

P(640)

Su86m

1927-1928 *India*

SURVEY OF INDIA

MAP PUBLICATION AND OFFICE WORK

1927 TO 1928



From 1st April 1927
To 31st March 1928

PUBLISHED BY ORDER OF
BRIGADIER E. A. TANDY, R.E.,
SURVEYOR GENERAL OF INDIA.



Printed at the Photo.-Litho. Office,
Survey of India,
CALCUTTA,
1928.



Price One Rupee, or One Shilling and Nine Pence.

P(640)

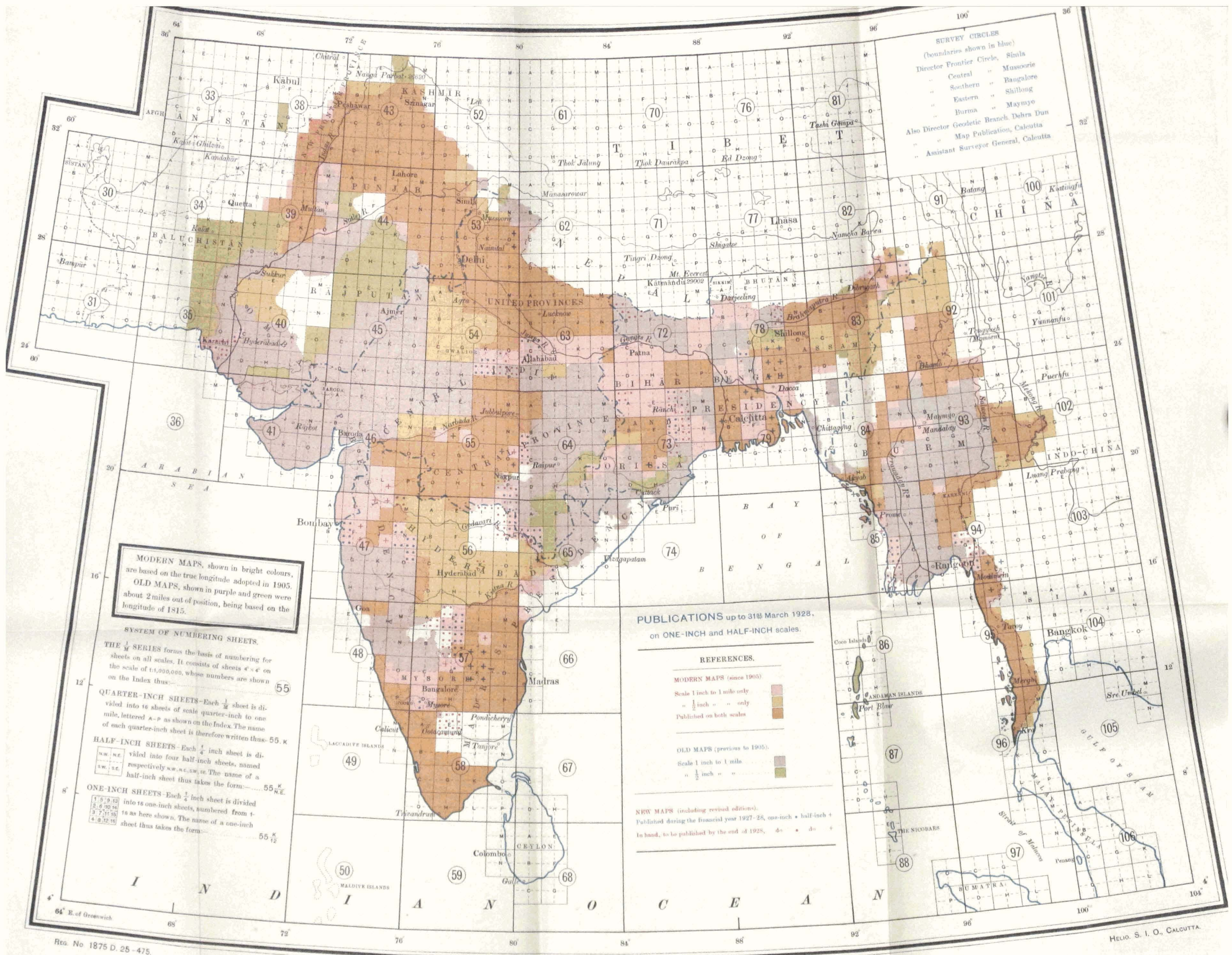
Su86m
1927-1928

71

8

SURVEY OF INDIA
MAP PUBLICATION
AND OFFICE WORK

1927 to 1928



SURVEY CIRCLES
 (boundaries shown in blue)
 Director Frontier Circle, Sialkot
 Central " Mussoorie
 Southern " Bangalore
 Eastern " Shillong
 Burma " Maymyo
 Also Director Geodetic Branch, Dehra Dun
 Map Publication, Calcutta
 Assistant Surveyor General, Calcutta

MODERN MAPS, shown in bright colours, are based on the true longitude adopted in 1905. OLD MAPS, shown in purple and green were about 2 miles out of position, being based on the longitude of 1815.

SYSTEM OF NUMBERING SHEETS.

THE M SERIES forms the basis of numbering for sheets on all scales. It consists of sheets 4 x 4 on the scale of 1:1,000,000, whose numbers are shown on the Index thus: 55

QUARTER-INCH SHEETS—Each 1/4 sheet is divided into 16 sheets of scale quarter-inch to one mile, lettered A-P as shown on the Index. The name of each quarter-inch sheet is therefore written thus: 55 K

HALF-INCH SHEETS—Each 1/4 inch sheet is divided into four half-inch sheets, named respectively NW, NE, SW, SE. The name of a half-inch sheet thus takes the form: 55 K NE

ONE-INCH SHEETS—Each 1/4 inch sheet is divided into 16 one-inch sheets, numbered from 1 to 16 as here shown. The name of a one-inch sheet thus takes the form: 55 K 12

1	5	9	13
2	6	10	14
3	7	11	15
4	8	12	16

PUBLICATIONS up to 31st March 1928, on ONE-INCH and HALF-INCH scales.

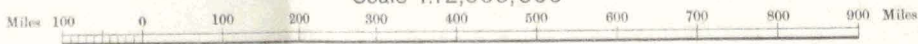
REFERENCES.

MODERN MAPS (since 1905)
 Scale 1 inch to 1 mile only
 " 1/2 inch " " only
 Published on both scales

OLD MAPS (previous to 1905)
 Scale 1 inch to 1 mile
 " 1/2 inch " " "

NEW MAPS (including revised editions).
 Published during the financial year 1927-28, one-inch + half-inch + in hand, to be published by the end of 1928, do do +

Scale 1:12,000,000





NOTICES OF THE
SURVEY OF INDIA

- I. How we can help you.
- II. How to obtain maps
and other publications.
- III. List of Agents for the
sale of maps, etc.

I. HOW WE CAN HELP YOU

SURVEYS of every kind can be carried out for private firms as well as for all Government Departments, on application to the following Survey Directors:—

The Director, Frontier Circle.	Survey of India.	Simla. (Tel. "Surfrontier").
" " Central Circle.	" "	Mussoorie. (Tel. "Surcent").
" " Southern Circle.	" "	Bangalore. (Tel. "Sursouth").
" " Eastern Circle.	" "	Shillong. (Tel. "Sureast").
" " Burma Circle.	" "	Maymyo. (Tel. "Surburma").

FOREST AND CANTONMENT SURVEYS, LEVELLING, TRIANGULATION, TIDE TABLES. Advice in regard to these, and on scientific questions, is obtainable from the *Director, Geodetic Branch, Survey of India, Dehra Dūn*, who undertakes a good deal of levelling and similar work for municipalities and engineering projects, on payment. (Telegrams "Surtrig").

MAPS AND ILLUSTRATIONS can be printed by the *Director, Map Publication, Survey of India, 13, Wood Street, Calcutta*, for Government Departments only, and special maps can also sometimes be prepared, on payment. (Telegrams "Surpub").

THE MATHEMATICAL INSTRUMENT OFFICE, Survey of India, 15, Wood Street, Calcutta, supplies and repairs all kinds of optical and surveying instruments, and takes back surplus instruments, on valuation, from all Government Departments, whether Imperial or Provincial. (Telegrams "Surinst").

GENERAL ENQUIRIES should be addressed to the Assistant Surveyor General, 13, Wood Street, Calcutta. (Telegrams "Suroffice"), as the Surveyor General of India (Telegrams "Surveys") is on tour during most of the year.

* Provinces and States in each Survey Circle.

1. FRONTIER Circle	2. CENTRAL Circle	3. SOUTHERN Circle
Kashnūr	United Provinces	Madras Presidency
N. W. F. Province	Central Provinces	Hyderābād
Baluchistān	Central India	Mysore and Coorg
Punjab and Delhi	Gwalior	Part of Bombay†
W. Rājputāna	E. Rājputāna	
Part of Bombay†	Baroda	4. EASTERN Circle
	Part of Bombay†	Bihār and Orissa
5. BURMA Circle.		Bengal Presidency
Burma, Andaman and Nicobar Islands.		Assam and Sikkim

† Bombay Presidency—Sind and Cutch are in the Frontier Circle. Northern Div. and Gujārat in Central Circle. Remainder. S. Circle.

II. HOW TO OBTAIN MAPS AND OTHER SURVEY PUBLICATIONS

SURVEY OF INDIA MAPS are obtainable from the Map office, 13, Wood Street, Calcutta (*Tel. "Surmaps"*). Also to some extent from the Agents detailed overleaf and from the Directors of Survey Circles. A MAP CATALOGUE, which itself forms a useful atlas of India and surrounding countries, can be obtained for *Re. 1-* (*Rs. 1/8 post paid*).

FOREST AND CANTONMENT MAPS are obtainable from the Map Office, Survey of India, Dehra Dūn. (*Tel. "Surforest"*).

GEOLOGICAL MAPS are prepared by and can be obtained from the Director, Geological Survey, Calcutta.

SURVEY PUBLICATIONS OTHER THAN MAPS are obtainable through the Director, Geodetic Branch, Survey of India, Dehra Dūn, who will supply *gratis* a full *Catalogue* of the following:—

- (a) *Trigonometrical data.* Triangulation pamphlets, each covering one square degree, giving descriptions, positions, and heights, of triangulated points and other data, with chart. Levelling pamphlets, each covering $4^{\circ} \times 4^{\circ}$, giving descriptions, and heights, of Benchmarks, with chart.
- (b) *Tidal Predictions,* published annually in advance as Tide Tables, for Suez and about forty ports from Aden to Burma, including Persiau Gulf and Ceylon.
- (c) *Geodetic works of Reference*—Everest's Great Arc books; the G.T.S. series of twenty-one large quarto volumes describing in detail the geodetic operations of the Great Trigonometrical Survey from 1800. Detailed accounts are given of the Base-line measurements, of the reduction of the Geodetic Triangulation treated in five portions, of the early Pendulum observations, of Telegraphic Longitude and Astronomical Latitude operations, of Tidal observations and of Levelling of high precision.
- (d) *Historical, and General Reports,* including the "Memoirs on Indian Surveys" by Sir Clements Markham and C.E.D. Black: also Annual Reports, Narrative Reports, Record Volumes, etc.
- (e) *Miscellaneous.* Papers on Geodesy, Exploration, etc. (the Catalogue is also included in the Annual Geodetic Report.).

SURVEY OF INDIA NOTICES.

III. Agents for the sale of Indian official publications

FOR BOOKS AND MAPS

EUROPE.

London.— Office of the High Commissioner for India, (General Depart.), 42, Grosvenor Gardens S. W. 1, either direct or through any bookseller.

FOR MAPS ONLY

AMERICA.

New York.— G. S. Hammond & Co., 30, Church Street, U. S. A. Hudson Terminal.

INDIA.

Ajmer.— Scottish Mission Industries Co., Ltd.
Ambāla.— The Standard Book Depot.
Bombay.— Thacker & Co.
 " D. B. Taraporevala Son & Co.
Calcutta.— Thacker, Spink & Co., 3, Esplanade East.
 " Newman & Co., 3, Old Court House Street.
 " Automobile Association of Bengal, Park Street.
Dalhousie.— The Standard Book Depot.
Delhi.— Oxford Book and Stationery Co., Kashmir Gate.
 " The Standard Book Depot.
Kashmīr.— Cockburns Agency, Srinagar.
 " Beckett & Co.
Karāchi.— J. Ray & Sons.
Lahore.— The Punjab Religious Book Society.
 " The Standard Book Depot.
Lucknow.— The Standard Book Depot.
Madras.— Higginbothams Ltd.
Meerut.— Oxford Book & Stationery Co.
Mussoorie.— The Mussoorie Book Society.
 " The Standard Book Depot.
Murree.— J. Ray & Sons.
Muzaffarpur.— Burman & Co.
Nāinī Tāl.— The Standard Book Depot.
Peshāwar.— Northern Indian Book Depot.
Quetta.— U. P. Malhotra & Co.
Rangoon.— The Curator, Government Book Depot, Burma.
Rāwalpīndī.— J. Ray & Sons.
Sīmta.— The Standard Book Depot.
 " Thacker, Spink & Co.

CONTENTS.

I.—INTRODUCTION AND PERSONNEL.—	...	...	1
II.—PUBLICATION AND ISSUES—	...	...	4
III.—DRAWING OFFICES—	...	...	11
IV.—PRINTING AND MISCELLANEOUS—	...	...	15
V.—MATHEMATICAL INSTRUMENT OFFICE—	...	...	18

INDEX MAPS.

1. Maps published on scales 1 inch and $\frac{1}{2}$ inch to 1 mile	...	...	<i>Frontispiece.</i>
2. The Southern Asia Series, scale 1:2 M, (about 32 miles to 1 inch)			At end.
3. The India and Adjacent Countries Series, scale 1 M (about 16 miles to 1 inch).			.. ..
4. Carte Internationale du Monde on the scale of 1 M	...		.. ..
5. Maps published on scales $\frac{1}{2}$ inch and $\frac{1}{4}$ inch to 1 mile	...		.. ..

MAP PUBLICATION AND OFFICE WORK

From 1st April 1927
to 31st March 1928

I.—INTRODUCTION AND PERSONNEL.

1. **Annual Reports.**—Are arranged in three separate volumes as follows:—

General Report,
Geodetic Report,
Map Publication and Office Work Report.

The *General Report* gives a full description of all ordinary survey operations, and only includes bare abstracts of the *Geodetic and Map Publication Reports*. The *General Report* and the *Geodetic Report* are for the survey year ending 30th of September, whereas the *Map Publication Report* corresponds with the financial year, which is more suitable for these office reports.

2. **The present report.**—*The index maps* form the most important part of this report, as they show the progress of publication to date for all standard series of modern maps, excluding trans-frontier work.

Letterpress. Apart from (I), the introduction, and (V), the annual report of the Mathematical Instrument Office at the end of the volume, the present report is divided into three main parts:—

- (II) Shows all publications and map issues for the year.
- (III) Shows all the fair-drawing, whether completed for publication or still in hand, carried out by the various drawing offices and field parties.
- (IV) Describes the work of the printing and miscellaneous offices, excluding that of the Computing and Tidal Office whose work is of a geodetic character and published in full in the annual *Geodetic Report*.

3. **Personnel.** The above grouping of similar operations is very convenient, but does not conform with the existing organization of some of the offices. Thus the copper-plate printing section is under the control of the Officer in charge of No. 1 Drawing Office, though, under this system of grouping, its work must obviously be reported as part of the printing, operations, and not under the head of drawing offices.

As therefore it is sometimes impossible to show the organization and names of the personnel in the body of the report, they have all been included in the following list, which also serves to show all the units whose work is included in the present report.

Calcutta. Director, Map Publication.—

Lt.-Col. R. H. Thomas, D.S.O., R.E., to 23-6-27.

„ F. F. Hunter, D.S.O., I.A., from 23-6-27.

Chief Draftsman—Mr. Priya Nath Sen, to 14-4-27.

„ E. B. West, from 15-4-27.

No. 1 Drawing Office.

O.C. Mr. E. B. West, to 14-4-27.

„ „ Pramadaranjan Ray, R.S., from 15-4-27.

„ „ Abinash Chandra Bose, to 15-11-27.

„ „ Priya Nath Sen, from 15-4-27 to 28-9-27.

„ „ Amar Krishna Mitra.

„ „ Munshi Lal.

„ „ Prafulla Chandra Mitra.

„ Captain C. B. Sexton.

„ Mr. J. C. StClair Pollett.

„ „ Moquimuddin Ansari, to 29-9-27.

„ „ Dharendra Nath Banerjee.

„ „ Dharendra Nath Saha, from 26-9-27.

U.S. „ Charu Chandra Biswas.

Photo-Litho. Office.

O.C. Captain T. M. M. Penney, to 11-10-27.

„ Major W. E. Perry, from 12-10-27.

Managers & Assistant Managers.

Mr. S. Colquhoun, from 28-11-27.

„ C. F. Oddy, from 12-10-27.

„ F. R. Vandyke, (Asstt.). Officiating Manager to 11-10-27.

„ J. Chorlton, (Asstt.). Officiating Manager to 27-11-27.

Map Record and Issue Office.

O.C. Major W. E. Perry, to 18-4-27.

„ Lieut. D. R. Crone, from 18-4-27 to 15-5-27, 25-6-27 to 26-6-27 and 7-7-27 to 28-9-27.

„ Lt.-Col. F. F. Hunter, from 16-5-27 to 24-6-27 and 27-6-27 to 6-7-27.

„ Mr. E. B. West, from 29-9-27 to 0-11-27.

„ „ W. M. Gorman, from 7-11-27.

Mathematical Instrument Office.

Mr. B. Woodhouse, Superintendent in charge.

„ R. C. Malcolm, Asst. Suptd.

„ A. Lacamp, Asst. Suptd.

„ S. B. Mitra, R.S., Extra-Asstt. Suptd.

Engraving Office.

Mr. T. Chorlton, Head Engraver, to 18-7-27.

„ H. H. Green, Asstt. Hd. Engraver, to 18-7-27 and Head Engraver from 19-7-27.

„ H. V. Rodger, Asstt. Head Engraver, from 19-7-27.

Dehra Dūn. Director, Geodetic Branch.—

Lt.-Col. M. O'C. Tandy, D.S.O., O.B.E., R.E., to 30-6-27.

Dr. J. deGraaff Hunter, So.D., M.A., from 1-7-27 to 6-11-27.

Lt.-Col. R. H. Phillimore, D.S.O., R.E., from 7-11-27.

No. 2 Drawing Office.

O.C. Mr. C. E. C. French.

„ „ Rama Prasad Ray, to 22-1-28.

„ „ T. F. Kitchen.

„ „ Jugal Behari Lal, from 1-7-27.

U.S. „ Lalbir Singh, from 1-7-27 to 25-9-27.

„ „ Latif Khan, from 22-7-27 to 31-10-27.

Forest and Cantonments Office.

O.C. Mr. M. C. Petters.

„ „ C. West, to 30-6-27 and from 7-10-27 to 18-12-27.

„ „ A. B. Hunter.

„ „ O. D. Jackson, from 14-10-27.

U.S. „ Muhammad Hussein, from 25-4-27.

„ „ Jit Singh Rawat, to 28-10-27.

„ „ Latif Khan, from 1-11-27.

No. 16 Party (Publication and Stores).

O.C. Major H. B. C. Meade, to 30-5-27.

„ Capt. G. W. Gemmoll, from 31-5-27.

„ Mr. Rama Prasad Ray, from 23-1-28

Letterpress Printing Section.

Mr. Shyam Narayan.

Photo-Zinc. Section.

Mr. A. Francis.

Stores and Workshops Section.

Computer F. Kerr.

Simla. Director, Frontier Circle.—

- Lt.-Col. R. H. Phillimore, D.S.O., R.E.,
to 26-4-27.
Colonel C. P. Gunter, O.B.E., R.E.,
from 27-4-27 to 28-3-28.
Lt.-Col. S. W. Sackville Hamilton,
D.S.O., R.E., from 29-3-28.

No. 6 Drawing Office.

- O.C. Major A. H. Gwyn, to 15-4-27.
,, Lieut. J. B. P. Angwin, from 16-4-27.

SURVEY SECTION.

- II Mr. F. H. Grant, to 20-11-27.
,, ,, Moqimuddin Ansari, from 30-9-27.
U.S. ,, Vidya Dhar Chopra.
,, ,, Daulat Ram Vohra.

ARMY SECTION.

- Major W. Smith.
Lieut. R. M. Batt.

Mussoorie. Director, Central Circle.—

Lt.-Col. L. C. Thuillier, I.A.

No. 3 Drawing Office.

- O.C. Mr. H. P. D. Morton, to 8-3-28.
,, ,, L. Williams, from 4-3-28.
II ,, ,, ,, , to 3-3-28.
,, ,, F. B. Kitchen, to 31-9-27.
,, ,, Nansak Chand Puri, R.S., to 24-10-27.
U.S. ,, N. D. Joshi, to 16-9-27.
,, ,, Jit Singh Rawat, from 1-11-27.

Maymyo. Director, Burma Circle.—

- Lt.-Col. E. T. Rich, O.I.E., R.E., to
2-5-27 and from 27-10-27.
,, L. G. Crosthwait, I.A., from
3-5-27 to 26-10-27.

No. 7 Drawing Office.

- O.C. Mr. W. G. Jarbo.
U.S. ,, Ghulam Hasan, to 9-4-27.
,, ,, P. C. Sen Gupta, from 1-11-27.
,, ,, Bansi Ram.
,, ,, A. K. Sen Gupta, from 17-5-27 to
14-11-27.
,, ,, U. Po Kye, from 1-11-27.
,, ,, Ablul Ghani Qureshi, from 1-6-27 to
31-10-27.

Bangalore. Director, Southern Circle.—

- Lt.-Col. C. M. Browne, O.M.G., D.S.O.,
R.E., to 7-11-27.
,, L. G. Crosthwait, I.A., from
8-11-27.

No. 4 Drawing Office.

- O.C. Mr. E. Claudius, to 80-6-27.
,, ,, S. S. McA Fee Fielding, from 1-7-27.
II ,, E. Claudius, from 1-7-27 to 3-1-28.
,, ,, M. Mahadeva Mudaliar, from 6-5-27.
,, ,, N. S. Hariharan Iyer, to 30-6-27.
U.S. ,, K. Narayanswami Chetti, to 21-1-28.
,, ,, Annada Prasad Ghose.
,, ,, V. R. Ethirajulu Nayadu.

Shillong. Director, Eastern Circle.—

Lt.-Col. L. G. Crosthwait, I.A., to
20-4-27.

Major F. J. M. King, R.E., from
21-4-27 to 11-5-27.

- Lt.-Col. R. H. Phillimore, D.S.O., R.E.,
from 12-5-27 to 28-10-27.
Colonel A. A. McHarg, D.S.O., R.E.,
from 29-10-27.

No. 5 Drawing Office.

- O.C. Mr. W. M. Gorman, from 13-8-27 to
28-10-27.
,, ,, E. J. Biggie, to 12-8-27 and from
29-10-27.
II ,, P. Simpson, from 25-7-27.
,, ,, R. E. Saubolle, from 1-10-27 to 8-1-28.
U.S. ,, Narayana Chandra Ray, to 12-6-27.
,, ,, Muhammad Muzaffer Shah.

II.—PUBLICATIONS AND ISSUES.

4. **Publications.**—The publications of the Department for the year are shown in the following three Tables, of which Table I shows map publications, Table III letterpress publications, while Table II is merely an abstract of the publication of modern topographical maps to date.

Table I(a)—Maps published at Calcutta, during the year 1927-28.

Class of maps.	Scale.	New publications.	Reprints and new editions.	Number of sheets printed.	Value Rs.
<i>Departmental.</i>					
GENERAL MAPS.					
Maps of India	Various	1	2	8,900	4,850
GEOGRAPHICAL SERIES.					
Southern Asia	1:2,000,000	2	1	1,711	6,482
India and Adjacent Countries ...	1:1,000,000	1	22	11,380	20,850
Carte Internationale du Monde	1:1,000,000	...	2	588	1,764
TOPOGRAPHICAL MAPS.					
Quarter-inch, Modern	1"=4 miles	22	14	16,182	24,784
" (Prel.)	Ditto	4	6	4,920	7,540
" (Provl.)	Ditto	...	19	5,644	8,574
Half-inch, Modern	1"=2 miles	41	15	81,270	94,898
" (Prel.)	Ditto	...	...	...	...
One-inch, Modern	1"=1 mile	158	101	149,491	2,91,228
" (Prel.)	Ditto	4	4	8,901	5,992
" (Provl.)	Ditto	...	...	...	...
Old Style sheets	Various	...	42	7,132	10,877
SPECIAL MAPS.					
Administration Report Maps ...	1"=8 miles	...	1	50	19
Provincial Maps	Various	...	1	1,009	1,261
Plans of Cities and Cantonments ...	Ditto	5	2	4,861	11,722
Index Maps	Ditto	68	38	181,176	26,495
Miscellaneous Maps	Ditto	21	28	27,223	19,088
Total ... ..	.....	327	298	399,877	4,75,924
<i>Extra-departmental.</i>					
Maps	Various	206	52	152,818	46,984
Plans and diagrams	Ditto	199	50	121,301	9,228
Illustrations ... ..	.....	357	18	186,892	84,234
Miscellaneous ... ..	.....	51	62	208,817	6,541
Total ... ..	.....	613	182	669,323	96,937
Grand Total ... ..	.....	1,140	480	1,069,200	5,72,861

Table I (b)—Maps published at Dehra Dun.

Class of maps.	Scale.	New publications.	Reprints and new editions.	Number of sheets printed	Value.	
					Rs.	as. p.
<i>Departmental.</i>						
Cantonment maps ...	Various	18	182	12,900	25,800	0 0
Forest maps ...	..	161	34	11,478	11,849	8 3
Miscellaneous ...	..	...	1	2,171	81	7 0
Total ...	...	179	167	26,549	37,230	15 3
<i>Extra-departmental.</i>						
Maps ...	Various	151	24	65,487	7,494	1 0
Plans and diagrams ...	..	117	...	44,954	4,480	10 8
Charts ...	4" = 1 mile	227	...	30,768	3,156	0 0
Total ...	...	495	24	141,209	15,130	11 8
Grand Total ...	...	674	191	167,758	52,361	10 11

Table I (c)—Maps published at Quetta.

Class of maps.	Scale.	New publications.	Reprints and new editions.	Number of sheets printed.	Value.	
					Rs.	as. p.
<i>Departmental.</i>						
Plans and diagrams ...	Various	57	...	2,420	532	9 0
Charts ...						
Total ...	...	57	...	2,429	532	9 0
<i>Extra-departmental.</i>						
Maps ...	Various	8	41	2,886	1,628	6 0
Plans and diagrams ...	..	51	...	11,220	618	12 0
Charts ...	..	8	...	1,440	821	4 6
Total ...	...	62	41	15,546	2,768	6 6
Grand Total ...	...	119	41	17,975	3,300	16 6

Table I (d)—Maps published at Peshawar.

Class of Maps.	Scale.	New publications.	Reprints and new editions.	Number of sheets printed.	Value.
<i>Departmental.</i>					<i>Rs. as. p.</i>
Military maps ...	1"=1 mile	8	...	200	91 0 0
	3"=1 ..	2	...	30	17 0 0
Miscellaneous ...	Various	26	...	1,417	335 0 0
Total ...	...	31	...	1,647	443 0 0
<i>Extra-departmental.</i>					
Miscellaneous plans and diagrams.	Various	15	...	836	421 15 0
Total ...	...	15	...	836	421 15 0
Grand Total ...	...	46	...	2,483	864 15 0

<i>TABLE II.—ABSTRACT OF MODERN TOPOGRAPHICAL MAPS.</i>	One-inch sheets.	Half-inch sheets.	Quarter-inch Degree sheets.
Topographical maps published in 1926-27	149	37	22
Do. do. published in previous years.	2,426	665	188
Total published ...	2,575	702	205
Number of sheets in India ...	6,218	1,630	450

5. Notes.—*Calcutta.*—In addition to the work shown in Table I(a) material for the original mapping of the Eastern and Burma Circles, and for the compiled mapping of all Circles, and also for the new Catalogue of Maps (under preparation) and for numerous extra-departmental maps, was supplied. Nine indexes, in colours, for the General and Map Publication Reports and Supplement, were printed.

The work of surprinting the minute mesh on stock copies for the Army Department, which during the year involved several thousand sheets, is nearing completion.

6. Dehra Dūn.—In addition to the work shown in Table I(b) above, 115,199 prints of 1,150 originals, consisting of plane-table sections, triangulation charts and pamphlets, and forest maps were printed.

7. Bangalore.—The Photo.-zinc section of No. 4 Drawing Office, Bangalore, reproduced 52 maps of estates, forests, etc., on payment for Indian states and private individuals; also 458 plane-table sections for parties. It also prepared 288 vandyke plates. The total number of pulls in the hand presses were 9,013.

Table III.—Letterpress publications.

(a) PUBLISHED AT CALCUTTA.

1. General Report of the Survey of India, 1926-27.—(475).
2. Do. , Supplement to, 1926-27.—(75).
3. Map Publication and Office Work Report, 1926-27.—(300).
4. Hand-book of Topography, Ch. VIII, 1927.—(600).
5. Do. do. Ch. XI, 1927.—(600).
6. Do. do. Ch. I, revision of Appendix III.—(750).
7. Correction slips, to Handbooks, Type Table, Border Specimen, etc.—(19,570).
8. List of maps published, issued monthly.—(800).
9. Do. do. (F. O. U. O.), issued quarterly.—(175).
10. Survey Notes, issued monthly.—(850).
11. Government of India and Circular orders, etc.—(1,800).
12. Type Specimen Book for Drawing Office.—(200).
13. Index to names—Calcutta-Howrah guide map.—(2,300).
14. Notes on the Vandyke Process.—(100).
15. Camp Officer's Record Book.—(200).
16. Instructions and Application forms for candidates, Class II Service.—(600).
17. Annual Indents for European Stores.—Various.
18. Calendar for 1928.—(3,500).

(b) In hand at Calcutta.

1. Hand-book of Topography, Ch. VI., Revised Edition.
2. Do. do. Ch. X., Revised Edition.
3. Do. do. Ch. IV., Field Traverse Table only.
4. Correction slips to Handbooks, Type Table, Border Specimen, etc.
5. Descriptions of Conventional Signs for Topo. maps.
6. Catalogue of maps.
7. Price List of Survey of India maps.
8. Government of India and Circular orders.

(c) PUBLISHED AT DEHRA DUN.

1. Geodetic Report, Vol. I, 1922-25.—(500).
2. Professional Paper No. 21, Irrigation & Settlement Surveys 1926—(400).
3. Hand-book of Topography, Ch. IV.—(750).
4. Do. Addendum. Ch. VII.—(250).
5. Tide Tables, Indian Ports, for 1928.—(5,525).
6. Report to International Union of Geodesy & Geophysics.—(1,030).
7. Levelling Pamphlet Addendum. No. 39.—(125).
8. Do. do. do. „ 40.—(100).
9. Do. do. do. „ 41.—(800).
10. Do. do. do. „ 73.—(300).
11. Secondary Levelling Lines „ 90 B.—(200).
12. Do. „ 90 C.—(200).
13. 12 Triangulation Pamphlets.—(100 of each).
14. Catalogue of Maps of Cantonments & Military Stations—Public edition.—(900).
15. Routes in the Western Himālaya & Kashmir, corrections.—(510).
16. Auxiliary Tables Part I, reprint.—(100).
17. Traverse Tables.—(50).
18. Time of reception of Radio Signals.—(800).

Table III (c)—(Concl'd.).

19. Circular by the Surveyor General in regard to Air Surveys.—(1,000).*
20. Notices of the Survey of India.—(1,650).
21. Annual Report on standard bench marks.—(500).
22. List of Publications (letterpress) of Survey of India.—(150).
23. Correction slips, various.—(2,060).
24. 148 Professional forms.—(1,62,800).
25. 476 Miscellaneous jobs.—(1,78,844).

(d) *In hand at Dehra Dūn.*

1. *Geodetic Report, Vol. II, 1925-26.*
2. *Hand-book of Levelling.*
3. *Tide Tables, Indian Ports, 1929.*
4. *Levelling Pamphlet No. 53.*
5. *32 Secondary Levelling Lines.*
6. *11 Triangulation Pamphlets.*
7. *Auxiliary Tables—Part III.*
8. *Accounts Pamphlet.*
9. *Qualification Report form for Lower Subordinates, Revised.*
10. *Correction slips to Forest Map Office catalogue.*
11. *Government of India Orders (Administrative) 1919 to 1924.*

*Numbers in brackets after each item denote the number of copies printed.

8. Map issues.—The following Table shows the number of maps issued during the year.

Table IV.—Maps issued by Survey units.

		ON BOOK TRANSFER (TO GOVERNMENT OFFICIALS).		ON CASH PAYMENT.		FREE ISSUES.		TOTAL.	
		Number of copies.	Sale Value. Rs.	Number of copies.	Sale Value. Rs.	Number of copies.	Face Value. Rs.	Number of copies.	Sale Value. Rs.
D = Departmental									
X = Extra-departmental.									
Calcutta	D	63,313	90,676	60,154	84,846	68,737	1,05,459	192,204	1,75,322*
	X	443,308	68,457	134,243	15,968	12,507	2,896	590,058	84,425*
Dehra Dūn	D	14,845	17,419	1,567	3,627	7,857	13,937	24,269	21,046*
	X	71,124	12,269	2,557	3,748	64	20	73,745	16,017*
Simla	D	.....	.....	60	128	12	18	72	146
Rāwalpindi ("A" Company)	X	650	702	400	504	.....	.....	1,050	1,206
Quetta ("E" Company)	D	6	9	64	96	.....	.....	70	105
Peshāwar (No. 18 Party)	D	.....	.....	.....	.....	1,647	443	1,647	443
	X	200	187	636	235	.....	.....	836	422
Mussoorie	D	.....	.....	302	595	.....	.....	302	595
Bangalore	D	1,499	3,334	4,907	9,964	.....	.....	6,406	13,298
Shillong	D	.....	.....	501	1,055	.....	.....	501	1,055
Maymyo	D	570	1,005	318	675	.....	.....	888	1,680
Totals	...	595,515	1,94,058	205,709	1,21,441	90,824	1,22,773	892,048	3,15,960

* These figures do not include the value of free issues.

9. Map Record and Issue Office:—The total proceeds from the sale of maps, which excludes the value of free issues, show a decrease of Rs. 19,121 from the last year's figures, while the actual number of copies issued fell by 198,723.

The reason for this decrease may be ascribed to the fact that smaller sums were placed at the disposal of the military authorities for the purchase of maps during the last financial year.

The value of Departmental Book-Debit issues remained practically the same, but in the case of Extra-Departmental issues, it increased by 4,667.

Cash sales, on the other hand, decreased by 41,309 copies for Departmental issues and increased by 108,101 copies for Extra-Departmental issues, while free issues show an increase of 8,858 Departmental and 8,969 Extra-Departmental copies.

New steel admirals, with a total capacity of 2,102 shelves, were erected during the year, leaving a balance of 3,758 shelves still to be provided.

10. Dehra Dūn Map Office.—Most of the issues from Dehra Dūn are Forest, Cantonment, and other special maps for Government departments.

11. Stock of Maps.—*Calcutta.* A comparison of Table I(a) with Table IV shows that, during the year, 399,877 departmental sheets were published at Calcutta, while 192,204 sheets were actually issued. Some 7,600 copies of superseded maps were withdrawn from stock, the net increase of stock being, therefore, about 200,000 and the total stock in hand about 5,200,000.

Dehra Dūn. The corresponding figures for Dehra Dūn are 167,758 published, 160,068 sheets issued, stocks in hand have increased by 7690 sheets (320 new maps). The total stocks in hand in Dehra Dūn are estimated at 333,077.

III.—WORK OF DRAWING OFFICES.

12. Tables V to VII give an abstract of new maps, reprints and new editions completed for publication and also those in hand during the year, for the whole department.

GENERAL REMARKS.

13. **No. 1 Drawing Office.**—Copper plate engraving is being gradually discontinued and the hand drawing of originals of geographical maps (1/M India and Adjacent Countries Series, 1/M Carte Internationale du Monde and 1/2M Southern Asia Series), for reduction by photography, is being introduced. These maps are being drawn in the same style as prescribed for engraved maps, so as to be on all fours with the sheets already engraved.

The question of introducing brush drawing, (in place of engraving) as is practised in the Ordnance Survey now, and the amalgamation of the Engraving Office with the Drawing Office for the purpose, is under consideration.

For purposes of professional supervision this Drawing Office has been divided into two divisions as an experimental measure—(i) Headquarters Division under the Officer in charge and (ii) General Division under the Head Draftsman. The General Division will deal with all routine work such as re-issues of topo sheets, keeping office copies up to date, compilation of 1-inch sheets from cadastral data &c., &c.; all other work will be attended to by the Head Quarters Division.

14. **Forest Map Office.**—A fresh register has been prepared of all originals, office copies and colour patterns of cantonment maps. They have been checked and placed in numbered and labelled racks built for the purpose. The numbering and labelling of all racks containing Survey of India and Forest sheets is now in hand.

15. **No. 6 Drawing Office, Simla.**—*Survey Section.*
Indexes.—Much miscellaneous index mapping was carried out.

General.—Extensive corrections were carried out to 26 sheets of the large scale Simla map (fair drawn on the scale of 125 feet to 1 inch) and the whole set (32 sheets) was submitted to the Director, Geodetic Branch, for publication. Records of surveys, triangulation, levelling and traversing in the Frontier Circle were received, indexed and stored.

Army Section was employed in the preparation of maps and plans for the Army and various Government Departments. In addition courses in map drawing and topography were held and 12 non-commissioned officers were trained and passed.

III.—WORK OF DRAWING OFFICES, (1927-28).

Table V.—New maps.

Figures in italics denote work in hand.

	TOPOGRAPHICAL.					GEOGRAPHICAL.						GENERAL AND SPECIAL.				ACCESSORY.			MISCELLANEOUS.			OFFICE COPIES.																					
	2-inch.	1-inch.	½-inch.	¼-inch.	1/8-inch.	1/M.		CARTE INTERNATIONALE.		1/2 M.		Guide Map.	Road Map.	Forest.	Cantonment.	Meshing.	Shading.	Colour Patterns.	Indexes.	Charts.	Various.	New.	Old Corrected.																				
						Helio.	En-graved.	Helio.	En-graved.	Helio.	En-graved.																																
No. 1 Drawing Office	19	3	1	...	1	7	1	1	1	1	3	...	3	1	1	1(a)	...	1(b)	168	3	209	50	143	...	101(e)	3	...	562	3,522									
No. 2	4	...	...	...	...	1	1	...	...	...	...	4	...	...	...	...	4	...	...	...	...	172(d)	33	...	...	...	...	...					
No. 3 Drawing Office	1	8	7	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	...	40	6	...	6(d)	2	...	...	262	189		
Central Circle parties	13(e)	27	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. 4 Drawing Office	13	29	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	60	32	...	2(d)	3	...	...	88	33		
Southern Circle parties	...	53	...	12	...	...	...	...	...	...	...	...	...	...	...	...	3(f)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. 5 Drawing Office	2	6	11	8	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	1	6	50	16	...	4(d)	5	...	...	71	119	
Eastern Circle parties	...	31	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2(h)	...	...	...	...	...	...				
No. 6 Drawing Office	2	...	1	4	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	21	...	...	23	...	2	...	...	...	...	63	79	
Frontier Circle parties	...	9	14	1	3	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	6(i)	3	...	...								
No. 7 Drawing Office	11	8	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	34	40	
Barua Circle parties	...	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1(f)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Forest Map Office	65	14	739	75	127	905									
Cantonment	124	8	86	143									
Total ...	13	167	21	37	63	31	42	3	3	2	12	1	1	1	1	3	...	1	4	1	1	6	7	1	...	116	18	36	8	226	4	215	50	1,253	87	105	...	197	43	37	21	1,273	5,030
Total to date	2,742	739	236	...	75	22	1	18	1	13						
Total for India	6,218	1,630	450	...	104	104	41	22						

Remarks.

Scales:— 1-inch means 2 inches to 1 mile. 1-mile .. 1 inch to 2 miles. 1/M means 1:1,000,000 or 1/014 inches to 16 miles. 1/2M .. 1:2,000,000 or 1/014 32 ..	(a) Tourist map of Delhi, scale 1/30,000. (b) 50-mile Road map of India, original in 6 sections. (c) Indexes for the new Map Catalogue & Annual Reports &c. (d) Triangulation, including compilation of data. (e) In Palāmau district.	(f) Punjab-United Provinces Boundary Demarcation 4-inch (4), Muttra Nazul Land 64-inch (2). (g) Ellora and Ajanta Caves, and Bangalore & Surrounding Country. (h) Indexes to 10-mile Guide maps. (i) Maymyo Guide map, 4-inch.
---	--	---

Table VI.—Miscellaneous.

No. 1 Drawing Office — Originals corrected against press order proofs ... 324 Area statements of published sheets checked & entered in register. ... 319 Mosaics (congregated rough maps prepared for photography). ... 88 Mesh originals modernised or scrutinized and corrected ... 67 Tea Garden maps (for the Tea Association) ... 11 Revised Conventional Signs Table ... 1 Miscellaneous cases (including 31 extra-dept. maps) 188	No. 2 Drawing Office — Miscellaneous traces, etc. 57 Mosaics 22 Forest Map Office — Sheets coloured for indents and office copies ... 739 Register of originals, office copies, and patterns of Cantonment maps. ... 1 Cantonment Office —	No. 4 Drawing Office — Special Forest maps, Hyderabad State 22 Maps of various estates, tea, coffee etc. 30 No. 5 Drawing Office — Alphabetical index to names on 10-mile Guide maps, Vol. I. ... 1 Mosaics 5 Special Forest editions for Mayārbhauj State ... 7
--	---	---

III.—WORK OF DRAWING OFFICES, (1927-28).

14

Table VII.—Re-issues.

Reprints.—No changes in map. New editions.—Slight alterations. Revised editions.—Considerable changes.

	MODERN MAPS INCLUDING PRELIMINARY EDITIONS.								OLD STYLE INCLUDING PROVISIONAL ISSUES.			GENERAL AND SPECIAL.						
	TOPOGRAPHICAL.				GEOGRAPHICAL.				1-inch.	½-inch.	¼-inch.	Dis- TRICT.	RAIL- WAY.	INDIA.	FOREST.	CANTONMENT.		
	2-inch.	1-inch.	¾-inch.	¼-inch.	1/M. Helio.	1/M. En- graved.	1/M. Carte Internationale.	1/2 M.								12-inch.	16-inch.	64-inch.
No. 1 Drawing Office—																		
Reprints ... ..	...	23	1	4	3	1	...	1	25	...	11	...	...	1 ^(c)	...	...	...	...
New editions ... ..	...	93 ^(b)	6	11	7	7	1	...	58	...	20	...	1	...	...	...	...	...
Revised .. ...	...	...	...	1 ^(a)	...	...	1	1	...	...	...	...	...	...	...	...	...	...
No. 2 Drawing Office—																		
New editions	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Revised .. ...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. 3 Drawing Office—																		
New editions ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Revised .. ...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. 4 Drawing Office—																		
New editions	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Revised	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. 5 Drawing Office—																		
New editions ... ..	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Revised .. ...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. 6 Drawing Office—																		
New editions ... ..	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Revised .. ...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Frontier Circle Parties—																		
New editions ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Revised .. ...	...	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Forest & Cantonment Office—																		
Reprints ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20	...	2	...
New editions ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20	...	28	...
Revised .. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	17	...	49	...	...
Totals ...	4	136	9	28	10	8	2	2	83	...	31	...	1	1	57	...	80	...

Remarks.

<p>Scales:—1/4-inch means 2 inches to 1 mile.</p> <p>1/2-inch .. 1 inch to 2 miles.</p> <p>1/M means 1 : 1,000,000 or 1/314 inches to 16 miles.</p> <p>1/2M .. 1 : 2,000,000 or 1/314 32 ..</p>	<p>(a) Mount Everest Reconnaissance map.</p> <p>(b) Includes 20 sheets modernised for preparation of new standing plates.</p> <p>(c) 160-mile map of India showing districts.</p>
---	---

IV.—PRINTING AND MISCELLANEOUS.

16 The Photo.-Litho. Office, Calcutta.—The following Tables show the cost and out-turn of the Photo.-Litho. Office and the independent out-turn of the Process Engraving Section and of the Type Section in letter-press work. The amount of work passing through the office did not comprise as many maps as in the previous year, but the number of copies and printings per map were larger as will be seen from the fact that the total impressions pulled and value of work done exceeds the figures of last year.

The surprinting in hand-presses of the minute mesh required on stock copies of many maps for military purposes, which was started about three years ago, has now been completed.

A new Ratcliff Imperial size hand-proving press was received and erected early in 1928 and will help to relieve the congestion which occurs from time to time in the Proving Section.

A new building is in course of erection and will shortly be completed to house the Store Section which has been handicapped for many years owing to the lack and scattered nature of its storage facilities. The storing of materials in verandahs and odd corners, shutting out both light and air, has for long been an unfortunate necessity.

The Offset proving press is now in regular use for proving work for the rotary offset machine and is giving very satisfactory results.

The second division assistant loaned last year to "E" Survey Company at Quetta to assist in the formation of their reproduction Section returned in March 1927.

17. Fugitive Colours.—It has been thought advisable to place on record the trouble experienced during and since the War in obtaining a really 'fast' red for the printing of our maps (other colours have not given trouble).

For eleven years up to 1921 Messrs Mander's 'fast brilliant scarlet lake' No. 0574 was in use. Up to 1915 this ink gave excellent results and printed maps exposed in the verandah of the office for as long as four years showed remarkably little fading. After the pre-war stock was exhausted the 'fastness' of this ink appeared to deteriorate; this became very noticeable in 1921-22 when it was found that printed maps exposed as above for only two months had faded considerably.

During the next few years a number of experiments were made. Messrs Mander's very kindly made up several further samples and these, a 'fast scarlet lake' No. 9338 of Messrs Kidd's and a 'fast red' No. 05137 A of Messrs Lorilleux & Bolton's were successively tried, the resultant maps being exposed for several months but none proved up to the standard required.

It was not till late in 1925 that a satisfactory 'fast' colour was eventually decided upon: this was a composite ink consisting of one part of Messrs McLean's 'fine crimson offset' to two parts of Messrs Winstone's 'bright red'. This is the colour used in England by the War Office; it was originally tried at the suggestion of the Manager Litho., Mr. Colquhoun, who took particulars of it when visiting the War Office printing department while on leave.

COST AND OUT-TURN OF PHOTO-LITHO. OFFICE.

Expenditure.	Value of out-turn at office rates.	Negatives prepared.	Zinc plates prepared.	MAPS PRINTED.		Impressions pulled.
				Departmental.	Extra-departmental.	
Rs. 4,35,948	Rs. 5,22,304	Collodion 4,643 Powder 2,345 <hr/> 6,979	7,402	860	1,626	4,087,276

INDEPENDENT OUT-TURN OF THE PROCESS ENGRAVING AND TYPE PRINTING SECTION.

PROCESS ENGRAVING SECTION.					TYPE PRINTING SECTION.		
HALF-TONE WORK.		LINE WORK.		PHOTO-GRAVURES.	Items or pages published.	Copies printed.	Impressions pulled.
Blocks prepared.	Impressions pulled.	Blocks prepared.	Impressions pulled.	Plates prepared.			
590	139,183	189	190,342	8	2,243	1,326,302	2,469,937

18. Engraving Office, Calcutta.—This office is under the charge of the Officer in Charge, No. 1, Drawing Office, and is divided into two sections.—(a) Engraving, (b) Copper-plate printing.

(a) *Engraving*:—

- (i) *New Maps*:—During the year under report one sheet of the India and Adjacent Countries series, scale 1:1,000,000, three sheets of "La Carte Internationale du Monde," scale 1:1,000,000, and one sheet of the Southern Asia series, scale 1:2,000,000, have been completed and sent for publication.
- (ii) *Re-issues*:—Previously engraved plates of four sheets for the India and Adjacent Countries series, scale 1:1,000,000, and one sheet of "La Carte Internationale du Monde", scale 1:1,000,000, have been corrected and brought up to date and submitted for issue of new editions.
- (iii) *Miscellaneous*:—Office Copy Corrections have been carried out on 14 sheets of the India and Adjacent Countries series, 8 sheets of the 32-mile Map of India and on the 192-mile Map of India. One steel die for a conventional symbol, one tint plate for use in the Photo-Litho. Office, and also titles to four photogravure plates and one letter for the Geological Department have been engraved.

(b) *Copper-plate printing*.—

The out-turn of this section was 7,227 impressions consisting 50 scales, 30 Miscellaneous and 20 photogravure impressions from plates prepared by the Photo-Litho. Office, besides 7 plates electro-typed.

This section has been placed under the professional control of the Officer in charge, Photo.-Litho. Office, from 1-10-27.

19. No. 16 (Publication and Stores) Party, Dehra Dūn.—No. 16 Party constituted as a separate charge from 21-10-25 continued to function as reorganised during the year under review.

There was no departure from the normal programme of work carried out by various sections.

Photo.-Zinco Office.—Details of work given in Table I (b).

Letter Press Printing Section.—Details of work given in Table III(c) & (d). Binding of all records for library and Geodetic Branch, Parties and Offices was carried out.

Stores and Workshop Sections.—Petty construction and repair of building and furniture. Maintenance of technical and camp stores for all Parties and Offices of the Geodetic Branch. Cases of maps and publications despatched, and all stores received for the Geodetic Branch Offices distributed.

20. "E" Company, Quetta.—The reproduction section has been working full time throughout the year, mainly on payment work.

It attended the Northern Command Survey exercise at Abbottābād in October, 1927, and although little actual reproduction work was carried out, valuable experience was gained as to requirements for mobilization of the section for active service.

The following is a summary of the work of the section.

Reproductions of originals received	...	...	160
Vandyke plates prepared	...	...	158
Prints pulled	...	...	12,644

21. No. 18 (Air Survey) Party, Peshāwar and Murree.—Work with a small portable hand press was continued during the summer at Murree, the chief work being the reproduction of maps for the Northern Command and of forms for departmental use.

In September 1927 the equipment was augmented by the addition of a handpress taking imperial size plates, and the requisite equipment for preparing plates of this size.

This equipment was installed at Rāwalpindi for reproducing air survey maps during the survey tactical exercise in October 1927. During this exercise plates were prepared both by the vandyke process and by direct drawing on zinc, and the experience thus gained should be of considerable value in the event of war.

On the conclusion of the exercise at the end of October the reproduction section was reinstalled in the field headquarters of the party at Peshāwar and has since been employed on miscellaneous work, chiefly for the military authorities.

The section did the following work.

Reproductions of originals received	...	...	46
Vandyke plates prepared	...	...	87
Prints pulled	...	...	4,699

V.—MATHEMATICAL INSTRUMENT OFFICE.

At the direction of the Government of India, Department of Education, Health and Lands, the Commercial system of accounts has been introduced from the 1st April 1927, the half yearly audit of which has been carried out by the Assistant Director of Commercial Audit and his staff; the usual annual audit of general accounts for the year 1926-27 has been carried out by the Examiner, Outside Audit, Calcutta.

The work of stock-taking of all the stores (Serviceable, Repairable and Material) was carried out twice as usual and any discrepancies found were duly adjusted.

The Central Research Institute, Kasauli and the Aircraft Head Quarters, 'Irāq Command, have expressed their thanks in full appreciation of the prompt and efficient manner in which instruments were manufactured and repaired for them.

Great assistance was rendered by the Mathematical Instrument Office to the Army Department in effecting the sale of a large number of unserviceable and condemned binoculars on behalf of the Central Disposals Dump, Dum-Dum, at a much better price than the Disposals Dump ever anticipated.

Discussions on matters relative to the supply, repairs, marking, inspection and improvements of the instruments used by the Army were held with Col. W. L. J. Carey, the Director of Equipment and Ordnance Stores, and his assistants, who visited the Mathematical Instrument Office in January and February 1928 and were greatly interested in the general system of works. Their collective opinion has also been useful to the Mathematical Instrument Office.

Besides ordinary manufacture and repair work, the manufacture and certification of a large number of wet and dry bulb hygrometers for supply to various Cotton Mills in Bengal were undertaken at the instance of the Chief Inspector of Factories, Bengal; about a hundred microscopes and parts were repaired for the Medical Department. One heliostat was specially manufactured for the Central Research Institute, Kasauli, one microscope was fitted with a 500 candle power pointed light lamp for use as a projection microscope, to the entire satisfaction of the Calcutta School of Tropical Medicine and Hygiene. The Automatic Tidegauge of the Kidderpore Tidal Observatory has been repaired and is waiting re-erection. The following optical instruments were repaired for the Army :—

1160 binoculars, 190 telescopes, 160 range-finders, 60 directors
210 dial sights, &c.

Hermetically sealed airtight binoculars manufactured by Messrs Watts and Sons have been received through the India Stores Department, London, for climatic test and report before being introduced for use by the Army in India, and a novel and compact design of the Wild theodolite is also under test and report as to its merits and suitability for use by the Survey of India. An Aircraft camera, F. 8, and topographical stereoscope &c. were imported for the Air Survey operations to be carried on by No. 18 Party, Survey of India.

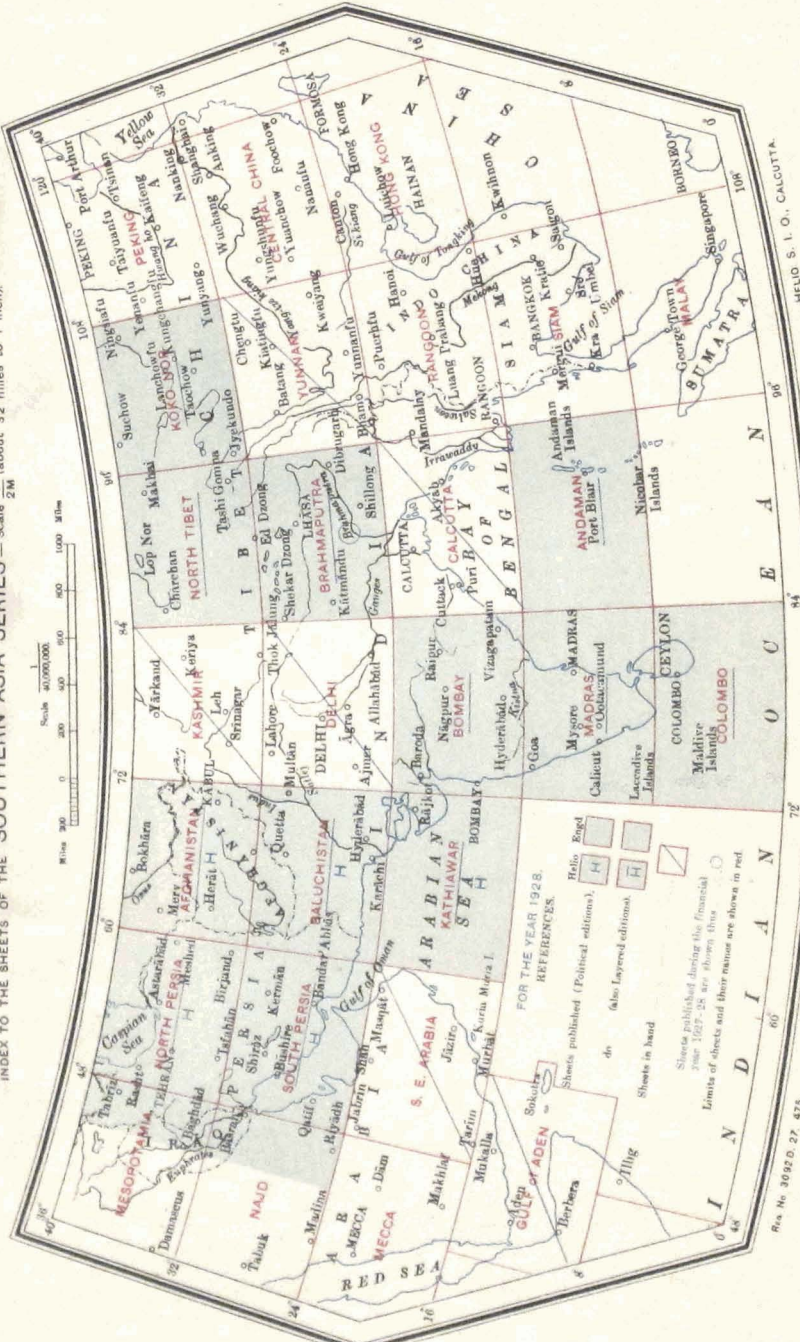
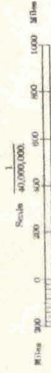
"The following comparative Table shows increases in the demands for supply and repair of instruments (items 1 & 2) by about 8 and 10 per cent respectively compared with the previous year."

	1925-26.	1926-27.	1927-28.
	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>
1. Total value of stores issued ...	4,20,340	5,17,410	5,60,829
2. " " " repairs carried out to orders ...	1,34,008	1,40,144	1,54,092
3. " " " instruments returned to store ...	51,045	90,369	65,736
4. <i>Book value of stock in—</i>			
(a) Serviceable store ...	2,55,474	2,48,669	2,87,839
(b) Repairable " ...	81,527	80,559	97,799
(c) Material " ...	2,16,196	1,94,192	2,01,072
5. <i>Value of new instruments—</i>			
(a) Manufactured in Workshop ...	1,75,874	2,40,642	2,38,260
(b) Purchased locally ...	48,326	83,016	93,979
(c) Imported through the Stores Department, London ...	92,008	1,82,919	2,47,877
6. Total value of work done in the workshop ...	4,81,269	4,71,518	4,03,665
7. Value obtained by sale of obsolescent and condemned stores ...	.....	474	367
8. <i>Employees—</i>			
(a) Average No. ...	412	458	461
(b) Cost including pension contribution ...	1,60,659	1,70,980	1,76,572

INDEX MAPS.

1. Maps published on scales 1 inch and $\frac{1}{2}$ inch to 1 mile ... *Frontispiece.*
2. The Southern Asia Series, scale 1/2 M, (about 82 miles to 1 inch). At End.
3. The India and Adjacent Countries Series, scale 1/M (about 16 miles to 1 inch).
4. Carte Internationale du Monde on the scale of 1/M
5. Maps published on scales $\frac{1}{4}$ inch and $\frac{1}{8}$ inch to 1 mile

INDEX TO THE SHEETS OF THE SOUTHERN ASIA SERIES — Scale $\frac{1}{250,000}$ (about 32 miles to 1 inch).

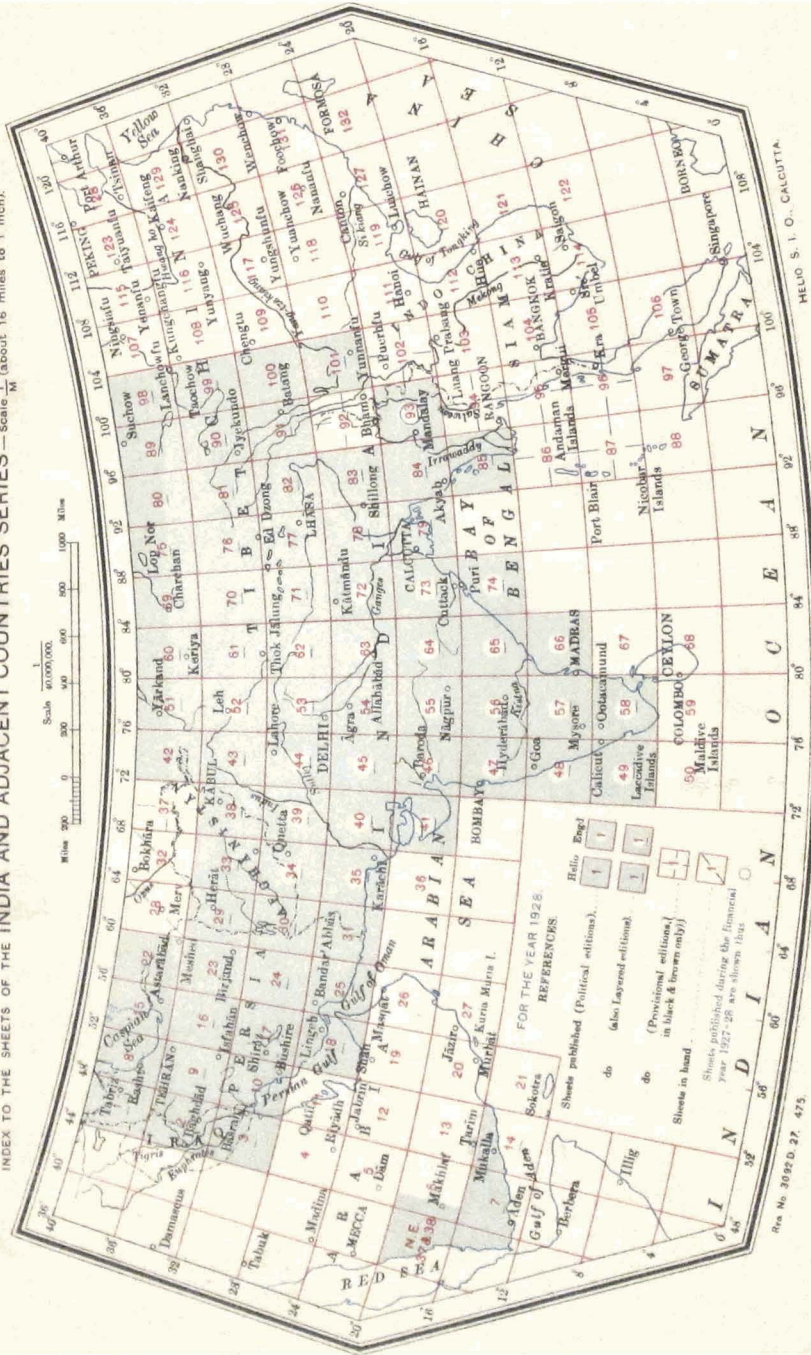
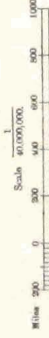


FOR THE YEAR 1928
REFERENCES.

- Ratio Equal
- Sheets published (Political editions),
- do. (Also layered editions).
- Sheets in hand

Shows published during the financial year 1927-28 are shown thus
Limits of sheets and their names are shown in red

INDEX TO THE SHEETS OF THE INDIA AND ADJACENT COUNTRIES SERIES—Scale $\frac{1}{M}$ (about 16 miles to 1 inch).



FOR THE YEAR 1928
REFERENCES

- Ratio: Engl.

1

 - do (also layered editions).

1

 - do (Provisional editions, in black & brown only)

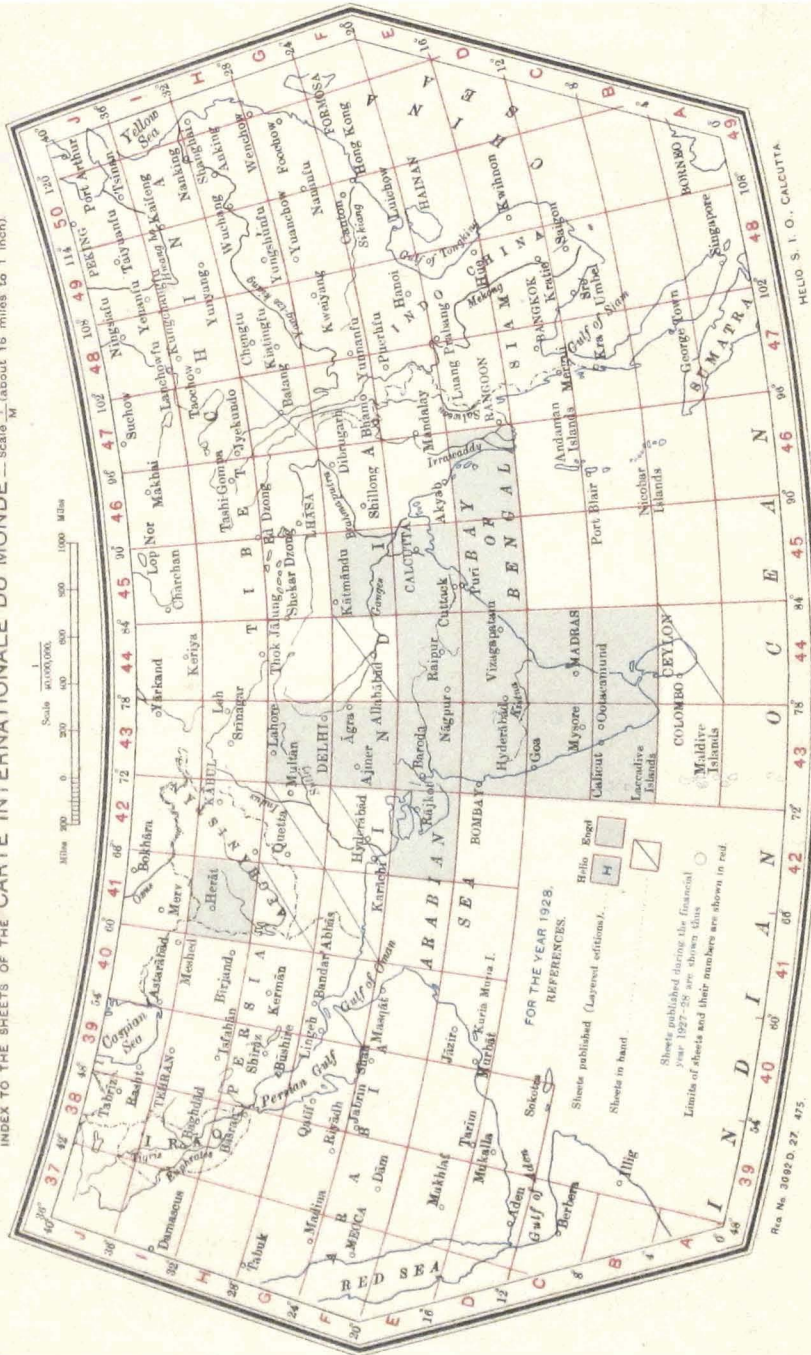
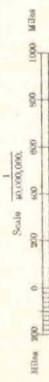
1

 - Sheets in hand

1

- Sheets published during the financial year 1927-28 are shown thus:

INDEX TO THE SHEETS OF THE CARTE INTERNATIONALE DU MONDE — Scale $\frac{1}{M}$ (about 15 miles to 1 inch).



FOR THE YEAR 1928.
 REFERENCES.

- Sheets published (latest editions).
- Sheets to hand
- Limits of sheets and their numbers are shown in red.

Sheets published during the financial year 1927-28 are shown thus

SURVEY CIRCLES
 (boundaries shown in blue)
 Director Frontier Circle, Simla
 " Central " Mussoorie
 " Southern " Bangalore
 " Eastern " Shillong
 " Burma " Maymyo
 Also Director Geodetic Branch, Dehra Dun
 " Map Publication, Calcutta
 " Assistant Surveyor General, Calcutta

SYSTEM OF NUMBERING SHEETS.
 THE 1/4" SERIES forms the basis of numbering for sheets on all scales. It consists of sheets 4" x 4" on the scale of 1:1,000,000, whose numbers are shown on the Index thus: 55
 QUARTER-INCH SHEETS—Each 1/4" sheet is divided into 16 sheets of scale quarter-inch to one mile, letters A-P as shown on the Index. The name of each quarter-inch sheet is therefore written thus 55.K

PUBLICATIONS up to 31st March 1928,
 on QUARTER-INCH and 1/8" INCH scales.

- REFERENCES.**
- SCALE 1/4" INCH TO ONE MILE
 - In modern style based on modern surveys: M
 - Ditto also available in layered editions: M
 - Preliminary editions, in modern style, but based partly on old or sketchy materials: M
 - Provisional, in black only, old and inferior: M
- SCALE 1/8" INCH TO ONE MILE: M
- NEW MAPS (including revised editions).**
- Published during the financial year 1927-28, 1/4" (O) 1/8" (O)
 - In hand, to be published by the end of 1928, do (O), do (O)

