

**THE FIGURE OF THE EARTH.  
SECTION I. HISTORICAL.  
SECTION II. THE OBLATE  
SPHEROIDAL HYPOTHESIS**

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The Figure of the Earth. Section I. Historical. Section II. The Oblate Spheroidal Hypothesis by  
Frank C. Roberts

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**FRANK C. ROBERTS**

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# THE FIGURE

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# EARTH.

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SECTION II.—THE OBLATE SPHEROIDAL  
HYPOTHESIS.

BY

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## P R E F A C E .

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IN presenting the following pages to the public our object has been twofold.

In the first place, we have endeavored to place before our readers such historical data, in connection with the Figure of the Earth, as may prove of an interesting and instructive character.

Secondly, we have sought to arrange, in a compact form, the important mathematical principles for the deduction of the Figure of the Earth upon the spheroidal hypothesis. Hitherto these principles were to be found only among a mass of purely mathematical discussions of the Earth in the fluid state, the theory of attractions, etc.; and in omitting these latter in the present treatise we hope to have simplified the study of the subject, and thereby to have supplied a want long felt by students of Geodesy.

In the preparation of this essay, we have had access to works of standard authors, and we cordially acknowledge our indebtedness to many, but more especially to the essays of Airy, Pratt, and Clarke.

PRINCETON, N. J.,  
*March 12, 1885.*



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SECTION I.  
THE FIGURE OF THE EARTH.  
HISTORICAL.

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# THE FIGURE OF THE EARTH

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## SECTION I.—HISTORICAL.

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### CHAPTER I.

#### EARLY SUPPOSITIONS.

THE progress of the science of astronomy is the continued triumph of the powers of the intellect over the first erroneous conceptions of the senses; and its history is so allied to that of the human mind that we cannot help feeling a strong inclination to know at what time, and by what people, the hypotheses upon which the science is based were first advanced.

The value of an hypothesis is estimated by the number of difficult phenomena it explains. From this standpoint few suppositions can be found to have been more important than that which assigned to