

## CONTENTS

CHAPTER	PAGE
I. Introductory and historical . . . . .	1
II. General account of the survey including distribution of stations . . . . .	11
Instruments used . . . . .	11
Determination of latitude and longitude . . . . .	12
„ magnetic declination and the probable error . . . . .	15
„ dip and the probable error . . . . .	16
„ horizontal intensity and the probable error . . . . .	17
III. Daily variation of declination . . . . .	20
„ „ horizontal intensity . . . . .	26
Secular variation of declination . . . . .	27
„ „ dip . . . . .	30
„ „ horizontal intensity . . . . .	32
IV. Comparison of instruments . . . . .	34
V. Summary of declinations, dips and horizontal intensities reduced to the epoch 1st July, 1903 . . . . .	44
Values of magnetic elements at district centres . . . . .	52
Variation of magnetic elements with latitude and with longitude . . . . .	53
Values of declination at intersections of degrees of latitude and of longitude . . . . .	55
Values of the dip at intersections of degrees of latitude and of longitude . . . . .	56
Values of the horizontal intensity at intersections of degrees of latitude and of longitude . . . . .	57
Values of the total intensity at intersections of degrees of latitude and of longitude . . . . .	58
Values of the vertical intensity at intersections of degrees of latitude and of longitude . . . . .	59
Values of the northerly intensity at intersections of degrees of latitude and of longitude . . . . .	60
Values of the westerly intensity at intersections of degrees of latitude and of longitude . . . . .	61
Summary of observed and of calculated values of declination, northerly, and westerly intensities and their anomalies . . . . .	63
Summary of observed and of calculated values of dip, horizontal, vertical, and total intensities and their anomalies . . . . .	72
Natal and Cape Colony disturbances . . . . .	85
Transvaal and Orange River Colony disturbances . . . . .	106
Bechuanaland and Rhodesian results . . . . .	122
APPENDIX A. Specimen of astronomical observations and reductions . . . . .	1
„ B. Specimen of declination observations and reductions . . . . .	6
„ C. Specimen of dip observations . . . . .	7
„ D. Specimen of horizontal intensity observations and reductions . . . . .	9
„ E. Summary of magnetic results obtained . . . . .	12
„ F. Summary of results obtained at Durban by Mr E. N. Nevill, F.R.S. . . . .	227
INDEX . . . . .	229