

**MAPS, THEIR USES AND CONSTRUCTION.
A SHORT POPULAR TREATISE ON THE
ADVANTAGES AND DEFECTS OF MAPS
ON VARIOUS PROJECTION FOLLOWED
BY AN OUTLINE OF THE PRINCIPLES
INVOLVED IN THEIR CONSTRUCTION**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649643219

Maps, Their Uses and Construction. A Short Popular Treatise on the Advantages and Defects of Maps on Various Projection Followed by an Outline of the Principles Involved in Their Construction by G. James Morrison

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

G. JAMES MORRISON

**MAPS, THEIR USES AND CONSTRUCTION.
A SHORT POPULAR TREATISE ON THE
ADVANTAGES AND DEFECTS OF MAPS
ON VARIOUS PROJECTION FOLLOWED
BY AN OUTLINE OF THE PRINCIPLES
INVOLVED IN THEIR CONSTRUCTION**

MAPS

THEIR USES AND CONSTRUCTION

①

MAPS

THEIR USES AND CONSTRUCTION

A SHORT POPULAR TREATISE ON THE
ADVANTAGES AND DEFECTS OF MAPS ON VARIOUS PROJECTION
FOLLOWED BY AN OUTLINE OF THE PRINCIPLES
INVOLVED IN THEIR CONSTRUCTION

Gabriel BY
G. JAMES MORRISON
MEMB. INST. C. E., F. R. G. S.

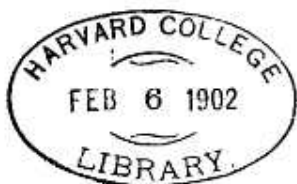
LONDON: EDWARD STANFORD

12, 13, & 14, LONG ACRE, W.C.

Geographer to the King

1901

Eng 529.01



Minot fund.

CONTENTS

CHAPTER	PAGE
I. INTRODUCTORY	I
II. MAP PROJECTION CONSIDERED POPULARLY	14
III. PROJECTIONS CONSIDERED MATHEMATICALLY	45
IV. PROJECTIONS OF SMALL AREAS	86

LIST OF ILLUSTRATIONS

FIG.	PAGE
1. SPHERE IN ORTHOGRAPHIC PROJECTION	5
2. METHOD OF FINDING LATITUDE	8
3. ORTHOGRAPHIC PROJECTION: EQUATORIAL HEMISPHERE	15
4. ORTHOGRAPHIC PROJECTION: POLAR HEMISPHERE . . .	16
5. PRINCIPLE OF STEREOGRAPHIC PROJECTION	17
6. STEREOGRAPHIC PROJECTION: POLAR HEMISPHERE . . .	18
7. STEREOGRAPHIC PROJECTION: EQUATORIAL HEMISPHERE	19
8. STEREOGRAPHIC PROJECTION: HEMISPHERE OF LONDON .	20
9. EQUAL AREA PROJECTION: POLAR HEMISPHERE	21
9a. EQUAL AREA PROJECTION: EUROPE AND ASIA	22
10. PRINCIPLE OF EQUAL AREA PROJECTION	23
11. ARBITRARY PROJECTION: POLAR HEMISPHERE	26
12. ARBITRARY PROJECTION: EQUATORIAL HEMISPHERE . .	27
13. MERCATOR'S PROJECTION	29
14. CYLINDRICAL PROJECTION	34
15. GNOMONIC PROJECTION: POLAR	37
16. GNOMONIC PROJECTION: EQUATORIAL	38
17. GNOMONIC PROJECTION: INCLINED	39

ILLUSTRATIONS

vii

FIG.	PAGE
18. SPHERE WITH PORTION CONICAL	42
19. PRINCIPLE OF STEREOGRAPHIC PROJECTION	47
20. STEREOGRAPHIC PROJECTION : EQUATORIAL	51
21. STEREOGRAPHIC PROJECTION : HORIZON OF LONDON	53
22. ORTHOGRAPHIC PROJECTION TO ASSIST IN STEREOGRAPHIC	54
23. PRINCIPLE OF GNOMONIC PROJECTION	57
24. GNOMONIC MAPS	59
25. METHOD OF MAKING EQUATORIAL GNOMONIC MAP	60
26. METHOD OF MAKING EQUATORIAL GNOMONIC MAP	61
27. DIAGRAM TO ASSIST IN MAKING INCLINED GNOMONIC MAP	63
28. DIAGRAM TO ASSIST IN MAKING INCLINED GNOMONIC MAP	64
29. METHOD OF MAKING INCLINED GNOMONIC MAP	65
30. PRINCIPLE OF CYLINDRICAL PROJECTION	69
31. PRINCIPLE OF CONICAL PROJECTION TOUCHING CONE	70
32. PRINCIPLE OF CONICAL PROJECTION : DEVELOPMENT OF CONE	71
33. PRINCIPLE OF CONICAL PROJECTION CUTTING CONE	73
34. CONSTRUCTION OF CONICAL PROJECTION : STRAIGHT MERIDIANS	75
35. CONSTRUCTION OF CONICAL PROJECTION : CURVED MERIDIANS	77
36. POLYCONICAL SPHERE	79
37. POLYCONICAL DEVELOPMENT	80
38. METHOD OF MAKING POLYCONICAL MAP	81

viii *MAPS: THEIR USES AND CONSTRUCTION*

FIG.		PAGE
39.	PRINCIPLE OF GLOBULAR PROJECTION	84
40.	RECTANGULAR CO-ORDINATES ON PLANE	88
41.	RECTANGULAR CO-ORDINATES ON SPHERE	88
42.	RECTANGULAR SHEETS ON ONE CENTRAL MERIDIAN	89
43.	RECTANGULAR SHEETS ON TWO CENTRAL MERIDIANS	93
44.	SHEET OF SURVEY BOUNDED BY MERIDIANS AND PARALLELS	95
45.	SECTION OF EARTH, SHOWING SPHEROIDAL FORM	100

8