71. TO [DANIEL WILLARD FISKE][1]

SMITHSONIAN INSTITUTION,
WASHINGTON, D.C., *March* 16th, 1860.

DEAR SIR,

It gives me much pleasure to address you, in regard to the proposed expedition to the Arctic Regions by Dr. Hayes,[2] and to assure you that I shall be much gratified to learn that he has been successful in securing an outfit. It is true, that such an expedition cannot be undertaken without the prospect of much personal inconvenience, and perhaps risk of life; but it must be recollected that nothing of great value can be obtained without laborious exertion, and that life is daily periled in thousands of instances for mere pecuniary gain; and that it is proper it should be risked for the more important object of increasing the bounds of human knowledge. That there is a very interesting field of investigation still open to the arctic explorer, must be evident to any one who will attentively study the present condition of science, in regard to this region.

The Smithsonian Institution is now engaged in publishing the observations of Dr. Kane, which have been reduced and discussed by Mr. Schott, of the Coast Survey, at the expense of the Smithsonian fund.[3] The discussions to which they have been subjected, have resulted in a series of deductions relative to the temperature, pressure of atmosphere, direction and force of the wind, magnetism and the tides, of great interest to science, and which will redound perhaps more to the permanent reputation of Dr. Kane, than even his personal narrative.[4]

Prof. Bache has probably written to you on the subject of the magnetism, the tides and the currents of the north;[5] and I shall therefore confine my remarks to the meteorology of this region.

At no previous period in the history of meteorology, has there been so much attention given to this science as at present. Systems of cotemporaneous observations are now in operation, in almost every quarter of the globe, both on land and sea. You are probably aware of the fact, that the Smithsonian Institution, in connection with the Patent Office and the War Department, and in co-operation with the Board of Education of Canada, and the Hudson's Bay Co., has established a system of meteorological observations, which will soon be extended over the whole of North America.[6] From the facts already collected by this system, it would appear that the great changes of weather, either of heat or of cold, enter our territory from the north, at the eastern base of the Rocky Mountains, and thence extend southward and eastward, over the whole United

States; and that at least there are two systems of storms, one coming from the base of the Rocky Mountains eastward, and the other commencing in the Caribbean Sea, and following the general course of the Gulf Stream, over-laps our coast.

Now, it must be evident to you that it would be highly interesting to trace these changes of the atmosphere as far as possible to the North; but unfortunately, during the period of the voyages to the Arctic regions, previous to that of Dr. Kane, no contemporaneous series of simultaneous observations was in existence.

Captain McClintock has generously put at our disposal, the original manuscripts of his observations; and these, in connection with those of Dr. Kane, give us such indications of extended connection of disturbance in the atmosphere, as to render us exceedingly desirous of obtaining more information of the same character.[7]

Not only are observations in reference to the abnormal condition of the atmosphere of great value, but further information is required in regard to the general circulation of the winds. In the latest deductions of the distinguished Director of the National Observatory, from observations at sea, the wind is represented as blowing in the Arctic regions toward the pole, and ascending at that point; while other investigators, from strictly *â priori* conceptions, have inferred that precisely the reverse direction is the true one.[8] To settle this question, which is connected with the theory of the entire circulation of the atmosphere of the Globe, is a matter of much scientific interest. Besides the foregoing, a series of observations on the temperature of the different winds, for a single additional winter, at a position near Van Rensellaer Harbor, the seat of Dr. Kane's observations, would tend to prove or disprove the hypothesis as to an open sea.[9]

Although the list of appropriations of the Smithsonian income for the present year has been made out, yet so much interest is felt by the directors of the establishment in the enterprise of Dr. Hayes, that a contribution would be made toward supplying the necessary instruments; and I doubt not, that the Navy Department, the Coast Survey, and the National Observatory, would co-operate in rendering assistance to the same object.[10]

Very respectfully
Your Obedient Servant,
JOSEPH HENRY,
Secretary.

The Polar Exploring Expedition: A Special Meeting of the American Geographical & Statistical Society, Held March 22, 1860 (New York, 1860), pp. 5–7.

1. Fiske (1831–1904) was general secretary of the American Geographical and Statistical Society. *ANB.*

2. Isaac Israel Hayes (1832–1881) had served as surgeon to Elisha Kent Kane's second arctic expedition (1853–1855). Two years after that expedition, he began a campaign to organize a new one. Henry provided aid by inviting Hayes to lecture at the Smithsonian in January 1858 on arctic explorations. These lectures, according to Hayes, secured the support of Bache for his new undertaking. Henry would later summarize the "principal objects" of the Hayes expedition as being "to extend the exploration of Dr. Kane towards the north, and to make such observations of a scientific character as might tend to increase the existing knowledge of the Physical Geography, Meteorology, and Natural History of the region within the Arctic circle, including the coasts and islands on either side of Smith's Straits." Grinnell Land (now Ellesmere Island) lay to the west and Greenland to the east of the straits (now Smith Sound).

Introduction to Isaac I. Hayes, *Physical Observations in the Arctic Seas,* 1867, SI Contributions, vol. 15 (Washington, 1867), p. vii (quotation); *DAB;* John Edwards Caswell, *Arctic Frontiers: United States Explorations in the Far North* (Norman, Oklahoma, 1956), pp. 25, 32; I. I. Hayes, *The Open Polar Sea: A Narrative of a Voyage of Discovery Towards the North Pole in the Schooner "United States"* (New York, 1867), pp. 4–5; *Washington Star,* January 5, 1858.

Henry was responding in this letter to an invitation (not found) from Fiske to attend a meeting of the American Geographical and Statistical Society on March 22. The purpose of the meeting was to solicit support for Hayes's expedition. Henry's letter, as well as letters from other scientists responding to Fiske's appeal, was read at the meeting. A total of $10,000 had been raised by the time of the meeting. Hayes was attempting to raise at least $20,000. In his appeal to the society, he announced his intention not only to complete a survey of the northern coasts of Grinnell Land and Greenland, but also "to reach the north pole of the earth." *The Polar Exploring Expedition: A Special Meeting of the American Geographical & Statistical Society, Held March 22, 1860* (New York, 1860), pp. 3–15, 21, 23, 34 (quotation on p. 15).

3. The observations would be published in four parts in successive volumes of the Smithsonian Contributions to Knowledge (vols. 10–13) from 1858 to 1863. The Smithsonian would also bring the four parts together and publish them, under Kane's name, as *Physical Observations in the Arctic Seas: Made during the Second Grinnell Expedition in Search of Sir John Franklin, in 1853, 1854, and 1855, at Van Rensselaer Harbor and Other Points on the West Coast of Greenland. Reduced and Discussed by Charles A. Schott. Part I.—Magnetism. II.—Meteorology. III.—Astronomy. IV.—Tides* (Washington, 1859–1860).

4. Kane's *The U.S. Grinnell Expedition in Search of Sir John Franklin: A Personal Narrative* (New York, 1854) and *Arctic Explorations: The Second Grinnell Expedition in Search of Sir John Franklin, 1853, '54, '55* (Philadelphia, 1857).

5. In his March 21 letter to Fiske in support of the Hayes expedition, Bache mentioned the importance of investigating magnetism, the tides, and currents of the Arctic. He did not, however, discuss these subjects in any detail. *Polar Exploring Expedition,* pp. 3–5.

Bache was Hayes's principal supporter and adviser within the scientific community. Caswell, p. 34.

6. For the Smithsonian's cooperation with Canada, see *Henry Papers, 9:*421–424, and Fleming, *Meteorology,* pp. 123–124.

7. Francis Leopold McClintock (1819–1907), a British naval officer, was one of the foremost arctic explorers in the 1850s and author of *The Voyage of the "Fox" in the Arctic Seas: A Narrative of the Fate of Sir John Franklin and His Companions* (London, 1859). During the expedition of the *Fox,* which he commanded, meteorological observations were made from 1857 through 1859. McClintock turned the observations over to the Smithsonian for analysis and publication. *DNB;* Francis Leopold McClintock, *Meteorological Observations in the Arctic Seas: Made on Board the Arctic Searching Yacht "Fox," in Baffin Bay and Prince Regent's Inlet, in 1857, 1858, and 1859. Reduced and Discussed by Charles A. Schott,* 1862, SI Contributions, vol. 13 (Washington, 1863), pp. vii, x.

8. Henry is alluding to Matthew F. Maury for the former contention and William Ferrel for the latter. Ferrel had published an article in 1856 disputing assertions made by Maury in *The Physical Geography of the Sea* regarding the circulation of the atmosphere, including the direction of the winds near the poles. After reading the article, Henry wrote Ferrel in 1857 that he agreed with his criticisms of Maury's generalizations. Henry stated in his letter to Ferrel that the motions Maury "ascribed to the prevalent winds of the Arctic region, are neither conformable to fact, nor scientific principle . . . ." John Leighly's introduction to Matthew Fontaine Maury, *The Physical Geography of the Sea and Its Meteorology,* ed. John Leighly (Cambridge, Massachusetts, 1963), p. xix; Ferrel, *An Essay on the Winds and the Currents of the Ocean* (Nashville, Tennessee, 1856), pp. 4–5, 14–15; *Henry Papers, 9:*437 (quotation).

Like Henry, Maury wrote a letter of support to Fiske on behalf of Hayes's proposed expedition. *Polar Exploring Expedition,* pp. 7–9.

9. Presumably Henry was reasoning that wind blowing over an open sea would be warmer than wind blowing over ice caps. Thus taking temperature measurements could provide evidence in the debate over the existence of an open sea.

10. The Smithsonian supplied Hayes with a set of meteorological instruments, and materials for collecting and preserving natural history specimens. The Coast Survey furnished instruments for making magnetic and astronomical observations, as well as surveying equipment. Hayes was unable to obtain deep-sea sounding apparatus from the Naval Observatory because it would have required passage of a bill in Congress. Nor, apparently, did he receive aid from the Navy Department. *Smithsonian Report for 1860,* pp. 36–37; *1861,* p. 154; Caswell, pp. 34–35.

The Hayes expedition set sail from Boston in July 1860 and returned to the city in October 1861. Hayes was able to push beyond Van Rensselaer Harbor, the highest point reached by the last Kane expedition. Although he failed to reach the Arctic Ocean, he did succeed in exploring uncharted territory along the northern half of Ellesmere Island. He discovered a set of fossils, for instance, at the highest latitude from which they had ever been obtained. The results of the Hayes expedition were published in four parts (astronomical, magnetic, tidal, and meteorological observations) in Smithsonian Contributions to Knowledge. According to the subtitle of the publication, the observations were "Made on the West Coast of North Greenland, the Vicinity of Smith Strait, and the West Side of Kennedy Channel, During 1860 and 1861." Hayes, *The Open Polar Sea,* p. 2; Caswell, pp. 26, 39; Hayes, *Physical Observations,* p. i (quotation).

72. HENRY NOTEBOOK ENTRY

March 17, [1860][A] Com. directed to confer with Mr. Corcoran relative to the formation of his picture gallery. The Inst. to procure statuary at the expense of Mr. Corcoran.[1]

Mary Henry Copy, Folder "Non-Correspondence Pulled from JHPP," Box 49, Henry Papers, Smithsonian Archives.

1. On February 20, Henry had written William Wilson Corcoran to seek an interview on cooperation between the Smithsonian and the art gallery Corcoran was establishing. At the regents' meeting on March 17, Henry announced that Corcoran was going to fund an art gallery and that the Smithsonian should support his efforts, particularly in regard to acquiring copies of Italian art. Also at the meeting, a letter from the astronomer Angelo Secchi (*Henry Papers,* 7:593n) of Rome was read, stating that he had obtained permission for the Smithsonian to acquire casts or moulds of statues in the Vatican. Henry and the executive committee were asked to investigate the matter further. Henry Notebook Entry for February 20, 1860, in same location as this document; Rhees, *Journals,* p. 163.

In his annual report for 1860, Henry stated it had been decided to defer acquiring works of art until the building for housing Corcoran's collection at Pennsylvania Avenue and Seventeenth Street was completed. The exterior was nearly finished when the outbreak of war in April 1861 halted further progress. As Corcoran sympathized with the South and maintained his business relations with prominent Confederate leaders, Quartermaster General Montgomery C. Meigs seized the building for use as a military depot. Corcoran would leave the country for Europe in 1862 and not return until 1865. Work on the building would not resume until the government returned it to Corcoran in 1869. *Smithsonian Report for 1860,* p. 53; *ANB,* s.v. "Corcoran, William Wilson"; [Davira Spiro Taragin], *Corcoran* (Washington, 1976), pp. 16–20, 47.

Aside from assisting Corcoran with the purchase of art, Henry intended to transfer some artwork from the Smithsonian to Corcoran's gallery. As he stated in the annual report for 1861, Henry planned "to deposit in his collection the specimens which might belong to this establishment, due credit being given to the