

were collected. Distinct evidences of former glaciers were seen in localities now bare of ice, these indications consisting in the occurrence of terminal and lateral moraines." (Report, p. 292.)

The variation of the needle amounted to 96°, being less than at localities visited by Hayes and Kane, farther south. Auroras were frequent but not brilliant, and streamers quite rare. Only once was the aurora a rosy red. The average rise and fall of the tides at their winter-quarters was about five and a half feet.

The records which have been preserved of meteorological observations, especially of the winds, the temperature and the moisture of the atmosphere, as well as the deep-sea temperatures taken, with the corresponding density of water, will form valuable contributions to physical geography. Twenty sets of pendulum observations were also saved, and will be found of importance. As yet, the gain to science, from the labors of the expedition, cannot be fully determined; but the voyage of the *Polaris* will form an epoch in Arctic explorations not merely on account of the solid gains of the expedition, but still more from the possibilities it suggests of glorious spoils for future explorers, in the at present unknown regions around the Pole.

Manifestly, we are on the eve of great discoveries in that vast unknown area of two million five hundred thousand square miles around the North Pole. Every fresh trial indicates that the icy ramparts will not much longer resist the practical efforts of explorers, and that soon another region will be reclaimed from the unknown and added to the domains of human knowledge. The employment of powerful steamers, built immensely strong, with sharp bows armed with iron, and fitted for cleaving the ice-floes by charging them at full speed, or rising above to descend upon them with crushing force, has created a new era in ice-navigation. All-conquering steam is destined to carry the bold explorer to the Pole. Science has taught men how to preserve the crews of vessels in the most perfect health and vigor in the Arctic regions. The immense advantages of the modern over the ancient explorer, in the matter of equipment, as well as in the means of solving scientific problems of great interest, seem to render success a matter of certainty.

Some, perhaps, may be ready to assert that we have little to gain in these grim icy regions, and that it would be wiser to leave the Frost King undisturbed in his own domains. Such a view,

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