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Copy, Lowe Papers, Library of Congress.

In William Hinwood’s hand.

1. In a letter dated July 15, Lowe had asked Henry to provide a statement to persuade the secretary of war “of the truthfulness of my claims.” Lowe approached Henry “inasmuch as the first operations of Balloons for Military purposes were under your immediate supervision” and because Henry was “acquainted with the fact that these experiments were made with my own machinery and subsequently used in the field by order of Captain A. W. Whipple, late Gen’l Whipple, now dead and from whom I can get no assistance.” Lowe was seeking a total of $3,000 in reimbursements for various expenses and services. Included in that amount evidently was the cost of the balloon (the Enterprise) and equipment he brought to Washington for use in experiments supervised by Henry during the summer of 1861. Lowe to Henry, July 15, 1863, Office of the Secretary, Incoming Correspondence, RU 26, Smithsonian Archives; Lowe to Edwin M. Stanton, June 4, 1863 (with enclosures), The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies (Washington, 1899), series 3, vol. 3, p. 318 (of pages 252–319).


3. While some officers, including Joseph Hooker and George B. McClellan, considered the intelligence gathered by the Balloon Corps useful, others were more skeptical and proved unhelpful in solving some of the logistical problems the corps faced. In this regard, Lowe was hindered by his civilian status. Because he and his assistants had no military rank, the needs of the corps were a low priority for the officers assigned to oversee its operations. “Consequently,” Lowe complained, “I was subject to every young and inexperienced lieutenant or captain who for the time being was placed in charge of the balloon corps.” Compounding this problem was Lowe’s poor administrative skills and disregard of military procedures, which hardly endeared him to army officials. F. Stansbury Haydon, Military Ballooning during the Early Civil War (1941; Baltimore and London, 2000), pp. 302–305 (quotation on p. 303), 346–351, 376–377, 386; Crouch, pp. 406, 413.

Lowe had on many occasions gathered information on enemy positions. In the aftermath of Bull Run, for example, his balloon observations of enemy lines and roads leading to Washington had helped dispel rumors that enemy troops were poised to attack the capital. Also, during the Peninsula campaign, Lowe and his aeronauts often telegraphed information about Confederate positions and even helped direct artillery fire. Although these and other observations never proved decisive on the battlefield, a number of officers “learned to regard the balloons as a valuable part of their intelligence service.” Haydon, pp. 212–214, 342–323, 374–375 (quotation).

Lowe’s appeal for reimbursement of expenses was for the most part unsuccessful. His poor record keeping prevented him from producing receipts and other proofs of his claims. Henry apparently assigned Rhee to assist Lowe with preparing his claims. In the end, however, Lowe received less than a tenth of the amount he requested. Crouch, pp. 414–415.

The Balloon Corps ceased functioning shortly after Lowe’s resignation. Crouch, p. 411.

183. TO ALEXANDER DALLAS BACHE

Washington Aug. 13th 1863

My Dear B.

I received a note from the Secretary of the Treasury,1 requesting me to call at the Dept. He wished to consult me as to the best method of preventing the counterfitting of the national currency. I advised him to refer
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the whole subject to the National Academy which, by a provision in its charter, is to be charged with the duty of solving scientific problems for the Government. He adopted the suggestion, and requested me to furnish him with an official form of presentation. This I did and I presume you will receive the article in the course of a day or two, with or without alterations from the original draft.²

We have to day, for the first time in nearly three weeks, a tolerably comfortable temperature. I have not suffered as much from heat since 1848, the first year I came to Washington with my family. The thermometer stood one night at 91 in our bed rooms, at about 12 o'clock. I have perhaps not felt the heat as much as I would have done had I not been aroused to more than usual energy from the circumstance that Mr. Baird was obliged to leave for the north about the middle of July, and Mr Rhees about a month later; the one on account of the health of his wife, and the other on account of his own feeble condition. I had consented to the departure of these gentlemen because the public printer³ had informed me that, owing to the large number of printing, on account of the war, he would not be able to take up the Smithsonian Report⁴ before October. But the very day after the departure of Mr. Rhees, the printer informed me, that on account of the death of Mr. Carroll,⁵ there was a lack of copy in the office, and that he then wanted our report. Fortunately, shortly after this Prof. Baird returned, and I determined to retain him until the report should be completed, but I soon found that at the rate the printing was carried on I should be kept in the city during the whole summer, and therefore made a compromise with the printer that he should finish at once the report proper including the Proceedings of the Board of Regents, and leave the miscellaneous appendix of scientific articles to be printed on the first ten days of October. This arrangement will permit me to leave the city in the course of the present month, and give me an opportunity of recruiting from the effects of the labour, anxiety, and sorrow of the present working season.

I was some what troubled in regard to your communication;⁶ although I think the sketch of our departed friend⁷ was admirable in conception, yet on account of the condition of affairs under which it was written, it required some applications of the file to render it somewhat more rounded in salient points. The article as given to the printer will be set up in long slips, so that alterations and additions may be made without the necessity of overrunning the page. If possible I will send you one of the copies, and also give another to Davis⁸ for critical examination. I shall destroy the manuscript as soon as I can get it from the printer after it is in type, in order that neither Davis or anyone else may not know
the changes which have been made, and that you may not be able to prove that your article has been spoiled in my hands. There was one point which did not strike me, as clearly made out—the distinction between executive and administrative talent. The latter appears to me to include the former, at least I could not see that you made the distinction sufficiently clear for an antithesis [- - ] antithesis.

You will learn from the reports of the permanent commission that we have not been idle. Saxton has attended the meetings quite regularly, and we got along quite smoothly until Gen. B. came in—though we do not now disagree our music is not quite as entirely harmonious as before. The General differs from us somewhat in his views as to the form of the Reports &. I was afraid that Saxton might feel somewhat unpleasant on account of seeing us sign the reports without his name, and to prevent this I suggested to Davis that S. should be considered as acting in your place, this was apparently satisfactory.10

The admiral and myself have some thoughts of making a tour of Light House inspection, for the good of the service, and the improvement of our own knowledge of the details of the system.11

I have been engaged for a week or two in experimenting on different lights for the navy Dept, and I think have arrived at definite ideas as to the production of the most efficient. I felt unwilling that the Government should be obliged to call on Professor Grant and other quacks for assistance in this line.12 The light is however wanted immediately and the most perfect arrangement cannot readily be obtained.13

I have nothing new in the way of politics which you have not seen in the papers. The club14 continues its meeting with considerable interest. The surgeon general is a valuable acquisition—He is doing a good work in his department but is much thwarted by the Secretary of War, who has instituted a commission of politicians to inquire into his course.15

Give my kind regards to Mrs. Bache—tell her that Helen who has not yet recovered is apparently on the mending hand16 and that Mrs. Henry and the girls are going to take up their quarters for a while at Wilkesbarre Penn.8

As ever truly yours

J– H–A

P.S. When I came to make up my accounts for the half years expenditure of the Smithsonian operations I was much annoyed to learn from agents Riggs & co. that the interest on the Indian bonds had not been paid.17 Owing to a quarrel between the two parties of the Legislature an adjournment was made without making provision for paying the interest on the state debt. The money is said to be in the treasury but the authority for
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paying it out is wanting. Fortunately I have had an eye to some contingency of the kind and shall not be much inconvenienced by the occurrence and it will give me an opportunity to make some reductions in expenditures which may as well be curtailed. I forgot to mention that I think the secretary of the Treasury will be pleased to have Dr Torrey on the committee for the investigation of currency question. 18 Wurtz 19 is here and is well pleased to be put upon the investigation of the protection of ships bottoms. 20

I shall endeavour to get away from the city the latter part of this week.

J.H.

Bache Papers, Smithsonian Archives.

Reply: August 19, 1863, Committee on National Currency, National Academy of Sciences Committee Papers, 1863-1864, Committee Register Book, Archives, National Academy of Sciences.

1. Note not found.

2. We have not found Henry's draft of Salmon P. Chase's letter, which was dated August 17 according to Annual of the National Academy of Sciences for 1863-1864 (Cambridge, Massachusetts, 1865), p. 38. For Chase's alterations to Henry's draft, see Doc. 185.

This was the first request for scientific advice from the Treasury Department to the National Academy of Sciences. The department wanted the academy to review plans proposed to prevent counterfeiting of paper currency, which the government had begun issuing for the first time in 1862. Cochran, National Academy, p. 87; Report of the National Academy of Sciences for the Year 1865 (Washington, 1864), p. 7; True, National Academy, p. 204.


4. The Smithsonian's annual report for 1862.

5. Possibly William Thomas Carroll (d. 1863), clerk of the Supreme Court from 1827 until shortly before his death. Appleton's Cyclopaedia of American Biography (New York, 1887-1900).

6. Not found.

7. Following the announcement at the regents' meeting on January 31 of regent James A. Pearce's death, Bache had been asked to prepare remarks on his fellow executive committee member. The remarks appeared in Smithsonian Report for 1862, pp. 100-103. Rhees, Journals, pp. 193, 214-217.

8. George L. L. Davis of Baltimore. Davis to Henry, May 3, 1864, Office of the Secretary, Incoming Correspondence, RU 26, Smithsonian Archives.

9. Recognizing a need for the "knowledge and experience of an Army officer," the membership of the Permanent Commission had requested in June that John Gross Barnard of the Corps of Engineers be appointed a member of the commission. Barnard (1815-1882), the younger brother of Frederick Augustus Porter Barnard and a graduate of the United States Military Academy, was the chief engineer of the defenses around Washington, the construction of which has been called "one of the great engineering feats of American military history." Minutes, p. 83, Records of the Permanent Commission, Records of Boards and Commissions, Naval Records Collection of the Office of Naval Records and Library, RG 45, National Archives; ANB.

10. Saxton wasn't elected a member of the Permanent Commission until later in the year. The first meeting he attended as a member was that of December 15, 1863. Nathan Reingold, "Science in the Civil War: The Permanent Commission of the Navy Department," Isis, 1958, 49:310; Minutes, p. 141, Records of the Permanent Commission, Records of Boards and Commissions, Naval Records Collection of the Office of Naval Records and Library, RG 45, National Archives.

11. In response to increased shipping on the Great Lakes and faced with an unexpended appropriation, the chairman of the Light-House Board instructed Henry and Charles Henry Davis to assess needs in New England and the Great Lakes. They decided to turn their attention first to the Great Lakes and headed west in September, accompanied by Caroline Henry and Mrs. Davis. Their report, dated October 25-
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16. Henry wrote to Bache in a letter of September 4 (Bache Papers, Smithsonian Archives) that he had taken his family to Pennsylvania principally to benefit Helen, who was "in a delicate state of health," with her lungs in good shape but "a tendency to throat disease."

17. The Smithsonian had $75,000 invested in Indiana bonds, which paid interest of 5 percent, yielding $1,875 every six months. The delay in payment was presumably brief as the full amount of interest appears in the executive committee report for the year. Smithsonian Report for 1863, pp. 13, 74.

18. Torrey served as chair of the committee, which was appointed on September 5. Annual of the National Academy of Sciences for 1863-1864 (Cambridge, Massachusetts, 1865), p. 38.

19. Henry Wurtz (1828-1910) was a graduate of Princeton (1848), where he had been a student of Henry's. He continued his education under Eben N. Horsford at Harvard, with Oliver Wolcott Gibbs in New York City, and at Yale with Benjamin Silliman, Jr. After various positions in chemistry and mineralogy, in 1858 he moved to Washington, where he was professor of chemistry and pharmacy in the National Medical College (later part of George Washington University) and also an examiner in the Patent Office. ANB.

Wurtz lost his job at the Patent Office in the summer of 1861 when filings dropped off at the beginning of the war. Correspondence with Henry later in 1861 shows that Wurtz, needing employment but also interested in presenting the fruits of his "actively and incessantly inventive" mind to the government for use in the war effort, sought Henry's help in interesting the Ordnance Department in his proposals. In February 1862, Wurtz delivered several lectures at the Smithsonian on gunpowder and "the chemistry of firearms and projectiles," one of the areas in which he was actively experimenting. Letters to Henry in the spring and summer of 1863 indicate Wurtz had found employment with Edwin A. Stevens at his New Jersey shipyard but complained that Stevens treated him as a "day laborer" and did not properly support his experimental work. Disagreements with Stevens over compensation for a fire that destroyed his lab and his work in progress and over rights to Wurtz's innovations ended his employment there in July 1863. At this time Wurtz was desperate for employment to support his family while he lobbied for the adoption of his proposals by the United States government or by foreign governments. Henry to Wurtz, July 26, December 10, and December 28, 1861, Wurtz...
Papers, Manuscripts and Archives Division, The New York Public Library; Washington Star, February 20 and 26, 1863; Wurtz to Henry, November 9, 1861 (quotation: "Actively and incessantly inventive"), Wurtz Papers, Archives Center, National Museum of American History, Smithsonian Institution; Wurtz to Henry, April 4, April 8, May 7 (quotation: "day laborer"), May 15, June 8, July 21, and August 29, 1863, Office of the Secretary, Incoming Correspondence, RU 26, Smithsonian Archives.

A committee of the National Academy had been appointed on May 9 to investigate the corrosion of the bottoms of iron vessels by salt water. The subject had been investigated earlier in the year by Eben N. Horsford, an associate of the Permanent Commission. In his April 27 report, Horsford recommended paint as one solution but also suggested the possibility of electroplating hulls with copper. As electroplating experiments would take several months, the commission referred Horsford's report to the National Academy. Horsford objected to his report being shared outside the commission and asked that it be withdrawn from the academy, which was done on July 9.

Lacking Horsford's report to work with, the committee, consisting of Oliver Wolcott Gibbs as chair, both Sillimans, John Torrey, Robert E. Rogers, and Commodore John Rodgers, recommended on January 9, 1864, that experiments needed to be conducted to determine the most effective paint or paint additives but that the experiments would need to be funded by the navy or by Congress. Although Henry offered the Smithsonian's chemical lab, the funds were not forthcoming and the experiments were never conducted. Reingold, pp. 312–313; True, National Academy, pp. 213–215; Report of the National Academy of Sciences for the Year 1863 (Washington, 1864), pp. 4–5, 21–23.

184. TO ALEXANDER DALLAS BACHE

My Dear B.

I addressed a letter to you about a week ago to the care of Dr. Franklin Bache² Phil⁴ relative to the appointment of a commission of the Academy to investigate the subject of the prevention of the national currency.⁵ Since then Mr. Wurtz has called several times relative to his improvement in the mode of firing gun powder and has informed me that he has given considerable attention to the matter of counterfitting. The idea has occurred to me that he would be a proper person to call upon as an expert for information on the subject.⁶ He is exceedingly fertile in suggestions and ingenious in reducing them to practice. I think his improvement in the mode of firing gun powder bids fair to be a very valuable invention and I hope he may not be disappointed in procuring, from government the means of thoroughly exhibiting its value by experiment.⁷

Horsford was in the city about a week ago and left very much disappointed. He came on to make the final arrangements for the construction of a submarine vessel to remove obstructions from the entrance of harbours—to destroy ships etc. He thought the contract would be entered into without submitting the matter to the commission, but in this he was mistaken. The plans were referred to the commission which,