

Full exposure of the conduct of Dr. Charles T. Jackson : leading to his discharge from the government service, and justice to Messrs. Foster and Whitney, U. S. geologists.

Contributors

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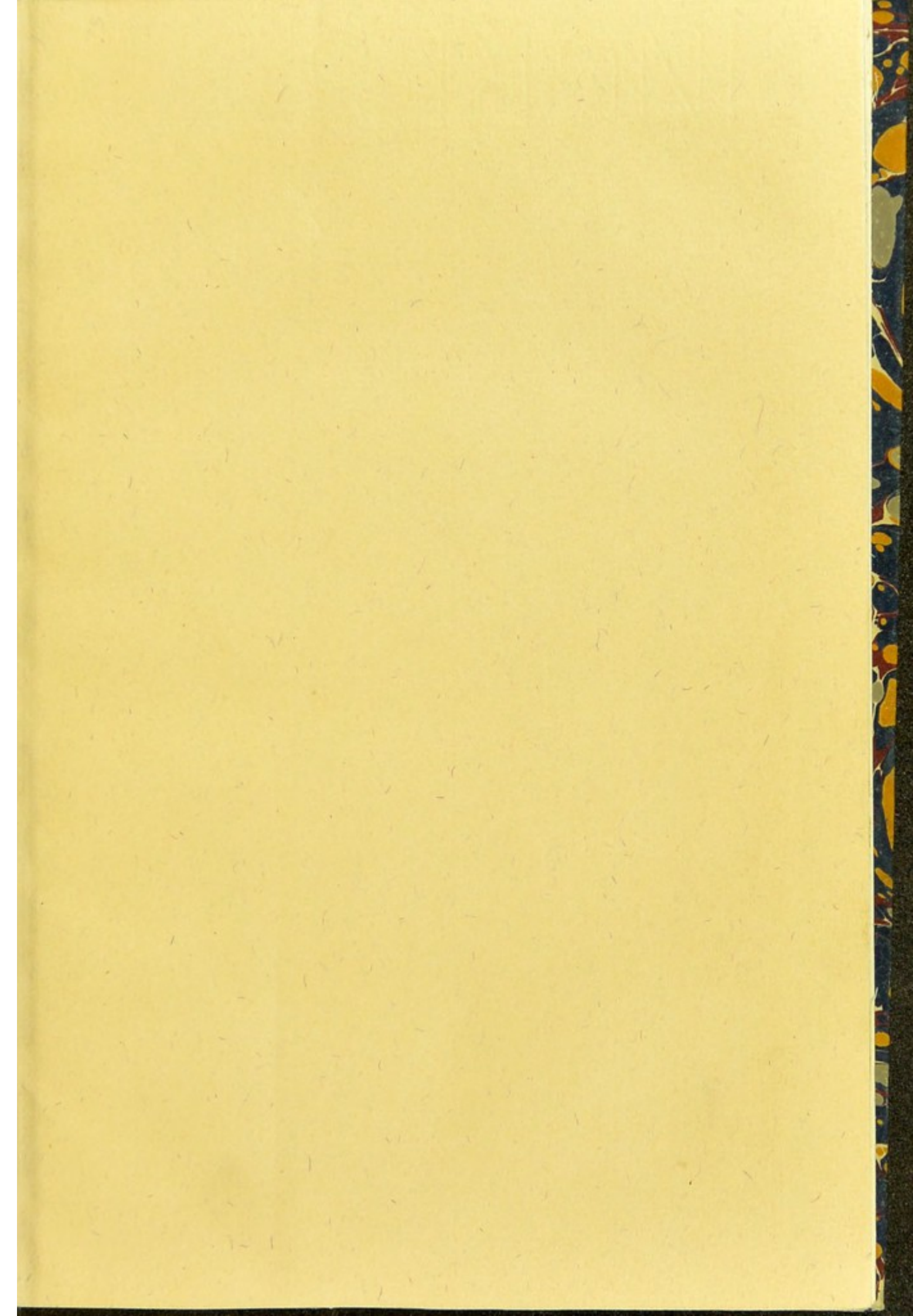


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THE EXPOSURE

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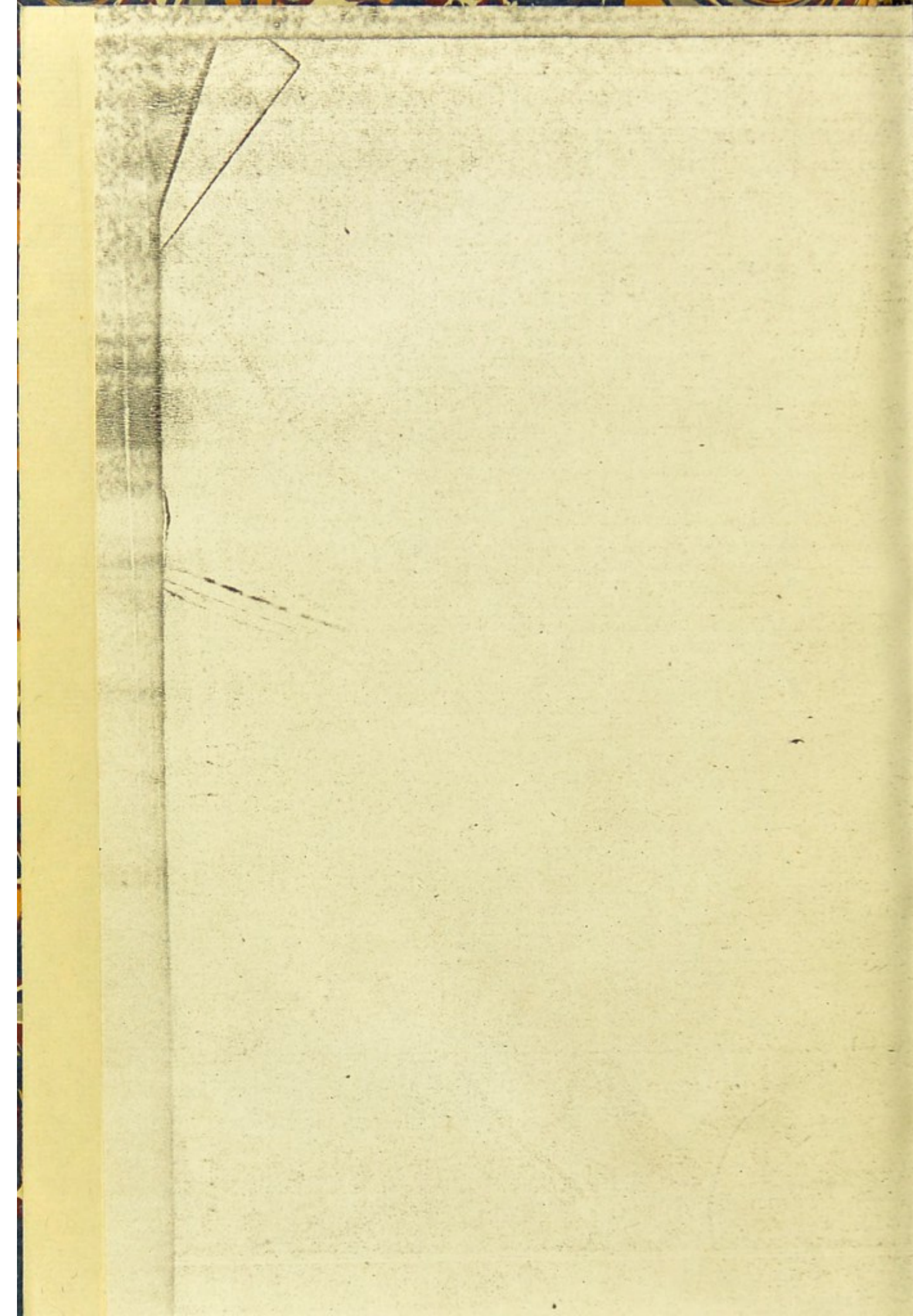
IN HIS BEHAVIOR TOWARD THE VOLUNTARY DEPORTED.

BY

J. E.

WHEAT, EDITOR OF THE "VOLUNTARY DEPORTED."

NEW YORK: 1874.



11

FULL EXPOSURE
OF THE
CONDUCT
OF
DR. CHARLES T. JACKSON,

LEADING
TO HIS DISCHARGE FROM THE GOVERNMENT SERVICE,

AND JUSTICE TO
J.W. J.D.
MESSRS. FOSTER AND WHITNEY,
U. S. GEOLOGISTS.

[1850]

Jackson, Charles Thomas [1805-80]

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B2P (Jackson)



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STATEMENT.

It will be remembered that Dr. *Charles T. Jackson** occupied at one time the post of U. S. Geologist for the mineral lands in Michigan; and while so employed, had the aid of Messrs. Whitney and Foster, who succeeded to that duty when Dr. Jackson was discharged. It is widely known that, in a spirit of bitterness and mortification, he has not scrupled to attack these gentlemen in every point of character, scientific and personal, which stood in the way of his own vindication; attacks which were perfectly impotent where the parties were thoroughly known, and which recoiled upon Dr. Jackson with overwhelming force.

His attempt to exclude Mr. Whitney from admission as member of the American Academy of Arts and Sciences, was characterized by a reckless vindictiveness which could not but shock the moral sense of every man who became acquainted with the facts. The friends of Mr. Whitney, content with having triumphantly vindicated his title to the honor which had been proposed for him, forbore to visit the slanderer with the retribution he had earned, in the hope that he had received a sufficient lesson in the defeat of his infamous purposes. In this, however, they have been deceived. A precisely similar attack has been made by him upon Mr. Foster. It is due, therefore, not only to the last named gentleman, but to truth and justice, that the facts should be collected in an intelligible form; and it is the object of this paper to do so. They have already been briefly recapitulated in a publication in the *Boston Bee*, July 2, 1849.†

* This is not the celebrated Dr. James Jackson, of Boston, nor the distinguished Professor Jackson, of Philadelphia, but is the same gentleman who claims the *magnetic telegraph*, the *gun cotton*, the *ether discovery*, circulation of blood, &c., (see page 14,) as stolen property of his. Vide "*Full Expose of Dr. C. T. Jackson's pretensions to the invention of the electric magnetic telegraph*," by ANOS KENDALL. See, also, *Boston Transcript*, — — —, 1846. See, also, *Congressional Report 30th Cong. 2d sess., No. 114.*

† THE NEW GEOLOGISTS.

The Secretary of the Interior has appointed Messrs. John W. Foster, of Ohio, and J. D. Whitney, of Mass., United States Geologists of the Lake Superior Mineral District, in the place of Dr. C. T. Jackson, of this city. An able communication, correcting an error which we copied into our columns concerning this appointment, will be found below.

We learn from a friend from Michigan that the new appointments will be hailed throughout the mineral region with great satisfaction. Though the appointees belong to the younger class of American Geologists, they possess high scientific attainments—have devoted years to the explorations of that region—are thoroughly inured to woods-life—and we have every assurance that under them, the work will be prosecuted with vigor and success. We shall look to their reports on that region as valuable contributions to science, in a department thus far little explored in this country.

Boston, June 15, 1849.

Mr. Barron: In your paper of the 13th inst., is a paragraph copied from the *National Intelligencer*, stating that Dr. Jackson had not been removed from the office of U. S. Geologist, but had resigned, and that his resignation had been accepted. I have been spending a few weeks in Washington, where the facts in the case came to my knowledge, and I deem it no more than just that a plain statement of them should be laid before the public; particularly as the matter is

STATEMENT.

It will be remembered that Dr. Charles T. Jackson, deceased at one time the post of U. S. Geologist for the western lands in Illinois; and while so employed had the aid of James Whitney and others who were attached to that duty when Dr. Jackson was deceased. It is widely known that in a spirit of bitterness and misapprehension, he has not stopped to attack these gentlemen in every point of character, science, and personal, which stood in the way of his own advancement; attacks which were entirely innocent when the parties were thoroughly known, and which resulted upon Dr. Jackson with overwhelming force. His attacks on various Mr. Whitney from advances as members of the American Academy of Arts and Sciences were characterized by a vulgar misapprehension which could not but affect the minds of every man who became acquainted with the facts. The friends of Mr. Whitney, content with having intelligently refuted his libels in the papers which had been proposed for his defense to read the character with his exhibition he had entered in the papers that he had received a sufficient notice in the details of his infamous purposes. In this however they were not deceived. A precisely similar attack has been made by him upon Mr. Foster. It is not therefore, not only in the last named person, but in truth and justice, that the facts should be collected in an intelligible form; and it is the object of this paper to do so. They have already been briefly recapitulated in a publication in the Boston Herald, May 2, 1849.

* This is not to be understood as James Jackson of Boston, nor the distinguished Professor of Zoology, but as the man previously who claims no scientific knowledge, and who has been the subject of various attacks in the papers of this city. His name is James Whitney, and he is the subject of the present paper. — Boston Herald, May 2, 1849.

THE NEW EXHIBITION.

The Government of the United States has agreed to send to the World's Fair, to be held in London, England, in 1851, a large and valuable collection of the products of the United States. This collection is to be exhibited in the Crystal Palace, and will include a large number of the most valuable and interesting articles of the United States. The collection is to be exhibited in the Crystal Palace, and will include a large number of the most valuable and interesting articles of the United States. The collection is to be exhibited in the Crystal Palace, and will include a large number of the most valuable and interesting articles of the United States.

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Mr. Foster and Mr. Whitney stood upon the same ground with regard to Dr. Jackson. He has the same provocation from each of them. The nature of that provocation, and the several outlines of the whole controversy between them, may be gathered from the following statement and resolution, which were prepared by Mr. Bowen (Editor of the North American Review and member of the American Academy of Arts and Sciences,) and Dr. B. A. Gould, (Editor Astronomical Journal, Secretary of the Academy of Arts and Sciences, Principal, &c., U. S. Coast Survey, &c.) touching the attack upon Mr. Whitney:

now public property, and papers on file in the office of the Secretary of the Interior will fully substantiate my statements.

If by the following statement, compiled from these papers, it can be made to appear that the action of the Secretary of the Interior is not equivalent to a *removal*, all will admit that it looks very much like one.

Dr. Jackson was appointed, about two years since, U. S. Geologist, and has been engaged on the survey of the Lake Superior Mining District.

His assistants were J. W. Foster, of Ohio, and J. D. Whitney, of Mass., who with seven other persons formed the corps of surveyors. From information that reached the assistants of complaints made to the Department against Dr. Jackson, relating to the discharge of his duties, and which they knew to be well founded, it was evident from their nature that they must lead to an investigation, and therefore that their longer connexion with him in the survey, must necessarily implicate them more or less in the faults which were the ground of these complaints.

They therefore, under these sentiments and feelings, tendered their resignation to Dr. Jackson, and gave him their reasons for so doing. On the reception of this letter of resignation he did not accede to their request, but selected a committee of his friends to consult upon the best course to adopt. At this consultation, the assistants were present. On a full hearing of the subject matter, the rumors of charges made against Dr. J. were substantiated by the whole corps, and the committee, in writing, stated that it was the duty of Dr. J. forthwith to resign his connexion with the survey, and that he owed it to his reputation to do it unconditionally.

The result was that he *did* send on his letter of resignation to the department at Washington, and Mr. Foster, one of the assistants, proceeded immediately to that city to make some definite arrangements about the survey. On arriving in Washington he found that in twenty-four hours after he left Boston Dr. Jackson had telegraphed to the Department a *withdrawal* of his resignation, and stating that he had been induced to resign on account of threats made to him, and desired still to be retained as U. S. Geologist.

On his arriving at Washington it was decided by Mr. Ewing to refer the matter to Mr. Wilson, Chief Clerk of the Department, who after examining the subjects, reports that there were serious charges against Dr. Jackson which ought to prevent his going on with the survey unless they were cleared up. Accordingly, on a day set apart, the parties appear before the Secretary and the Attorney General, and the result of this inquiry was, that Dr. J. was instructed that his labors in the field should be considered as closed, and that he should make a detailed report of the surveys made while he held the office, by the 15th day of Nov. next, he having hitherto neglected so to do, and that on said 15th Nov. his entire connexion with the survey would terminate, that he would be allowed no assistants without first setting forth the nature of the service required, and obtaining the assent of the Department; and that no funds would be paid to him except on vouchers for work and labor done.

To enable Dr. J. to make up said report, Messrs. Foster and Whitney were required to furnish him with detailed reports of their explorations. The latter named individuals were then appointed U. S. Geologists in Chief, with instructions by the Secretary to go on and close up all further operations in the field that may be necessary for a full, practical and scientific report on the geology, metalogy, and mineralogy of the *whole* of that District. That they be governed in their operations by the instructions heretofore given to Dr. J., naming to them their compensation as U. S. Geologists, and their power of appointing assistants; and that, before the 15th Nov. next, they shall report a synopsis of their operations to the Secretary to be laid before Congress with his report. That as soon thereafter as practicable they furnish a report, with maps, setting forth the boundaries of the mineral region, and all the information required by the act of March 1, 1847.

So far then from the present result arising from an acceptance of Dr. J's resignation, it was directly the other way, for he countermanded his resignation; and it is well known that a paper was prepared in Boston, and circulated among his friends for their signatures, vouching for his moral character and scientific attainments as qualifying him to be continued in his office of U. S. Geologist.

"The undersigned make the following statement impeaching the moral character, and the conduct before this Academy, of Dr. Charles T. Jackson, one of its *fellows* :

"At the annual meeting of the Academy on the 28th of May last, when the name of G. D. Whitney, Esq., who had been regularly nominated for election into the Academy, at the previous quarterly meeting, came up in order for vote by ballot, Dr. Jackson rose and publicly preferred serious charges against the moral character of said Whitney, accusing him of CONSPIRACY, PLAGIARISM, AND THEFT. He professed his willingness and ability to furnish proper evidence in support of these charges whenever he should be called upon to do so; and the nomination of Mr. Whitney was deferred to the next quarterly meeting, with the express understanding that this was done in order to give time for the charges to be investigated. It was publicly stated at this meeting, as a reason for speedy action, that Mr. Whitney would be obliged to leave Boston within a fortnight or three weeks at the furthest, in the execution of his duties as U. S. Geologist of the Lake Superior mineral lands. His friends, therefore, called a voluntary meeting of all the Fellows of the Academy, who choose to be present, to be held at the hall of the Academy on the 6th of June. Dr. Jackson was notified of the meeting six days before hand, and was requested to attend it and exhibit, in writing, the charges which he had made, together with such evidence as he could adduce in their support. On the appointed day, thirty or forty of the Fellows of the Academy having assembled, and Dr. Jackson and Mr. Whitney, both being present, the former being prepared with a large bundle of documents, the meeting was organized by the choice of Prof. Agassiz, as chairman, and Dr. Morrell Wyman, as secretary. Dr. Jackson was then called upon to present his charges in writing, and offer what evidence he could in their support; and *he refused to comply*, saying that he did not acknowledge the authority of such a meeting to make this call upon him. Though he held a paper in his hand, which he said contained the charges in writing, he refused to offer it; and though he had the documents before him, which were his authorities, he refused to read them. When the distinguished chairman of the meeting appealed to him, as a gentleman, standing in the presence of gentlemen, and face to face with the person whom he had accused of grave crimes only the previous week, behind back, to bring forward his charges and testimony, he still refused. After an hour had been consumed in this manner without result, an hour was given to the friends of Mr. Whitney to reply, when they immediately adduced testimony which showed not only that Dr. Jackson's charges were groundless, calumnious, and false, but that he had been induced to make them, merely by the spirit of revenge, because, from the post which he once occupied as U. S. Geologist, he had been disgracefully turned out for misconduct and neglect of duty, and Messrs. Whitney and Foster had been appointed in his place. Previous to that public investigation of his conduct, which led to his dismissal, a committee of four gentlemen, two of whom are Fellows of this Academy, and all of whom were Dr. Jackson's friends, were appointed by his consent to act as referees and advisors, between him and Messrs. Foster and Whitney. They fully considered the matter, and unanimously gave their opinion, in writing, that Dr. Jackson should unconditionally resign, and should recommend Messrs. Foster and Whitney to be appoint-

ed in his place; that it was a duty which these gentleman owed to themselves and the U. S. Government, to complete the survey, and that by so doing, they would but consult the interests of Dr. Jackson. This award was accepted by Dr. Jackson, and in accordance with it he wrote his resignation and sent it to Washington. But the very next day he changed his mind, broke the award, recalled his resignation, and challenged an investigation of his conduct. Within a month, such an investigation took place before the Secretary of the Interior, Dr. Jackson being present, and offering his written defence. The result was, that he received orders to close up his connexion with the survey as soon as possible, and not to go into the field again as geologist, Messrs. Whitney and Foster being appointed to complete the work, upon which they are still occupied. Before these gentlemen had taken any step in this matter they had resigned their own posts on the survey, and only with great reluctance did they accept the decision of the committee of award, which obliged them to take up the work again. Dr. Jackson's letter was read, accepting their resignation; though when this fact was mentioned at the annual meeting of the Academy, it will be remembered that Dr. Jackson interrupted the speaker by falsely denying it, saying "No, sir, not resigned, I discharged them." All these facts, with an abundance of testimony in support of them, were fully stated at the meeting, in Dr. Jackson's presence, and with all his documents before him, he had nothing to offer in reply.

"The result of this hearing before the Fellows of the Academy being fatal to Dr. Jackson's reputation, not only as a man of science, but as a gentleman, he felt uneasy under it, and within one week he issued a circular of his own, calling a voluntary meeting of the Fellows of precisely the same character with that the authority he had just repudiated, in order to enable him to do what he had just refused to do, viz: to clear his own character and substantiate his charges against Mr. Whitney. The circular was dated June 13, and the meeting was called for June 20, just twenty-three days after annual meeting at which Dr. Jackson had heard it publicly stated that Mr. Whitney's duty to the Government required him to leave Boston for Lake Superior within a fortnight. Yet he added this sentence to his circular: Mr. Whitney "has, therefore, been notified of this circular, and that no objections exist on my part to his presence at the proposed meeting, that he may learn with distinctness the grounds of my objections." Mr. Whitney did leave Boston for Lake Superior, on the 17th of June, and has not yet returned. Dr. Jackson thus obtained again the opportunity which he had sought, of making grave charges against a gentleman, behind his back, which he had publicly refused to make when brought face to face with him, in the presence of the Fellows of the Academy. Dr. Jackson occupied more than an hour at this meeting, held June 20, with a confused and inconsequent statement, which was very soon shown, when the friends of Mr. Whitney had the same amount of time allowed them for reply, to have little or no application to the points at issue, and to contain, also, several mis-statements and untruths, which evinced great recklessness of character and a calumnious intent.

"Under these circumstances the undersigned consider it due to themselves, as the nominators of Mr. Whitney, whose reputation has been thus wantonly and wickedly assailed, behind his back, to offer the reso-

lution which is appended hereto, for the action of the Academy, and to pledge themselves to prove this statement. They call upon the Fellows by adopting the resolution, to vindicate the dignity of science and the reputation of the Academy, which have both been impaired by such conduct on the part of one who still calls himself a Fellow of the Institution, and our associate in scientific pursuits.

"FRANCIS BOWEN,

"BENJ. APTHORP GOULD, JR.

"CAMBRIDGE, August 14, 1850.

"*Resolved*, That the Academy immediately proceed, by committee or otherwise, to investigate the truth of the statement made; and if it be found substantially correct, to report a resolution forthwith for expelling Dr. Charles T. Jackson from the Academy, or to inflict such other censure upon him as the case may seem to require."

This paper, from a feeling of compassion to Dr. Jackson, was never publicly presented to the Academy; but its existence was communicated to him, and was very generally known in the scientific circle whom it concerned. It became quite unnecessary as a measure of justice to Mr. Whitney, who was unanimously admitted to the fellowship of the Academy, and enjoys its confidence as a gentleman and a man of real science, and still holds with honor the post of U. S. Geologist.

The facts material to the justification of Messrs. Foster and Whitney are briefly these: The survey, under the charge of Dr. Jackson, had produced no results commensurate with the just expectations of the public. Discredit was likely to attach itself indiscriminately to all connected with it. Complaint and discontent were becoming manifest in all quarters interested in the prompt and efficient execution of the work.*

**Extracts from letters on file at the Department of the Secretary of the Interior, addressed to R. McLelland, the member of Congress from Michigan, bearing out Messrs. Foster and Whitney in their statement, that charges had been filed against Jackson before any action of theirs in the matter.*

Letters of LUCIUS LYON, Surveyor General, Detroit, of April 24 and 28, 1848. In his first letter he expresses the opinion, that the course adopted by Jackson "is uselessly extravagant," and that he has appropriated the labors of Messrs. Higgins, Hubbard, and Houghton, without acknowledging his indebtedness to them. In the other letter he reiterates his charges, and states that Dr. Jackson has not complied with his instruction by giving information as to the mineral lands.

B. HUBBARD, late assistant Geologist of Michigan, in his letter of April 25, 1848, complains that Jackson's labors have added nothing to what was formerly known, and goes on to speak thus of him: "But this wilful ignorance and self-conceit might be excused, did not Dr. Jackson show also a determination to make use of the labors of others, while he appropriated the credit of them to himself."

JUDGE WILLIAM A. BURT, an eminent surveyor, and the inventor of the famous "Solar Compass," in a letter dated April 27, 1848, complains that Dr. Jackson's survey was of no value, and requests that he may be removed.

WM. IVES, U. S. deputy surveyor, speaks of Dr. Jackson; has wasted his time on Isle Royale with a party of men, costing the Government \$24 per diem; he wishes the survey discontinued.

Mr. S. W. HIGGINS, of Detroit, formerly topographer to the State of Michigan, in a letter dated April 24, 1848, says of Dr. Jackson, "that he cannot conceive of a more ridiculous attempt of any man thus to depreciate and afterwards to appropriate to himself the labors of others." He says of Jackson, "that, instead of being greeted as was Houghton, disgust and dislike met him everywhere; the ignorance of some of his associates became the jest of the people." Mr. Higgins adds, that but one sentiment prevails with regard to Jackson, and that the Department will receive letters from persons of influence at Detroit, of whom he mentions by name, Messrs. Hubbard, Douglass, Walker, Campbell, Grout, Harvey, G. C. Bates, Almy, Dr. Parison, John Burt, Wm. Burt, Austin Burt, and Ives.

Several articles appeared in the "Lake Superior News" during the year 1848, a paper devoted to the interests of the mineral region, showing that Dr. Jackson had not conducted the survey with energy or ability, and ridiculing his reports to the Land Office.

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It is easy to understand how irksome and intolerable such a state of things must have been to subordinates who were conscious of possessing the requisite bearing and ability—who were devoting themselves assiduously to their duty—and who had reputations of their own at stake. This appears to have been the case with Messrs. Foster and Whitney. Placed in positions in which they had no power to do justice to themselves or to the country, they determined to tender their resignations to the Secretary of the Interior, and in doing so *to state their reasons*—a course which, however harshly it might bear upon Dr. Jackson, was necessary to vindicate themselves from the charge of embarrassing the work by capriciously withdrawing from it. Having prepared a paper to that end, containing (in the shape of reasons for their resignations) an array of charges against Dr. Jackson, which it seems to us incredible that any man who was innocent of them could have listened to without the extremest indignation and an uncompromising spirit of self-vindication, they exhibited it to Dr. Jackson, offering to him as the only alternative his own immediate resignation. This movement, it is apparent, could have been productive of harm only to Messrs. Foster and Whitney, and of advantage to Dr. Jackson, if the matters of fact alleged by them were not susceptible of proof. But on the other hand, if they could be established, it was equally apparent that the result must be disastrous to Dr. Jackson. *Were the facts as alleged?* This was the important question. And this question was submitted to a friendly tribunal selected by Dr. Jackson himself, consisting of the following gentlemen:

Dr. A. A. GOULD, a distinguished naturalist, American Academy Arts and Sciences, and author of "Elements of Zoology" in connection with Prof. Agassiz.

JUNIUS HALL, Counsellor at Law, Boston.

GEORGE L. WARD, esq., a gentleman of high standing, well known in Boston, and who was mainly instrumental in procuring Dr. J's appointment as Geologist.

JOS. HALE ABBOTT, a warm personal friend of Dr. Jackson, and the principal of a Seminary in Boston.

These gentlemen, after a full examination into the facts, came to the following unanimous award:

"Whereas, certain obstacles have arisen to the further co-operation of Dr. C. T. Jackson, on the one part, and Messrs. J. W. Foster and J. D. Whitney on the other, in the prosecution of the survey of the Lake Superior Mineral Lands; and whereas the parties have consented to refer the matter to their mutual friends, Jos. Hale Abbott, Augustus A. Gould, Geo. L. Ward, and Junius Hall, for their advice as to the best course to be adopted under the circumstances:

"Now we, the friends of the respective parties, are unanimously of the opinion, that Dr. Jackson should unconditionally resign; and that in his resignation he should recommend to the Department to commit the management of the survey to Messrs. Foster and Whitney, and to use all honorable means to sustain them in the prosecution of it.

"We are also unanimously of the opinion, that it is a duty which the said Foster and Whitney owe to themselves and to Government, to complete the survey, provided the Department desires it, and that by so doing they will also best consult the interests of Dr. Jackson.

"And in order that the arrangement may be so carried out that all parties concerned shall be placed in the position best calculated to sustain their own honor and reputation, and to advance the interests of Government, the said C. T. Jackson on the one part, and J. W. Foster and J. D. Whitney on the other, do hereby pledge their honor to the faithful and conscientious performance of the following conditions, viz:

"Dr. Jackson, on the one hand, will at all times, not only studiously refrain from all expressions and remarks calculated to throw suspicion on the motives, or to injure the scientific reputation of Messrs. Foster and Whitney, but will sustain and uphold them in all honorable ways, in the execution of the survey which they undertake to carry on and complete, should such be the wish of the Department.

"And Messrs. Foster and Whitney will, on the other hand, avoid with equal caution, in all verbal or written communications, anything tending in the slightest degree to detract from the reputation of Dr. Jackson. They also pledge themselves to give him full credit for any observations or suggestions which he has made or may make in regard to the survey; and he shall be at liberty to draw up and present a report of the labors of himself, and also present full statements of the labors of his assistants, to be made out by them, showing what has been done on the survey up to the present time; and the said Foster and Whitney, in case the completion of the survey is entrusted to them, shall, in their final report, by suitable references and acknowledgments, distinguish that portion of the survey under their entire and independent charge, from that under the charge of Dr. Jackson.

"Should reports growing out of the past relations of the parties, injurious to either of them, be put in circulation, the aggrieved party, before in any manner replying to the same, shall first give the other party an opportunity to do the said aggrieved party full justice, according to the spirit of this agreement.

"Should either party violate any of the conditions herein set forth, the other party shall be bound by the agreement.

"All of which is respectfully submitted,

"JOS. HALE ABBOT,

"AUGUSTUS A. GOULD,

"JUNIUS HALL,

"GEO. S. WARD, (absent,) per J. Hall."

"We, the undersigned, do respectively agree to the conditions above recommended to us.

"J. W. FOSTER,

"J. D. WHITNEY,

"C. T. JACKSON."

The award having been accepted and signed by the parties, Dr. Jackson wrote with his own hand, and despatched to the Secretary of the Interior the following letter of resignation:

"BOSTON, April 12, 1849.

"SIR: I herewith tender my resignation of the office of United States Geologist for the Chippewa Land District, in Michigan, to take effect from the first day of May next. I am induced to take this step from the consideration that there are matters both of a private and professional nature, pressing upon my attention, which I cannot well disregard, and which may require me to visit Europe.

"The survey confided to me has now been brought to that state of forwardness, and my system and plans of operations have been so fully matured and explained to my principal assistants, Messrs. Foster and Whitney, that if they are entrusted with the field work for the next season, the survey can be carried on to completion this year in accordance with my designs. I feel, therefore, that there is no impropriety in my withdrawing at this time. I take the liberty to recommend that the completion of the survey be left to my assistants, inasmuch as their connection with the survey hitherto, and their knowledge of the country and of my own views with regard to its future conduct give the advantages for the prosecution of further operations.

"The iron district is the only unexplored portion of the country, the copper regions having been already explored under my directions, and the principal veins being fully described in my report.

"I shall take an early opportunity to draw up and present to your department a report, up to the present time, of the survey that has been made under my official care and direction.

"The specimens which I have collected are ready to be forwarded for the use of Government, and I was informed by the Commissioner of the General Land Office that they were to be presented to the Smithsonian Institute. They are subject to your orders, as also are two chronometers belonging to the Government, which I have deposited in the hands of Messrs. W. C. Bond & Son, of Boston, and are in as perfect order as when purchased.

"The report of my assistant, Mr. Foster, has been received, and will be forwarded with mine. Mr. Whitney's report is not yet received, but has been called for, and will be sent to you so soon as I receive it. Should my services be required in drawing up the final report, on the completion of the survey, I shall be happy to give it my attention.

"With high consideration, I have the honor to be your obedient servant,

C. T. JACKSON, U. S. G.

"HON. THOMAS EWING, *Secretary of the Interior.*"

And thereupon the learned Doctor despatches by telegraph (which by his own account nobody had so good a right to do) the following message:

"BOSTON, — 14, 1849.

"HON. THOMAS EWING, *Secretary of the Interior* :

"Please not accept my resignation until you have an explanation from me. Respectfully, your obedient servant,

"C. T. JACKSON, U. S. Geologist."

And three days after he gives the following notice :

"BOSTON, April 17, 1849.

"J. W. FOSTER and J. D. WHITNEY, Esqrs. :

"GENTLEMEN : I would inform you that *I hereby rescind all agreements between you and myself relating to my resignation of my office of U. S. Geologist, and I hereby notify you that I ACCEPT YOUR RESIGNATIONS of the appointments that I had conferred upon you as my assistant geologists. I have recalled my resignation which I had so imprudently sent to the Secretary of the Interior, at your instigation.*

"Respectfully, your obedient servant,

"CHARLES T. JACKSON,

U. S. Geologist for the Mineral Lands of the U. S. in Michigan.

In the meantime he laid an anchor to windward, as follows:

"BOSTON, April 16, 1849.

"HON. DANIEL WEBSTER: Dr. Charles T. Jackson has placed with me one hundred refuting charges, filed against him as U. S. Geologist; please notify department that his coerced resignation is withdrawn, by next mail. He will advise you and the Department.

"Respectfully, yours,

"SIDNEY BARTLETT."

And, thereupon, a full investigation took place at the Department, upon voluminous proofs and statements, a correct summary of which will be found in the following official report drawn up by John Wilson, esq., principal clerk of surveys, &c., under the direction of the Secretary, as preliminary to a decision.

"GENERAL LAND OFFICE, May 9, 1849.

"SIR: I have the honor to state that, in accordance with your directions of the 5th instant, I have examined the matter in controversy in the case of Dr. C. T. Jackson, United States Geologist for the Chippewa Land District in Michigan, as they appear from the documents now on file, and beg leave to submit the following report:

"In the letter from J. W. Foster, Esq., one of Dr. Jackson's principal assistants, of the 29th ultimo, to the Department, he states, in substance, that he and Mr. Whitney, the other principal assistant of Dr. Jackson, became dissatisfied with the manner in which the work had been conducted, and determined to resign, giving to the Department their reasons for so doing.

"That their resignation, and the paper containing their reasons for it, were submitted to Dr. Jackson by a friend; and finally, the whole subject was submitted to a board of arbitrators, consisting of four gentlemen, friends of the parties, who unanimously decided that Dr. Jackson should resign, and recommend that Messrs. Foster and Whitney should complete the survey, provided the Department desired it, &c., (see Doc. A.)

"Dr. Jackson, on the 12th April, 1849, did resign, and for reasons given, recommended that Messrs. Foster and Whitney should complete the survey, (Doc. B.,) but subsequently applied to the Department for permission to withdraw his letter of resignation. This last document is without date; but from a telegraphic despatch filed with one copy of it, is presumed to be of the 18th ult. The grounds for withdrawing his resignation, stated by Dr. Jackson in that document, are, that it was extorted from him by interested parties, under extraordinary circumstances, a detailed statement of which is given in document C.

"The statements in that document are, in substance, that a friend called on Dr. Jackson on the 9th April, and tendered the resignation of Messrs. Foster and Whitney; at the same time showing him a list of charges which would be forwarded to the Department; most of which were frivolous, and could be easily disproved. That Dr. Jackson replied, that he should send these assistants their immediate discharges, and defied them to substantiate their charges; that in the afternoon, Mr. Foster called on Dr. Jackson and tendered his own and Mr. Whitney's resignations, when a conversation followed, in which Mr. Foster and Mr. Joy, late a clerk of Dr. Jackson's, who had been discharged from the survey, assured Dr.

Jackson that it was certain he must go out; that an investigation was impending, and that all the assistants would be summoned to Washington to swear to various particulars, which they were prepared to do; that the opposition to him was serious and general in Michigan and Ohio, &c. He further states that the vigor of the assault, the threatened investigation, and the determined opposition alleged to exist at Washington, so weighed with his, Dr. Jackson's friends, that they advised him to resign, and save himself from the threatened disgrace; that Dr. Jackson, contrary to his first impulse, yielded to the advice of his friends, and that a friend of Dr. Jackson agreed to act with the friend of Messrs. Foster and Whitney, as a friendly committee; on which, Dr. Gould, the family physician of Dr. Jackson, also volunteered to act. That on the 12th of April, the letter of resignation, and a draft of articles of agreement between Dr. Jackson and Messrs. Foster and Whitney, were brought to Dr. Jackson by the committee, and reluctantly signed by him, but by the unanimous advice of persons, all assumed to be, and some of them esteemed by him, his best friends. In that document it is further alleged, that 'the action of Dr. Jackson can only be explained by considering that he was already in a state of much exhaustion and depression from a long and vexatious controversy on the subject of his discovery of certain properties of ether, and from his natural aversion to undertake new quarrels, in which he had the misfortune to see his own pupil and professed friends dealing the blow.' It is also alleged, that the action of Dr. Jackson's friends 'must be explained by the circumstance that Mr. Foster expressed himself repeatedly and continually as in great haste to go to Washington; this signing of Dr. Jackson, if done at all, must be done without delay, or the charges would be instantly forwarded, he assuring the parties that Dr. Jackson would certainly be broken; that he had received exact information that the charges were already filed against him at Washington, intimating that he (Foster) had telegraphed a request to the Department that any doings there adverse to Dr. Jackson, might be suspended, in view of what was expected to take place here, to make them unnecessary.' That 'under these painful circumstances, Dr. Jackson obeyed the judgment of friends against his own impulse, and signed the letter to the Department which they put into his hands, resigning his post, and recommending that his late assistants be appointed his successors. On consideration his original judgment returned; he regretted extremely the steps he had taken; the advice of his friends, though by some of them well meant, appeared weak and injudicious, and he uses his first recovery of strength and health, to ask leave respectfully of the Department to withdraw his letter.'

"This document, though signed by Dr. Jackson, does not appear to have been written by him, as he is, throughout, spoken of in the third person. It moreover conveys an erroneous impression as to the time in which the circumstances narrated transpired; for although the dates are given, the idea is strongly impressed that the whole matter was got up and pressed through in a hurry, not giving time for the cool judgment and consideration of Dr. Jackson and his friends, to operate upon the facts in the case. But when these facts are compared with the dates, it will be perceived:

"That the friend of Messrs. Foster and Whitney, called on Dr. Jack-

soon and advised him of their intended resignation, on the 9th April; that in the afternoon, Mr. Foster tendered those resignations, and the whole subject was referred to a friendly committee, who reported on the 22th April, the date of Dr. Jackson's resignation; and that it was on the 65th or 17th April, that this document was written, asking permission to withdraw that resignation.

"In it, moreover, conversations and intimations are positively related, of some of which the writer of the document could only have been advised at second hand, and in which, therefore, the risk of error was great. The summing up of the matter in this document, does injustice to Dr. Jackson and his friends, for it attributes his action in the case to a want of confidence in his own judgment, caused by a state of much exhaustion and depression, and a reliance on the opinions of friends who were intimidated by threats of charges which would be preferred against him. It is, moreover, erroneous in point of fact, for in one place it is stated that he signed his resignation, which was brought to him; and in another, that it was placed in his hands; whereas the whole letter of resignation, comprising two full pages, is in Dr. Jackson's own hand writing.

"On the 24th April, Dr. Jackson states that it was through misrepresentation of the wishes of the Department, that he was induced to resign, and hopes the Department will give him all the aid he may require to complete the survey, (Doc. D.) and on the same day, Mr. Foster enclosed to the Department a letter from Dr. Jackson, of the 20th April, in which he, Foster, was advised that he was discharged from his employment as "assistant" in the Geological survey, (Doc. E.)

"This case stands thus: Dr. Jackson resigned as principal geologist, but has since asked permission to withdraw his resignation.

"Messrs. Foster and Whitney, principal assistants, have also resigned, to take effect on the 30th May next; but in the meantime, they have been discharged by Dr. Jackson, when, however, his own resignation was in abeyance, he had not the right to act in the matter.

"The controversy appears to be such, that the principal or assistant geologists will have to quit the service, as it is not perceived how they can harmoniously co-operate, after the circumstances which have transpired, and the allegations which have been made. The gentlemen are regarded and recommended as possessing high scientific attainments, and hence some difficulty, and an increase of expense may be experienced in completing the survey, if Dr. Jackson's resignation is accepted; but the same difficulty and increase of expense may be anticipated, if the services of either or both of them are dispensed with. The question of expediency cannot, therefore, arise in this case, and the Department is left to determine the course that shall be regarded as strictly just in the premises.

"The matter in controversy was first submitted to arbitration, and by the statements of Dr. Jackson and Mr. Foster, it appears that those arbitrators unanimously decided that Dr. Jackson should resign, and recommend the appointment of his assistants. Dr. Jackson at first complied with this award, but has since refused to be governed by it. The Department is not, of course, bound by this award; and it is for the Secretary to decide whether, under the circumstances set forth by Dr. Jackson, the parties to it shall be considered as bound by it.

"Mr. Foster, in a communication of the 20th ult., stated that he had

prepared a letter, giving the reasons for his resignation, which was in his possession, subject to the orders of the Secretary; and as I thought these reasons might be important in the investigation of the case, I requested a copy of it, (Doc. F.) It was accordingly furnished, (Doc. G.) and contains several grave charges against Dr. Jackson, to wit:

"That he, Dr. Jackson, having been in commission about two years, has spent less than four months each season in field explorations, and that the amount of labor performed by him during the fifteen months passed in Boston, in the discharge of his duties as Geologist in Chief, would not equal fifteen days.

"That while he thus neglected the interests of the survey, he has not hesitated to examine mines and make assays for individuals, for which he has received considerable sums of money.

"That he employed Mr. George J. Dickinson as assistant in the laboratory, and paid him out of the funds of the Department, while his time, for the most part, was devoted to making assays, for which Dr. Jackson received the compensation.

"That he has filled some of the subordinate posts on the survey with his pupils, young men, who were unacquainted with the woods or the nature of metalliferous deposits.*

"That up to the present time he has not completed a single analysis of any kind for the Government, nor are they aware of his having been engaged in any chemical investigations connected with the survey.†

* George O. Barnes, McIntyre, &c., witnesses in the Ether case, are here referred to.

A literary gentleman well known in Boston, Mr. Thayer, also shates, that "while the rest of the corps were busily engaged in forwarding the objects of the survey, Dr. Jackson's time, so far as I had an opportunity of seeing, was occupied in talking, telling stories, extending his reputation as the discoverer of the anæsthetic properties of ether, and in blackening and defaming every scientific man whose claims to honor or fame interfered with his own."

† S. W. Hill, Esq. late Surveyor of the Geological Survey, now director of the Copper Fall Mine, testifies that Dr. Jackson made some "time" observations which occupied about twenty minutes each day of good weather, the remaining part of the time, except when answering letters, which were not numerous, was spent in reading works of fiction and talking about the Ether Controversy. At one time he became so much excited when talking of the numerous discoveries which he stated that he had made, that he claimed to be the first discoverer of the Magnetic Telegraph, and that Professor Morse had filched it from him when he was making another and no less important and useful discovery, the Circulation of the Blood.

One could not well notice the interest and anxiety which he would exhibit on that subject during the entire day, and then again on another day, and so on for weeks at a time, without believing him positively insane.

His astronomical instruments were always certain to be paraded out and observations made when bystanders were to be had, and after observations were made, he never troubled himself about the result of their calculation.

His time was mostly spent in reading works of fiction, &c. &c.

That he possesses high scientific ability does not seem to me to be possible. He has the reputation of a scientific man, I am well aware; but, when the true source of that scientific reputation shall be reached, it will be found to rest upon the labors and researches of others. The unscrupulousness with which he appropriates the labors and researches of others, has won for him a standard of character not truly his.

Charles A. Joy, Professor of Philosophy, Graduate of Union College and the Law School at Cambridge, and Graduate of Gottenburg University, Germany, says:

Dr. Jackson was almost constantly attending to the Ether Controversy. I do not remember ever to have seen him at work on an analysis, or experimenting for the benefit of Government. I do not believe that he devoted enough hours to the interest of the survey, during these two months, to amount to one day. During the early part of January, the chloroform discovery attracted considerable attention, and Dr. Jackson occupied some time in its preparation. During the early part of April, sulphuret of carbon excited hardly less attention. The ether question was however the general and absorbing topic. Every gentleman in the Laboratory became thoroughly disgusted with it, and I fear some very unamiable remarks were sometimes made after an occa-

"That he has been unwilling that his laboratory should be occupied for the purpose of the survey, notwithstanding the allowance made by the Government for its use.

"That the Commissioner of the General Land Office had repeatedly urged upon him the necessity of making a report, setting forth the boundaries of the mineral region, with a view to definite action; that in his synopsis of 22d November, 1848, he assured the Department that 'detailed reports are now in progress, and will be sent during the winter;' that the assistants proceeded to draw up detailed reports, accompanied by maps, sections, and illustrations, which were nearly ready for transmission by the first of February, but were never called for by him; and that all that he did towards fulfilling his assurance, was to draw up a rude sketch of a report, the work, perhaps, of half a day, occupying two pages of foolscap.

"That in conducting the field operations, he has been equally regardless of the interests of the Government; that he lacks system, &c.

"That aside from his visits to the mines, which lie in the immediate vicinity of the lake shore, and his coasting in a boat from point to point, he has not, during his connection with the survey, travelled over thirty miles in the mineral region, and then his route lay over blazed and beaten trails.

"That by his aversion to labor and his disposition to loiter about the mines, he has retarded the operations of the assistants, by whom every map, section, plan of the mines, &c., has been made; that they have not been indebted to him for a single observation, in the execution of the work; and yet, when completed, he has been unwilling that they should have any share of the credit.*

sion when the Doctor had tried our patience beyond all endurance. The latter part of February, 1848, there appeared the Report of the Board of Trustees of the Massachusetts General Hospital, presented to the Corporation at their annual meeting January 26, 1848; it fell like a bomb into our very midst, and all thoughts of obtaining any attention or assistance from Dr. Jackson were now put to flight. The students and assistants in the Laboratory were left to take care of themselves. When I entered the Laboratory, I intended to remunerate Dr. Jackson for his instruction, but during the course of the winter and spring I never could command his attention for more than five minutes at a time, and after the appearance of the Hospital Report I gave up all attempts. He gave about as much attention to the Geological survey and to the chemical work for the Government as he did to me. In my case I considered his services as of no value. It would have been an insult to him for me to have offered him any remuneration, and it would have been a still greater insult to me if he had demanded any.

His Ether controversy and too much familiarity with liquor, are the springs back to which we must go before we can fully understand his conduct. *Is he not partially deranged?*

* As a specimen of Dr. Jackson's readiness not only to claim as his own the work of others, but even to accuse them of having stolen their own work from him, we glean the following facts from the papers which we have examined:

Dr. Jackson, in his defence read before the Secretary of the Interior and the Attorney General, claims to have had a map of Keweenaw Point, constructed from his notes and observations. This map he afterwards, on a public occasion, accused Messrs. Foster and Whitney of having stolen from him. Let us see how the facts really were. We learn, in the first place, from the statement made by Mr. Schlatter, the draughtsman, as follows:

"I prepared a map of Keweenaw Point. * * * In the preparation of the map, I was directed by Messrs. Foster and Hill, and, as far as I know, all the information contained upon it was derived from data furnished by them."

Mr. Thayer, who had the charge of the calculations necessary in the progress of the work, says in his letter on file:

"The first suggestion I heard in regard to the map, was from Mr. Foster. * * * The work was immediately begun under the direction of Mr. Foster, the geological information being drawn entirely from the note books of Messrs. Foster and Hill, with the exception of the measurements and heights. Once or twice I searched Dr. Jackson's note-book for answers to particular problems, but without success."

"That most of the latitude and longitude observations which have occupied so much of his time in the field, are found, on calculation, to be entirely worthless.

"That he has appropriated the public funds to his own use, by drawing them from bank long before his salary was due. While paying himself in advance, he has refused, and now refuses, to pay his assistants what is justly their due, avering that he needs the funds to pay his other debts, and that by complying with their request, he will be under the necessity of resorting to a loan. And for the proof of these charges, refer to a number of the gentlemen who have been engaged on the survey, the names of whom are given.

"The substance of the allegations made by A. M. Thayer, in his letter of the 9th April, 1849, (Doc. F.,) is, that Dr. Jackson left Boston on the 20th June, and reached Keweenaw Point on the 8th July, and that from that time to the 30th September, when he left for home, he was chiefly, if not entirely, employed in taking observations of the sun, coasting along the lake, visiting the mines, and discussing the ether controversy; that the observations made by him, upon calculation, have proved valueless; that the assistants were actively engaged, but that much of the best portion of the season for geological observations, was lost through Dr. Jackson's supineness and indolence.

"Mr. Thayer states that he was about to embark for Europe, and no longer personally interested in this matter, &c.

"Hon. H. Greeley, in a letter of 26th April, 1849, (Doc. J.,) states, that in his opinion, Dr. Jackson's explorations and survey in the Superior region, have been worth to the Government no part of the money they have cost, and that no good is to be reasonably expected from their prosecution. He trusts that they will not be maintained, and that none will be substituted without an assurance that they will be much better.

"The documents, copies of which were furnished by the General Land Office, chiefly relate to the difference between the modes of survey adopted by Dr. Jackson and Dr. Houghton, and go to show that the latter was the more efficient and economical. They also contain some strictures on Dr. Jackson's want of knowledge of the woods, and the impossibility of making a thorough geological survey, without a personal examination of the whole country.

"Dr. Jackson has filed an affidavit of J. H. Abbott, Esq., in which are

And yet Dr. Jackson says in his defence "that his note-book could not be spared for a single day during the construction of this map."

Mr. Joy testifies as follows on the subject of the authorship of this map:

"A map of Keweenaw Point was constructing under the direction of Mr. J. Foster, Mr. Schlatter being the draughtsman, and Mr. Hill surveyor. I never once saw Dr. Jackson take the least interest in the construction of this map. I never knew of his contributing an observation, or giving any directions whatever. Mr. Foster was almost always engaged on this work when I happened in the room, and the usual occupation of Dr. Jackson was either writing letters, or reading. . . . Dr. Jackson's conduct was a matter of remark among the corps, and the claim he made of having a title to the map, and calling it 'my map of Keweenaw Point, was a standing joke among us for the remainder of the season."

See further, Mr. Hill's testimony:

"The geological map before mentioned was commenced under the special supervision of Mr. Foster, and mainly drawn from field-notes in the possession of Mr. Foster and myself, taken previous to our connexion with the survey. Dr. Jackson contributed no information whatever to the map, nor did he make suggestions in reference to its construction until the title came to be put upon it. Then he thought it due to the *Principal* of the Survey that none but his own name should appear on it."

set forth the occurrences and conversation which took place in an interview between Dr. Jackson and Mr. Foster, at which he was present, and which are, in substance, that Mr. Foster had presented certain charges to Dr. Jackson, which he stated he would forward to Washington unless Dr. Jackson resigned; that Foster intended to apply for the situation, &c., but finally stated that he would not apply, (Doc. K.)

"He has also filed an answer to part of the allegations made against him, including, however, none of those named by Messrs. Foster and Whitney. He states that he will be prepared to meet any charges impeaching his official conduct, &c., (Doc. L.)

"There are a number of letters setting forth the high estimation in which Messrs. Foster and Whitney are held, as gentlemen and scientific men, and some strictures on Dr. Jackson, which it is not deemed necessary to notice further in this report.

"If it should be the determination of the Secretary not to accept Dr. Jackson's resignation, justice to him, to the gentlemen making these charges, and to the Government, requires an investigation of them, as they naturally affect the character of Dr. Jackson, both as a scientific man and a public officer.

"As the season is rapidly advancing, and it is therefore highly important that this investigation should be completed at as earlier a day as possible, I would respectfully suggest that the matter be gone into here, as the gentlemen are present; and where the witnesses are at a distance, that interrogatories be presented to Dr. Jackson, who will then prepare such cross interrogatories as he may deem proper. The direct and cross interrogatories, thus prepared, to be transmitted to the witnesses direct; answered by them under oath, and returned to the Department. In this way the whole matter may be disposed of in two weeks; and in the meantime the necessary information may be communicated to the land officers at Sault St. Marie, relative to the geology of the lands advertised to be sold in June next, that they may act understandingly and according to law in disposing of those lands.

"All of which is respectfully submitted, by your ob't servant,
JNO. WILSON, *Principal Clerk Surveys.*

"Hon. T. EWING, *Secretary of the Interior.*"

Mr. Wilson's judicious suggestion was acted upon; and a time having been fixed for a hearing, and notice given to the parties, the whole matter came up for examination before the Secretary, assisted by the Attorney General. [See Messrs. Foster and Whitney's defence, Appendix.]

The following instructions to Messrs. Whitney and Foster show the result:

"GENERAL LAND OFFICE, May 16, 1849.

"GENTLEMEN: On conference with the Secretary of the Interior, he has directed that the labors in the field of Dr. Jackson, U. S. Geologist for the Lake Superior District in Michigan, shall be considered as closed, and that he shall make such a full, comple, and elaborate report, on or before the 1st of November next, of the survey and explorations heretofore made in that District, as shall be a credit to himself and the nation.

"To enable him to comply with these instructions, you will furnish him, as soon as possible, with detailed reports of all the explorations and observations made by you, as his assistants, with maps showing the

boundaries of the mineral lands, with reference to the lines of the public surveys, designating their metalliferous character, and indicating the agricultural lands, and with copies of the views, plans, &c., which have been prepared by you while engaged in this survey.

"The Secretary also directs that you be instructed to go on and close up all further operations in the field, that may be necessary for a full, practical, and scientific report on the geology, metallurgy, and mineralogy of the whole of this district, and with special reference to the iron region, and to connect the same with the survey in Wisconsin, now in progress, under the charge of Dr. Owen.

"You will be governed in your operations by the instructions heretofore given to Dr. Jackson; copies of which will be furnished you if you have not got them.

"Your own compensation, as U. S. Geologist of the Lake Superior District in Michigan, under this appointment, will be seven dollars per day each, in full compensation for yourselves, while actually employed in this capacity; and you are authorized to employ two assistants at five dollars per day each; two sub agents at two dollars per day each; and such voyageurs and packmen as may be necessary at the usual rates.

"The travelling expenses of yourselves and assistants, to and from the field, will also be allowed, and the necessary expense of transporting specimens. At the close of your labors in the field, you will discharge all your assistants, and report to this Office a synopsis of your operations, to be laid before Congress at the next session, with the report of the Secretary. You will, as soon thereafter as practicable, furnish the Department with a report and maps or charts, setting forth the boundaries of the mineral region, indicating the character of each quarter section, and affording all the information necessary to a proper execution of the act of 1st March, 1847. You will press on the completion of this service with all diligence; and at the conclusion of it, transmit a detailed and scientific report of the whole region, with all the necessary maps, illustrations, &c., indicating the boundaries of the several systems of rocks, containing all analysis of minerals, ores, and soils, together with such magnetic and barometrical observations, and such other information as may be collected in your survey.

"You will call upon Dr. Jackson for the chronometers, maps, plats, and all other implements or property purchased or produced for the use of the geological survey, and now belonging to the United States, all of which Dr. Jackson has been instructed to deliver to you, or to your order, or either of you, taking your receipts in duplicate therefor.

"Dr. Jackson has also been directed to return to Mr. Foster the report and section furnished by him last winter.

"Very respectfully, your obedient servant,

"RICHARD M. YOUNG, *Commissioner.*

"Messrs. J. W. FOSTER and J. D. WHITNEY,

U. S. Geologists, Northampton, Mass.

Dr. Jackson's appeal, therefore, resulted in removing him from the further prosecution of the work in the field, and from the custody of the public property in his hands—the two points to which the charges went.

It resulted in the utter discrediting of the counter allegations made by him against Messrs. Foster or Whitney, and put them in sole charge of

the work, which they have ever since prosecuted with vigor, fidelity, and credit to themselves and the country.

It restored to Mr. Foster the report and map which Dr. Jackson had sought to appropriate to his own sole credit.

And it completely vindicated Dr. Jackson's friends, who had advised his resignation, from the charge of stupidity and nervelessness, which he had not scrupled to make against them.

The reader is left to his own commentary.

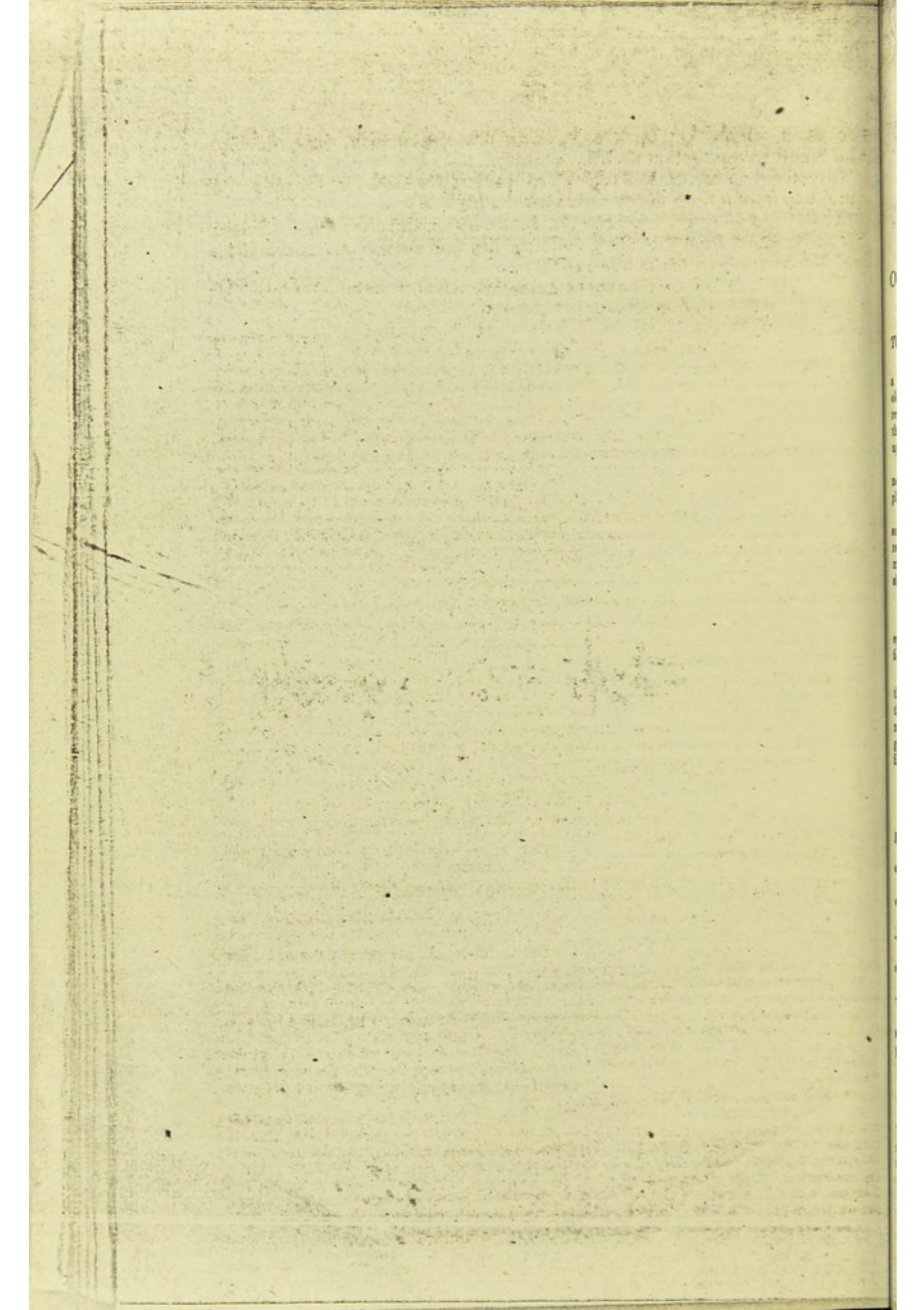
the first thing that I saw when I stepped out of the car was a man in a dark suit and a white shirt, with a tie. He was looking at me with a serious expression. I felt a little nervous, but I tried to keep my composure. He spoke to me in a low, steady voice, and I realized that he was a man of authority. He told me that I was in luck, and that I was going to have a very good time. He then turned and walked away, leaving me standing there, wondering what he was talking about.

I was standing there for a moment, trying to make sense of what he had said. Then I remembered that I was in a new city, and that I was alone. I felt a little lost, but I decided to follow him. I walked behind him for a few blocks, and then I saw him turn into a small, dark building. I waited for a moment, and then I went in. The building was old and dilapidated, but it had a certain charm. I was led to a small room, and I was told that I was to stay there for the night. I was a little surprised, but I decided to go along with it.

The next morning, I woke up in the room. I was a little disoriented, but I decided to get up and see what was going on. I went out of the room, and I saw a man in a dark suit and a white shirt, with a tie. He was looking at me with a serious expression. I felt a little nervous, but I tried to keep my composure. He spoke to me in a low, steady voice, and I realized that he was a man of authority. He told me that I was in luck, and that I was going to have a very good time. He then turned and walked away, leaving me standing there, wondering what he was talking about.

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APPENDIX.

OFFICIAL REPLY OF J. D. WHITNEY AND J. W. FOSTER TO C. T. JACKSON'S DEFENCE.

To the Hon. THOMAS EWING, Secretary of the Department of the Interior:

SIR: The undersigned, on application to the Department, having been favored with a copy of a letter addressed to the Secretary of the Interior, by Dr. Charles T. Jackson, United States Geologist, late in charge of the Geological Survey of the Lake Superior Land District, in reply to a report of John Wilson, Esq., Chief Clerk of the Public Surveys, touching the official conduct of the said Jackson, beg leave to submit the following answer thereto, and pray that it may be placed upon the files of the Department.

As that letter contains charges involving our personal veracity and scientific character, we see no impropriety in making this request. For the truth of any statements we may make in this reply, we stand ready to produce the testimony of men whose character cannot be impeached.

We strenuously maintain that we have not sought to become the public accusers of Dr. Jackson, and that we have taken no steps in this matter but such as we were compelled to, by a just regard for our own reputations and the public interest. But by his communications to the Department and his verbal statements, he has rendered it necessary, for our own vindication, that we should declare the whole truth touching his official conduct.

We will proceed to take up, in order, the several points in his letter.

1. It is charged that Dr. Jackson, during the two years in which he has been in commission, has spent less than four months, each season, in field explorations, and that the amount of labor performed by him during the fifteen months passed in Boston, would not equal fifteen days.

Dr. Jackson replies, "that all the time has been spent by him in field operations, each year, that was practicable, and that as no vessels start from Sault St. Marie until the middle of June, there is no means of reaching the mineral lands in the earlier part of the season." This announcement would be received with surprise by the inhabitants of Sault St. Marie, and by those navigating the waters of Lake Superior. To show how far Dr. Jackson's assertion corresponds with facts, we submit the following statement:

In 1847 the first vessel left that port for Copper Harbor on the 17th day of May.

In 1848 the first vessel left that port for Copper Harbor on the 10th day of May.

The passage between Boston and Copper Harbor, under ordinary circumstances, and with proper management, is accomplished in ten days.

In 1847 Dr. Jackson left Boston on the 7th of June, and arrived at Copper Harbor on the 26th of June.

In 1848 Dr. Jackson left Boston on the 20th of June, and arrived at Copper Harbor on the 8th of July.

On the 2d of October, 1847, and not in the middle of that month, as asserted in the letter, Dr. Jackson left the mineral region.

On the 30th of September, 1848, Dr. Jackson left the field, after having been engaged a few days over three months.

We admit that field operations cannot be prosecuted successfully after the 1st of October, but we deny that the region is not accessible until the middle of June.

Dr. Jackson enters into details to show the causes of his detention. After he was commissioned, he received \$2,000 from the Government, which was more than sufficient to transport the party to the field, and it was entirely unnecessary for him to remain with all his party, at an expense of nearly \$50 per day to the Government, at Detroit, awaiting the receipt of more funds. The same may be said with reference to the township plats, which were not used by the party under Dr. Jackson, during the first season.

It appears from Dr. Jackson's statement, that on the 9th of June, 1848, he arrived in Boston from Washington, with ample funds to prosecute the survey, and that the interval between that period and the 20th of June, was occupied in preparing instruments and filling barometers. Admitting this to be true, the question arises, why this was not done before the opening of navigation? But the recollection of Mr. Whitney, who was in the laboratory, is distinct upon this point, that Dr. Jackson was not, at least during the greater portion of the time, engaged in preparing instruments, but in publishing and circulating pamphlets relating to the ether controversy.

The other portion of this count will be replied to under another head.

2. That while Dr. Jackson was thus neglecting the interests of the survey, he has not hesitated, when applied to, to *lecture before public associations*, to examine mines and make assays for individuals, for which he has received considerable sums of money.

Dr. Jackson omits that portion of the allegation in *italics*, and responds to the remainder.

It is an indisputable fact, that during each winter since Dr. Jackson became connected with the survey, he delivered lectures in the towns adjacent to Boston, whenever applied to, and that he ordinarily received from \$15 to \$25 per lecture.

He delivered a course of lectures at Lynn and a course at South Boston, and several lectures at Worcester and other places. During the winter of 1847-'48, Dr. Jackson had no regular assistant, and performed considerable of the private business of the laboratory in person, and received all of the proceeds thereof himself. During the past winter, Dr. Jackson has employed Richard Crossley, Esq. to do the job work, who has received one-half, instead of the principal portion of the profits.

Whether it be proper for a public officer, in the receipt of a large salary, thus to devote his time to private business, is a question not for us, but the Department to decide.

3. Dr. Jackson employed Mr. Geo. J. Dickinson as an assistant in the laboratory, and paid him out of the funds of the Government, while his time has been, for the most part, devoted to making assays for individuals, for which Dr. Jackson has received the compensation.

Dr. Jackson admits the employment of Mr. Dickinson, but denies that he reaped the benefit of his labors.

We both have seen Mr. Dickinson employed in assisting Mr. Crossley in assaying copper ores, which assays, we understood, were made for the Revere Copper Company, at Point Shirley. Late in the spring, Mr. Whitney inquired of Mr. Dickinson whether he had done any chemical work for the Government. Mr. Dickinson replied that he had not, and assigned as a reason, that Dr. Jackson had given him none to do. He was subsequently employed in making re-agents for Dr. Jackson's laboratory, which were not consumed in the service of the Government.

4. That he has filled some of the subordinate posts of the survey with his pupils, young men, who were unacquainted with the woods or the nature of metalliferous deposits.

Dr. Jackson replies that the young men referred to were thoroughly skilled in these branches, and considered by him the most competent observers in the corps.

We assert, without fear of contradiction, that a large majority of the young men thus employed, never saw a copper vein before their arrival on Keweenaw Point; that they were unacquainted with the elements of geology and mineralogy, and had no experience whatever in woods-life. These men were transported, as a matter of favor, from the Eastern States, at the expense of the Government, to a new and untried field, where they proved an incumbrance instead of a benefit to the survey. It would be invidious to specify names, but as to the facts, there can be no doubt. After these "most competent observers" had a year's experience in the field, Dr. Jackson writes to Mr. Foster, under date of May 12, 1848, in regard to the appointments to fill the vacant sub-agencies, "I find real, practical mineralogists scarce. The old ones are all gone or employed, and the young men know nothing about the practical part of the business of collecting. A cabinet mineralogist is of no use in the field, for he can only find minerals after they are trimmed and got into pretty forms. We want men who have made their own cabinets." "*I do not know of a man who would answer my purpose.*"

Now, if these young men were "thoroughly skilled in ores and metalliferous deposits," and were the "most competent observers in the corps," why did he not at once transfer some of them to the vacant sub-agencies? Why this hesitation in finding practical men who would answer his purpose?

5. That up to the present time, he has not completed a single analysis of any kind for the Government, nor are we aware of his having been engaged in any chemical researches connected with the survey.

The results of Dr. Jackson's chemical investigations, as set forth under this head, appear truly wonderful on paper, and one is led to ask how so much could have been accomplished by him in so short a time.

We assert, unhesitatingly, that Dr. Jackson has not fully completed a single analysis of any kind for the Government, nor been engaged in any continued chemical investigations connected with the survey, since he was commissioned. He has given the details of certain chemical researches alleged to have been made by him in the winter of 1847-'48. We assert, unhesitatingly, that these assertions are utter falsehoods; they deserve not a milder name. Mr. Whitney, after the completion of his synopsis, in 1847, entered Dr. Jackson's laboratory, and was there employed during the whole winter, going there every morning between the hours of 8 and 9, and leaving every evening about 5 o'clock, and cannot be mistaken as to the manner in which Dr. Jackson passed his time. Dr. Jackson did not, during the time Mr. Whitney remained in the laboratory, perform any analytical work or make any investigation of any kind, connected with the survey, but was entirely absorbed in the discussion of the *ether* discovery, and the various topics growing out of

his controversy with Dr. Morton, and in the preparation of his lectures on geology and mineralogy. He also had several pupils under his charge, for whose nominal instruction, he received or charged considerable sums of money, and all of whom were beginners in chemistry, and not engaged in any work connected with the survey.

During the winter of 1848-'49, Dr. Jackson did not, at the most, devote more than three or four days to the interests of the survey. The analysis of the Lake Superior water, of which Dr. Jackson speaks, and "which required several weeks of continuous research," did not occupy more than a small portion of two or three successive days, and was incomplete, being little more than a qualitative examination, the quantity operated on being contained in three or four junk bottles, and by far too small to admit of an accurate analysis.

"I made," he says, "analyses of two minerals from Lake Superior, supposed to be new." It is true that Dr. Jackson announced to the Boston Natural History Society, and to the Secretary of the Treasury, that he had discovered two new minerals, which Mr. Whitney, however, a short time after their discovery, pronounced, from blow-pipe examination and crystallographic characters, to be both *apophyllite*, and so assured Dr. Jackson, who only made hasty examinations, not finished analyses, of them, having soon become satisfied of the correctness of Mr. Whitney's assertion.

Dr. Jackson more than once told Mr. Whitney, with regard to these analyses, that he had not completed them. So too, with regard to the *analcime*. Mr. Whitney maintained that it was *analcime*; Dr. Jackson asserted that it was not; and the analysis was never completed by him, but carried sufficiently far only, to convince him of the incorrectness of his opinion. Dr. Jackson did take the specific gravity of two or three specimens of native copper, the work of a few hours; but he made no further researches of any kind, as he asserts, with regard to the density or tenacity of copper.

To determine that the native copper of Lake Superior was preferable to that extracted from the ores of copper, required no series of experiments, and we are at a loss to know on what ground Dr. Jackson claims this as a discovery. It is well known that the ores of copper, for the most part, contain sulphur and arsenic, substances which are extremely deleterious to the copper, impairing its tenacity, and that after the roasting and fusion of these ores, they are not entirely driven off. The wire manufacturers of Waterbury, Connecticut, and the cannon founders of Springfield, Massachusetts, had, long before these experiments were made, determined and acted on the fact.

With regard to the metallurgy of the Lake Superior copper and silver, the only question of importance is, in what way the separation of these two minerals may be effected in the most economical manner. All that Dr. Jackson has done, has been to suggest that eliquation might be adopted—a process which he claims as original, but which has been known and practiced in the Harz for many years; but he has performed no experiments, and given no data, to show that this method could be advantageously employed; and the very company to which he communicated this suggestion, has, within the past year, sent a considerable amount of this copper and silver to France, in order that the French metallurgists might experiment upon it.

Dr. Jackson claims to have *exhausted* the metallurgy of this region; (the italics are his;) but, unfortunately for his fame, not a single company has yet even tried to act upon his suggestions.

If the various allegations made by us under this head are untrue, touching the amount of laboratory work done by him since his connection with the survey, he has the most ample means in his possession of proving them to be so. Every chemist keeps a laboratory journal, in which each process, so soon as determined, is recorded. This journal will show not only what has been done each day, but in different parts of the day. Let Dr. Jackson produce that journal. Let him designate what work was performed for the Government, and what for individuals. It will confirm or refute the allegations. Again we say, let the journal be produced; we ask no further evidence of the truth of our allegations.

6. That he has been unwilling that his laboratory should be employed for the purposes of the survey, notwithstanding the allowance made by the Government for its use.

Mr. Foster, after the completion of his report, in the winter of 1848-9, proceeded to figure the fossils of the Silurian limestones, and after having exhausted the specimens in his own collection, applied to Dr. Jackson to open the boxes belonging to the Government, then in the cellar of his laboratory. Dr. Jackson refused, on the ground that it would raise a dust. The only way that Mr. Whitney could obtain access to these specimens was to take a box in the morning before the arrival of the Doctor—he was not there generally before eleven o'clock, A. M., so that there was no sample time—open, examine, and repack the boxes.

He often strenuously objected to his laboratory being "lumbered up" by the boxes of Government specimens, and always seemed unwilling that any part of the building should be occupied for Government purposes. Indeed he often suggested that the Department ought to hire for him another room where he might display and arrange the specimens which he should require in writing his report. Instead of arranging the specimens in a suitable manner, they were, at his order, hastily repacked and placed in the cellar of his house, Dr. Jackson taking no other notice of them than occasionally to claim, as private property, any one which was peculiarly fine. The consequence is that almost every really valuable specimen, collected in the progress of the survey, is to be found in the private cabinet of Dr. Jackson, while the Government possesses a mere accumulation of rubbish.

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As to the allegation made by Dr. Jackson that Mr. Foster applied to become his pupil and was refused, it will excite as much astonishment among the several members of the corps, when they hear of it *for the first time*, as it did with Mr. Foster himself. He desires to say that he never entertained such an intention, and if he had, after an acquaintance of two years with Dr. Jackson, he would have selected some other preceptor. The assertion originated in an imagination somewhat prolific, and exceedingly liable to mistake its own wild vagaries for sober fact.

Dr. Jackson's opinion with regard to Mr. Foster's competency in his profession must have undergone a wonderful mutation, and the period when this mutation was effected may be placed on or about the 9th day of April last, *when Mr. Foster handed in his resignation*. It is a little curious to trace the progress of this change.

On the 8th of May, 1847, eight days after Dr. Jackson was commissioned to superintend the Lake Superior survey, he writes Mr. Foster as follows: "It would give me great pleasure to have you associated with me in the Geological survey of Michigan, as one of my first assistants, and I will endeavor to make arrangements to that effect." He then speaks of having offered the appointment to Dr. Locke, who desired to devote himself wholly to magnetic observations, and requests Mr. Foster to make no engagements for private surveys, until the question of Dr. Locke's acceptance is determined.

In his synopsis sent to the Department, dated October 27, 1847, he speaks of Mr. Foster as one "who had already had a large store of experience as a geologist on the shores of Lake Superior, and whose assistance proved of the greatest value. (*Vide Rep. Comm'r of the Land Office, for 1847-8.*)

In another official communication, dated November 16, 1848, he speaks as follows of Messrs. Whitney and Foster: "It gives me pleasure to be able to state that their researches have been made with fidelity, and that their reports will prove valuable to the country and interesting to science." (*See Rep. Comm'r of the Land Office for 1848-9.*)

On the 10th of January last, he writes Mr. Foster thus: "Your time is too valuable to be spent in copying your report, for we have work enough to do yet, of such a nature as to require scientific skill, which is not required in writing over a report."

Such are Dr. Jackson's opinions at different times, of a man, whom he asserts, he would not receive as a pupil.

Dr. Jackson further asserts that he refused to receive Mr. Joy into the laboratory as the private pupil of Mr. Whitney. Mr. Joy was willing to make analyses and examinations of Government specimens under Mr. Whitney's directions, during part of the day, and Mr. Whitney thought such an arrangement would be beneficial to the Government, and advised Dr. Jackson to consent to it, but he refused to. The real reason why he did so, was, that Mr. Joy, the winter before, having been his pupil, had candidly told Dr. Jackson, upon his inquiring, that he (Joy) did not consider that Dr. Jackson's instructions had been of any value to him, so deeply had Dr. Jackson been absorbed in the ether controversy, that he was unable to devote any time to his instruction.

7. That the Commissioner of the General Land Office had repeatedly urged upon the necessity of making a report setting forth the boundaries of the mineral region, with a view of recommending definite action; that in his synopsis of the 22d of November, he assured the Department that "detailed reports are now in process, and will be sent in during the winter;" that the assistants proceeded to draw up detailed reports, accompanied with maps, sections, &c., which were nearly ready for transmission by the 1st of February, but were never called for; and that all he ever did towards fulfilling his assurances to the Commissioner, was to draw up a rude sketch of a report, the work perhaps of half a day, occupying two pages of foolscap.

Without stopping to discuss the point whether this charge be illogical or not, as asserted by Dr. Jackson, we will proceed to discuss the facts at issue.

When Dr. Jackson left the field last fall, he had in his possession all of the materials necessary to report to the Department the boundaries of the mineral region—all that was required to enable him to designate what was mineral land, and what not. Messrs. Foster and Hill had furnished him with a geological map of Keweenaw Point, on which were laid down the boundaries of the trap—the copper bearing rock. Dr. Jackson and party, in 1847, had spent nearly an entire season on Isle Royale, and Messrs. Dickinson and McIntyre had devoted another season to its exploration; and when we consider that that island is but 45 miles long, and from four to eight miles in width, the inference is that sufficient time had been devoted to its examination to enable a competent geologist to lay down the boundaries of the rocks accurately. Mr. Whitney was prepared to report on the region lying between Portage lake and the Montreal river. These several districts comprise all of the mineral region. *All of the township plats needed for this purpose had been furnished.*

Dr. Jackson speaks of having *submitted* to the Department a map of Keweenaw Point. It would have been more proper to have said that he *exhibited* it to the Department; for we aver that it was never placed on file, or presented as an official document. "It is true," remarks Dr. Jackson, "that I assured the Department that detailed reports were in progress. The report of Mr. Foster was not received until the middle of March, and I was told that Mr. Whitney's report could not be completed before the 1st of June next. During the entire winter, I have urged upon him the importance of completing it, as no general outline of the geology of the country could be prepared by me until I had received the detailed reports of my assistants."

It would be difficult to crowd a greater number of misstatements within the same compass of language, and the whole passage exhibits a fertility of invention rarely met with.

The report of Mr. Foster bears date January 24, the time when it was ready for delivery in Boston; but Dr. Jackson was at that time in Washington, and did not return until a few days before the adjournment of Congress.

Mr. Foster went to Boston on the 22d of January, expecting to meet Dr. Jackson; and after remaining until the 9th of February, and finding that there was no immediate prospect of his return, left for home. Dr. Jackson was informed in Washington as early as the 25th, that the report was ready, and would be forwarded if desired, and that Mr. Whitney's would soon be ready. Mr. Whitney, it is true, wished that an arrangement might be made by which he could incorporate additional details in his map, before the publication thereof; but it is untrue that Dr. Jackson was told that Mr. Whitney's report would not be ready before the 1st of June. Dr. Jackson has probably Mr. Foster's letter to him while in Washington. *That letter will show precisely what was proposed, and Dr. Jackson is at liberty to produce it.*

That it was Dr. Jackson's intention, after the termination of the field operations last year, to report on the boundaries of the mineral region at the ensuing session, is evident from the following extracts from his printed synopsis; under date of November 16, he says:

"The synopses are general accounts of districts, which will be minutely described in the detailed reports *which are now in progress, and which will be completed during the coming winter.*" He then speaks of having forwarded the map of Keweenaw Point, and adds, "that district I shall describe in full detail in my report."—*Vide Comm'r's Rep., p. 153, for 1848-9.*

Under date of November 22d he uses the following language: "The detailed reports are now in progress and will be sent to you some time during the winter."—*Ibid, p. 185.*

On page 190 occurs this passage: "The whole of Keweenaw Point is surveyed with sufficient accuracy to limit the lines of the mineral land."—"This is the region which has received most of my personal attention."

Note the contradiction between these passages and the assertion in the letter, "that the geology of the country had not been sufficiently explored to comply with these directions."

In a letter to Mr. Foster, dated January 10, Dr. Jackson says: "You can have time to make a copy of it, (the map of Keweenaw Point,) while I am making my general report to go with the assistants' reports. *Whitney's will soon be ready.*" Further on he says: "Get your report ready as soon as possible, for I shall have to make an introduction to it, and the time is short, and much is to be done." "Whitney is hard at work on his report." Thus it would appear, that ten days before Dr. Jackson left for Washington, he had heard nothing to lead him to infer that Mr. Whitney's report would not be ready until the 1st of June. Mr. Whitney, at that time, seemed to realize the "importance of completing it."

What is the meaning of this language? One of two things is true. Dr. Jackson was either guilty of attempting to impose a deliberate misstatement on the Department, or he fully intended to lay before it a detailed report. We will adopt the more charitable conclusion. The question arises, Why did he not do it? Between the 15th of October and the 15th of January, he was in Boston; and we have seen by the letter above referred to, that up to the 10th of January he had done nothing towards preparing a report. About that time he left for Washington on business unconnected with the survey, where he remained until about the 1st of March. When too late to prepare a report, he discovered that by his *original* instructions this was not required of him until the completion of the survey. He seems to regard these instructions like the laws of the Medes—as irrevocable—and that the Department could make no modifications.

The reports of the assistants were in no degree necessary to enable him to describe "the region which had received most of his personal attention." Theirs related to a region where Dr. Jackson had never been, and never expected to go; and we are at a loss to know why Dr. Jackson should find it necessary to "make an introduction to those reports" before he could describe the geology of Keweenaw Point.

8. That in conducting the field operations, he has been regardless of the interests of the Government. That he lacks system, &c.

To rebut this allegation, Dr. Jackson cites his instructions to the assistants. The most remarkable feature in these instructions is, that Mr. Foster is directed to *explore several townships in the district of Dr. Owen.* In this particular, Mr. Foster took the responsibility of violating those instructions.

9. That aside from his visits to the mines, which lie in the immediate vicinity of the lake shore, and his coasting in a boat from point to point, he has not, during his connection with the survey, travelled over thirty miles in the mineral region.

We propose to set forth, precisely, the manner in which Dr. Jackson has passed his time while on Lake Superior, in order that the Department may judge whether or not he has been regardless of the public interests. For this purpose we have indicated, on the accompanying chart of the Lake Superior land district, the extent of his travels. The yellow lines represent the points he visited during the first year. The blue lines, those visited by him during the second. It will be seen how small a portion of the district has fallen under his personal observation. We have also

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added notes; so that it can be readily determined where he was at any particular time, and the length of time he remained.

Dr. Jackson arrived on Keweenaw Point, for the first time, after he was commissioned, June 26, 1847. Between this period and the 18th of July, he made an excursion to Eagle river, visiting the Cliff, Copper Falls, and Boston and Lake Superior mines, distant about 30 miles from Copper Harbor, and, at the furthest, less than four miles inland. He also made an excursion around the eastern extremity of Keweenaw Point to the Lac La Belle mines, distant by water 30 miles, and occupying one day; crossed to the Alliance Company's works, distant, say 5 miles, measured Mount Houghton, and then returned by boat to Copper Harbor.

On the 18th of July, he embarked on board of the Julia Palmer for Isle Royale, where he arrived on the 23d. On the 27th, he left in a boat to circumnavigate the island, which was accomplished by the 13th of August. With the exception of an excursion from Scovill's Point to Dunan's Bay, distant about two miles, not one of the party penetrated the island to the distance of twenty rods.

Between this date and the 14th of September, Dr. Jackson remained in camp at Rock Harbor. The most he did was occasionally to take a true observation, which occupied about 15 minutes each day. He made one excursion inland, about two miles on a good trail.

On the 14th, he went to Copper Harbor. On Monday the 20th, he left for Eagle Harbor, visited the Copper Falls, Northwest, Cliff, Suffolk, Boston, and Lake Superior mines. On the 2d of October, he left the field for that season. Such is an abstract of his labors. Nothing was done towards developing the geology of that region, or complying with the provisions of the act creating the survey. Whatever work was done was confined to the mines, which were the property of individuals. He did not determine the geology of a single township, or a single quarter section. The amount of time actually employed by him in coasting along the lake and examining the shores, would not exceed one month. The remainder of the season was spent in camp, or in voyaging on steamboats.

On the 8th July, 1848, Dr. Jackson arrived at Copper Harbor to resume his operations for the second season. On the 13th, he visited Manganese Lake, distant about three miles.

On the 14th, he left in a boat to go to Lac La Belle, where he arrived on the afternoon of the 15th; Mr. Foster accompanied him. The object was to indicate on the township plats the position of the several bands of trap and conglomerates as exposed along the coast. Dr. J. contributed nothing in this respect, and rarely took a geological note. When opposite the Bohemian mountains, Mr. Foster observed that the trap had protruded through the sandstone, so as to form an antidual axis, and was anxious to have the party stop and fully explore the region, but Dr. J. ordered the men to press on, alleging as a reason that *he would lose his dinner*. This was a point of great geological interest, inasmuch as it threw light on the relative age of the bedded and imbedded trap and the associated sandstones. Late in the season, Mr. Foster was detained there four days before the lake was sufficiently calm to enable him to examine this point. A few hours only were required when there in the spring. On the 17th, most of the party returned by trail to Fort Wilkins, on Copper Harbor. Between this date, Messrs. Foster and Hill were engaged in exploring the geology between Copper Harbor and Eagle River, and tracing out the limits of the rocks. During this time Dr. J. was unemployed. He may, however, have repaired a barometer, and taken a time observation or so.

On the 23d, the party moved to Eagle River, and took up their headquarters at the Boston and Lake Superior Company's location, where they remained for three and a half weeks. During this period, Messrs. Foster and Hill crossed Keweenaw Point several times, exploring the geology and putting their observations on the township maps. They constructed several sections across Keweenaw Point, and made plans of most of the mines. In these excursions they were unaccompanied by Dr. Jackson, nor did he manifest any interest in the progress of the work. Dr. J. paid a visit during this period to his friend Mr. Bay, where he remained several days. He also went to the Cliff, Northwestern, and Copper Falls mines. Most of these excursions were made by Dr. Jackson on horseback, and were confined to an area of less than six miles square.

On the 9th of August, he embarked on board of the boat with Messrs. Foster and Hill, who were going to the Portage to make examinations in that vicinity.

After we had been under way more than half a day, Dr. J. found that his blankets had been left, and ordered the party to return. Mr. Foster remonstrated, and offered him the use of his own blankets. Dr. J. said he would not sleep under another man's blankets. Mr. Foster replied that they were washed but a few days before, and entered into a calculation to show that it would cost the Government something like fifty dollars to send the men back after the blankets. Dr. J. said he did not care what it cost, he was going to punish the men (voyageurs) for their negligence. After much persuasion, he was induced to continue on. That night we camped at Portage, and the next day Messrs. Foster and Hill, unaccompanied by Dr. Jackson, who remained in camp, made the necessary examinations in that region. They then dropped down the lake about four miles, and went ashore. Mr. Foster and Mr. Hill that day crossed Keweenaw Point to Portage Lake, and were employed for one or two days in exploring that region. During this period Dr. Jackson remained in camp, and amused himself in fishing. We then returned to Eagle River, where we arrived on the 12th.

The interval between the 12th and 15th was employed by Messrs. F. and H. in completing the plans of the mines, &c.

Dr. J. did not appear at the office where they were employed, but spent his time in a bar-room, at the mouth of the river, haranging miners, discussing and administering ether for the amusement of the crowd.

Between the 17th of August and the 2d of September, Messrs. Foster and Hill were actively employed in superintending and completing the geological map of Keweenaw Point, the plans of the mines, and the geological sections. From the commencement to the completion of the work, and it embraced the operation of an entire season, they were not indebted to Dr. Jackson for a single observation. They had examined his note-book, and found that his observations were vague and unsatisfactory. It contained no information which could be located or made available. Once only they had recourse to it. They were in doubt as to the relation which the jasper bore to the trap on Mount Houghton. They knew that Dr. Jackson and his whole party, the year previous to their connection with the survey, had been on the mountain, and it was reasonable to infer that so important a point would not escape him; but, on recurring to his notes, they were satisfied that his observations were wrong, and Mr. Hill afterwards visited the mountain, and satisfied himself of the correctness of the conclusion of Mr. Foster and himself.

While Messrs. Foster and Hill were thus employed at Copper Harbor, Dr. Jackson was deeply absorbed in reading *Ten Thousand a Year*. He very soon discovered a marked resemblance between Tittlebat Titmouse, the hero of that work, and Dr. W. T. G. Morton, the rival claimant for the discovery of etherization, and in the famous firm of Quirk, Gammon & Snap, he recognised R. H. Eddy & Co., the attorneys of said Morton. Whenever he came across a passage peculiarly rich, he would rush into the room where they were engaged, read it for their edification, and accompany it with illustrations. This became so annoying, so interfered with the progress of the work, that they finally had to request him, in decided but respectful terms, not to intrude on them in business hours.

After the completion of the map, Mr. Foster proposed the following title: "Geological Map of Keweenaw Point, Lake Superior, prepared under an act of Congress entitled, &c., by C. T. Jackson, U. S. Geologist, J. W. Foster, assistant, and S. W. Hill, surveyor." Dr. Jackson was unwilling that the names of Messrs. Foster & Hill should appear in connection with a work which they had constructed mainly from their own observations—a work to which Dr. Jackson had contributed nothing, and it was with great reluctance that he finally consented.

A drawing of this map was made, while the original was transmitted to the Department. This drawing was exhibited by Dr. Jackson as *his* map of Keweenaw Point; and on more than one occasion, he remarked with a self-satisfied air, "this will convince the Department that *I* have not been idle."

The original map transmitted from Copper Harbor, soon reached the Department, and Dr. Jackson was advised of it after his return to Boston, say in November. He was desirous that Mr. Foster should execute a copy from the drawing, but he was busily engaged on his report and section, and replied, suggesting to Dr. Jackson the propriety of placing it in the hands a competent draughtsman in Boston.

There were one or two points with regard to the geology, of which Mr. Foster was not fully satisfied, particularly the relation of the jasper to the trap on Mt. Houghton, and he had requested Mr. Hill, who remained in the district during the winter, to re-examine them, and transmit his notes to Boston, at the earliest possible period. He did so. Mr. Foster further suggested to Dr. Jackson, by letter, the necessity of having this additional information incorporated in the map. When Mr. Foster's letter was read in the presence of one of the subordinate members of the corps, he suggested the propriety of waiting until Mr. Foster arrived in Boston, and that he should map the information contained in Mr. Hill's notes. "Pooh," said Dr. Jackson, "what does Foster know about that map?"

The plans of all the mines were constructed from measurements made by Mr. Hill, and the sections by Messrs. Foster and Hill, and yet Dr. Jackson was unwilling that their names should appear in connection with the work.

On the 2d of September, Dr. Jackson and Mr. Whitney left in one boat, and Messrs. Foster and Hill, in another, for L'Anse, each having a distinct object in view. Dr. Jackson to examine the coast; Mr. Whitney to explore a mass of limestone which the linear surveyors had discovered west of Keweenaw Bay; and Messrs. Foster and Hill to explore the region lying between Lakes Superior and Michigan. Both parties arrived at L'Anse on the 7th September.

On the 8th, Mr. Whitney left for the limestone deposit, intending to rejoin his party at Fire Steel river, crossing the point by following a line and trail, the distance being about forty-five miles. Mr. Whitney, after having examined this deposit cursorily, and finding that he had barely provision enough to last him through, was compelled to hurry on. He forwarded specimens to Dr. Jackson containing fossils, and informed him that it would be impossible for him to examine it thoroughly. Although the distance to this deposit from L'Anse is only nine miles, and for the most part the route is on a good trail—although Dr. Jackson remained for five days unemployed at that point—he declined going to it, pleading the importance of his astronomical work, and sent an order to Mr. Whitney, at the mouth of Fire Steel river, to return and examine it in detail; thus compelling Mr. Whitney to travel sixty-eight miles, with provisions and equipage, to accomplish what Dr. Jackson could have accomplished by travelling eighteen miles.

After having remained five days at L'Anse, as above stated, comparatively unemployed, Dr.

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Jackson, on the 13th September, embarked to return to Copper Harbor. On the 15th he reached the Quincy Mining Company's location, on Potage Lake, where he remained five days to get an observation of the sun; during which time he examined the Quincy mine. He then left for Torch Lake, from which point he crossed by trail to Eagle River, distant eighteen miles. October 2d, he embarked on board of the propeller for the East.

Such is the history of Dr. Jackson's operations on Lake Superior during the two years in which he has been connected with the survey. The following are the distances travelled by him for the purpose of inland exploration:

From Rock Harbor, Isle Royale, to Turner's Rock and back.....	4 miles.
From Lac La Belle to Copper Harbor.....	8 "
From Torch Lake to Eagle River.....	18 "
Total.....	30 "

Dr. Jackson makes use of this language: "I also fully explored the interior of Keweenaw Point, from one end of the mineral region to the other, making cross and longitudinal sections, fully verifying the results determined upon the coasts, working up the topography of the interior, and fixing the proper points for successful mining." This language will sound extraordinary to those who are familiar with his operations in the mineral region. We have seen that Dr. Jackson has crossed the point but twice; a section was constructed along one of these lines only. There are five other sections across the point, over routes never traversed by Dr. Jackson; and if he made cross sections, they must be altogether ideal. He worked up the topography of the interior! Not a township plat contains even a pencil mark of his. He has fixed the points for successful mining! The whole population of the mineral region will wonder when they see the announcement.

Dr. Jackson says that unusual facilities were afforded for exploring the geology of the country, on and near the coast. The coast of Keweenaw Point is more than one hundred and fifty miles in length. For twenty miles the coast is trap—the copper bearing rock; while one hundred and thirty miles is made up of sandstone—the unproductive rock.

No geologist, with the chart before him with the routes traversed by Dr. Jackson indicated thereon, would say that the explorations had been sufficiently extended to enable him to make a full and satisfactory report. He has not explored the valuable copper ranges of Isle Royale and Keweenaw Point. He has done nothing towards complying with the law requiring him to designate what is mineral land and what is not.

10. That by his aversion to labor, and his disposition to loiter about the mines, he has retarded the operations of the assistants, by whom every map, section, and plan of the mines has been made; that they have not been indebted to him for a single observation in the execution of the work, and yet when completed, he has been unwilling that they should have any share of the credit.

In reply to this charge, Dr. Jackson asks, with a triumphant air, how his disposition to loiter about the mines could have retarded the operations of Mr. Foster on the Menomonee, Mr. Whitney on the Ontonagon? Mr. Foster was with Dr. Jackson during the first season, from the 18th July, about three weeks after he arrived in the field, until the close of his operations. He was with him during the second season, from the 8th of July, 1848, the time he arrived at Copper Harbor, until the 13th of September, nineteen days before he left the mineral region for the season. Thus Mr. Foster was under the immediate direction of Dr. Jackson during the whole period of his field operations in the mineral region, with the exception of about forty days. His reply is an evasion of the issue.

He says further, that he cannot allow Mr. Foster to absorb all the work done by himself, his surveyor, and sub-agents, but will give him the credit of being a skilful draughtsman. Mr. Foster never attempted to claim what did not rightly belong to him. Dr. Jackson cannot deny that Mr. Foster had some little reputation in that region as a geologist, and that the circumstance of his being a skilful draughtsman was not the reason of his having been tendered the first place on the survey. If Mr. Foster was simply "a skilful draughtsman," we say Dr. Jackson abused the appointing power in his hands in conferring on Mr. Foster the place of Assistant U. S. Geologist. He attempted to impose a falsehood on the Department, when he informed the Secretary, in 1847, that "Mr. Foster had a large store of experience as a geologist on the shores of Lake Superior, and whose assistance proved of the greatest value." He disregarded the interests of Government in confiding the exploration of the most difficult region in the District—a region which alone afforded a key to the geology of the whole district—to a man who was simply "a skilful draughtsman."

It is true that the principal part of the heights were determined by Mr. Barnes, to whose care the barometer was confided. The mere reading of the vernier was an operation requiring about as much science as the reading of a thermometer; and to have made the argument complete, Dr. Jackson ought to have asserted in terms equally positive, that the thermometer was also read by Mr. Barnes.

As to the real participation of Dr. Jackson in the matter of sections, maps, plans of the mines, &c., and this disposition to credit to every one what rightly belonged to him, we have spoken under

another head. To show how scrupulous and conscientious he is on this point we will cite one more instance.

In an article published by Dr. Jackson in Silliman's Journal for 1846, he asserted that the sandstone associated with the trap of Keweenaw Point was probably the "New Red." Mr. Foster, on the other hand, had maintained that it was an older rock—as resting at the base of all the fossiliferous rocks. Dr. Jackson had sneered at Mr. Foster for maintaining this opinion. In crossing the country between Lake Superior and Lake Michigan, Mr. Foster subsequently found sandstone resting on the azoic slates on the northern slope of the antidual axis, and also occupying the same position on the southern slope, surmounted by the lowest fossiliferous limestone—thus settling the age of the sandstone in the most satisfactory manner. Agreeably to Dr. Jackson's instructions, Mr. Foster communicated to him the results of his observations on arriving at the mouth of the Menomonic. (*Vide Rep. Comm'r Land Office for 1848-49, p. 159.*) Dr. Jackson took occasion to appear before the Boston Natural History Society immediately after his return, and announce that he had determined the age of the sandstone of Lake Superior; that it was not the New Red, as maintained by him in 1846, but that it rested at the base of all the fossiliferous works. He never mentioned the name of Mr. Foster in connection with this matter, but claimed it as *his* discovery.

Dr. Jackson cannot plead that the survey was a unity, and that he was entitled to claim the results of his assistant's labors; for it was the distinct understanding when Mr. Foster became connected with the survey, that the assistants were to report their own work. That this was the distinct understanding is evident from the report of Dr. Locke in 1847, and the published synopsis of the other assistants. It is also evident, from the fact above cited, that Dr. Jackson was to write an introduction to the reports of Whitney and Foster.

The records of the Natural History Society, taken in connection with the foregoing explanation, will show whether Dr. Jackson or Mr. Foster was disposed to absorb the credit of *all* the work.

12. That most of the latitude and longitude observations which have occupied much of his time in the field, are found on calculation to be entirely worthless.

Dr. Jackson replies: 1. That the observations cannot, from their nature, prove incorrect, because he has been familiar with the use of the sextant for twenty years, and then asserts, that the *young gentleman* who presumes to criticize his work, was incompetent to pass an opinion on such matters, since he received his first and only instruction from him. In reply to the first branch of the response, Mr. Whitney states the following facts, which he has drawn from an examination of Dr. Jackson's observations.

It is a fact that Dr. Jackson's observations for the determination of the time differ at the same place on successive days several seconds, and often a whole minute from each other. For example, by observation of the sun at Eagle river on—

Aug. 1.	Chronometer too fast.....	1h. 10' 14.9"
2.	" " ".....	1 10 42
4.	" " ".....	1 11 28.8
5.	" " ".....	1 10 14

Take another example, by observations on the sun at Copper Harbor—

Aug. 18.	Chronometer too fast.....	1 ^o 11' 1.9" by one set.
"	" " ".....	1 9 51 by another.
"	" " ".....	1 8 59.9 "

During the time these observations were being taken, the chronometer used by Dr. Jackson had a tolerably regular rate, any variations from which would have only made a difference in the tenths of seconds. It is useless to multiply extracts. The figures on record will prove that his observations were so inaccurate that it would be entirely impossible to determine the rate of the chronometers from them; and where it is considered, that a difference in the determination of the time of one minute, a difference often made by Dr. Jackson in his observation on successive days at the same place, would make a difference of no less than 13 miles in the position of the place the longitude of which was to be determined, it will be seen at once how preposterous his claims are when he proposes to correct the work of the linear surveyors by his measurements; and it will not be thought to require a great amount of experience to detect such gross errors, nor will a person by exposing such glaring errors subject himself to the charge of presumption.

As to the second branch, Mr. Whitney states that he did not learn to use the sextant, or receive any instructions in practical astronomy from Dr. Jackson at any time; on the contrary, as far back as 1840, while engaged as an assistant on the geological survey of New Hampshire, he on several occasions, at Dr. Jackson's request, adjusted his sextant for him. Mr. Whitney had been taught, long before, the practical use of such instruments by one of the most skillful mathematicians and astronomers in New England.

Dr. Jackson asserts that these observations never exceeded thirty minutes in a day. We have Mr. Thayer's statement that Dr. Jackson waited five days at Portage lake to obtain an observation of the sun. He remained also at L'Anse for the same purpose, and gave this as an excuse for not visiting the deposit of limestone before referred to. The principal part of Mr. Joy's time during the first year, and of Mr. Thayer's during the second, was devoted to calculating these observations.

1875

The first of these is the fact that the population of the United States has increased from 39 million in 1870 to 123 million in 1900. This increase has been the result of a number of causes, the most important of which are the immigration of foreign-born people and the increase in the birth rate. The immigration of foreign-born people has been the result of a number of causes, the most important of which are the desire for better living conditions and the desire for better economic opportunities. The increase in the birth rate has been the result of a number of causes, the most important of which are the desire for larger families and the desire for better living conditions.

The second of these is the fact that the population of the United States has become more urban. In 1870, only 23 percent of the population lived in cities of 25,000 or more people. By 1900, this figure had risen to 55 percent. This increase in urbanization has been the result of a number of causes, the most important of which are the desire for better living conditions and the desire for better economic opportunities. The increase in urbanization has also been the result of the fact that the population of the United States has become more educated. In 1870, only 12 percent of the population had completed high school. By 1900, this figure had risen to 25 percent.

The third of these is the fact that the population of the United States has become more diverse. In 1870, the population of the United States was 90 percent white. By 1900, this figure had fallen to 80 percent. This decrease in the proportion of the white population has been the result of a number of causes, the most important of which are the immigration of foreign-born people and the increase in the birth rate of non-white people. The immigration of foreign-born people has been the result of a number of causes, the most important of which are the desire for better living conditions and the desire for better economic opportunities.

The fourth of these is the fact that the population of the United States has become more mobile. In 1870, only 10 percent of the population had moved from one place to another within the United States. By 1900, this figure had risen to 30 percent. This increase in mobility has been the result of a number of causes, the most important of which are the desire for better living conditions and the desire for better economic opportunities.

The fifth of these is the fact that the population of the United States has become more educated. In 1870, only 12 percent of the population had completed high school. By 1900, this figure had risen to 25 percent. This increase in education has been the result of a number of causes, the most important of which are the desire for better living conditions and the desire for better economic opportunities. The increase in education has also been the result of the fact that the population of the United States has become more urban. In 1870, only 23 percent of the population lived in cities of 25,000 or more people. By 1900, this figure had risen to 55 percent.

The sixth of these is the fact that the population of the United States has become more diverse. In 1870, the population of the United States was 90 percent white. By 1900, this figure had fallen to 80 percent. This decrease in the proportion of the white population has been the result of a number of causes, the most important of which are the immigration of foreign-born people and the increase in the birth rate of non-white people. The immigration of foreign-born people has been the result of a number of causes, the most important of which are the desire for better living conditions and the desire for better economic opportunities.

Finally, the opinion of Lieut. Maury is cited to the effect that these observations are as correct as might be expected with the sextant. Mr. Whitney in reply states that he has found no difficulty in bringing out his observations to seconds, and even tenths of seconds. But granting that these observations are as correct as might be expected, the question arises, what is the use of taking them at short intervals in a country which has been surveyed by chain and compass, when the position of a point is found to vary 15 miles on successive days?

13. That he has appropriated the public funds to his own use by drawing them from Bank long before his salary was due; and, while paying himself in advance, has refused, and still refuses, to pay his assistants, averring that he needs the funds to pay his other debts, and that by complying with their request he will be under the necessity of resorting to a loan.

Dr. Jackson pronounces this "utterly untrue," and says he "cannot conceive what is meant by this gross accusation." "I therefore repeat," he adds, "that this charge is an utter falsehood." We desire to submit a few facts, which are susceptible of proof, and from these facts the Department can infer the truth or falsity of this charge.

Dr. Jackson before leaving the field in the season of 1848, not only paid himself for the remaining work, but also appropriated \$500, the allowance for his laboratory for the ensuing winter. Mrs. Jackson had written him that he must retain from the public funds about \$700, to meet certain individual debts on his return to Boston, and in order to do it, it became necessary to pay himself in advance, and to furnish the assistants with funds barely sufficient to enable them to reach home. At a later period, after having received another draft from the United States Treasury, he paid them for their summer's work.

If Dr. Jackson's transactions with the Tremont Bank be examined, the following facts would, probably, be disclosed. That he was in the habit of depositing the Government funds in said Bank to his individual credit, and checking them out indiscriminately to pay his individual debts and the debts of the survey. That on or about the 15th of January last, he borrowed a certain amount of money from said Bank, and shortly after went to Washington. That on his return to Boston, about the 1st of March, he cancelled said note by depositing a Government draft to his individual credit.

After having received this draft, which was sufficient to pay all the arrearages in the way of salaries, he directed Mr. Whitney, then acting Clerk of the Survey, to pay the assistants to the 1st of January, averring that he needed the remainder of the funds to pay his other debts, and that if he paid them in full, he would be under the necessity of resorting to a loan.

Between 1st of January and 9th of April, Mr. Foster repeatedly requested him to pay the arrearages due him, knowing that he had ample funds in his possession applicable to that purpose. To these requests Dr. Jackson did not reply. Having purchased in an adjoining State a certain instrument, the cost of which was \$50, Mr. Foster drew a check on Dr. Jackson for that amount, informing him of the fact, and proposing to forward the amount if he were not disposed to honor the check. He did honor it, but declared that it was a piece of impertinence on the part of Mr. Foster, and that he would teach him better manners. At that time there was due Mr. Foster not far from \$650, and Dr. Jackson had ample funds in his possession, as the disbursing officer of the Government, to pay him.

On the 12th of April, after Dr. Jackson had transmitted his resignation to Washington, and after he had read the letter of Mr. Foster to the Secretary, complaining, among other things, that their salaries were withheld, Dr. Jackson requested his personal friend, Jos. Hale Abbott, of Boston, to settle with Messrs. Foster and Whitney. They accordingly met Mr. Abbott at his house for that purpose. Mr. Abbott presented Mr. Foster with a check on the Tremont Bank, signed by Dr. Jackson, for the amount due him, and then turning to Mr. Whitney, remarked substantially in these words: "Dr. Jackson wishes you to wait two or three days for the amount due you, until he can ascertain how his account stands with the Bank. He informs me that, according to his account book, he has a balance in his favor, but that he this morning signed several blank checks for his wife to fill up, and he is fearful of overdrawing his account." At that time there was a balance in his hands, after the payment of his own salary, of between one and two thousand dollars.

We would further state, that Dr. Jackson did not receive an additional remittance between the 3d of March, when he directed Mr. W. to pay his assistants to the 1st January, and the 12th April, when he directed Mr. Abbott to settle with them in full.

Such, then, are the facts. Whether they support the allegation, or whether it falls to the ground, we leave it to the Department to decide.

We will do Dr. Jackson the justice to say, that we do not believe that he ultimately intended to defraud the Government; but we do regard it as highly culpable in him to apply the public funds to the payment of his individual debts, and thus to withhold the assistants' salaries. We have both been compelled to resort to loans to pay our current expenses when considerable sums were due us from the Government, and when Dr. Jackson, as the disbursing officer of the Government, had ample funds in his possession for the payment thereof.

Dr. Jackson sneers at Mr. Thayer, whose statement is on file, as to the manner in which the survey has been conducted. "He is a young man," he remarks, "without the slightest knowledge of geology or general science, and incapable of understanding observations made be-

fore his eyes." He was the person employed to calculate all the barometrical and astronomical observations—a task, it will be allowed, requiring more skill than the mere mechanical operation of taking them, and more knowledge than is required "in common arithmetical computations." He was subsequently employed to compile the early history of the Lake Superior region, from the *Lettres Edifiantes*, written by the Jesuits, who were the first to traverse that region. Mr. Thayer was for several years connected with Harvard University as a teacher and assistant librarian, and was also employed there in the assistant's observatory. He has recently left for Europe to pursue his education, furnished with highly commendatory letters from Edward Everett and Jared Sparks.

Dr. Jackson remarks, that the opinion of Mr. Greely, late member of Congress from New York, "would be entitled to the highest consideration, if he were at all conversant with the subject of geology."

Mr. Greely has an interest in the Lake Superior region—has visited it twice since the survey was instituted—is cognizant of the manner in which it has been conducted, and knows the public sentiment in relation to it. We presume, too, that he is, in some degree, familiar with the subject.

Toward the conclusion of Dr. Jackson's defence occurs this passage: "*Having, on my own responsibility, and against the opinion of scientific men in this country, and practical miners, first pronounced the working of veins of metallic copper to be feasible and profitable, and having first demonstrated the fact now realized by practical operations on Lake Superior, that those mines would prove richer as they descended into the rock, I naturally felt a peculiar pleasure in presenting to this country and to Europe the facts relating to a district which presents an entirely new chapter in the history of metallurgy.*"

We cannot allow Dr. Jackson to monopolize the credit of having been the first to call public attention to this region. It was through no recommendation of his, that mining capital was first directed in this channel. The lamented Houghton, years before Dr. Jackson pressed the shores of Lake Superior, had traversed the entire region, and systematically surveyed that portion of the country to which Dr. Jackson's observations have been mainly confined; but, unfortunately, his notes perished with him. Dr. Locke was on Isle Royale a year before Dr. Jackson arrived on Lake Superior, and it was under his direction that most of that island was located. The principal part of Keweenaw Point was covered with permits, and companies were organized and engaged in the work of exploration. While Dr. Jackson was located at a single point, and his observations were confined to a limited area, such men as Hall, and Mather, and Rogers, and Ducatel, his equals in science, his superiors in energy, were taking a bird's-eye view of the whole region, and acquiring a knowledge of the great features of its geology. These men were as instrumental in calling the public attention to these regions as Dr. Jackson, and we challenge him to produce a passage from the reports of any of these men against the feasibility of working the veins.

The fact that one thousand permits to locate lands in the mineral region were granted, and that a thousand others were applied for by citizens in different parts of the Union, proves the holders of, and applicants for, these permits, at least regarded the working of these veins as "feasible and profitable." Dr. Jackson found himself in the midst of a current, then sweeping towards the copper region; but so far from directing this current, as he vainly supposes, he was simply borne along with the mass. What he claims as "discoveries," were the prevalent opinions of those engaged in these pursuits. Many of these opinions were extravagant, as the result has proved; but no man was more extravagant than Dr. Jackson, and no man's opinions have been less verified.

He will pardon us if we refuse to admit, that "he first suggested they would prove richer as they descended into the rock." All veins, as a general rule, so far as relates to those in igneous and metamorphic rocks, and have an indefinite range downwards, increase in richness the deeper they are penetrated. This is the result of observations in all mining districts. This was known to Werner: it is to be found in any treatise on Mineral Veins. Every captain of mines knows it and acts upon it, whether on Lake Superior, in Cornwall, or in the Harz. It rests at the base of all mining enterprises. The master of a steam engine might with as much propriety claim to be the discoverer.

We are also at a loss to conceive in what way the working of these mines, or the phenomena of the veins, is to constitute a new chapter of *metallurgy*—an act relating exclusively to the extraction of metal from their ores.

We have thus answered in detail most of the issues presented in Dr. Jackson's letter. It has been a task which we would gladly have avoided; but it became necessary, by the acts of Dr. Jackson himself, for our own vindication.

Geology is eminently a science of observation. The results are to be gained only by incessant toil. The phenomena of the rocks, such as veins, deposits, strata, and their numerous fossils, must be seen by the geologist in person. Second-hand observations are not to be trusted. It has been elevated to the dignity of a science, at once practical and instructive, by the exertions of men who were willing to toil, and who braved exposure. Mere theorizing, or an ingenious adaptation of particular theories to particular phenomena, avail not. The Department expected from Dr. Jackson something practical, something available. They did not wish him to compile an elementary treatise on geology, because others have done the work better than he could do it. They cared little about the angles of a crystal of copper, they preferred that he would designate

THE PRESIDENT'S ADDRESS
TO THE CONGRESS
OF THE UNITED STATES
AT THE CITY OF WASHINGTON
ON MONDAY, JANUARY 3, 1861

J. B. Reade

THE PRESIDENT'S ADDRESS

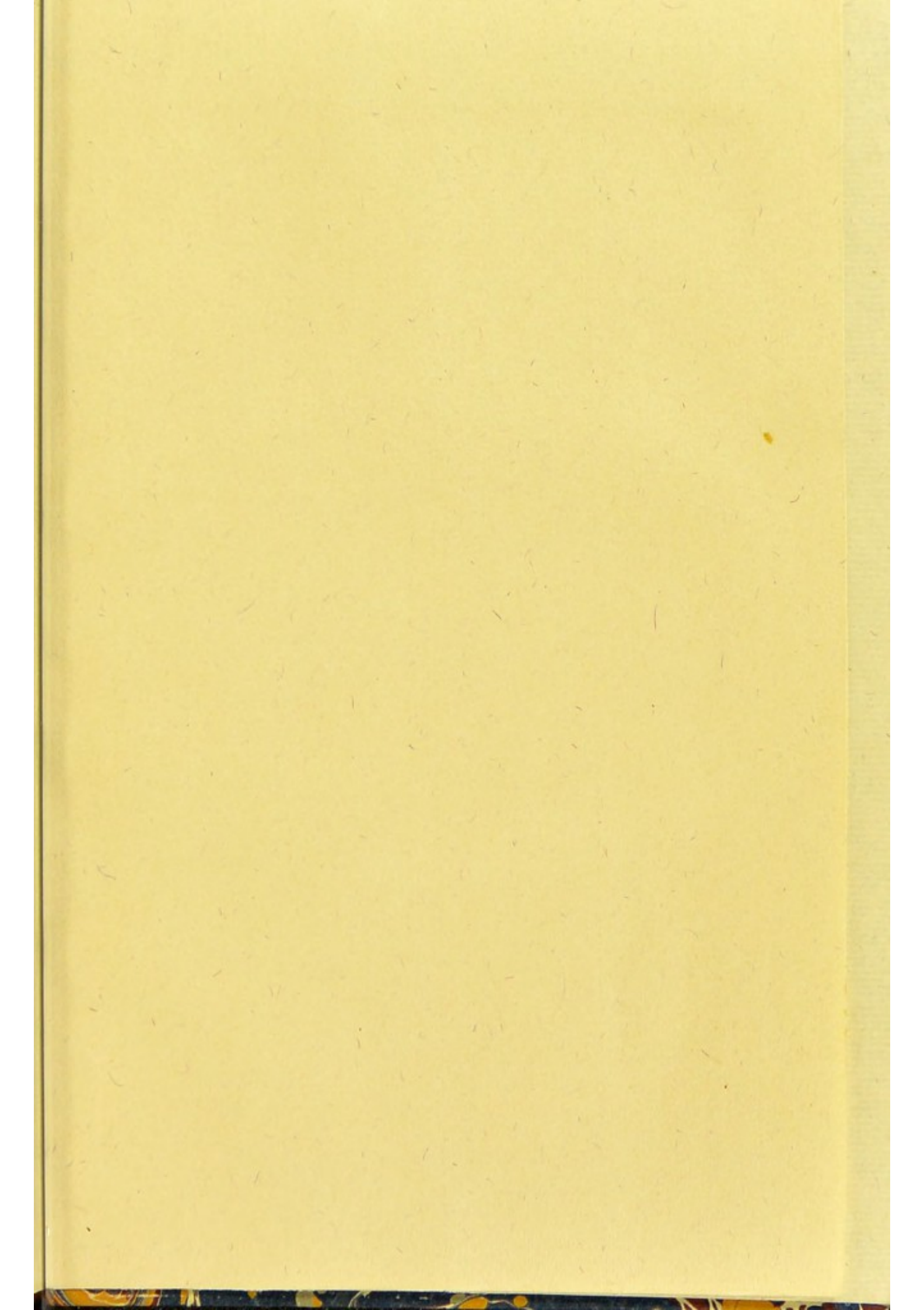
the points where it would probably be found in mass. They cared little about analyses of rare and curious minerals in the veins, they wanted assays of the metallic contents. Dr. Jackson lost sight of the great objects for which the survey was instituted. He was averse to encounter the hardships which were required to enable him to carry out the wishes of the Department, but was disposed to regard it as a pleasure excursion to collect specimens of minerals along the shore of the Lake.

✓
J. B. Reade ?

THE PRESIDENT'S ADDRESS.

✓
J. B. Moore

THE PRESIDENT'S ADDRESS



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