

James W. Underwood, teacher of biology, high school, Negaunee, Mich.: color variation and other features of the natural history of *Litorina palata*. (*Scientific assistant.*)

Donald D. Van Slyke, Ph.D., assistant in Rockefeller Institute for Medical Research: the action of enzymes.

Edward M. Weyer, Ph.D., professor of philosophy, Washington and Jefferson College: the behavior of the remora.

The facilities of the laboratory have likewise been utilized to a considerable extent during the months not comprised in the regular summer session. Dr. B. M. Davis and Mr. George T. Hargitt occupied tables during the spring of 1908, and Dr. Davis has enjoyed the privileges of the laboratory throughout the entire winter of 1908-9. For the past three years the director has resided almost continuously at Woods Hole, occupied primarily with the report upon the biological survey. In the compilation of this report he has been assisted, first by Mr. J. W. Underwood and later by Miss E. M. Chapman. From time to time requests have been received from investigators at various institutions for materials for embryological or other studies, or specimens of marine plants and animals. Some of these persons have come to Woods Hole for this purpose. While it is far from the policy of the bureau to operate a supply department for the free distribution of marine specimens, such requests for materials have in special cases been granted. In general it may be said that the demand for a marine laboratory which shall be operated continuously throughout the entire year is increasing, and it is the frequently expressed hope of many persons that the Bureau of Fisheries will in time be able to make provision for the maintenance of such a station at Woods Hole.

During a portion of the coming season the director will be relieved of all administrative duties in connection with the lab-

oratory, in order that he may complete several pieces of unfinished work. During this period, Dr. Raymond C. Osburn, of Columbia University, will serve as acting director.

It is requested that applications for laboratory tables shall be submitted at the earliest possible date.

FRANCIS B. SUMNER

WOODS HOLE, MASS.,

April 30, 1909

THE PLANS AND WORK OF THE GEORGE WASHINGTON UNIVERSITY

THE discussions in the public press seem to call for an authoritative statement of the educational work and condition of the University.

1. Prior to 1902, when the present administration assumed charge, there was a day college, with less than a hundred students, and a faculty of eleven professors and teachers. There was also the Corcoran Scientific School, doing undergraduate work in the evening, which was conducted by the professors of the day college. These professors received salaries in the day college ranging from one thousand to eighteen hundred dollars a year, and seventy-five per cent. of the students' fees for the evening work. This arrangement was made between the faculty and the university to prevent any liability on the part of the university for the expenses of the evening college. In this college there was some work given in engineering and architecture. The Law School was conducted by lawyers in practise and judges in service, no one giving his entire time and attention to its management or to teaching. The Medical School was conducted in the same way, by practising physicians, there being no professional teachers employed giving their whole time to the educational work.

2. The first change adopted under the present administration was to discontinue the Corcoran Scientific School, merge it with Columbian College, and require all class-room

work to be done between the hours of nine in the morning and half-past six in the afternoon; the laboratories and libraries to be kept open, with assistants, until ten o'clock. The objects in view were to unite the student body and create a spirit of unity, and place all the college work upon the basis of absolute equality. The entrance requirements were advanced to conform with those of eastern colleges. Part of the work taken by full-day students and all of the work of the part-day students was given in the afternoon between half past four and half past six o'clock, so that the two groups came into class-room association. As the students employed during the day do not have the same time for the preparation of their class work, they were limited to a less number of hours per week. This increased the period within which the half-day students could earn a degree by one or two years. The effect of this change upon the faculty was to put all of the professors on a salary basis, cutting out the fee system. In the faculty there were differences of opinion as to the wisdom of this change.

3. The next change inaugurated was to employ professional teachers in the professional schools. In the Law School, four men, exclusive of the President, are now employed, who give their entire time to teaching. They teach by the case method, which requires much time in preparing for class work and trained ability to impart knowledge. This does not displace or in any way discount the excellent work done by lawyers and judges of very high standing who are still conducting work in the school. Its purpose was to establish in the City of Washington a law school of the type prevailing in the best universities, where men who desire the most thorough training in the law would be able to secure it. A full day law course beginning in the morning was established, with fourteen hours work per week required. This was done to attract the students who give all their time to study and desire to have it fully occupied. An afternoon course of ten hours per week is given for students employed through the day. Thus the needs of the two groups of students were met.

To the students giving part of their time a less number of hours is required, but the same quality of teaching provided. By increasing their attendance to four years afternoon students may cover the entire work while full day students complete it in three years. The part-day students may receive the Bachelor of Law (B.L.) degree at the end of the third year. This plan has met with hearty approval from students who are serious-minded and desire to secure the best legal education. These changes have raised our standing in the Association of American Law Schools, and enable our graduates to pass successfully the Bar examinations in all the states. Not one graduate last year failed in these examinations.

4. The changes in the Medical School involve practically the same educational problem and were met with the same objections as those in the Law School. The administration advocated the extension of the laboratories and the employment of specially trained men to teach the laboratory courses. This was done and resulted in the employment of four professional teachers on regular salaries to do this work. The expense involved was the increase of the salary list and the expenses in establishing and maintaining the laboratories. Another change was to increase the clinical teaching, first by requiring men in their graduating year to give their full time to the work in order that they might give full time to the clinic. This was afterwards still further advanced by making the school a full day school, so that students would have their whole time both for laboratory and clinical courses. Didactic lectures are still continued and should be, but the laboratory and clinical teaching is essential to a scientific training. The effect of these changes was to decrease the number of students and the income, at the same time increasing the expenses; but it enables us to retain our position in the Association of American Medical Schools, and enables our graduates to take the medical examinations before all State Boards. It gives us a better standing among medical institutions, and

most of all, will, when the plan is thoroughly worked out, give to each student a thorough training that will enable him to take a high position in his profession, and thus give additional reputation for the school.

5. It will be observed that in all these changes there was but one object in view, to improve the educational standards and methods, bringing them as near as our resources would permit for the standards and methods prevailing in the best institutions. We would not claim to have attained all we hope to attain. This is not the fault of the plans but because of the lack of funds to completely carry out the plans in all particulars. The advances made, however, are great and the advantages to the students and the university are manifest. It would be a matter of profound regret to have these new developments abandoned. Washington needs professional schools of the highest type and should have them.

The next change made was to segregate the work done in engineering and architecture from the liberal arts college. The College of Engineering, the division of architecture, were established. This involved some increase in the expenses, but it has added a fine body of over 200 students to the university, thus increasing the income from students' fees. Additional work was provided in purely technical courses, and through the generous gifts of apparatus by friends, a good laboratory in electrical engineering was created, and a beginning made in a mechanical laboratory. In establishing the College of Engineering it was not intended to make a complete polytechnic school, but simply to put in technical courses and allow the students to take about half of their work in the liberal arts college.

The moving cause for this change was to give the young men of Washington an opportunity within their means to prepare themselves for skilled service in the great professions of engineering and architecture. Washington, with few industrial or commercial openings, offers few opportunities for high grade skilled employment to the rising genera-

tion. Without university training in these lines, young men stand little chance of succeeding in the states, where the great state universities and privately endowed institutions are training thousands of young men in these lines. That the situation demanded the establishment of these schools is demonstrated by the large body of students from this city who are taking the courses.

7. In the act of congress providing for the organization and a salary scheme for the teachers in the public schools of the District of Columbia it was provided that new appointees to certain positions in the high schools should have a college education, including the subjects of psychology and pedagogy. These requirements shut the doors of these positions to young people in the district who are financially unable to go to colleges outside of the district. This prompted us to put in the division of education. In this division, we have a professor of psychology, a professor of education, and two lecturers upon school administration. It is not claimed that this is a rounded teachers' college, but it does give, by very competent teachers, the courses required by the act of congress, which, taken in connection with the course for the bachelor of arts degree in the College of Liberal Arts enables the graduate and holder of a teacher's diploma to secure the highest positions in the public school system. These technical courses are substantially taken care of by the tuition fees of the students taking the courses. These fees do not cover the whole expense of the education of the student, for the great body of the work is taken in the College of Liberal Arts. We assumed that if the tuitions would meet the expense of the technical work, we should add to the numbers taking the liberal arts course, meet a pressing demand and serve our city in advanced education of teachers for the public schools.

8. The College of the Political Sciences is the outgrowth of the old school of jurisprudence and diplomacy. Every scholar in this field recognizes that there are peculiar advantages for carrying on this work in the city of Washington and that the effect upon students

living for a time in this city and observing the powers of the federal government in action is most beneficial to the country at large. This college has received special contributions towards its current expenses. During the present year it received ten thousand dollars pledged for next year. We have limited the scope of the work to two years of undergraduate and two of graduate study, making the entrance requirement two years of college work. This brings all students, for the first two years, into the Liberal Arts College, but allows them free election of the courses in the political sciences in the third and fourth years of their undergraduate studies. The object in making it a separate organization was to secure contributions and endowment for the work which could not be done successfully if it was merged in a college of the liberal arts. Experience in other institutions has shown that a faculty of the political sciences is more successful when conducting the work within its own field.

9. It will be observed that all of these small branches that have put out from the main college are confined entirely to technical courses and are intended to furnish the minimum amount of such courses required to meet existing demands in the District of Columbia. The center of it all is the College of Liberal Arts, and in each of these special branches the new students have increased the numbers in the Liberal Arts College, while their tuition fees have nearly paid the salaries of the technical teachers, except in the College of the Political Sciences, and there the deficiency has been made up by special contributions.

10. In order to carry out these plans and do the work on the lines proposed, it has been necessary to fit up and maintain new laboratories and to increase the library facilities. In 1902 we had five or six thousand volumes of books in the whole institution; to-day we have about forty thousand volumes.

11. The foregoing constitutes all of the policies of the present administration which have been criticized or condemned by members of the college faculty and I put them forth without argument, in order that the

people of Washington may determine whether these plans have been educationally sound, and whether or not a university serving the community in all of its needs is worthy of their confidence and support. Professors who opposed these educational advances, finding that there was call for efforts to maintain the university, went to the trustees and proposed to take the university and run it for the fees, provided the president was removed and their policies could prevail.

Had this concerted effort been successful with the trustees, not only would the "salary of the president" have been saved, but this new work would have been stricken down and many of the new professors would have been discharged. It is a matter of conjecture whether, had this plan succeeded and fifteen or twenty professors been discharged, there would have been a proportionate increase in the agitation of the public mind.

13. In regard to the pensioning of teachers, so far as I understand it, it has always been construed where a pension system existed that when a professor has become entitled to a pension, either by length of service or by age limit, he has the right to retire voluntarily at any time, and the university has the equal right to retire him when for any cause it seems expedient to do so. In the recent action it became necessary to reduce the expenses about twenty-five thousand dollars, and to distribute that retrenchment among each of the departments of the university. Of necessity the services of some of the teachers had to be dispensed with, and in selecting the ones to be retained, all things being equal, it was natural to retain those who were thoroughly in harmony with the general plans and development of the university.

The action of the Carnegie Foundation in assuming that the university had no option but could retire only those eligible who voluntarily sought retirement seems to be contrary to the usual construction of pension systems. Waiving this point, however, their action in our case was hasty and arbitrary. As the secretary sought to give the widest possible publicity to the injury done the university by

giving their letter to the press, I give my letter in reply, which states the facts regarding the procedure. It reads as follows:

June 11, 1909.

DR. HENRY S. PRITCHETT, *President*,

The Carnegie Foundation for the Advancement of Teaching.

Dear Sir: Your letter of June fourth was received while we were in the midst of Commencement week, and for that reason the answer has been delayed. Immediately upon the receipt of your communication it was presented to a special meeting of the Board of Trustees.

It is a matter of sincere regret on the part of every one who has read the letter that your organization, with its high aims for the advancement of all true efforts in educational work, should have taken this action without any notice to the university and without giving it any opportunity to be heard upon the real and apparent reason for your action, as shown by your letter. That an institution of learning, with fifteen hundred students, should be struck such a blow without warning or opportunity to correct any defects in its administration that might be shown, is difficult to comprehend, and as expressed by others than myself, almost impossible to believe. Your agent arrived here on Wednesday morning, the second instant, and was shown every courtesy that could be accorded to him. Our deans, who have the immediate charge of the educational work, although in the midst of examinations, gave up their time and showed him every consideration. At the end of the examination he came to my office and expressed in the most hearty and gentlemanly way his appreciation of the attention that had been shown him by the secretary of the university and by the deans. I asked him to make any criticisms that he desired to make to me, and assured him that we should be glad to correct any defects in our system that could be corrected. He made a few remarks regarding some of the work, part of them complimentary and part in friendly criticism, but there was no intimation that it was contemplated, or that the investigation was with a view to terminating the relation between the foundation and this university. Since the action has been taken it has been stated by Dr. Sterrett that the agent spent two hours with him and part of the time with Dr. Gore regarding the matter of their retirement. What they said of course I do not know. Had there been a fair investigation of that question with a view to your

taking action regarding it, I respectfully submit that the other side of the question should have been heard. To assume that there is but one side to an issue is not only unfair but tends to create the impression that it is desired to hear only one side.

* * * * *

Since coming here in 1902 I have had but one aim, and that is to gradually make the institution a true university, serving this community in all possible lines of higher education—a community that has pressing needs for such advantages.

From my acquaintance with you I can but believe that upon mature reflection you will see the injustice that has been done, and will accord a hearing to the university.

With very great respect, I am,

Sincerely yours,

CHARLES W. NEEDHAM

15. In reference to the financial conditions of the university, the treasurer has handed me a comparative statement of the assets of the university in 1900 and the assets at the close of the fiscal year 1908, which shows that in 1900 the gross assets of the university, including everything, were \$905,279.45 and the liabilities were \$325,719.61, leaving the net assets \$579,559.84. In 1908 the total assets were \$1,365,503.22, the liabilities \$489,004.24, leaving the net assets \$876,498.98. The increase in the indebtedness during the last period was occasioned by the completion of the new Medical School building and the Hospital in 1901-2, and indebtedness created to meet deficiencies in current expenses.

Of the foregoing assets the productive investments in 1900 were \$223,509.65. In 1908 they were \$127,740.91. This change in the productive assets was caused by the drain upon the funds occasioned by the increase in the cost of maintaining the university. The contributions toward the current expenses were insufficient to meet the annual deficit, and thus funds, which were properly applicable, had to be used to pay the salaries and current expenses or close the doors to progress.

It must be borne in mind that the university has always had a deficit. Its productive funds have never been sufficient to meet its expenses. In round figures \$125,000 of the

indebtedness in 1900 represented borrowed money to pay accumulated deficits. Since the new policy went into effect the annual deficits have necessarily been larger than they were before, and have been incurred with the authority of the board of trustees, in the belief that the improvement of the educational standards and work, with the increased numbers of students coming in upon higher entrance requirements would so demonstrate the needs of such a university in this district that broad-minded and beneficent men would come to its aid and support the movement. It had been demonstrated by numerous efforts that no money could be obtained for the old university.

We need to secure for the expenses next year, 1909-10, \$55,000 to keep the university going on its present plans. This budget has been approved by the board, and if the money is not provided it will again have to be paid out of existing assets. It is apparent that this process of meeting annual deficits out of the assets can not go on very long. The university must have financial support. If congress will give to the District of Columbia the same consideration that it gives to every state and territory and Hawaii and Porto Rico, by extending the benefits of the Morrill act to this district, and designating this university to receive the money, the appropriation would pay a little over one half of the deficit next year. We are doing the work required under the Morrill act in the mechanic arts to justly entitle us to the benefits of this fund. There is no other institution in the district that is carrying on work of university grade in the mechanic arts. If the citizens of the District of Columbia will do as Baltimore did for Johns Hopkins when it was in financial straits and what has been done in other cities for other institutions, raise by subscription a fund of \$200,000, payable in five annual installments of \$40,000 each, this, with the benefits of the Morrill act, would enable the university to go forward on its present plans and do its work for the district. With five years free from financial anxiety we could hope to thoroughly establish the university upon its new

basis, by appeals to the country at large for adequate endowment.

CHARLES W. NEEDHAM,
President

THE GEORGE WASHINGTON UNIVERSITY,
WASHINGTON, D. C., June 21, 1909

PRESENTATION OF A BUST OF DARWIN

At the Darwin celebration held in Cambridge, England, from June 22 to 24, a bronze replica of the bust of Darwin, by Mr. William Couper, which was presented by the New York Academy of Sciences to the American Museum of Natural History in February last, was presented to Christ's College by the American delegates on behalf of those who recognize the influence of Darwin on American thought and science. A letter recently received from Professor Shipley states that the acceptance of this bust would take place at the time of the garden party on June 23.

The American institutions and individuals that have voluntarily contributed towards defraying the expense of this gift, its transportation and its erection in Cambridge (about \$1,000) are as follows:

Ann Arbor—Research Club of University of Michigan.

Cambridge—Dr. Alexander Agassiz, Dr. Theobald Smith.

Chicago—University of Chicago.

Cold Spring Harbor, L. I.—Dr. Charles B. Davenport.

Ithaca—Cornell University.

New Haven—Connecticut Academy of Arts and Sciences, Professor Tracey Peck, Professor Russell H. Chittenden.

New York—Columbia University, Dr. E. B. Wilson, Professor Henry Fairfield Osborn, Mr. Charles F. Cox, Mr. M. Taylor Pyne, The American Museum of Natural History, Dr. Hermon C. Bumpus, Brooklyn Institute of Arts and Sciences.

Pasadena—Dr. George E. Hale.

Philadelphia—University of Pennsylvania, Philadelphia Academy of Natural Sciences.

Pittsburgh—Carnegie Institute.

Princeton—Princeton University, Professor W. B. Scott, Professor O. W. Richardson.

Washington—Smithsonian Institution, Dr. Robert S. Woodward, Washington Academy of Sciences.