GEOGRAPHICAL SURVEYING, ITS USES, METHODS AND RESULTS

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Geographical Surveying, Its Uses, Methods and Results by Frank De Yeaux Carpenter

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GEOLOGICAL COMMISSION OF BRAZ

PROPESSOR CH. FRED. HARTY, CHIEF.

GEOGRAPHICAL SURVEYING,

ITS USES, METHODS AND RESULTS,

BY

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Geographer to the Commission.

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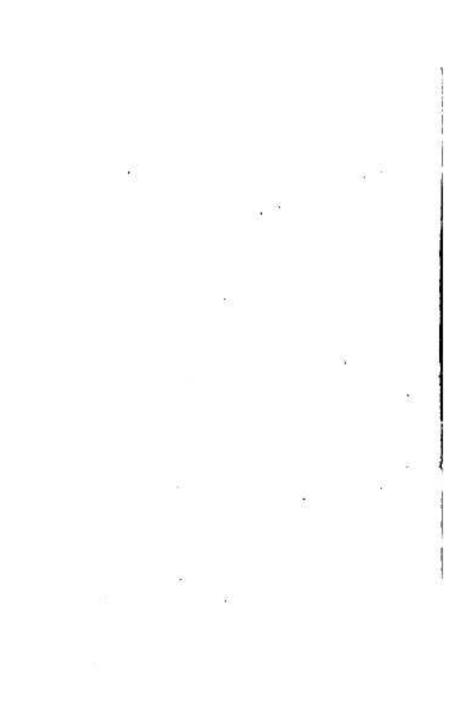
PREFACE.

CHARLES FREDERIC HARTT, Professor of Geology in the Cornell University, and Chief of the Geological Commission of Brazil, died on the eighteenth of March last, in Rio de Janeiro, where he was engaged in preparing the reports of his Survey.

His death and the dissolution of the Commission, of which he was the founder and director, have prevented the realization in Brazil of the plan of surveying proposed in the accompanying pages.

F. D. Y. C.

NEW YORK, July, 1878.



GEOGRAPHICAL SURVEYING.

In this paper I shall present a scheme for the organization, the gradual development, and the prosecution of a geographical survey in connection with the Geological Commission, which, in the efficiency of its results, will satisfy not only the present demands but also the future needs of the Empire of Brazil for very many years to come. In the rapidity of its progress, this survey will be especially adapted to a country of so vast an area and comparatively sparse population, and as an adjunct to the above Commission, and in great part carried on by the members of the same, without interfering with the ends of that body, it can be maintained at an expense so moderate as to be in conformity with the present desire for economy and retrenchment in the public service.

THE PROPOSED PLAN OF SURVEY.

The immense empire of Brazil is yet without reliable geographical maps. These are necessary to the national welfare. The question arises as to what kind of maps will be sufficient to satisfy the imperative needs of the country and of science. The plan of survey which I shall advocate is a mean between that system which takes cognizance of every house in a village and every little undulation in the landscape, and that want of system in which are represented whole mountain-chains that do not exist, or actual topographical features are delineated with gross inattention to accuracy. It is a judicious mean between the slow and laborious processes used, for instance, in the Ordnance Survey of Great Britain, and the sketchy and unreliable information gained by the early explorers of the New World, from whose results our first maps were compiled.

These last are scarcely more graphic and complete than our present maps of the moon, and in fact, speaking broadly, they are not so accurate as the latter, which are, in great part, photographs of the surface which they represent. With these mere hints of the geography of its country a people should not feel obliged to rest satisfied until it can sustain a minutely topographical survey.

AN EVOLUTION IN CARTOGRAPHY.

The demand for maps depends upon the population and civilization of a country. In the beginning a rough sketch will answer the purposes of the pioneer. As the region becomes inhabited better maps are wanted, and finally the people require the nearest possible approach to absolute accuracy in the delineation of topographical features. Mapmaking in every country must follow a regular evolution from the incomplete to the complete.

Reviewing the origin and growth of the cartography of a country, we see how faulty it is liable to be. The first ex-