: taluka Bágévádi. 1816-17.	16 31 37'6	75 57 39'7	...	188
Nagapangudda Hill Fort <i>Nagapan H.B.</i>	Lingsugúr	Ruined tower. On a hill, about 1½ miles E. of the village so called, 3 miles N.E. of Bevankati village, and 5½ miles N.W. of Gadjantargarh village: taluk Kushtagi, Nizam's Territory. 1816-17.	15 47 26'2	75 56 51'5	...	213 214
Nagar Flag Staff <i>Nuggur or Biddenoór</i>	Shimóga	Of a hill fort immediately E. of the high road from Haiderghar ghát to Kalúrkatte, and S.E. of the taluk town of Nagar: taluk Nagar. 1802-6.	13 49 9'3	75 4 32'5	...	579
Nagarbétta h.s. ... <i>Nugulbetta H.S.</i>	Kaládgi	On a hill close to the village of the same name, about 1½ miles W. of Jayarapur village on a village road leading from Nálátvar to northward, and 3½ miles N.W. of Nálátvar: taluka Muddebihál, 1816-17.	16 17 13'24	76 18 1'44	...	187
Nandikatte Tower ... <i>Nundicuttah</i>	North Kánara	Tower at the N.E. angle. In this village, about 5½ miles N.W. by N. of Mundgod on the road from Sirsi to Hubli, and 10½ miles S. of the town of Kalghatgi: subdivision Yellápur. 1811-14.	15 2 1'9	75 1 39'5	...	307
Narendra Hill Temple	Dhárwár	Dipmal. On a detached hill about a mile N.W. of the large village so called on the high road from Dhárwár to Bailhongal, and about 5 miles N.N.W. of the former place: taluka Dhárwár. 1865-66.	15 31 23'5	75 0 8'9	...	246 247
Nargund Fort s. <i>Nurgoond</i>	"	On a small building or tower at the S.E. extremity of the hill fort immediately N.W. of the town: taluka Navalgund. 1816-17.	15 43 31'94	75 25 26'79	...	227 228
Nargund Hill Mark (heliotrope)	"	On a temple on the N.W. extremity of the Nargund hill fort which is immediately N.W. of the town: taluka Navalgund. 1865-66.	15 44 5'24	75 25 2'19	...	225
Nargund Hill Temple	"	Highest spire. At the S.E. end of the Nargund hill fort, and immediately N. of the town: taluka Navalgund. 1865-66.	15 43 23'4	75 25 29'7	...	226

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
Narsimdevaragudda h.s. ... <i>Narsimdavurgooda S.</i>	Bellary	On a temple on a conspicuous hill, about 8½ miles N.N.E. of Harpanahalli town and 2 miles W. of Arsakēre fort: táluk Harpanahalli. 1813-14.	14 40 10·68	76 5 3·68	...	382
Narsiparvata Hill Mark ...	Kadúr	On the summit of a high hill of the Western Gháts, about 2½ miles W. by N. of Kigga village, 3 miles W. by S. of Kogod village on the high road from Begar village to Nemmar, and 7 miles W. of Shimōga: táluk Kōppa. It is marked by a circle and dot cut on a stone. 1872-73.	13 25 38·04	75 11 39·86	3784	609 610
Naunagiri h.s. (new) ... <i>Nounagherry</i>	North Kánara	On a hill, about ¼ of a mile N.E. of the road from Sirsi to Sōrab, 1½ miles W. by N. of Gudnápur, and 4 miles W.N.W. of Banavási at the junction of the roads from Sirsi and Badengod to Sōrab. 1816-17.	14 33 37·85	75 0 8·07	...	159
Naunagiri h.s. (old) ... <i>Nounagherry</i>	„	About 200 feet S.W. of Naunagiri h.s. (new). 1813-14.	14 33 35·82	75 0 7·35	...	386 387
Navalgund s. ... <i>Nouluagoond</i>	Dhárwár	On the highest tower near the S.W. angle of the hill fort on N. side of the town of the same name, about 5 miles S.E. of the road from Hubli to Nargund: táluka Navalgund. 1816-17.	15 33 31·65	75 23 23·73	...	176 177
Navalúr, XXIV ...	„	<i>Vide page 8—D.</i>	15 25 31·17	75 5 42·60	$\frac{2445}{5'1}$	30,32
Nejh Hill Temple ...	Kolhápúr Agency	Highest spire. On a detached hill, about a mile N.W. of the village so called, 1½ miles S.W. of the large village of Kumbhoj, and 2½ miles N.N.E. of Álta town: táluka Álta. 1865-66.	16 48 21·2	74 27 35·1	...	111
Netráni Island ...	North Kánara	Apparent highest point, about 11 miles from the shore, and 19 miles S.W. of Honávar. 1872-73.	14 0 59	74 22 3	...	519
Nilgund Hill Tree ... <i>Neelugoond H.</i>	Dhárwár	A high thin tree on the summit of the highest and most conspicuous rock on a hill near the village so called on the road from Mulgund to Annigeri: táluka Gadag. 1816-17.	15 18 57	75 31 25	...	257 258
Nimsirgaon Temple ...	Kolhápúr Agency	Spire of the highest temple. In the village of the same name on the road from Kolhápúr to the large village of Udgaon, about 5½ miles W. by S. of the latter, and 3½ miles S. by W. of Danoli village: táluka Shirol. 1865-66.	16 46 39·7	74 32 2·6	...	110
Niragundaráya Hill Peak ...	Kadúr	Also called Malesvar. Summit of the W. peak, about 1½ miles W.S.W. of Aniganhalli, 4½ miles E. by N. of Huiyigēre on the right bank of the Bhadra river, and 1½ miles S. of Hunasvalli: táluk Chikmagalur. 1872-73.	13 18 4	75 36 11	[4063]	625
Páchvad, IV ...	Sátára	<i>Vide page 4—D.</i>	17 31 1·97	74 42 10·89	$\frac{3138}{5'1}$	6
Paddak Pagoda ... <i>Pudduk P.</i>	Sholápur	Táluka Pandharpur. 1819-20.	17 42 54·3	75 18 12·6	...	78,79

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Pála h.s. ... <i>Palla h.s.</i>	North Kánara	Also called Bomēgudda. On a hill, about 1½ miles N.N.W. of the village so called on the road from Sirsi to Mundgod, 2½ miles W. of Varalgi, and 7½ miles N.W. by W. of the town of Hangal. 1811-14.	14 49 26·84	75 3 58·20	feet ...	312
Pallavainumath Building <i>Pullavaenu-muth</i>	Dhárwár	On a hill, about 2½ miles S.W. of Gadag town, and 1½ miles N. by W. of the pass on the road from Gadag to Mulgund town: táluka Gadag. 1816-17.	15 24 14·7	75 38 8·6	...	251 252
Palsi, VII	Sátára	<i>Vide page 5—D.</i>	17 12 37·11	74 52 42·53	$\frac{3013}{5}$	9,11
Palvan, III	"	<i>Vide page 4—D.</i>	17 50 19·43	74 29 4·48	$\frac{3446}{5}$	4,5
Palvan h.s. ... <i>Palvan Stan</i>	"	On a flat topped hill, about a mile N.N.E. of the village of Palvan, 9½ miles S. of the town of Phalton, and 3½ miles S.W. of Girvi village: táluka Mán. 1837-38.	17 50 44·60	74 28 6·50	[3481]	85
Panhála Mark (heliotrope)	Kolhápur	On mahal or palace of the hill fort of the same name on the road from Ratnagiri to Kolhápur: táluka Panhála. 1865-66.	16 48 45·79	74 9 16·51	...	112
Parasgad Fort ... <i>Parrusgurh</i>	Belgaum	N.W. angle of the fort on a hill, about 2 miles S. by E. of the town of Saundatti, and 5½ miles W. of the principal station Hirékummigudd: táluka Parasgad. 1816-17.	15 44 15·1	75 10 12·1	...	237 238
Partamalaigudda h.s. <i>Purramully</i>	South Canara	On a hill near and S.W. of Káral town, about 1½ miles W. of the remarkable statue of Budha or Gautama: táluk Káral. 1811-14.	13 12 13·64	75 1 16·32	...	576
Pátas Hill Pagoda <i>Patas H.P.</i>	Poona	On a hill, about 2½ miles E. of the large village and the market of the same name, and 7 miles S.W. of the Dhond Junction Railway Station (G.I.P.R.): táluka Bhimthadi. 1838.	18 25 57·1	74 32 25·7	...	*
Pavitragad Hill Fort	Belgaum	Conspicuous tower near the western end of the fort on a hill, about 6 miles E.N.E. of Yamkanmardi town on the high road from Hukeri to Belgaum, 4½ miles S. of the former place, and 1 mile N.E. of Majti village on the left bank of Ghatprabha river: táluka Chikodi. 1865-66.	16 9 29·1	74 39 15·2	...	129 130
Pesvadi h.s. ... <i>Pyeswaddi hill</i>	North Kánara	On the highest point of a low ridge of hills, about a mile W. of the village so called, and 3 miles N.E. of the road leading from the Supa táluka across the Western Gháts into the Portuguese territory of Goa. 1811-14.	15 25 14·79	74 26 7·93	...	273
Pundi Hill Temple	Sátára	On a hill close to and E. by S. of the village, about 2½ miles N.N.W. of Chinchni, and 3½ miles N.N.E. of Tásgaon town: táluka Tásgaon. 1865-66.	17 4 15·6	74 40 38·9	[2173]	103 104
Rájamandurg Platform <i>Rajaman Dr.</i>	North Kánara	On the hill fort of the same name at the mouth of and close S. of the Aghanáshini or Tadri river: táluka Kumta. 1811-14.	14 30 18·2	74 24 5·4	...	336 337
Rákshasgudda Hill Mark (helio.)	North Kánara	On a hill immediately N. of the Shirávati river, about 2½ miles S.S.W. of Mensi village, and 3½ miles W. of Musuvalli: táluka Siddápur. It is denoted by a circle and dot on a pillar. 1872-73.	14 15 10·60	74 51 20·01	...	373 374

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

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Rámagiri Turret ... <i>Ramgherrydroog</i>	Chitaldroog	On a small isolated hill immediately S. of the village so called, about 1½ miles S.E. by S. of Dásikatte, and 2½ miles N.W. by N. of Gangasamudra: taluk Hólalkére. 1811-14.	0 1 " 13 57 0·3	0 1 " 76 9 44·2	feet [2641]	*
Rámanköp, XXX ...	North Kánara	<i>Vide page 9—D.</i>	14 59 38·59	74 48 45·71	$\frac{1949}{5·0}$	36,38
Rámesvarambanda s. <i>Ramisserambunda S.</i>	Bellary	On a low rock in a village on the right bank of the Tungabhadra river, about 3½ miles N. of Tamberhalli, and 8½ miles E.N.E. of the Postal town of Hampaságar: taluk Huvinahadgalli. The station is on a ruined turret, marked by a platform and a pile of stones. 1813-14.	15 12 18·24	76 12 8·25	...	414
Rámagiri Hill Tree ... <i>Ramgerri-boorj</i>	Miraj State, S. Marátha Agency	A small but remarkable tree in a ruined but conspicuous tower on a high slope of a hill W. of the village on the road from Lakshmeshvar town to Kundgol, and about 3 miles W. by N. of the former place. 1816-17.	15 8 2	75 28 15	...	265 266
Rangandurga Pagoda <i>Rungyan Dr.</i>	Shimöga	About ¼ a mile S.W. of Hanumandurga hill, 2 miles N. of the village of Chikkasandi, and 5½ miles S.E. of Ganadkatte on the high road from Bēnkipur to Chanagiri: taluk Shimöga. 1812-13.	13 55 21·1	75 58 1·5	[3110]	516 517
Rangandurga Turret <i>Janery Rungyan Dr.</i>	Chitaldroog	Towards the N. end of a wall of hills, about 1½ miles S.W. by W. of Talgatta village, 2½ miles E.S.E. of that of Tupadhalli, and 3½ miles S.S.W. of Rámagiri: taluk Hólalkére. 1811-14.	13 54 10	76 8 21	[2930]	...
Rasin Pagoda ... <i>Rasin Pagoda</i>	Ahmednagar	At the S.E. corner of the large village of the same name, about 3 miles E. by S. of Yasori village, and 3½ miles N.E. by N. of Karpari: taluka Karjat. 1833.	18 26 6·9	74 57 46·9	...	†
Rasing Hill Temple	Belgaum, Kolhápur	Spire. On a range of hills between the Nipáni and Khánápur talukas, about 2 miles E. of Kapsi on the Chikotra river, and 6 miles S.W. of the town of Nipáni. 1865-66.	16 20 32·6	74 22 12·2	...	128
Rattigiri Hill Building <i>Ruttuggerri H.</i>	Miraj State, S. Marátha Agency	On a low red conspicuous and well defined peak called Gudugiri at Soanshi, but Rattigiri at Matikatte, about ¼ of a mile S.S.E. of the village so called, and 7 miles N. by E. of the town of Savanúr. 1816-17.	15 4 17·2	75 23 53·4	...	267 268
Ravigudda Hill Peak	Shimöga	Centre of a hill peak, about 2½ miles N. by W. of Kavaledurga, 4 miles S.S.E. of Belúr village, 6 miles E. by N. of the Travellers' Bungalow at Hulikal on the road from Haidarghát to Nagar, and ¼ of a mile N. of the small village of Kolvádi: taluk Nagar. 1872-73.	13 44 43	75 8 15	3095	580 581
Revansidh Hill Temple	Sátára	Spire. On top of Bulkai hill, about a mile N. of Sula hamlet on the road from Vita town to that of Khánápur, 2½ miles E.N.E. of the former place, and 1 mile S. of Bhávarda village and dipmal: taluka Khánápur. 1864-65.	17 17 5·8	74 36 40·5	[2849]	94,95
Ságar Bungalow ...	Shimöga	Centre of the Travellers' Bungalow on the E. side of a large sheet of water, about ¼ a mile E. of Ságar town: taluk Ságar. 1872-73.	14 9 54·2	75 4 51·5	...	677

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

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

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Sambrani h.s. ... <i>Sambrani S.</i>	North Kánara	On a ridge of high slopes, about $\frac{1}{2}$ mile S.W. of the place so called on the road from Haliyál to the Tattihalla river, and 7 miles S. of the town of Haliyál. 1811-14.	15 14 12' 96"	74 47 18' 30"	feet ...	286
Sampgaon Mosque ...	Belgaum	Centre of dome. In the town so called on the high road from Belgaum to Saundatti, about 6 miles W. of the town of Bailhongal on the same road: táluca Sampgaon. 1865-66.	15 47 36' 3"	74 47 58' 5"	...	143
Samshergad, XXIII	"	<i>Vide page 7—D.</i>	15 33 46' 66"	74 34 7' 18"	$\frac{2999}{*}$	28
Santëbënnúr Mosque <i>Santa Benmoor</i>	Shimõga	Small spire over the great square building on the south side and opposite the great pillar, about $\frac{1}{2}$ of a mile S. of the large village so called, $2\frac{1}{2}$ miles S.E. of Bëlaganúdu, $2\frac{1}{2}$ miles W. of Abigëre, and $2\frac{1}{2}$ miles N.N.E. of Kákúr: táluk Channagiri. 1812-13.	14 9 55' 0"	76 2 46' 2"	[2100]	510
Santurkopalgudda h.s. <i>Suntooragooda</i>	South Canara	On a hill, about 6 miles E.S.E. of Yermál and the same distance N.E. of Mulki: táluk Bãrkúr. 1811-14.	13 9 14' 61"	74 53 9' 87"	...	575
Sanuvali h.s. ... <i>Sunnuvulli</i>	North Kánara	On a low hill, about $2\frac{1}{2}$ miles S.E. of Mundagod village on the road from Sirsi to Hubli, and $11\frac{1}{2}$ miles W. by N. of the town of Bankápur. 1811-14.	14 57 20' 14"	75 6 3' 95"	...	308 309
Saratigudda Building <i>Saurteegooda</i>	Shimõga	Tower or turret on the southern top, about $1\frac{1}{2}$ miles E. by N. of Arane on the left bank of the Tungabhadra river, $\frac{1}{2}$ of a mile N.E. by E. of Sarati village, and 2 miles W.S.W. of Dugvati on the road from Harpanahalli to Harihar: táluk Dãvangëre. 1813-14.	14 36 40' 2"	75 52 13' 3"	...	452 453
Sarseri Mosque ...	Belgaum	Centre of dome. Known as Hanbar Karbi mosque. Near the S. end of a detached hill immediately N. of the high road from the town of Kaládgi to that of Belgaum, and $1\frac{1}{2}$ miles N.E. of the village after which it is named which village is also on the same road: táluca Parasgad. 1865-66.	15 59 13' 4"	74 58 10' 4"	...	188
Sarur h.s. ... <i>Surroor H.</i>	Kaládgi	At the E. end of a range of small heights near the village, about $3\frac{1}{2}$ miles W. by S. of Muralhire a large village at the foot of the hills, $3\frac{1}{2}$ miles S.E. of Muddebihál town, and $2\frac{1}{2}$ miles N. by E. of Kolur village: táluca Muddebihál. The station is marked upon a large pile of stones. 1816-17.	16 17 46' 52"	76 12 22' 43"	...	192 193
Sasãvehalli Fort s. ... <i>Sausavully</i>	Shimõga	On the S.W. angle of the fort on the right bank of the Tungabhadra river, about $1\frac{1}{2}$ miles W.N.W. of Kalakatte, $1\frac{1}{2}$ miles N. of Hõshalli, and 3 miles W.N.W. of Kyásankëre: táluk Hõnnáli. 1813-14.	14 9 0' 77"	75 45 23' 89"	...	496 497
Sedatek Hill Temple	Ahmednagar	On a hill close to and S.W. of Deval hamlet of that village on the E. bank of the Bhima river, about $\frac{1}{2}$ mile S. of the principal village from which it takes its name: táluca Karjat. 1864-65.	18 26 36' 4"	74 46 5' 3"	...	64
Shántigiri Hill Tower <i>Santigerri H.B.</i>	Lingsugúr	High tower on the south extremity of the large table land, about $2\frac{1}{2}$ miles S. by W. of Naaguni village on the road from Belúr to Hanamságar, and $4\frac{1}{2}$ miles S.E. of the former place: táluk Kushtagi, Nizam's Territory. 1816-17.	15 49 14' 8"	75 51 46' 9"	...	205 206

* Height of structure not forthcoming.

CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

91—D.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure feet	No. of Triangle
Shigakal h.s. ... <i>Sheegakul S.</i>	Chitaldroog	On a range of hills W. of Chitaldroog, about 2 miles N.E. of Bharamnáyakandurga: táluk Hösadurga. The station is marked by a platform having a mark-stone at its surface. 1812-13.	14 12 11.46	76 11 35.50	[2904]	468
Shikárpur Fort ... <i>Shicarpoor</i>	Shimöga	Circular bastion at the N.E. angle of the fort on the road to and about $\frac{1}{4}$ mile W. of the northern portion of Shikárpur: táluk Shikárpur. 1813-14.	14 16 18.4	75 23 22.0	...	485
Shimöga Fort ...	"	Táluk Shimöga. 1802-6. ...	13 55 33	75 37 31	...	...
Shimöga s. ...	"	On rising ground, 250 yards N. by W. of the Travellers' Bungalow, about $\frac{1}{4}$ of a mile S.E. of the English Protestant Cemetery, and half that distance S. of the R. C. Cemetery. The station is marked by a masonry pillar having two mark-stones, one at the base and the other in its upper surface: táluk Shimöga. 1872-73.	13 55 37.12	75 36 41.06	1917	554
Shingnápur Hill Mark (helio.)...	Sátára	On the same hill and close to and E. of the temple of Shingnápur: táluks Mán. 1864-65.	17 51 9.49	74 41 28.54	...	81
Shingnápur Hill Temple ...	"	Spire of the highest temple dedicated to Mahádeva on a hill, about $\frac{1}{4}$ of a mile N.W. by W. of the large village of that name; there is a hamlet close to and S.E. of the temple: táluks Mán. 1864-65.	17 51 9.0	74 41 29.0	...	80
Shiráli Island ...	North Kánara	Also called Jalikund. The apparent highest point off Honávar, and 5 miles N.W. of Bhatkaldurg. 1872-73.	14 0 28	74 31 23	...	531
Shitebhumi Peak ...	Kadúr	The apparent highest point of one of the highest peaks of the range of hills, between Merti and Gangamúla, and separating Múdgere táluk from that of Köppa, about 2 miles S. of Balgeri village. 1872-73.	13 16 14	75 17 28	...	630 631
Shrimantagad Pagoda ... <i>Stroemuntagud P.</i>	...	A pointed pagoda on a hill, about $7\frac{1}{2}$ miles S. of Shirhatti village, and 9 miles E. of Lakshmeshvar town. 1813-14.	15 6 49.9	75 39 8.1	...	436 437
Síd Hill Pagoda ... <i>Seed Pagoda</i>	Khánápur	The lower and northern of two pagodas on the summit of a high hill near the head of Katnal nala, about $1\frac{1}{2}$ miles S. by W. of Bastvari village. 1811-14.	15 23 33.3	74 37 24.3	...	281 282
Siddápur h.s. ...	North Kánara	On the highest point of a low hill, about $\frac{1}{4}$ of a mile N. of the Travellers' Bungalow on the high road from Siddápur to Bilgi, and $1\frac{1}{2}$ miles W. of the former place: táluks Siddápur. The mark circle and dot left by an old survey is engraved on a stone embedded in a rough stone pillar about 3 feet high round which a small circular platform of earth was raised, the pillar and platform being together about 4 feet in diameter. 1872-73.	14 21 15.15	74 56 10.50	...	368 369
Siddápur Tree ... <i>Siddapoor</i>	"	Close W. of the town: táluks Siddápur. 1813-14.	14 20 35	74 56 2	...	...

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Siddeshvar, XLIII ...	Shimōga	<i>Vide page 11—D.</i>	13 41 15·41	75 16 4·06	<i>feet</i> 2429 2·3	55
Siddeshvar h.s. ... <i>Sidaeshwaragooda</i>	"	On the same hill as and about 500 feet S.W. of the principal station of the same name: taluk Kavaledurga. 1802-6.	13 41 14·63	75 15 59·45	...	566
Siddeshvar Hill Temple ...	"	About 430 feet W.S.W. of the principal station of this name: taluk Kavaledurga. 1873.	13 41 13·8	75 16 0·1	2426	...
Sidlihal Temple ...	Belgaum	Spire. In the lands of the village of the same name on the village road from Majti to Vatmuri, and 3¼ miles E. by N. of the town of Yamkanmardi on the high road from Hukeri to Belgaum: taluka Chikodi. 1865-66.	16 8 11·3	74 37 6·0	...	127 128
Singtalūr Fort ... <i>Singtaloor</i>	Dhārwar	S.E. angle. On the left bank of the Tungabhadra river, about 4 miles S. of Koranhalli fort on the same bank of this river, and on the road from Dambal town to the Tungabhadra river: taluka Gadag. 1813-14.	15 3 19·69	75 55 48·35	...	482
Sirsi s. ...	North Kánara	About 25 yards S.S.W. of the dispensary and hospital in the town of the same name. The station is marked by a circle and dot engraved on a large stone embedded flush with the ground: taluka Sirsi. 1872-73.	14 36 49·56	74 52 17·93	2050	323
Soarshi s. ... <i>Soanshi</i>	Dhārwar	On a tower on the top of the enclosed height on a road from Kundgol to Lakshmeshvar passing by the N. of the village, and about 5 miles S.E. of Kundgol: taluka Kundgol. 1816-17.	15 12 19·36	75 20 45·68	...	172
Sonda h.s. ... <i>Soonda S.</i>	North Kánara	On a low hill, about 2¼ miles W.S.W. of Sonda town: taluka Sirsi. 1811-14.	14 43 28·28	74 49 57·03	...	316
Sōrab Staff ... <i>Soorub</i>	Shimōga	At the eastern end of the village near the road which starts from Sōrab to Siddāpur, about ¼ a mile W. of Sōrab town, ¼ mile S. of a large sheet of water, and 1½ miles E.N.E. of Gundshētkōppa: taluk Sōrab. 1813-14.	14 22 51	75 7 16	...	...
Sulki, II ...	Sholāpur	<i>Vide page 4—D.</i>	17 45 42·31	74 55 52·63	<i>2354</i> *	8
Sulki h.s. ...	"	About 16 feet S.E. of the principal station of this name: taluka Mālsiras. 1820.	17 45 42·24	74 55 52·78	...	70
Surālgudda h.s. ... <i>Sooraalgooda</i>	South Canara	On a hill, about 2¼ miles S.S.E. of Kārakal town, and 1½ miles S. of the colossal monolithic figure of Gautama Buddha: taluk Kārakal. 1811-14.	13 10 53·41	75 3 25·41	...	†
Swarnanadigudda h.s. ... <i>Soorwurnuddygooda</i>	"	On a hill on the left bank of the Swarnanadi, about 3¼ miles N.E. of Udipi town, and 1½ miles N.W. of Pārkal village on the road from the town of Udipi to that of Kārakal: taluk Bārakūr. 1811-14.	13 22 3·63	74 49 36·76	...	572 591

* On a temple, height above the ground level not forthcoming. † 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
Tadsar Hill Temple ...	Sátára	Spire. Also known as Dongrai Hill Temple. On a hill about 2 miles N.W. of Tadsar village, the same distance S. of Kadegaon a large village on the road from Karád to Jath, and 2½ miles E. of Nerli village: táluka Khánápur. 1864-65.	17 16 6·9	74 22 18·1	<i>feet</i> [2882]	93
Talaguppe Bungalow ...	Shimõga	Centre of the roof of the Traveller's Bungalow on a hill above the tank on the S. side of the road from Ságar to Gersõppa, about 3½ miles N.E. by E. of the Sharavati river, 2½ miles S.W. by W. of Mandgalale, and 1½ miles E.S.E. of Hõsvante: táluk Ságar. 1872-73.	14 12 49·9	74 56 56·0	[1941]	376
Tallakalu Village Burj <i>Tallukul-boorj</i> ...	Lingsugúr	Highest cavalier in the village, about 5 miles E. by S. of Bannikopu hamlet, and 7½ miles N.E. of Kovurúr village: táluk Kushtagi, Nizam's Territory. 1816-17.	15 22 37·7	76 3 42·5	...	224
Tarikère Fort s. <i>Tirekaera</i> ...	Kadúr	On the S.E. bastion of the fort N. of the main road and táluk town of Tarikère: táluk Tarikère. 1805.	13 42 31·29	75 51 32·28	...	563
Tásgaon Temple ...	Sátára	Spire of the highest temple in the town of the same name: táluka Tásgaon. 1865-66.	17 2 0·9	74 38 40·2	...	105 106
Telgigudda Hill Pagoda <i>Telgygooda</i> ...	Bellary	Also known as Dugvati building. About 3½ miles E. of the Tungabhadra river, and 2 miles N. by E. of Dugvati village on the road from Harpanahalli to Harihar. 1813-14.	14 38 52·2	75 54 20·4	[2405]	450 451
Tembhurni s. ... <i>Taimboorni</i>	Sholápur	In the large village south of the junction of the roads from Poona, Sholápur and Bársi Road Railway Station, about 16 miles W. by S. from the latter place, and 6½ miles S.S.E. of the place where the road from Poona to Sholápur crosses the Bhíma river: táluka Karmala. 1819-20.	18 1 36·26	75 13 59·70	...	72
Timmapa Lingam Pillar <i>Timmapa Lingum</i> ...	Lingsugúr	Stone pillar or Lingam. On a rocky summit, the highest of a long ridge, about 2 miles E. by N. of Korihal, and 2½ miles S. of Uchalakunti: táluk Kushtagi, Nizam's Territory. 1816-17.	15 34 39·3	76 17 22·6	...	219 220
Timmappangudda h.s. <i>Timmappangooda S.</i> ...	Shimõga	So called from a pagoda on the hill. About 1½ miles S.W. of Hõskère or Basavápatna, ¼ of a mile E. of Bulná-yakanhalli, and 1½ miles S.E. of Dáginkatte: táluk Channagiri. The station is marked on the pagoda. 1813-14.	14 11 11·39	75 50 16·08	[2654]	466 467
Timoli h.s. ... <i>Timoli Hill</i>	North Kánara	On the summit of a hill, about 7 miles N. of the town of Supa, and 2½ miles N. of the road from the town of Haliyál. 1811-14.	15 22 16·23	74 32 31·89	...	278
Tinai h.s. ... <i>Tini</i>	"	On a hill on the boundary of North Kánara and Portuguese Territory, about 2 miles N. of Tinai Ghát, 1½ miles S. of Táneri Ghát, and 19½ miles N.W. of the town of Supa: táluka Supa. 1811-12.	15 26 19·38	74 19 22·18	...	167
Tõgarshi Hill Pagoda <i>Togarchy H.P.</i> ...	Shimõga	On one of the several peaks, about 3½ miles S. of Tattúr, 3½ miles E. of Udri, 2 miles E.N.E. of Munchi, and 2½ miles N. of Malúr: táluk Shikárpur. 1813-14.	14 27 1·5	75 14 36·0	[2415]	411 412

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Topibenagudda Hill Peak ...	North Kánara	Centre of the apparent highest point on the same hill as the principal station of Kaltigudda and about $\frac{1}{4}$ a mile S.W. of it: táluca Honávar. 1872-73.	0 1 " 14 21 44	0 1 " 74 35 19	feet ...	354 355
Totalappangiri Hill Temple ...	Kadúr	Centre of the base of a small building on an eastern point of the Baagod hills, about a mile W. by S. of Ilihole on the road from Múdgere to Yédéhalli, 5 miles N.N.W. of Vastára, and $1\frac{1}{2}$ miles S.E. by S. of Mattod: táluca Chikmagalúr. 1872-73.	13 19 40'3	75 42 22'2	4888	622
Tulshigudda Hill Tree <i>Tolosee Peak</i>	North Kánara	A conspicuous palm tree on the summit of a lofty hill, about 4 miles N.E. of the sea-port town of Ankola: táluca Supa. 1811-14.	14 41 54	74 23 36	...	329 330
Uchilgudda s. ... <i>Woochela P.</i>	South Canara	On a temple on the hill of the same name close to and W. of the road from Udipi to Mulki, about 3 miles S. of the Káp Battery, and $1\frac{1}{2}$ miles N. by W. of Yérmál: táluca Bárkúr. 1802-6.	13 11 11'85	74 47 30'32	...	599 600
Udagani Fort s. ... <i>Woodagunny</i>	Shimöga	On the S.W. angle of the fort on the road from Shikárpur to Shirákköppa and south of Udagani, about $3\frac{1}{2}$ miles S.W. by W. of Hiréjambúr, 2 miles N. of Chittúr, and $2\frac{1}{2}$ miles S. of Shirákköppa: táluca Shikárpur. 1813-14.	14 20 7'99	75 17 47'58	...	484
Udarkal h.s. ... <i>Wuderkul H.</i>	Lingsugúr	On the top of a range of hills, about a mile S.W. of the village of Chikk Udarkal on the road from Kanak-giri town to that of Kushtagi, and 6 miles N.W. of the former place: táluca Kushtagi, Nizam's Territory. 1816-17.	15 36 16'59	76 21 51'09	...	183
Uliapagudda h.s. ... <i>Ooliappañ</i>	North Kánara	On a hill, about a mile S. of Gunjavati village on the road from Yellápur town to Mundgod, 7 miles W. of the latter place, and the same distance W.S.W. of Indúr fort: táluca Yellápur. The station is a little E. of a small rude pagoda in which is an image of a tiger (uliapa) whence the name of the hill. 1811-14.	14 59 4'77	74 58 46'83	...	300 301
Ulvi h.s. ... <i>Woolwi</i>	"	On a hill near the village on the high road from Yellápur town to that of Margao in Portuguese Territory, about 14 miles W. by N. of the former place, and $1\frac{1}{2}$ miles E. by S. of Yendahu village on the same road: táluca Supa. 1811-12.	15 0 32'79	74 32 28'96	...	158
Umachgi s. ... <i>Oomuchgi</i>	Dhárwár	On the road from Gadag to Ron and immediately N. of the village of the same name, about $12\frac{1}{2}$ miles N.E. from the former, and 11 miles S. by E. from the latter place: táluca Gadag. 1816-17.	15 32 16'70	75 48 58'82	...	178
Umíkal h.s. ... <i>Oomeekul H.</i>	South Canara	On a hill immediately W. of Járkal village near the road from Udipi town to Kárákal, about 6 miles N.N.W. of the latter place: táluca Kárákal. 1802-6.	13 16 52'45	74 58 33'31	...	573
Unchikatta Fort Tree <i>Oonchicutta</i>	Dhárwár	A large tree in the S.E. angle of the fort on a height near the village: táluca Kalghatgi. 1811-14.	15 8 3	75 4 12	...	297
Unkal h.s. ... <i>Oonikal</i>	"	On a ruined building on the highest point of the hill N.E. of the village on the road from Hubli to Dhárwár, about 3 miles N.W. of the former place: táluca Hubli. 1816-17.	15 22 32'22	75 10 16'08	...	233 234

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Uvinmanai Tree ... <i>Oovinmunnae</i>	North Kánara	A very conspicuous palm tree on the highest and rather conspicuous hill in the lands of the village of the same name, about 2 miles W.N.W. of the town of Bilgi: taluka Siddápur. 1813-14.	° ' " 14 22 3	° ' " 74 48 52	feet ...	360 361
Vadamaradi Hill Pagoda ... <i>Wada Murruddy</i>	Shimóga	On a small isolated hill about $\frac{1}{4}$ a mile S.E. by S. of the village of Devarhalli, $1\frac{1}{2}$ miles W. of Nitagère, 1 mile N.N.W. of Chikdevarhalli, $4\frac{1}{2}$ miles N.W. by N. of the large village of Hodigère, and $1\frac{1}{2}$ miles N. of the high road from Channagiri to Chitaldroog: taluk Channagiri. 1813-14.	14 5 56.8	76 0 42.8	[2197]	511 512
Vadigutta h.s. ... <i>Wuddigutta</i>	North Kánara, Dhárwár	On a hill near the village on the road from Sonda to Taras, about $4\frac{1}{2}$ miles S.W. of the latter place: talukas Sirsi, and Bankápur. 1811-14.	15 4 24.67	75 7 24.53	...	168
Valkunji, XLVII ...	Kadúr	<i>Vide page 12—D.</i>	13 20 31.02	75 7 13.72	$\frac{3408}{1.4}$	59
Vimaldi h.s. ... <i>Weemuldee S.</i>	Shimóga	On one of the peaks of the range of hills to the S.W. of the town of Shimóga, on the boundary of the villages of Kódekalmene, Hánigiri and Gárga. It is approached from either Shimóga on the east or Hánigiri on the west, from the former there is a fair bridle path 15 miles to the hamlet of Kódekalmene from whence it is a steep ascent to the top of the hill: taluks Shimóga and Kavaledurga. The station was re-visited in 1872-73, is marked by a circle and dot engraved on a large stone embedded about the centre of the old platform. 1813-14.	13 51 12.08	75 27 55.00	3311	462 463 464
Woddingudda Hill Mark ...	Kadúr	On a high hill, about $3\frac{1}{2}$ miles E. by N. of Balsi on the road from Múdgère to Kóppa, 2 miles S. by E. of Boradhali, 3 miles W.N.W. of Uttaganhalli, and $\frac{1}{2}$ of a mile N. of Barangod: taluk Chikmagalur. The point is marked by a circle and dot covered over by a pile of stones. 1872-73.	13 21 26.55	75 38 9.37	4998	615 616
Yalúr, XXII ...	Kurundvád State, South- ern Marátha Agency	<i>Vide page 7—D.</i>	15 45 20.01	74 34 5.35	$\frac{3283}{6}$	27
Yalúr Hill Temple ...	"	Highest in the hill fort of Yalúr lying about 2 miles E. of the high road from Belgaum to Khánápur, and 2 miles S. by E. of the village of Yalúr. 1865-66.	15 45 23.4	74 34 4.3	...	145 146
Yédamale Hill Peak ...	Shimóga	Centre of the apparent highest point of a peak of the Western Gháts, about 16 miles N.W. of Kódashátri: taluk Ságar. 1872-73.	13 58 51	74 42 25	[2759]	534 535
Yédéval Hill Tree ... <i>Yeddawaul H.</i>	"	On a hill, about 4 miles E. by N. of the town of Hárnhalli, $3\frac{1}{2}$ miles S. by W. of Saulanga, $2\frac{1}{2}$ miles W. of Kuchanhalli, both on the road from Shimóga to Hónnáli, and 1 mile E. of Yédéval village: taluk Shimóga. 1813-14.	14 3 37	75 33 26	...	492 493

MANGALORE MERIDIONAL SERIES.

Name of Station or Point	District	Description	Latitude North	Longitude East of Greenwich	Height of Station — Height of Structure	No. of Triangle
Yelgudda Hill Peak	... South Canara	Centre of summit of a peak of the Western Gháts, about 7 miles E. of Baidúr town, and 5 miles N. by E. of Káltod village on the high road from Naikankatte to Katiapur in Mysore <i>via</i> Kolúr: táluk Coondapoor. 1872-73.	° ' " 13 52 5	° ' " 74 45 31	<i>feet</i> [2957]	542 543
Yelhima Hill Pagoda <i>Yelhimu H.P.</i>	... Belgaum	About 300 feet N.W. of the principal station of Hirë-kummigudd: táluka Parasgad. 1816-17.	15 43 49.5	75 14 37.3	...	239 240
Yellápur Fort s. ... <i>Yellapoor</i>	... North Kánara	On the S.W. angle of the fort of this Sub-divisional town: táluka Yellápur. 1811-14.	14 57 55.03	74 45 14.40	...	315
Zayurli h.s. ... <i>Zaoorli hill</i>	... "	On the top of a low hill, about 3 miles W. of the town of Haliyál. 1811-14.	15 19 41.35	74 45 7.21	...	283 284

August, 1891.

J. ECCLES,
In charge of Computing Office.

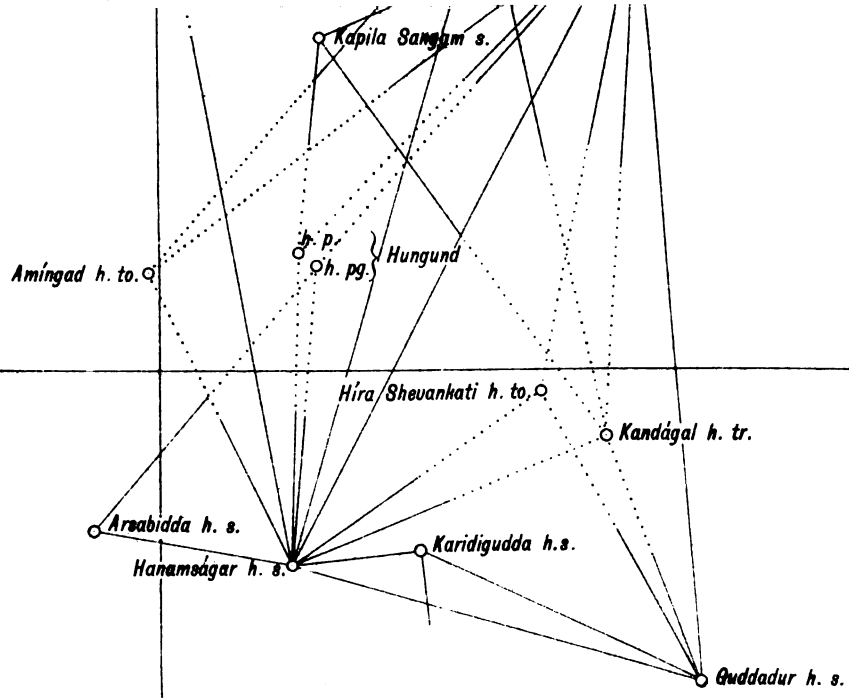
18°
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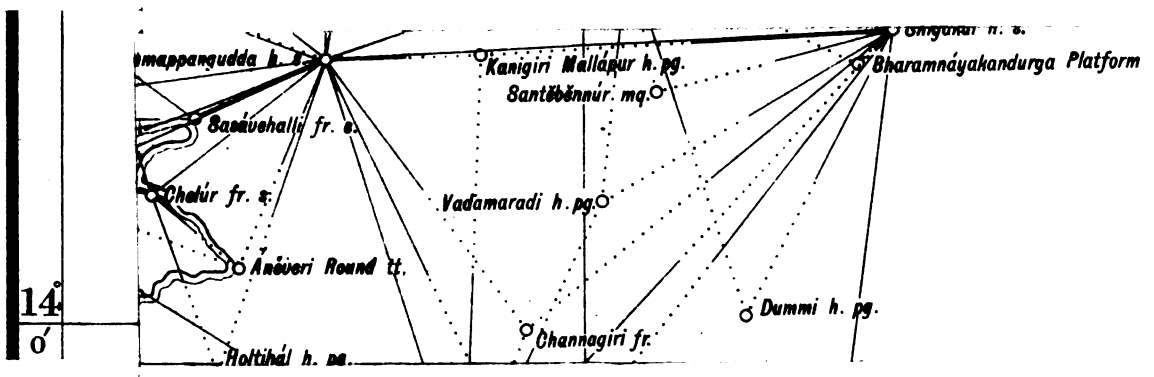


16°
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16°
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- An Account of the Measurement of two Sections of the Meridional Arc of India, bounded by the parallels $18^{\circ} 3' 5''$; $24^{\circ} 7' 11''$; and $29^{\circ} 30' 18''$. By Lieutenant-Colonel Everest, F.R.S., &c., late Surveyor General of India, and his Assistants. London, 1847. (*Out of print*).

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