

DR. ALBERT P. MATHEWS RAISES HIS VOICE AGAINST CARNEGIE PLAN TO ABSORB WOOD'S HOLE LABORATORY



THE MARINE BIOLOGICAL LABORATORY AND UNITED STATES FISH COMMISSION BUILDING AT WOOD'S HOLE, MASS. Wood's Hole was captured last week by Rear Admiral Higginson in his sham attack upon the land forces.

DR. MATHEWS PROTESTS.

THINKS CARNEGIE INSTITUTE SHOULD AID, BUT NOT ABSORB, THE WOOD'S HOLE LABORATORY.

The researches made at the Wood's Hole (Mass.) laboratory, by representatives of many of the leading educational institutions of the United States have attracted the attention of the scientific world and brought the laboratory prominently into the public eye.

There is nothing architecturally striking about the place, and the startling discoveries relative to the subtle problem of life were made in three modest wooden buildings by the water side. The fifteenth annual session of the Marine Biological Laboratory closed on August 22. The men who worked there and whose reports have caused wide comment were hampered by insufficient means and slight equipment, and the encouragement received was of a nature which would have dampened the ardor of less sincere and enthusiastic men.

"If learning to control steam and electricity," said an officer of the laboratory, "has meant so much to the human family, what will it mean to control life itself?"

They look toward the time when science will demonstrate that life is purely a matter of chemistry or of mechanics.

Many people who had become interested in the work done at Wood's Hole and who were ambitious to see the laboratory enlarged and become the most important in the world were greatly pleased when it became known that it would become a part of the Carnegie Institution. The plan was to purchase the present plant and make it the nucleus of the new and enlarged and perfected laboratory.

It seems, however, that the project is not indorsed by all the men who have labored at Wood's Hole and who have contributed to win for the place its enviable position in the realm of science. Dr. Albert P. Mathews, professor of physiological chemistry at the University of Chicago and a member of the instructing class at Wood's Hole, says, in a letter to The Tribune:

The policy of the Carnegie Institution is of such importance to the scientific life, and thereby to the welfare of the country, that the step recently taken toward the acquisition of the property of the Marine Biological Laboratory at Wood's Hole, as recorded in The Tribune of the 24th inst., is of great interest.

While there is no disagreement on the desirability of aiding the Wood's Hole laboratory, there is a difference of opinion whether the plan suggested is the best one. Although that laboratory has had the slender income of some \$8,000 a year, it has yet made for itself a wide reputation. It has produced more good work than any other biological laboratory in the world in the same time, with the possible exception of the Naples station. Nowhere else, certainly, has so much been done with so small an expenditure of money. The corporation of the laboratory, which consists of a large number of men and women interested in biology, has in its fifteen years of existence acquired about \$15,000 worth of property, but is at present about \$10,000 in debt, as the running expenses have regularly slightly exceeded the income. The magnificent scientific results secured with so meagre an outlay have been largely owing to the self-sacrifice, the broad minded policy and the remarkable personality of the director, Professor C. O. Whitman. It is clear, then, that the laboratory does not come to the institution penniless, and that the benefits are not all on one side. So far from the Carnegie Institution endowing the Marine Laboratory, it is rather the Marine Laboratory which endows with its prestige, its enthusiasm and its achievements in science the Carnegie Institution.

It was proposed to the corporation that they should deed the Marine Laboratory to the Carnegie Institution, he latter agreeing to construct new buildings, acquire land and provide \$20,000 a year for running expenses. By this transfer the laboratory gains a certain amount of money, better buildings and equipment, and its debts are paid. On the other hand, it loses its control of the future, it turns over to the Carnegie Institution about \$15,000 worth of land and buildings, and, having become a department of that institution, it cannot expect to receive aid from other sources. Twenty thousand dollars a year is not sufficient for the laboratory if this is kept open throughout the year, as is contemplated, as it already costs about \$10,000 to keep it open for three months. The salaries of the staff at the Naples Zoological Station amount to about \$20,000 a year; to secure similar services in this country would require at least double that amount. If the laboratory retains its independence, but receives aid from the Carnegie Institution, it may confidently hope to receive assistance from other sources and can continue its own development; but once it becomes a department of the Carnegie Institution other aid will largely cease, and its development must conform to the plans made by the Carnegie trustees.

From the financial point of view of the laboratory, looking to the future, it is eminently desirable, then, that the final transfer of property should not be consummated, but that a grant be made to the laboratory from the Carnegie funds. This would accord with the policy of the Carnegie Institution as already announced, which is that of co-operation with existing institutions. The purchase of buildings or grounds could safely be left with the present management, who could determine in what way the money granted could be best invested, for the results achieved in the past justify confidence in the future. It is to be hoped that the Carnegie trustees will recognize this fact.

There is still another reason why the step contemplated may arouse grave doubt in the minds of scientific men. It may fairly be questioned whether the acquisition of this property does not form a precedent which may be detrimental to the best interests of American science. When founded, it was announced that the Carnegie Institution did not intend to build a new university, but to use its funds in co-operation with existing institutions to encourage and aid research. We were told that the money would be appropriated to aid individuals, to provide them with apparatus and suitable assistants, and to buy their time from teaching so that they could be free for research. Scientists, whether biologists or not, cannot see without regret the implied departure of the Carnegie Institution from this wise policy in the step proposed.

The Carnegie Institution has a greater opportunity to benefit science and thus mankind, than any other in the country. In founding a charitable institution of this nature Mr. Carnegie has shown great wisdom, for that is the more farsighted charity which seeks to prevent evil and suffering, rather than that which seeks to ameliorate their results. Never before has a similar sum of money been given, untrammelled by conditions, to be applied solely for the extension of human knowledge, with the alleviation of suffering which such an extension means. It concerns each of us to see that that money is put to the wisest possible use. Buildings perish and crumble away, but the achievements of science are imperishable; they remain a lasting endowment for the whole human race, diminishing suffering, increasing happiness and sooner or later determining the question of life or death for each one of us.

In conclusion, then, in spite of the immediate pecuniary relief secured by the plan of the Carnegie Institution, I feel, looking to the future, that the means promised will be far from adequate for the needs of the laboratory, that outside assistance will be largely or entirely lost,

and that the development of the Marine Laboratory will be hampered by the necessity of having the laboratory conform to the plans of the Institution for Zoology, Botany, Physiology, Physiological Chemistry and Pharmacology; in short, that the Carnegie Institution will do a better service to science by leaving the Marine Laboratory its independence. By the general body of American scientists, also, protest against the proposed transfer could well be made, on the ground that a harmful precedent is thereby established, which, if followed, will seriously impair the usefulness of a great benefactor.

I think I express the opinion of the majority of the scientific men of the country that it is desirable that the trustees of the Carnegie Institution should grant financial assistance without requiring the transfer of the property of the corporation.

WORK OF THE LABORATORY.

MANY WONDERFUL FEATS HAVE BEEN PERFORMED THERE—REPRODUCTION BY CONJUGATION.

The Marine Biological Laboratory at Wood's Hole was founded in 1886, fifteen years after the United States Fish Commission took up its quarters there. It has been the property of private individuals who saw the necessity for a laboratory in which to make biological investigations and erected one. The stockholders have had to furnish funds from time to time since then, because the enterprise never paid expenses.

Many remarkable things have been achieved by the scientists at the laboratory, but these say that only the first steps have been taken and more wonderful feats will be accomplished. Dr. Calkins' experiments on infusoria are looked upon by students as among the most noteworthy. In reference to these a writer said recently:

"Infusoria and certain other unicellular substances maintain themselves by what is termed conjugation. At a certain period of existence infusorial life degenerates and threatens to expire. At this point two individuals coalesce, conjugate and issue in a new, a rejuvenated individual. It is a process akin to the familiar

method of propagating life, except that the parents expire in the birth of the new individual. If infusoria are not permitted to conjugate they cease to exist.

"In the progress of these experiments Calkins has repeatedly allowed his subjects to go so far into decrepitude that millions died and only a few individuals, and they in the last stages of degeneration, were left. Then he has resuscitated them and started them off on a new career."

What is called by the scientists regeneration is another of the startling achievements. In the place of injured organs new members are sprouted, and the experiments are illustrative of the theory that all living things exhibit this power of regeneration in some degree. Grafting together different parts of animals has been another line of work in the laboratory, and wonderful feats have been accomplished. One incident is quoted where the eggs of sea urchins were artificially divided before they began to develop, and this produced twins and triplets from a single egg. Some of these experiments lead people to ask: Is it possible to grow a better limb for a bad or destroyed one? Is it possible to graft animal upon animal as one grafts plant upon plant? Is it possible to renew the youth of the decrepit creatures or to imitate the action of the heart or to make serviceable nerves? And, pointing to the experiments at Wood's Hole, some scientists have answered in the affirmative.

FISH JAPANESE DIET.

From The Philadelphia Press. The Japanese eat more fish than any other people in the world. With them meat eating is a foreign innovation, confined to the rich or, rather, to these rich people who prefer it to the national diet.

LOGIC.

From The Ohio State Journal. "The vessel is on the rocks!" shouted the captain, thrusting his head in the ship's saloon. "That's good news," remarked the idiotic passenger, who was taking his first trip abroad. "So long as we are on the rocks, we can't sink."



WORKMEN REMOVING THE FORTRESS CONSTRUCTED UPON THE TEMPLE OF BEL IN THE PARTHIAN PERIOD