

**THE CAUSE OF
GEOLOGIC
PERIODS, PP. 7-65**

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The Cause of Geologic Periods, pp. 7-65 by C. A. M. Taber

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C. A. M. TABER

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*Charles
W. Andrews*
BY
Charles W. Andrews
C. A. M. TABER 1824-

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PREFACE.

THIS essay contains a summary of my former publications, the earliest dating as far back as 1881. At that time my first attempt was made to explain, from a marine standpoint, the causes that have brought about the great climatic changes that have left such positive traces on the land surface of the globe.

At the beginning of my endeavor my equipment consisted in such marine knowledge as I had been able to acquire during long whaling voyages, which extended over the Atlantic, Pacific, and Indian Oceans. These searching voyages began in 1839 and ended in 1862. The familiarity thus gained of the ocean world enabled me to avoid the many errors then advanced and to make considerable progress in the direction I have pursued.

My marine experience having early taught me to view the earth in its wholeness, consequently it was easy to see the manner in which the great prevailing winds, in connection with the distribution of lands and seas, have been able to cause great periodical changes of climate; while during later years I have given more attention to geological records, and find that they coincide with the marine world from which I derived my earlier impressions. So it was through this wide field and slow process of study that I have sought to comprehend the manner in which the low-land regions of northern continents and large islands have been built up, and how the

physical geography of the earth of this age has been obtained. And, while continuing in this endeavor, during the last spring and summer I have been able to give the subject further study, which has enabled me to make important additions which were required to confirm my previous explanations and render a more efficient exposition of the manner in which solar heat, through the peculiar arrangement of lands and seas, in connection with the great prevailing currents of the air and ocean, shows that the Designer of our planet intended it for a periodical world millions of years ago, and probably intends it to proceed on its interesting rounds for ages to come.

C. A. M. TABER.

WAKENFIELD, MASS., September, 1907.

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THE CAUSE OF GEOLOGIC PERIODS.

WHILE viewing the order of succession of the stratified formations of the crust of the earth in order to ascertain how large portions of the extensive low lands of the northern temperate zone have been built up, it is essential to find out Nature's way of proceeding to accomplish work of such magnitude.

In this effort we find that coal and salt, although necessarily existing in separate localities, are known to have been deposited during the same periods of time, and are found to occur in almost every geologic age. Yet they have required in their formation great changes of climate and also of sea-level. So our main object will be to explain how such climatic changes and high and low stages of ocean water have been brought about.

With this endeavor we will state that at the breaking up of the last glacial period, according to the researches of reliable geologists, the ocean waters of the northern hemisphere were greatly augmented, so that all of the low lands of Europe, Asia, and North America were flooded by the sea. This submergence was caused through the superior weight of the heavy ice-sheets that burdened the northern continents and islands, which at the perfection of the ice age covered a far greater area than the glaciated lands lying south of the tropical zone.

Therefore, when it is considered that the frozen water contained in the glaciers that so widely covered the land was supplied from the ocean, it will be seen that the seas of the