

**DEPARTMENT OF THE INTERIOR. UNITED  
STATES GEOLOGICAL SURVEY OF THE  
TERRITORIES. MISCELLANEOUS  
PUBLICATIONS.- NO. 1. LISTS OF ELEVATIONS  
PRINCIPALLY IN THAT PORTION OF THE UNITED  
STATES WEST OF THE MISSISSIPPI RIVER**

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**HENRY GANNETT**

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DEPARTMENT OF THE INTERIOR.  
UNITED STATES GEOLOGICAL SURVEY OF THE TERRITORIES.  
F. V. HAYDEN, U. S. GEOLOGIST-IN-CHARGE.

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MISCELLANEOUS PUBLICATIONS.—No. 1.

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# LISTS OF ELEVATIONS

PRINCIPALLY IN

THAT PORTION OF THE UNITED STATES WEST  
OF THE MISSISSIPPI RIVER.

FOURTH EDITION

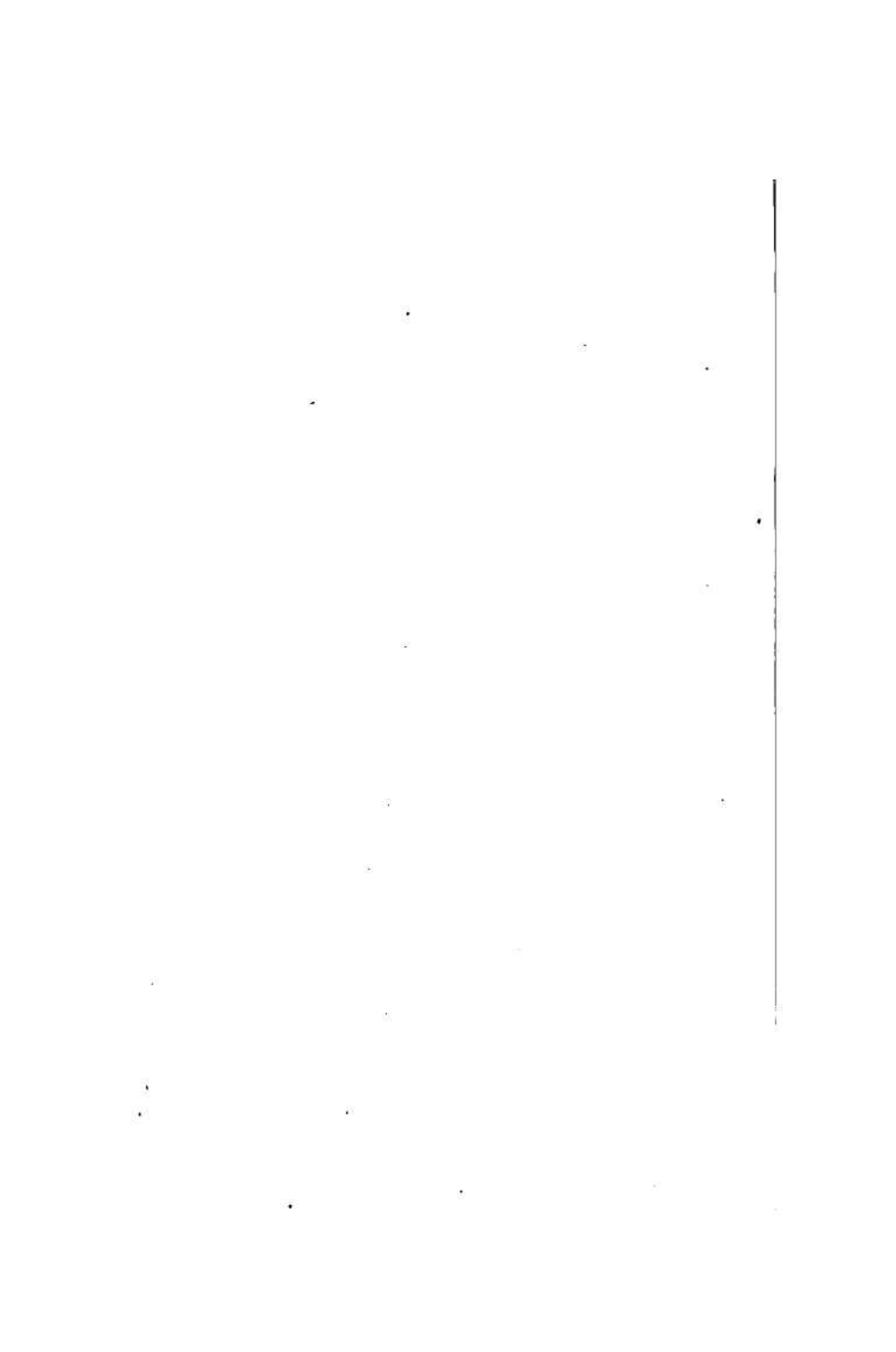
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COLLATED AND ARRANGED  
BY  
HENRY GANNETT, M. E.

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WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1877.



## PREFATORY NOTE.

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It is the intention of the Survey to continue the collection of geographical data concerning the relief of the country west of the Mississippi River. These collections of heights have been published from time to time, in successive editions, under the title of "Lists of Elevations . . . ."

The *first* edition, prepared by Professor Cyrus Thomas, was a 12mo pamphlet of 31 pages, which appeared in 1872 as an "unclassified publication" of the Survey. The next (or *second*) edition, by Mr. Gannett, was an 8vo pamphlet of 47 pages, which constituted No. 1 of the series entitled "Miscellaneous Publications" of the Survey. The *third* edition, also by Mr. Gannett, appeared in 1875. (See the catalogue of the publications of the Survey, 2nd ed., pp. 17 and 28.)

The present, being therefore the *fourth* edition, embodies the results of Mr. Gannett's continued labors in this field up to the present date, 1877, and represents a great amount of additional information on the subject, being about double the size of the third edition. It contains, among a variety of other matter, profiles of nearly all the railroads in the part of the United States above mentioned. The results given by these profiles have been made to accord, and the heights of several thousands of points on them have been determined with an approach to accuracy. This edition contains also the heights of many thousands of points determined approximately by means of the barometer. Elevations of many thousands of mountain-peaks are given, from which very correct ideas of the ruling heights of the principal ranges may be derived. The mean heights of the States and Territories and of the United States have been determined with an approach, at least, to correctness.

It contains also tables of the slopes of the principal streams of the West, which are of value in studying the important question of irrigation.

With these various lists of elevations there is given with this edition a map of the United States, in approximate contours of 1,000 feet of vertical intervals, which, in a measure, embodies all the results of this department. Toward the improvement and ultimate perfection of this map, this work is to be mainly directed in future.

This map not only indicates, in a rough way, the height of any part of the country, and the areas above certain heights, but the magnitude, elevation, and general slopes of the great plateau underlying the mount-

ain ranges of the West, the true *Sierra Madre*; the trends, mean heights, and geographical character of the ranges; and the areas covered by plains, plateaus, and mountains.

To express still more clearly the facts brought out by the map, it is the intention of the Survey to make shortly a relief model of the United States, on the basis of this map.

The importance of such a publication in a practical point of view is apparent. The materials have been collated and compared by Mr. Gannett with great industry and care, for which he deserves much credit.

F. V. HAYDEN,  
*U. S. Geologist.*



## INTRODUCTION.

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The idea of making a compilation of elevations in the western country was first put in a practical form in this Survey.

In 1872 Prof. Cyrus Thomas, then attached to the Survey, prepared a small 12mo pamphlet of 31 pages, containing such heights as he had been able to collect. Shortly after it was published, Professor Thomas left the Survey, and the work was continued by me.

In 1873 a second edition, of 47 pages octavo, and in 1875 a third, enlarged to 72 pages octavo, were issued by the Survey. These editions being exhausted, and there being still a demand for them, Dr. Hayden has desired me to prepare a fourth edition, containing all the material which it is possible to gather, and present it in tabular form, from the reconnaissances and surveys of the West, from railroads, and other sources.

Profiles of nearly all the railroads west of the Mississippi River have been collected, and much is due to the engineers of these roads for their kindness in furnishing information. I have endeavored, with some degree of success, to reconcile differences between these profiles and to establish the heights of points on them. From these and other sources the lists of towns, &c., have been largely increased over former editions.

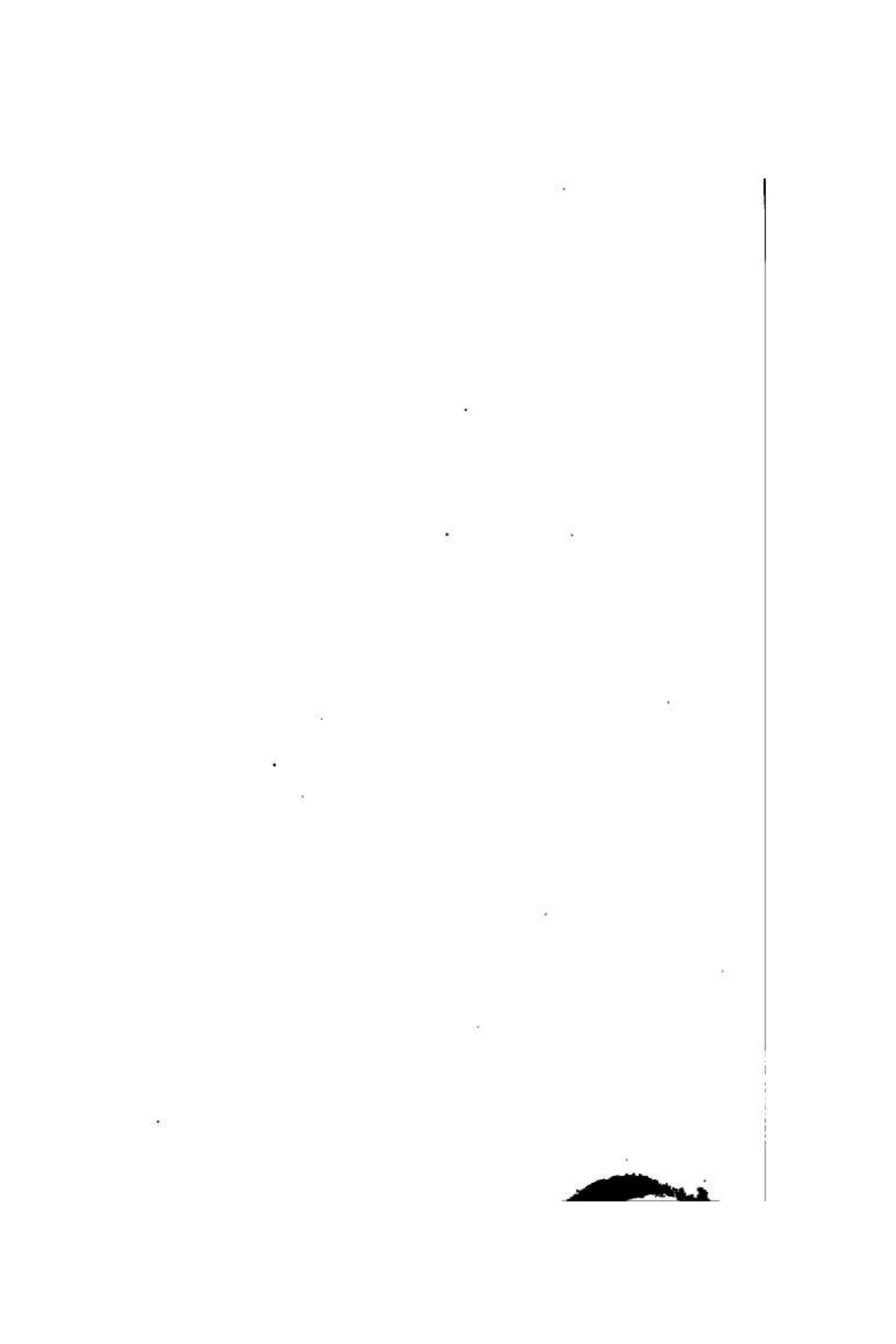
The list of mountain-peaks has been greatly enlarged. Most of the work under Lieut. G. M. Wheeler, and a portion of that of the survey of the 40th parallel under Mr. Clarence King, have become available and have been incorporated. The work of this Survey in Colorado has also added largely to this list.

All other tables have been largely increased.

The accompanying hypsometric map of the United States is a result which has long been in prospective. Its object is to give an approximate idea of the ruling heights, of the extent, area, slopes, and general character of the great western plateau, and of the trends, mean heights, and areas covered by the principal mountain-ranges. It is intended finally to be the embodiment of the whole work.

In this work, as in all others in which I am or have been engaged, I am greatly indebted for assistance of all kinds, both of material and of ideas, to Dr. Hayden.

HENRY GANNETT,  
*Topographer.*



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