

boats, which, when this river was at a low stage, found plenty of occupation on the Mississippi. In less frequent instances many of these boats ran up to the State capital. Many causes have conspired to bring about the disuse of steamboats on our smaller rivers, as the advent and development of railroads, the necessity for a more speedy and reliable mode of transportation, and above all, the constantly diminishing volume of water everywhere. Forty to fifty years ago the Des Moines and Coon rivers were beautiful streams, and they poured out an amount of water compared with which their present flow is but a sad reminiscence.

In addition to the value of this paper, as a history of steamboat navigation on the Des Moines river, it throws much light upon other incidental affairs, giving us some accounts of the habits of the enterprising people who first penetrated into the heart of Iowa, as well as disclosing to him who can read between the lines, the great physical changes which have taken place during the past forty years. Major Hoyt Sherman tells us something concerning the unprecedented flood of 1851, an event now rarely mentioned even by here and there an old settler. We get other hints that the country was at times "all afloat" with the wonderful surplus of water. The heavily laden crafts floated over many a place which has been dry and dusty for more than a score of years! Is there any lesson or portent in these curious facts?

Mr. Hussey is entitled to much credit for thus saving to the future these interesting pictures from the vanished past.

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### IOWA'S CONTRIBUTION TO GLACIOLOGY.

The glacial theory is of wide-spread interest. The proving that there existed in late geological times a vast polar ice-cap reaching down to the latitude of Cincinnati and St. Louis, may be regarded as one of the grand triumphs of science. Until a generation ago scientists had no idea that an

arctic climate had prevailed so recently over nearly all of the northern continents. It was a veritable Ice Age; and its conception is one of the scientific novelties of which, says a recent writer, "our century may boast and which no previous century had even so much as faintly adumbrated."

The difficulties that beset the investigation of former glacial action are something appalling. Our Iowa McGee most clearly depicts the conditions when he states that "the trail of the ice monster has been traced, his magnitude measured, and his form and even his features figured forth, and all from the slime of his body alone, wherever his characteristic tracks fail." But the geologists have overcome all obstacles and made the glacial theory one of the firmest tenets of geological science.

To Agassiz is due the honor of propounding the general theory of glaciation. To be sure others, a little while before the appearance, in 1840, of his great work on "Etudes sur les Glaciers" ("Studies on the Glaciers"), had attained something of the main idea in limited areas, but it was the work of the great Swiss to widely apply the principles and develop the conception into a grand general hypothesis. It took 25 years to get the theory firmly established. The past two decades have been devoted to accumulating facts and solving problems connected with the causes and effects produced by the various phases of the great movements. The glacialists have been during this time the most active and numerous of any class of geologists. During the past 10 years no branch of geology has produced so voluminous a literature.

Twenty-five years ago the main geological features of the upper Mississippi basin were deciphered with great difficulty on account of the heavy deposits of "drift" covering the whole country. Strangely enough this very region has become glacially the most interesting in all the world. Glacial history was here first found to be long, complex and full of stirring incidents. Instead of a single ice-period no less than half a dozen great drift-sheets are now known to exist. To this

State the eyes of the world are directed for a complete time-scale of ice-movements, with which glacial deposits in all parts of the globe may be compared.

Specific investigations in geology more than in any other branch of science are dependent upon local environment. No better illustration is found than in our own State of Iowa where the glacial phenomena are so beautifully and so extensively displayed. Attention has been called from time to time, in THE ANNALS, to some of the work done within the borders of Iowa. Of the labors of the eminent Iowa scientists, W J McGee, Samuel Calvin, J. E. Todd, H. F. Bain, and Frank Leverett, in glacial geology, our people may well be proud. The works of these men have attracted the notice of the whole scientific world. The latest contribution to American Glaciology is by a native Iowan, Mr. Frank Leverett, whose great volume, just leaving the government printing office, is considered fully in another place in this number of THE ANNALS. A brief sketch of the life of this distinguished author and scientist and his portrait are also given.

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### THE HISTORICAL BUILDING.

This new edifice was contracted to be finished October 1, 1899; but owing to the difficulty of securing materials the work was still unfinished at the meeting of the legislature on the 8th day of January, 1900. The Board of Control had been temporarily assigned to the rooms of the Lieutenant Governor and two of the Senate committee rooms, which they were occupying when the legislature convened. A committee was appointed by the Senate to report such action as would meet the emergency and provide that body with necessary rooms. This committee reported, recommending that the Historical Collections be transferred at once to the new building, and that the Board of Health should be housed with the Horticultural Society. The Board of Con-

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