

Confidential

The Executive Committee of the Marine Biological Laboratory, deeming it impossible to obtain a meeting of the Trustees of the Laboratory in time to return an answer before October 25, to the resolutions of the Executive Committee of the Carnegie Institution made at their meeting at the Fifth Avenue Hotel, New York City, October 3 and 4, 1902, beg to reply for the Trustees of the Marine Biological Laboratory as follows: --

1. That the general principles stated in the communication of Dr. Billings, that would govern the Executive Committee of the Carnegie Institution in its recommendations to the Trustees of said Institution, provided that the property of the Marine Biological Laboratory be deeded to the Carnegie Institution, are in some essential respects so different from anything that has hitherto been considered by the Corporation and Trustees of the Marine Biological Laboratory, that they would not feel justified in authorizing the transfer of the property of the Corporation without adequate reconsideration by this body and the Trustees.

2. They therefore desire to state their opinion that the Marine Biological Laboratory should for the present retain its independence.

3. In pursuance of the suggestion of the sixth article of the communication of the Executive Committee of the Carnegie Institution, the Executive Committee of the Marine Biological Laboratory would respectfully request a grant of 10,000 dollars a year for a period of three years, the Marine Biological Laboratory on its part agreeing to place twenty research tables at the disposal of the Carnegie Institution, the occupant of each to be furnished with supplies and material substantially as is done by the Naples Laboratory.

COLUMBIA UNIVERSITY
DIVISION OF
PHILOSOPHY, PSYCHOLOGY AND ANTHROPOLOGY

Garrison-on-Hudson, N.Y. October 8, 1902

Dear Whitman:-

I saw Wilson yesterday and the day before, and he has given me news that you will doubtless be glad to learn, namely, that Dr. Billings does not now intend to recommend taking over the laboratory in November, but proposes to make an offer of a grant of \$10,000 a year for three years. Please regard this as confidential until you hear from Wilson or Billings. Under these circumstances I think that it would not be advisable to circulate the petition at present, at least not unless you are sure that a large majority of those interested would sign it. I shall myself be glad to do so.

I ought also to tell you that Wilson does not like the reference in your article stating that the initiative in regard to owning the laboratory by the Carnegie Institution came from the trustees of the laboratory. He has written a letter, proof of which I enclose.

Very truly yours,

J. M. K. Cattell

Professor C. O. Whitman,
University of Chicago

Enclosure

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DISCUSSION AND CORRESPONDENCE.

THE MARINE BIOLOGICAL LABORATORY AND THE
CARNEGIE INSTITUTION. SOME MATTERS
OF FACT.

THE article by Professor Whitman in the issue of SCIENCE for October 3d, entitled 'The Impending Crisis in the History of the Marine Biological Laboratory,' contains much that is excellent by way of statement of general principle, but raises certain questions of fact that should be clearly understood by the general scientific public. The discussion carried on during the negotiations with the Carnegie Institution turned largely on the proposition that the existing property of the laboratory should be transferred to the Carnegie Institution, and was especially concerned with the question whether, under the reorganization thus necessitated, the scientific independence and representative cooperative character of the laboratory would be surrendered.

As chairman of the executive committee of the laboratory during the course of the negotiations I ask attention to two principal points in regard to which Professor Whitman's letter creates, I think, a wrong impression concerning the action of our own trustees and those of the Carnegie Institution.

The first is contained in the following passage (p. 511):

"It is due to the trustees of the Carnegie Institution to say that the proposition to acquire the laboratory as a condition to supporting it did not originate with them. This is the humiliating side of the situation in which we now find ourselves. They were told that the laboratory was in dire financial distress, that some local western institution was scheming to get possession; in short, that there was an emergency requiring immediate action to save the institution. *They were asked on what terms they would consent to own and support it.*" (Italics mine.)

I desire to state that, by the insertion of the words 'to own' in the above passage, the form in which the matter was laid before the Carnegie Institution by our committee is changed in an essential particular. No such question was asked or suggested in any of the official correspondence, all of which passed through my hands; and if such a request or suggestion

was privately made by anyone connected with the laboratory it was without the authorization, and without the knowledge of the executive committee. On the contrary, the opinion was expressed to the Carnegie trustees that 'An organization similar to the existing one would be preferable if compatible with adequate financial support' (quoted from a letter to Secretary Walcott dated March 8); and in communications addressed to President Gilman, Secretary Walcott and others the Carnegie trustees were only invited to offer suggestions as to 'the best practicable organization that would commend itself to the Carnegie Institution as an assurance of its national representative character' (quoted from the same letter to Secretary Walcott).

The suggestion that the Carnegie Institution should own the property of the laboratory first came to the Marine Biological Laboratory trustees from a subcommittee appointed by the Carnegie executive committee to consider and report upon the general proposition to support the laboratory; to the best of my knowledge and belief it originated with members of this subcommittee. It was based on the ground that a guarantee of *permanent and continuous* support, involving the purchase of land, erection and equipment of buildings, and the regular contribution of funds for running expenses, could only be promised the laboratory by placing the Carnegie trustees in a position of financial control and responsibility. The grounds for taking this position were fully and repeatedly explained to the representatives of the laboratory as an obvious necessity of *good business management*; and at no time during the negotiations was the least ground given for the suspicion that an *unfair advantage* was being taken of the emergency created by the financial difficulties of the laboratory. In the various discussions which took place the line was clearly drawn between financial control and scientific control.

The second point, therefore, to which attention is directed is the nature of the guarantee of scientific independence offered the laboratory by the Carnegie committee. From Professor Whitman's letter it might be inferred

that the only assurance of freedom of action lay in the personal statements of 'one or two of our trustees.' His meaning will doubtless be clear to those familiar with the basis of agreement, but as a statement to scientific men in general, who are not fully cognizant of the true situation, it is somewhat misleading. It is due alike to the Carnegie Institution and to the scientific public to state that *the entire scientific management of the laboratory, under the proposed arrangement, is placed in the hands of a representative board of scientific men, the constitution, powers and functions of which are fully defined in a set of by-laws roughly drafted by our own representatives in consultation with those of the Carnegie Institution, submitted in writing to every member of our board of trustees, discussed and modified in subsequent meetings of conference committees, and finally adopted by unanimous vote of the board at their last meeting before action by the corporation.* Nominated to the Carnegie trustees by members of the laboratory, and subject only to the limits of the appropriations made by the Carnegie Institution and of income from other sources, this board of managers is given entire control of the scientific management of the laboratory and its dependencies, and is by the by-laws constituted an advisory council to the Carnegie Institution. The only conditions limiting the action of this board were that it should include one representative of the Carnegie trustees, and that, in accordance with the terms of Mr. Carnegie's endowment, the Carnegie funds were not to be devoted to purposes of elementary instruction. To many of the trustees and members of the corporation it has seemed that this organization not only gave the scientific management the utmost freedom consistent with sound financial management, but by the constitution of the board as an advisory council to the institution gave it full opportunity to exert its influence in molding the future policy and development of the laboratory.

Whether the working plan thus outlined is adequate to the present needs and future development of the laboratory is no doubt open to discussion; and it may be stated on good

authority that it will not be consummated, either in its present form or with modifications, without giving abundant further opportunity for such consideration. To maintain, however, that such a plan involves the abandonment of the principles of scientific representation, cooperation and freedom, would I think be at variance with the facts. That the laboratory has hitherto stood for these principles, and owes its success largely to their successful application, is undeniable; and that such cooperation has been possible in so large a measure is a lasting honor to American biologists. But before adopting a pessimistic view of the prospects of retaining the real substance of these much-to-be-desired blessings under the proposed Carnegie reorganization, it may be well to ask ourselves, in all candor, whether the history of the laboratory under its existing organization has left us above criticism.

EDMUND B. WILSON,

Chairman of the Executive Committee of the Marine Biological Laboratory during the period of the negotiations with the Carnegie Institution.

THE COOLING OF GASES BY EXPANSION AND THE KINETIC THEORY.

IN SCIENCE for August 22 there appears an abstract of a communication presented by Mr. Peter Fireman at the last meeting of the American Association, in which the cooling and heating effects in the classical experiment of Joule are referred to a sort of fractioning process of the slow and swift molecules. How rigorous a treatment he has given the subject I am unable to judge from the abstract, in which it is merely stated that, if a molecule enters the vacuum receiver at a high velocity, it will retain this velocity, while if a slower moving one enters, it will soon meet with a swifter one and exchange velocities with it. Just how the fractioning process occurs is not very clearly stated.

This same explanation, only in a much more complete form, was given by Natanson more than thirteen years ago. His treatment will be found in *Wiedemann's Annalen*, Vol. XXXVII., page 341.

R. W. WOOD.

SAN FRANCISCO,
September 8, 1902.

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SOME MATTERS OF FACT OVERLOOKED BY PROFESSOR WILSON.

PROFESSOR WILSON seems to think that the general scientific public is in danger of getting 'a wrong impression' of the situation at Woods Holl from my article in SCIENCE of October 3; and in order to prevent this he offers some criticism and insinuations which, I think, may produce a worse impression than the one he desires to correct. Let me say, therefore, to begin with, that our different standpoints and opinions have been, and will doubtless continue to be held on perfectly friendly terms. 8/

Professor Wilson has favored merging the laboratory in the Carnegie Institution, and he has insisted very strongly that the independence of the laboratory would not be thereby endangered in any essential respect. This view was naturally seductive, for what friend of the laboratory would not welcome a permanent support which could be had without the sacrifice of a single principle or condition of vital importance? The financial difficulties under which we have so long labored predisposed all to accept relief and forget the risk. The assurance that there was no real risk from the one who had carried on most of the negotiations for our side, and the conditions proposed by the Carnegie committee all tended to allay doubt. Our organization was to remain essentially as it is, our work was not to be interfered with, we were to direct the policy of the laboratory as hitherto, and our needs in the way of land, buildings, boats, libraries, etc., were to be provided for; in short, we were to have a permanent laboratory with staff and equipment

for work throughout the year, a laboratory that would rival the best in the world. So bright did the prospect appear to Professor Wilson that he could speak of it as '*beyond the dream of avarice.*' With all my faith in Dr. Wilson's sagacity, I cannot escape the suspicion that he has been under the spell of some trance-like illusion, which, for the time being, excludes a calm consideration of 'matters of fact.'

If the latest communication from the Carnegie committee does not dispel the illusion, I do not know what will. This communication has gone to all our trustees and will probably be announced at the proper time. It is sufficient to say, that it conclusively confirms the position I have taken, namely, that the laboratory should remain forever independent, but always ready for cooperation and always grateful for such support as its work may deserve.

This is the main point of my paper, which Professor Wilson criticises in a spirit that seems to me to fall a little short of amiable; but I hope I am mistaken in this.

As the matter now turns, we may rejoice that our trust and our mistakes have not been confounded by the Carnegie trustees; and we are most deeply indebted to their wisdom, frankness and generosity. It is now, I believe, needless to follow Professor Wilson further on this point, as he has been answered by the communication above mentioned more effectively than by any arguments that I could offer.

There is just one incident bearing on this point, which I wish to recall as a significant matter of fact. After our corporation meeting, August 12, a petition was drawn up by one of the members and presented to Professor Wilson for approval. That part of the petition which concerns us here was as follows: 'We, therefore, hope that the trustees of the Carnegie Institution may find it possible to support the Marine Biological Laboratory in the manner proposed, *without requir-*

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ing it to become a branch of the Carnegie Institution. Professor Wilson read the petition, and at once declared that he was willing to sign it. When the petition was presented a few days later, Professor Wilson, for reasons that need not be given here, declined to give his signature, and the petition was consequently abandoned. The incident is significant as showing that at that time Professor Wilson was willing to endorse a preference for preserving the independence of the laboratory. I believe every member of the corporation would have been glad to sign such a petition, had it seemed safe and proper to do so. The fact throws light on the situation as a whole, and as it is no secret, I feel justified in bringing it forward.

I regret that Professor Wilson does not seem to approve of the publication of my paper in SCIENCE. I felt that the time had come for me to remove the misunderstanding in regard to my position. I stated the situation as I understood it, and frankly avowed my desire to preserve the independence of the laboratory. I submitted the paper to a number of the trustees and finally to Dr. Billings, who consented to its publication. Professor Wilson stigmatizes my view as 'pessimistic' and closes with a reference to past criticisms of the laboratory which might well have been omitted as wholly unprovoked and uncalled for. This is the most unkind cut of all, that a friend of the laboratory should thus covertly countenance its calumniators.

One point more. Professor Wilson objects to my saying that the plan of acquiring the laboratory as a condition to supporting it did not originate with the trustees of the Carnegie Institution. I stated the matter as I understood it and as I still see it. Professor Wilson was not the only one on our side who at first had a hand in determining events.

We have been repeatedly told by the Carnegie committee that they should have pre-

ferred to recommend support without ownership, and one of them distinctly stated in Professor Wilson's presence that it was the 'emergency' placed before them which led them to the proposition finally made to us. It is little to the point to refer to the official correspondence, for there were preliminary discussions. We all know who formulated the proposition, and I have authority which no one will dispute for saying that its author did not originate the plan, but simply formulated it as the result of the preliminary discussions between the members of our and of their special committee.

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I can not, and *have not*, asserted that Professor Wilson originated the plan; but I think it safe to say that he knew of the plan before it was presented, that he approved it, presented it, and opposed the alternative plan of support without ownership, which was the preference of the Carnegie trustees. By all this Professor Wilson made himself its god-father.

In the passage quoted by Professor Wilson the statement is made that 'they were asked on what terms they would consent to own and support it.' 'No such question,' says Professor Wilson, 'was asked or suggested in any of the official correspondence.' I did not pretend to give exact words, nor did I assert that the question occurred in the official correspondence. It is a mistake however to say that this correspondence did not suggest it. It did suggest it to me, and I think my statement fairly summarizes the attitude assumed on our side.

If Professor Wilson asked or suggested support that involved '*an obvious necessity*' of ownership by the Carnegie Institution, and if he has never objected to such ownership, but has objected to support that did not involve ownership, the objection to my words cannot be very serious.

C. O. WHITMAN.

CHICAGO, October 14.