

ACUSHNET'S BOATS SAVE FREIGHTER'S CREW

Coal Laden Meteor, Ashore Off Block Island In High Sea, Sinks To Bottom In 15 Minutes

On Sunday, July 11, unknown to most of our scientific inhabitants, Woods Hole witnessed the rescue of a shipwrecked crew. At 11:30 in the morning the Acushnet, at dock here, picked up an S. O. S. from the S. S. Meteor which had struck on the rocks in the thick fog and heavy seas off Block Island. The Acushnet immediately put out, breaking all speed limits through the fog, and cruised around for position near the wrecked vessel, waiting for the fog to lift.

Coast Guard Patrol Boat No. 229 was standing by the freighter during the afternoon but was prevented from going alongside by high seas.

The twenty-three members of the crew had been without food all day, since only the superstructure of the ship remained above water. Near midnight the fog lifted and the men were taken aboard the Acushnet and brought to Woods Hole and later taken to Boston.

The quartermaster, when interviewed said, "It wasn't anything much to write about. Nothing much happened!". Of course not! What's a wreck more or less. Nothing ever happens at Woods Hole!

DR. MORGAN HONORED

"Genetics and the Physiology of Development" is the title of the fifth William Thompson Sedgwich Memorial lecture to be delivered by Dr. T. H. Morgan in the laboratory auditorium at eight o'clock on Tuesday evening, July 27. The public is cordially invited to attend.

This honor is annually conferred on "men of distinguished eminence in some subject within the scope of biology and public health." The lecturer is chosen each year by a committee composed of six of the leading men in these sciences. Dr. Gary N. Calkins is a member of this committee.

AOZOTORP

If hunting is classed as one of the sports, then the sportiest place at M. B. L. is the Protozoology Lab., for the hunt is on. On June 29th, the class of '19 was introduced to what Prof. Gary N. Calkins, the Director, termed as the "Beginning of six weeks of fun". In the main the course seems to consist of a continuous, relentless chase of the poor defenceless Protozoa in the region of Woods Hole.

In addition to the Director, the staff of the Protozoology instruction includes Dr. Mary S. MacDougall and Dr. Woolford B. Baker. Every morning, including Saturday, Dr. Calkins lectures for one hour, and then the fun of chasing begins. But that kind is not the only kind of fun indulged in, as may be seen, for example, by the schedule of this week: on Wednesday, July 21, weather permitting, the class sets out on the good ship 'Cayadetta' at 11:45 for Hadley Harbor, on a picnic. On Friday afternoon, the 23rd, tea will be served at the M. B. L. Club by the Protozoology class. Come and join the fun. The reason for the Saturday lectures is that Dr. Calkins expects to sail for Europe about August 1st, a week before the formal closing of the course; and in order to make his lectures complete in one-hour doses, there must be six each week. Perhaps this extra lecture has been the cause of the unusual impetus of the attack on the Protozoa in the laboratory, for there seems to be a condition wherein it is hard to get the class out of the laboratory and away from their microscopes. Instead of having as a goal, "Recognizable drawings of 100 different species," some members of the class seem to have adopted 1000 as their quota. The speed resulting from so much time in the laboratory sometimes leads to dagger-looks for some individuals from others who have the usual desire to swim and play tennis and so forth, as a raise in the course requirements seems imminent.

Perhaps this speed is some-

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LIVING CONDITIONS FOR LABORATORY WORKERS

The completion of the new brick laboratory, with adequate library, and splendid facilities and service for a large group of investigators, supplemented by the considerable plant which had already been built up, has finally brought about a state of basic stability which assures the future efficiency of the laboratory. It has all been a gradual, determined upbuilding by a devoted group which has grown larger year after year, as newcomers

BIOLOGY AND EXPERIMENTATION

Last Friday evening at eight o'clock Professor H. S. Jennings, Director of the Biological Laboratory at Johns Hopkins University delivered a lecture entitled: "Biology and Experimentation".

It was a superb analysis and constructive picture of the conditions which face the modern biological investigator, with their historical origins. The history of recent years of preliminary reconnaissance with accounts of the currents and counter currents of research and dispute which have led to the modern outlook and opportunities for new experimentation was depicted by Dr. Jennings so entertainingly yet briefly and with such skill in weaving all threads of influence and effort into a significant pattern that even the mere tyro of an investigator might realize the complexities of the background in which the problems of today are set and yet see with the lecturer's clear headed vision the hopeful paths forward now opening from what might seem a tangled maze.

The final drawing together of every useful ray of thought which might aid the view of conditions, influences, helpful pathways and warnings of false guides was masterful in its comprehensive scope, penetrating insight, brilliant diction, and withall well balanced result. One may seem to assemble an excess of adjectives, but a reading of the forthcoming published lecture will satisfy the exacting critic that this appreciation is not extreme.

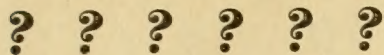
H. McE. K.

with similar aims were welcomed. Whatever seemed necessary to further the development of better opportunities for workers in the laboratory was done with sacrifice of time and effort in those days of meager income. The work came first. Comforts of living, even some necessities of the cities were lacking. It was easiest to persuade some Woods Hole resident to give you a room in her home. It was always the lady of the house who had to be persuaded, the landlord keeping out of the deal if he were spared responsibility of entertaining or being bored by the intruder.

They were often very kind and patient in fixing up the spare room for the student. They took a chance he might be a pleasant lodger even though a "bug hunter". Sometimes a prized suite was given up to a favorite lodger, and even a bath was permitted, if there was a bathroom, when a naturalist became very insistent. These associations gave a chance for mutual endurance. Indeed, valuable discoveries were made by the residents and by the students of rare or unexpected human qualities and friendly capacities in the other fellow. This is at the bottom of much good understanding now common between town and gown. Even the most ascetic or aesthetic biologists developed such appetites in collecting and swimming or through the intensive activities of laboratory work that quantity rather than refinements of the table were in demand at the mess. So the mess was hardly criticized; restaurants attracted few; and a meal in a home was remembered as an event.

But this simple irresponsible state was gradually affected by the inevitable biological results of growth and multiplication. Need of organization and segregation to minimize interference from new domestic duties of the student, now become professor with a family, forced such to turn seriously to the problem of living. These now began to rent or buy houses. Some even developed such excellent tactics as to venture to supplant residents for a while by inducing them to give up their houses for the summer.

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Issued under the auspices of the M. B. L. Club.

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I was officially born on Monday July 12, when the Executive Committee of the Marine Biological Laboratory sanctioned the proposal for my birth. It was not a case of artificial activation for perfectly natural conditions initiated my development. It was the actual need of an agent within the institution to disseminate news among its workers and to co-ordinate the varied activities of the laboratory.

At this very early stage in my life I am naturally lacking in certain qualities. Unity, organization and differentiation were incorporated into my amorphous and plastic body. Having had a natural origin I may look forward to normal growth and development, and ever increasing usefulness.

But I am only an infant and must be carefully nurtured and encouraged. My diet must be judiciously chosen so as to be easily digested and properly appreciated. But give me some substantial food.

I am weak and helpless and by force of circumstances I may in some ways lack individuality. External agents are inhibiting certain natural tendencies, but it is essential for continued existence that I adapt myself to my environment. It is to be hoped that in the course of evolution my environment will undergo the necessary modifications to make my life a little more simple and useful.

These introductory paragraphs were respectfully submitted to a representative of the "external factors" but we were good-naturedly told that it was up to us to conduct our little paper as we saw fit; and that they, (referring to those concerned) were quite capable of taking care of themselves.

The dance at the M. B. L. Club on Saturday evening will fill a long felt want. Many of us do not care to work on Saturday evening and are occasionally puzzled about the best way to obtain a couple of hours of recreation at this time.

It would be difficult to estimate the number of couples that each week seek amusement outside of Woods Hole, but it is perhaps greater than is commonly supposed. For those of us who do not have an unlimited amount of money or time, and who do not have cars at our disposal, the plans for the inauguration of the Saturday night dances are received enthusiastically. We can join the party at the time that fits in with our schedule of work and leave at the time that suits us best. They will be a medium through which we can meet workers outside our own group, and greatly extend our circle of acquaintances. And last but not least, the five dollar bill that would have been consumed had we spent the evening at one of the places on the Cape will remain untouched. The orchestra, refreshments and the opportunity of dancing with so many members of the Club will make the evening more fun than one spent outside of Woods Hole.

Thus these dances will be of benefit from the point of view of our work, for talking to people whose problems are in the same or widely in different elds is helpful and inspiring. Those working in research, or those students planning to take up this same or in widely different fields work should seize every opportunity of becoming acquainted with their fellow workers. The most useful thing that our Club can do is to use its ingenuity in bringing about conditions that it at least make it possible for every member of the Club to meet every other member.

FOREIGN BOTANIST TO LECTURE

Niles Svedelius, Professor of Botany at the University of Lund in Switzerland, and one of the foremost students of marine algae intends to visit America to attend the International Botanical Congress to be held at Ithaca. He will arrive in this country on August 6, and between that time and the opening of the Congress on Aug. 23 he will visit Woods Hole and deliver a lecture. Anyone interested is cordially invited to attend Professor Svedelius' lecture.

Dr. B. M. Duggar, professor of plant physiology at the University of Missouri and physiologist to the Missouri Botanical Garden, has been elected a member and chairman *pro-tem*, of the board of trustees of the Bermuda Biological Station.

JELLY FISH

Sure, and we are the "budding" invertebrates! When our source of preliminary information, the catalogue, says, "The course is designed for those who have had previous training in zoology and more especially for those having a professional interest in the subject. It will consist of laboratory and field work with lectures, given with the view to familiarize the student, not only with the anatomy, but also with the habits and general ecological relations of the animals studied"—well, they simply haven't told the half of it, not an iota of the work and the fun we're having. And for some reason they forgot to say that we have representatives from all the rungs of the intellectual ladder; from P.H.D.'s whose efficiency and scientific enthusiasm are astounding to undergraduates who still smash coverslips and specimens in infantile abandon, so that they must needs approach the supply desk with the humiliating admission, "I'm so sorry but I smashed it!"

Such a time as we had routing out long fingered suctoria and spineless amoebae for J. A. Dawson, erstwhile brilliant performer, at a sport which demands every spare minute immediately behind the invertebrate lab. We blush to admit it, but it actually took some of us two whole days to convince ourselves that diatoms, even though they did exhibit the most graceful locomotion possi-

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EVENING LECTURES Auditorium 8:00 P. M.

Tuesday, July 20. Dr. W. O. Fenn, Rochester University School of Medicine. "Some of the Problems Concerned With the Shortening of Muscles."

Friday, July 23. Dr. E. Witschi, Basel University, Switzerland. "Heredity and Environment in Sex Determination."

Tuesday, July 27. The William Thompson Memorial Lecture, delivered by Thomas Hunt Morgan, Columbia University. "Genetics and the Physiology of Development." Friday, July 30 Prof. L. Michaels, Johns Hopkins University. "The Properties of Certain Artificial Membranes as a Model for Cell Membranes."

Special Evening Lecture Auditorium 8:00 P. M.

Thursday, July 22. Prof. W. Patten, Dartmouth College. "Hunting for Missing Links in Spitzberger." Illustrated.

DRS. CHAMBERS AND REZNIKOFF ENTERTAIN

Give Actual Screen Demonstration of Micro-dissection to Enthusiastic Audience

On Friday evening Dr. Chambers gave an interesting lecture entitled; "Some Aspects of the Reaction of Protoplasm to Salts" and an exhibit by projection on a translucent screen was given by the actual process of manipulating an amoeba with needles and pipettes.

This lecture was quite a departure in emphasis on demonstration as compared to description. Dr. Chambers discussed the effects of exposing amoeba and certain marine ova to the action of the four salts commonly found in sea water and in blood by immersing in various solutions; and these results were compared with reactions produced by microinjections of the same solutions into the substance of the organisms.

Some interesting contrasts of effects were shown for chromosomes and Cytoplasm. The points were brought out chiefly by photographs and diagrams, furnishing pictures of protoplasmic structure and behavior of quite definite nature.

Following this, the lecturer gave a very exceptionally successful demonstration in projections through the new Leitz combined macro and micro-projection apparatus of actual experiments made by Dr. Reznikoff on living amoeba with the new type Chambers-Leitz Micro-manipulator. These demonstrations of the behavior of living cells under experiment to 500 people furnished a novel and much applauded departure.

RESEARCH BY FOREIGN BIOLOGISTS AT YALE

Six foreign scholars will take up residence at Yale University next year to conduct research under the direction of the faculty of the Yale Graduate School. These include five research fellows of the International Education Board, Dr. Pasquale Pasquini, of the University of Rome, Italy; Dr. Stanislaw Hiller, of Cracow, Poland; Dr. Ernest Wolf, of the University of Heidelberg, Germany; Dr. B. M. Bergerson, of the University of Oslo, Norway, and Dr. Fritz E. Lehmann, of the University of Freiburg, Germany, who have been appointed to carry on research under the direction of Dr. Ross G. Harrison, of the department of zoology.

DIRECTORY FOR 1926

Abbreviations

Botany Building..... Bot.
Brick Building..... Br.
Lecture Hall..... L.
Old Main Building..... O. M.
Rockefeller Building..... Rock.

The abbreviations used for the positions and institutions are the same as those incorporated in "American Men of Science." Thus, taking Dr. Amberson as an example, his position during the regular college year is assistant professor of physiology at the University of Pennsylvania. His work at the laboratory is carried out in the Brick Building in Room 309.

THE STAFF

Lillie, F. R., Director, prof. emb., chair. dept. zool., Chicago.
Jacobs, M. H., Associate Director, prof. phys., Pennsylvania.

ZOOLOGY

I. Investigation

Calkins, G. N., prof. protozool., Columbia.
Conklin, E. G., prof. zool., Princeton (absent).
Grave, C., prof. zool., Washington (St. Louis).
Jennings, H. S., prof. zool., Hopkins.
Lillie, F. R., prof. of emb., Chicago.
McClung, C. E., prof. zool., Pennsylvania.
Mast, S. O., prof. zool., Hopkins.
Morgan, T. H., prof. expt. zool., Columbia.
Parker, G. H., prof. zool., Harvard (absent).
Wilson, E. B., prof. zool., Columbia.

II. Instruction

Dawson, J. A., instr. zool., Harvard.
Martin, E. A., asst. prof. zool., Col. City, N. Y.
Cole, E. C., asst. prof. zool., Williams.
Bennitt, R., instr. biol., Tufts.
Bissonnette, T. H., prof. biol., Trinity.
Grant, Madeleine P., asst. prof. zool., Mount Holyoke.
Willier, B. H., asst. prof. zool., Chicago.
Young, D. B., assoc. prof. biol., Arizona.
McClullen, Helen, lab. asst. in Woods Hole course.

PROTOZOOLOGY

I. Investigation

See Zoology

II. Instruction

Calkins, G. N., prof. protozool., Columbia.
Baker, W. B., assoc. prof. biol., Emory.
MacDougall, Mary S., prof. zool., Agnes Scott.

EMBRYOLOGY

I. Investigation

See Zoology

II. Instruction

Goodrich, H. B., prof. biol., Wesleyan.
Grave, B. H., prof. biol., Wabash.
Packard, C., assoc., Inst. Cancer Res., Columbia.
Plough, H. H., prof. biol., Amherst.
Rogers, C. G., prof. comp. phys., Oberlin.

PHYSIOLOGY

I. Investigation

Bradley, H. C., prof. phys. chem., Wisconsin (absent).
Garrey, W. E., prof. phys., Vanderbilt Med. (absent).
Lillie, R. S., prof. gen. phys., Chicago.
Mathews, A. P., prof. biochem., Cincinnati.

II. Instruction

Jacobs, M. H., asst. prof. phys., Pennsylvania.

Amberson, W. R., asst. prof. phys., Pennsylvania.

Fenn, W. O., prof. phys., Rochester.
Knowlton, F. P., prof. phys., Syracuse.

Hartline, H. K., asst. in Woods Hole course.

BOTANY

I. Investigation

Dugger, B. M., prof. plant phys., Washington (St. Louis).
Allen, C. E., prof. bot., Wisconsin (absent).
Brooks, S. C., Dept. Public Health, Washington, D. C.
Robbins, W. J., prof. bot., Missouri (absent).
Schramm, J. R., Editor-in-Chief, Biological Abstracts, Pennsylvania (absent).

II. Instruction

Lewis, I. F., prof. biol., Virginia.
Hazen, T. E., asst. prof. bot., Barnard.
Taylor, W. R., asst. prof. bot., Pennsylvania.

INVESTIGATORS

Amberson, W. R., asst. prof. phys., Pennsylvania, Br. 309.
Anderson, Pearl, inst. zool., Maryland. O. M. Base.
Armstrong, P., instr. anat., Cornell Med. Br. 318.
Avery, Mrs. M. S., bacteriologist, Am. Univ. Beirut, Syria. Br. 111.
Avery, B. F., prof. anat., Am. Univ. Beirut, Syria. Br. 111.
Arvo, Impi, res. asst. zool., Union. Br. 343.
Baker, H. N., grad. stud. zool., Hopkins. O. M. Base.
Baker, W. B., assoc. prof. biol., Emory. O. M. 21.
Barth, L. G., grad. asst. biol., Michigan. Br. 217.
Baskerville, Margaret, asst. prof. phys., geo. med.
Bennitt, R., instr. biol., Tufts. O. M. 25.
Benson, Gertrude C., grad. stud. zool., Michigan. Br. 217.
Bergner, A. Dorothy, grad. stud. zool., Columbia. Br. 314.
Bigelow, R. P., prof. zool., Mass., Inst. Tech. Br. 340.
Bissonette, T. H., prof. biol., Trinity. O. M. 31.
Blumenthal, R., grad. stud. phys., Pennsylvania. Br. 217.
Bodansky, O., res. asst. chem. Columbia. Br. 122C.
Bodine, J. H., asst. prof. zool., Pennsylvania. Br. 220.
Bowen, Edith S., instr. zool., Hood (Maryland). Rock. North.
Bowen, R. H., asst. prof. zool., Columbia. Br. 327.
Bowling, Rachel, stud. biol., Columbia. Br. 331.
Bowman, P. W., instr. bot., George Washington. Bot. 22.
Bridges, C. B., res. asst., Carnegie Inst. Br. 332.
Brieger, F. G., Rockefeller. res. fellow. Bussey Inst. Bot. 6.
Brooks, S. B., biologist, Hygienic Lab., Washington, D. C. Bot. 4.
Brooks, Mrs. M. M., assoc. biol., Hygienic Lab., Washington, D. C. Bot. 4.
Brown, D. E. S., instr. phys., N. Y. Univ. Br. 342.
Byerly, T. C., prof. zool., Iowa State L. 23.
Calkins, G. N., prof. protozool., Columbia. Br. 331.
Cattell, W., res. fellow biol., Memorial Hosp., N. Y. Br. 123.
Cattell, M., instr. phys., Cornell Med. Br. 214.
Chambers, R., prof. anat., Cornell Med. Br. 328.

Chen, T. Y., grad. stud. protozool., Columbia. Br. 314.

Chidester, F. E., prof. zool., West Virginia. Br. 344.

Choate, Dorothy, stud. zool., Pennsylvania. Br. 217.

Christie, J. R., assoc. nematologist, U. S. Dept. Agr. Rock. East.

Clark, Mrs. E. L., grad. stud. anat., Pennsylvania Med. Br. 311.

Clark, E. R., prof. anat., Pennsylvania, Med. Br. 311.

Clark, L. B., grad. stud. zool., Hopkins. Br. 315.

Cobb, N. A., agr. technologist., U. S. Dept. Agr. Rock. East.

Cole, E. C., asst. prof. biol., Williams. O. M. 24.

Cole, L. J., prof. genetics, Wisconsin. Br. 118.

Collett, Mary S., assoc. prof. phys., Western Reserve. O. M. 4.

Coolidge, T., grad. stud. biochem., Harvard Med. Br. 107.

Copeland, M. prof. biol., Bowdoin. Br. 334.

Covell, W. P., asst. anat., Rockefeller Inst. Br. 209B.

Cowdry, E. V., assoc. memb., Rockefeller Institute. Br. 209B.

Craighill, Caroline. Br. 223.

Cuajunco, F., instr. anat., Univ. Philippines. Br. 111.

Curtis, W. C., prof. zool., Missouri. L. 28.

Darby, H. H., instr. biol., N. Y. Univ. Br. 342.

Dawson, J. A., instr. zool., Harvard. O. M. 29.

DeForest, D. M., instr. biol., Union. Br. 343.

DeGraff, A. C., instr. phys., N. Y. Univ. Med. Br. 110.

Donaldson, H. H., prof. neur. Wistar, Inst., Br. 117.

Dolley, W. L., Jr., prof. biol., Buffalo. Br. 339.

Downing, R. C., asst. zool., Wabash. Br. 234.

Dugger, B. M., prof. plant phys., Washington (St. Louis). Br. 122A.

Edwards, D. J., assoc., prof. phys., Cornell Med. Br. 214.

Ellsworth, R. M., asst. physician, Hopkins Hosp. Br. 302.

Fales, Doris E., grad. asst. zool., Western Reserve. Rock. North.

Farr, C. W., assoc. prof. phys., Washington (St. Louis). O. M. Base.

Fenn, W. O., prof. phys., Rochester. Med. Br. 313.

Fogg, J. M., Jr., inst. bot., Pennsylvania. Bot. 22.

Fogg, L. C., grad. stud. zool., Columbia. Br. 314.

Folger, H. T., instr. zool., Michigan. L. 32.

Fry, H. J., asst. prof. emb., N. Y. Univ. O. M. Base.

Gabritschewsky, E., asst. genetics, Univ. Moscow, Russia. Br. 332.

Gardner, Mary S., grad. stud. biol., Bryn Mawr. Br. 315.

Gates, F. L., assoc. memb. Rockefeller Institute. Br. 209A.

Gates, G. E., head biol. dept., Judson Col., Burma. Br. 217.

Genther, Ida T., asst. instr. phys., Wisconsin. Br. 122C.

Glaser, O. C., prof. biol., Amherst. Br. 204.

Glusker, D., grad. stud. phys. Pennsylvania Med. Br. 309.

Goldfarb, A. J., prof. biol., Col. City N. Y. L. 34.

Goodrich, H. B., prof. biol., Wesleyan. Br. 210.

Grand, C., asst. anat., Cornell Med. Br. 328.

Grant, C. W., instr. bact., Battle Creek. Br. 111.

Grant, Jean F., instr. St. Mary's Sch. (N. C.). Bot. 3.

Grant, Madeleine P., asst. prof. zool., Mt. Holyoke. O. M. 32.

Grave, B. H., prof. zool., Wabash (Ind.). Br. 234.

Grave, C., prof. zool., Washington (St. Louis). Br. 226.

Guthrie, Mary J., asst. prof. zool., Missouri. Br. 336.

Hague, Florence, asst. prof. phys., Oregon Agr. Rock. North.

Hance, R. T., assoc., Rockefeller Institute. Br. 208.

Hartline, H. K., grad. stud. phys., Hopkins Med. Br. 229.

Harnly, Marie L., lab. assist. to Dr. Morgan, Columbia. Br. 321.

Harnly, M. H., grad. stud. zool., Columbia. Br. 314.

Harvey, E. N., prof. phys., Princeton. Br. 116.

Hayden, Margaret A., asst. prof. zool., Wellesley. O. M. 5.

Haynes, Rachel, histologist, Commission Stand. Biol. Stains. O. M. Base.

Haywood, Charlotte, grad. stud. zool., Pennsylvania. Rock. West.

Hazen, T. E., asst. prof. bot., Columbia. Bot. 24.

Heilbrunn, L. V., asst. prof. zool., Michigan. Br. 330.

Hemmeter, J. C., prof. clin. med., Maryland. L. 33.

Hess, Olga T., grad. stud., Brown. O. M. Base.

Hess, Walter N., prof. zool., De Pauw. Br.

Hickman, Jane F., grad. stud. zool., Missouri. Br. 217.

Hinricks, Marie A., Nat. Res. fellow, Chicago. Br. 335.

Hisaw, F. L., asst. prof. zool., Wisconsin. L. 26.

Hogben, L., assoc. prof. zool., McGill. Br. 213.

Holt, L. E., assoc. in pediatrics, Hopkins Hosp. L. 29.

Hoskins, Mrs. M. M., asst. prof. anat., N. Y. Univ. Col. Dent. Br. 305.

Howlands, Ruth B., asst. prof. biol., N. Y. Univ. Br. 315.

Hughes, T. P., Ass't. Rockefeller Institute.

Hulpieu, H. R., grad. stud. zool., Hopkins. Br. 312.

Humphreys, G. H., grad. stud. bio. chem., Harvard Med. Br. 108.

Inman, O. L., prof. biol., Antioch. Br. 114.

Irwin, Marion, assoc. phys., Rockefeller Institute. Br. 207.

Jacobs, M. H., prof. zool., Pennsylvania. Br. 102.

Jennings, H. S., prof. zool., Hopkins. Br. 304.

Johnson, Helen R., asst. biol., Brown. Br. 233.

Johnson, H. H., instr. biol., Col. City N. Y. O. M. Base.

Just, E. E., prof. zool., Howard. Br. 228.

Kahn, M. C., instr. hygiene, Cornell Med. Br. 121.

Kapp, Eleanor M., grad. stud. phys., Pennsylvania. Rock. West.

Karns, Hilda E. teach. biol., Jr. High Sch. (N. J.) Br. 122. D.

Keefe, A. M., prof. biol., St. Norbeck's (Wis.). Bot. 5.

Knower, H. M., prof. anat., Alabama. Br. 115.

Knowlton, F. P., prof. phys., Syracuse Med. Br. 106.

Koehring, Vera, instr. zool., Smith. Br. 217.

Lancefield, D. E., asst. prof. zool., Columbia. Br. 1.

Lancefield, Rebecca C., asst., Hosp. Rockefeller Institute. Br. 206.

Landis, E. M., grad. stud. phys., Pennsylvania. Br. 309.

Lewis, I. F., prof. biol., Virginia. Bot. 26.

Lillie, F. R., prof. zool., Chicago. Br. 101.

Lillie, R. S., prof. phys., Chicago. Br. 326.

INVESTIGATORS—Cont.

- Loeb, L., prof. path., Wash. Univ. Med. Br. 122C.
- Long, Margaret E., grad. stud. zool., Pennsylvania. Br. 217.
- Loucks M. M., fellow phys., Minnesota. Br. 110.
- Lucas, A. M., instr. zool., Washington (St. Louis). Br. 111.
- Lucke, B., asst. prof. path., Pennsylvania. Br. 310.
- Lynch, Ruth S., instr. zool., Hopkins. Br. 304.
- Lyons, C., stud. zool., Alabama. Br. 217.
- McClung, C. E., prof. zool., Pennsylvania. Br. 219.
- McCutcheon, M. asst. prof. path., Pennsylvania. Br. 310.
- MacDougall, Mary S., prof. biol., Agnes Scott. O. M. 22.
- McMullen, Eleanor C., instr. zool., Cornell. L. 31.
- McNamara, Helen, tchr. Rockefeller Institute. Br. 207.
- Martin, E. A., asst. prof. zool., Col. City N. Y. O. M. 2.
- Mast, S. O., prof. zool., Hopkins. Br. 312.
- Matthews, Annette, stud. biol., Maine. L. 24.
- Mavor, J. W., prof. biol., Union. Br. 343.
- Means, J. H., prof. clin. med., Harvard Med. Br. 110.
- Metz, C. W., staff memb. Carnegie Inst. Cold Spring Harbor. Br. 222.
- Michaelis, L., resident lect. med., Hopkins. Br. 319.
- Miller, H. M. asst. to C. Grave. Br. 226.
- Mitchell, W. H. Jr., grad. stud. protozool., Harvard. Br. 217.
- Mitchell, P. H., assoc. prof. phys., Brown. Br. 233.
- Morgan, T. H., prof. exp. zool., Columbia. Br. 320.
- Morrill, C. V., asst. prof. anat., Cornell Med. L. 27.
- Morrison, Mary E., grad. stud. phys., Pennsylvania. Rock. North.
- Morse, S., assoc. biophysics, Cleveland Clinic. Br. 341.
- Moses, Mildred, res. ass't. Carnegie Inst. Br. 223.
- Nachtsheim, H., fellow Int. Ed. Board. Br. 333.
- Nadler, J. E., instr. phys., Georgia Med. Br. 110.
- Nassonov, D., asst. zool., Leningrad (Russia). O. M. 3.
- Nomura, S., asst. prof. phys., Imperial Univ. Japan.
- Nonidez, J. F., assoc. anat. Cornell Med. L. 22.
- Oliphant, Dolores, stud. zool., Mt. Holyoke. Bot. 1.
- Orbison, Agnes, asst. prof. zool., Elmira. Br. 336.
- Packard, C., assoc., Inst. Cancer Research, Columbia. O. M. 26.
- Page, I. H., chemist, Eli Lilly. Br. 325.
- Palmer, G. D., asst. prof. chem., Kansas State. O. M. Base.
- Pantini, C. F. A., physiologist, Marine Biol. Assoc., Plymouth, Eng. Br. 324.
- Parmenter, C. L., asst. prof. zool., Pennsylvania. Br. 221.
- Pasovini, P., Int. Ed. Board Fellow, zool. Br. 315.
- Peebles, Florence, phys. L. 21.
- Perkins, E. B., grad. stud. zool., Harvard Med.
- Perlzweig, W. A., assoc. med., Hopkins Hosp. Br. 319.
- Peterson, Walburga A., fellow zool., Chicago. O. M. Base.
- Plough, H. H., prof. biol., Amherst. Br. 126.
- Plunkett, C. R., instr. phys., N. Y. Univ. Br. 1.
- Pollack, H. med. stud., Cornell Med. Br. 328.
- Pollister, A. W., asst. biol., Columbia. Br. 314.
- Pond, S. E., asst. prof. phys., Pennsylvania Med. Br. 216.
- Popa, G. T., chief asst. emb., Bukarest (Roumania). Br. 225.
- Potter, G. E., instr. zool., Iowa State. L. 23.
- Rand, H. W., assoc. prof. zool., Harvard. L. 30.
- Ratcliffe, F. N., grad. stud. biol., Princeton. Br. 110.
- Redfield, A. C., asst. prof. phys., Harvard Med. Br. 107.
- Redfield, Helen., Nat. Res. fellow, Columbia. Br. 314.
- Reznikoff, P., assoc. anat. instr. med., Cornell Med. Br. 328.
- Rogers, C. G., prof. phys., Oberlin. Br. 218.
- Rowlee, Silence, instr. bot., Wellesley. Bot. 1.
- Schultz, J., asst. zool., Columbia. Br. 314.
- Schrader, F., assoc. prof. biol., Bryn Mawr. Br. 125.
- Schrader, Mrs. I. H., instr. biol., Bryn Mawr. Br. 125.
- Schwartzbach, S., med. stud. Maryland. Br. 122B.
- Scott, J. P., photographer, Science Service. O. M. 6.
- Scott, W. J., grad. stud. phys. Pennsylvania. O. M. 7.
- Shearer, E. M., grad. stud. emb., Princeton. Br. 110.
- Smith, D. C., res. worker, Harvard Med. Br. 217.
- Smith, Fanny F., res. asst. plant phys., Washington (St. Louis) Br. 122A.
- Smith, W. A., res. asst. phys., Pennsylvania. Br. 205.
- Sonneborn, M. T., grad. stud. zool., Hopkins. Br. 303.
- Spaulding, Janet, res. asst. anat., Cornell Med. Br. 317.
- Speidel, C. C., assoc. prof. anat., Virginia. O. M. 28.
- Stern, C., res. fellow zool., Kaiser Wilhelm Inst. Br. 333.
- Stockard, C. R., prof. anat., Cornell Med. Br. 317.
- Strong, O. S., assoc. prof. neur., Columbia. Br. 8.
- Sumwalt, Margaret, grad. stud. phys., Pennsylvania. Rock. West.
- Svenson, H. K., asst. prof. biol., Union. Bot. 2.
- Taylor, I. R., instr. phys., Pennsylvania. Br. 217.
- Taylor, W. R., asst. prof. bot., Pennsylvania. Bot. 25.
- Thomas, Francisca K., asst. phys. to Dr. Means, Mass. Hosp. Br. 109.
- Thomas, G. W. med. stud. Harvard Med. Br. 108.
- Titlebaum, A. stud. emb. Columbia. Br. 314.
- Uhlenhuth, Mrs. E., res. asst. to Dr. Uhlenhuth. Br. 122D.
- Uhlenhuth, E., assoc. prof. anat., Maryland Med. Br. 122D.
- Uhlenhuth, Bertha, asst. prof. protozool. Washington (St. Louis). Br. 226.
- Vicari, Emilia M., med. stud., Cornell Med. Br. 317.
- Wallace, Edith M. artist to Dr. Morgan, Columbia. Br. 321.
- Weese, A. O., prof. zool., Oklahoma. L. 25.
- Wieman, H. S., prof. zool., Cincinnati. Br. 334.
- Wierda, J. L., inst. anat., Cornell. Br. 312.
- Wilbur, Lois, instr. phys., Pennsylvania. Br. 217.
- Wilhelm, J. F., Jr., asst. zool., Wabash (Ind.). Br. 234.
- Williams, R. G., Nat. Res. fellow neur. Pennsylvania. Br. 311.
- Willier, B. H., asst. prof. zool., Chicago. O. M. 27.
- Wilson, E. B., prof. zool., Columbia. Br. 322.
- Wilson, J. W. asst. prof. biol., Brown. Br. 329.
- Witschi, Mrs. E., asst. to Dr. Witschi, Univ. Basel, Switzerland. Br. 127.
- Witschi, E., lect. zool., Univ. Basel, (Switzerland). Br. 127.
- Wolff, W. A., grad. stud. chem. Pennsylvania. Br. 8.
- Woodruff, L. L., prof. protozool. Yale. Br. 323.
- Woodward, Alvalyn E., assoc. prof. phys., Maine. L. 24.
- Young, D. B., prof. biol., Arizona. O. M. 33.
- Zimmerman, Averil A., asst. biophysics, West Reserve. Br. 314.

STUDENTS

- The abbreviations used are the same as in the list of Investigators. In the case of Miss Arnold the information given is that she is an undergraduate student at Wellesley College and that she is taking the course in botany at the laboratory. If the person in question has a position other than that of an undergraduate student it is so indicated.
- Arnold, Dorothy E., Wellesley, Bot.
- Avery, B. F., prof. anat., Am. Univ. Beirut, Syria, Zool.
- Beale, Alice, Radcliffe, Zool.
- Bean, R. C., teach. biol., Girls' H. S., Boston, Zool.
- Beaver, P. C., Wabash, Zool.
- Bonner, Miriam C., Mt. Holyoke, Emb.
- Bing, F. C., Pennsylvania, Phys.
- Borden, Mabel A., Dalhousie, (Can.) Bot.
- Boyd, Marjorie, instr. phys., Mt. Holyoke, Phys.
- Brannon, Lida C., instr. biol., Dana Hall, (Mass.) Emb.
- Britten, S. A., Hamilton, Emb.
- Brown, Helen J., instr. St. Mary of Springs (Ohio) Bot.
- Buehler, Katherine, teach. biol., Albany H. S., Bot.
- Campos, F. A. deM., asst. phys., S. Paulo Medical Sch. (Brazil) Emb.
- Canavan, W. P., instr. zool., Pennsylvania, Protozool.
- Carpenter, Esther, asst. zool., Wisconsin, Emb.
- Chase, A. M., Amherst, Zool.
- Chen, H. K., grad. stud., Illinois, Emb.
- Chen, T. Y., grad. stud., Columbia, Protozool.
- Clark, Elizabeth B., Radcliffe, Bot.
- Clarke, G. L., Harvard, Zool.
- Cline, Elsie, Hopkins, Bot.
- Climenko, D. R., Dartmouth, Emb.
- Connard, Mary H., Vassar, Bot.
- Conklin, Cecile L., instr., Goucher, Emb.
- Craighill, Caroline B., lab. asst., Carnegie Inst. (Washington).
- Copeland, J. J., Earlham (Ind.), Bot.
- Crawford, W. W., grad. asst. zool., Missouri, Zool.
- Crosman, A. M., grad. stud., Columbia, Protozool.
- Cusiunco, F., instr. anat., Univ. Philippines, Emb.
- Daniel, G. E., Arkansas, zool.
- Dawley, Charlotte, asst. zool., Washington (St. Louis), zool.
- DeForest, D. M., instr. biol., Union, phys.
- Diller, W. F., instr. biol., Franklin and Marshall, protozool.
- Dowling, A. S., grad. stud., Harvard, phys.
- Drayer, C. S., Ohio Wesleyan, zool.
- Duryee, W. R., Yale, zool.
- Dyer, Helen A., asst. pharm. hygiene lab., Washington, D. C., phys.
- East, Elizabeth W., Wellesley, zool.
- Eggerdink, Anna G., Hunter, emb.
- Else, F. L., instr. zool., Pennsylvania, emb.
- Esaki, S., asst. prof. zool., Chicago, emb.
- Farr, Marion M., asst. zool., Vassar, zool.
- Field, Madeline E., asst. phys., Mt. Holyoke, phys.
- Gaffney, Catherine A., Hunter, bot.
- Garner, M. R., asst. prof. biol., Earlham (Ind.), protozool.
- Gelback, Elizabeth L., asst. biol., Goucher, protozool.
- Getchell, Donnie C., asst. biol., Colby, emb.
- Goebul, W. F., asst. chem., Rock. Inst., phys.
- Gordan, Isabella, res. worker, Imperial College, London.
- Griffin, Grace, Columbia, bot.
- Hansen, I. B., Wesleyan, emb.
- Hahnert, W. F., De Pauw, zool.
- Hardesty, Mary, Newcomb, zool.
- Harrington, J. T., Dalhousie, emb.
- Herman, Myra, grad. stud., Columbia, emb.
- Herskowitz, I. A., Columbia, zool.
- Hess, W. N., prof. zool., De Pauw, phys.
- Hewes, Edna M., grad. stud. Rochester, zool.
- Hewitt, Dorothy C., Mt. Holyoke, zool.
- Hinchey, Mary C., instr. zool., Hollins (Virginia), emb.
- Hitchcock, D. I., assoc., Rock. Inst., phys.
- Holcomb, Mrs. Daisy Y., instr. zool., Arkansas, emb.
- Hollander, F., Nat. Res. fellow, med., Yale, Phys.
- Holmes, Gladys E., Brown, emb.
- Holmes, M. Thelma, instr., biol. Syracuse, phys.
- Holton, Ruth G., protozool.
- Horsley, G. W. Virginia, emb.
- Hummel, Katharine P., zool.
- Hunt, T. E., Jr., Chicago, zool.
- Hurlbutt, Ellen L., instr. zool., Connecticut, zool.
- Irwin, Marion S., instr. zool., Carleton, zool.
- Jeffers, Katharine R., Missouri, zool.
- Kellicott, Janet, Barnard, emb.
- Kinney, Elizabeth T., grad. asst., Washington (St. Louis), phys.
- Klinger, Carol, Wabash, bot.
- Lewis, Sara I., instr. bot., Northwestern, bot.
- Lin, C. L., Cornell, protozool.
- Lu, H. L., Huping Christian (China), emb.
- Maclean, Bernice L., asst. zool., Mt. Holyoke, zool.
- McCoy, O. R., grad. asst. zool., Washington (St. Louis), zool.
- McGau, R. C., Jr., Amherst, zool.
- MacKay, Mary E., asst. zool., Dalhousie (Can.), phys.
- McKinney, Mary A., asst. prof. biol., Austin State Teach., protozool.
- McMullen, D. B., grad. asst. zool., Washington (St. Louis), zool.
- Main, R. J., Rutgers, bot.
- Markle, M. S., prof. biol., Earlham (Ind.), zool.
- Marsland, D. A., instr. biol., N. Y. Univ., protozool.
- Miller, Helen M., Washington (St. Louis), phys.
- Miller, R. M., Lafayette, zool.
- Morris, Helen S., Hunter, proto.
- Morton, H. S., Dalhousie (Can.), phys.
- Nalin, Laura J., asst. zool., Missouri, zool.
- Nelsen, O. E., instr. zool., Pittsburgh, emb.
- Nomura, S., asst. prof. phys., Imp. Univ. (Japan), phys.
- Parpart, A. K., grad. asst. zool., Amherst, protozool.
- Parpart, Mrs. E. R., grad. stud. Smith, emb.
- Parker, R. C., asst. biol., Yale, zool.
- Payne, Nellie M., Nat. Res. fellow, Pennsylvania, zool.
- Perrine, Ruth R., Oberlin, zool.
- Peterson, Daggmar H., res. zool., N. J. Agri. Exp. Sta., bot.
- Pierce, Madeline E., Radcliffe, zool.
- Pinkston, J. O., instr. biol., Southern, Ala., phys.
- Pike, M. H., Michigan, zool.
- Popa, G. T., chief asst., Bukarest, Roumania, emb.
- Preu, P. W., Cornell Med., emb.
- Reinhard, E. G., instr. zool., Buffalo Soc. Nat. Sciences, zool.
- Rich, Robins, Sweet Briar, zool.
- Robertson, D. F., Missouri, phys.
- Robb, R. C., grad. asst. zool., Dalhousie, zool.
- Rogers, Edith, Goucher, zool.
- Rossmel, Elsie C., Smith, zool.
- Rowell, L. S., instr. zool., Vermont, zool.

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Prize for Name

This little paper should have a name appropriate to its environment, the editorial staff does not feel competent to assign it one. Dr. Robert Chambers has been appointed chairman of a committee of investigators to decide this important question. All suggestions will be carefully considered, and the person suggesting the winning title will be awarded a prize of \$5.00. Fill out the form below and drop it in the little box placed there for this purpose in the Mess Hall or at the large bulletin board in the Brick Building.

Suggested names:

- (1)
(2)
(3)
Name

Dr. C. K. Drinker, professor of applied physiology at the Harvard Medical School expects to visit Woods Hole on Saturday of this week.

NEW BEDFORD, MARTHAS VINEYARD & NANTUCKET STEAM-BOAT LINE

Steamers Operated on Eastern Standard Time

Summer Schedule
Corrected to July 4, 1926

	Week Days			
	A.M.	A.M.	P.M.	P.M.
Leave N. Bedford	7.10	8.45	1.30	4.30
Woods Hole	8.40	10.15	2.50	6.00
Oak Bluffs	9.40	11.00	3.40	7.10
Due V. Haven	...	11.50	...	6.45
Due Ed'town	...	...	...	8.00
Due Nantkt	12.15	...	6.15	...

	Sundays	
	A.M.	P.M.
Leave New Bedford,	7.45	5.30
Leave Woods Hole,	9.05	6.45
Leave Oak Bluffs,	9.55	7.30
Due Nantucket,	12.15	10.00

	Week Days			
	A.M.	A.M.	P.M.	P.M.
Leave Nantucket,	...	6.00	...	12.30
Edgartown	4.00	...	...	...
Oak Bluffs	4.40	8.15	11.05	3.00
V. Haven,	5.10	...	11.55	...
Woods Hole	5.50	9.15	12.40	3.45
Due N. Bed.	7.35	10.50	2.20	5.25

	Sundays	
	P.M.	P.M.
Leave Nantucket,	12.00	1.45
Leave Oak Bluffs,	2.25	4.00
Leave Woods Hole,	3.25	4.45
Due New Bedford,	5.00	6.10

W. A. SMITH, General Agent.

WHAT'S WHAT In Wood's Hole

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Sundays 8 a.m. to 11 a.m.
3 p.m. to 7 p.m.

STANDARD TIME
Post Office Hours
Mails Due 8.25 a.m.
" " 2.30 p.m.
" " 5.50 p.m.

Mails Close 5.45 a.m.
" " 8.45 a.m.
" " 3.30 p.m.

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DAYLIGHT SAVING TIME
Library Hours
Wednesdays and Saturdays
3 p.m. to 5 p.m.
7 p.m. to 9 p.m.

TRAIN SCHEDULE

DAYLIGHT SAVING TIME

Boston to Falmouth—Week Days.

	A.M.s	A.M.	A.M.	P.M.s	P.M.	P.M.†	P.M.†	P.M.	P.M.s
Boston,	...	7.05	8.30	1.03	1.06	3.03	4.03	4.30	8.30
Brockton,	...	7.45	9.06	...	1.42	...	4.38	5.06	9.12
Middleboro,	...	8.10	9.29	...	2.08	3.55	...	5.29	9.42
Wareham,	...	8.32	9.53	...	2.29	...	5.19	5.50	10.04
Buzzards Bay	7.00	8.45	10.10	2.30	2.44	4.25	5.30	6.05	10.22
Mon. Beach,	7.05	8.50	10.15	2.35	2.51	4.29	5.34	6.10	10.27
Pocasset,	7.10	8.55	10.20	2.39	2.56	4.32	5.37	6.15	10.32
Cataumet,	7.15	9.00	10.26	2.44	3.01	4.37	5.42	6.20	10.37
N. Falmouth,	7.19	9.03	10.31	2.47	3.05	4.40	5.45	6.24	10.41
W. Falmouth	7.29	9.10	10.40	2.55	3.13	4.48	5.53	6.32	10.48
Falmouth,	7.37	9.18	10.53	3.03	3.22	4.56	6.01	6.41	10.57
Woods Hole,	7.45	9.25	11.00	3.10	3.30	5.03	6.08	6.50	11.05

Falmouth to Boston—Week Days.

	A.M.	A.M.†	A.M.†	A.M.	P.M.	P.M.
Woods Hole,	6.30	7.15	8.15	10.25	2.00	5.05
Falmouth,	6.37	7.22	8.22	10.33	2.08	5.13
West Falmouth,	6.44	7.29	8.29	10.40	2.15	5.40
North Falmouth,	6.51	7.36	8.36	10.47	2.22	5.27
Cataumet,	6.54	7.39	8.39	10.51	2.26	5.31
Pocasset,	6.58	7.43	8.43	10.55	2.30	5.37
Monument Beach,	7.02	7.47	8.47	11.00	2.33	5.40
Buzzards Bay,	7.08	7.52	8.52	11.05	2.40	5.45
Wareham,	7.22	8.04	9.04	11.18	3.04	5.57
Middleboro,	7.54	...	...	11.41	3.30	6.15
Brockton,	8.22	...	...	12.05	4.00	6.43
Boston,	9.00	9.20	10.18	12.40	4.35	7.17

SUNDAY TRAINS

	To Boston Read Down				From Boston Read Up	
	A.M.	P.M.	P.M.	P.M.*	A.M.	A.M.
Woods Hole,	9.10	4.35	5.05	6.00	9.00	9.25
Falmouth,	9.18	4.42	5.13	6.07	9.08	9.18
West Falmouth,	9.25	...	5.20	6.14	9.15	9.10
North Falmouth,	9.32	...	5.27	6.14	9.22	9.03
Cataumet,	9.36	...	5.31	6.24	9.26	9.00
Pocasset,	9.40	...	5.37	6.28	9.30	8.55
Monument Beach,	9.45	...	5.40	6.32	9.34	8.50
Buzzards Bay,	9.50	...	5.45	6.37	9.40	8.45
Wareham,	...	...	5.57	6.51	9.55	8.32
Middleboro,	...	...	6.15	7.18	10.15	8.10
Brockton,	...	...	6.43	7.43	10.45	7.45
Boston,	...	...	6.37	7.17	8.17	7.05

* Cape Codder—June 27 to Sept. 12 inclusive.
† Will not run July 5 or September 6.
s Saturdays only.

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Harold Lloyd in "The Freshman"

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FRIDAY, JULY 23

Corinne Griffith in "MLLE. MODISTE"

From the Famous Operetta by Victor Herbert
There never was a sweeter operetta—never a sweeter one than Corinne to bring it to the screen—and in it there's fashion in gowns and girlies—and Corinne herself more radiant, more gorgeous than ever.

COMEDY

TOPICS

SATURDAY, JULY 24

Matinee at 2.30

Peter the Great in "THE SIGN OF THE CLAWS"

The MIRACLE DOG in a remarkable display of canine intelligence and courage. An actionfull outdoor picture tingling with excitement and teeming with thrills.

PATHE NEWS

COMEDY

AOZOTOP

(Continued from Page 1)

how correlated with the kind of class. It is remarkable how the complexion of the class changes from year to year. There seems to be a great dearth of bachelors in the course, for, aside from the six women in the class, the others are mostly young married men. Is there any correlation between this fact and the speed with which the class works?

One might ask what has been accomplished by the Protozoa hunters. The most bizarre forms imaginable have been seen and drawn, in the effort to reach the goal of 100. Worms, diatoms, desmoids, larvae of metazoa and everything else imaginable, have been drawn and called various forms of Protozoa. Many new Protozoa, of this type, have undoubtedly been located if the drawings are to be considered valid. Dr. MacDougall and Dr. Baker most certainly have the sympathy of the whole class in the matter of recognizing species for some of the drawings turned in. Hats, cats, dogs, babies' bibs and whatnot have all been observed in the microscope, in the form of prospective protozoa. This leads to a notice which should be published: Members of the summer colony are hereby warned not to lose sight of their toy Pekingese dogs on the beach, inasmuch as one near-sighted member of the class recently brought one in and drew it, thinking it was a new species of Ciliate. Also any real Protozoan pets on the grounds should be carefully guarded, for there is danger of 'losing' anything that looks like a single-celled animal.

Various methods of taming the Protozoa seem to have been perfected in the laboratory. Some lay claim to especially well-trained and tamed forms. They can make them hold still, turn over, wiggle a flagellum, or sit up and take food to demonstrate the mouth, all at will. The favorite method, as observed, seems to be that of gentle talking to the beasts. If anyone should happen to walk through the laboratory and note someone talking, apparently to himself, they should not consider him as a patient for a Psychiatrist. He is merely trying to humor the source of one of his "100 recognizable drawings."

We have in our midst this summer, Mr. R. L. Duffas, prominent author, and writer for the New York Times.

Anions and Snotac

On Monday of the past week Prof. Merkle H. Jacobs concluded his series of lectures and handed the class over to Dr. Wallace O. Fenn. This first portion of the course had consisted of a study of some of the major physico-chemical effects obtainable with living material—notably thermal, osmotic and ionic. The latter included not only the various relations involving H-ion, but also the effects of the more common cations.

Dr. Fenn's interests lying in the field of "muscle," his allotment of four hours was devoted entirely to tracing the arguments pro and con for what little is known of the nature of muscular contraction and recovery. His discussion centered about the chemical and energetic relations which have been observed to date—verified and unverified.

On the Saturday just past, Dr. Amberson took possession of the lecture platform, for a series devoted to some of the energy relations of living tissue. Because of the large number of non-registered attendants at all the past lectures, a list of those scheduled for the coming week will be announced regularly in this column. Dr. Amberson's series follows:

Saturday, July 17—"Electrobiologic Phenomena and Their Interpretation."

Monday, July 19—Conclusion of Saturday's Topic.

Tuesday, July 20—"The Effect of Variation in the-Oxygen Pressure on the Energy Relations of Living Material."

Wednesday, July 21—"The Mechanism of Oxidation in Living Tissues."

Thursday, July 22—"Respiratory and Calorimetric Relations, with Special Reference to the Eggs of Marine Forms Abundant in this Vicinity."

Friday, July 23—"Electric Fish," with a demonstration.

Saturday, July 24—"Oxidation" Potentials.

Regarding the last lecture, Dr. Fenn has not yet decided whether he will accept at Dr. Amberson's hand the honor of giving it. From the writer's personal observation, only the flipping of a coin could possibly help him make up his mind.

During the last week, work in the laboratory has been transformed from the routine class—assignment variety of experiment to somewhat less organized activity. It has consisted of group work on properties of frog muscle, respiratory studies on frog muscle and marine eggs, etc.; the energy

(Continued on Page 8)

ALGLAE

If no news be good news, the Botany department, to all outward appearances, shows signs of a long and illustrious career of scientific progress. When interviewed by questioning reporters, the staff shakes a solemn head,—and that is that. Perhaps there is a possibility that a "human interest" story is a rare occurrence in so scientific and serious (?) a community, but we still have hopes.

If we do lack news, however, we abound in local color, for the life of a botanist is a rare one. We have been working. (We insist on making this very clear!) It may appear to outsiders who are not initiated into the thallophtic rites and mysteries that the students of Botany at Woods Hole enjoy the swimming and tennis to a degree incompatible with all the preconceived notions of the life habits of botanical neophytes. But we do work! For the past three weeks we have collected, classified and "chucked-out" a good part of the available and visible marine flora of these parts. We have waded through all the ditches and oozy ponds in the neighborhood. We have rowed right manfully across the harbor to Pine Island, and then when the boats have stuck, climbed out into the briny deep and pushed them back home again. Last but not least, twice has the good ship Cayadetta carried a gallant (if somewhat erratic looking) crew to far and distant isles. The first long trip was to Pennikese and the second (from which we are just recovering) was to Nashawena and Pasque.

We have already had two seminars on Monday evenings. The first one of the season was addressed by Mr. Fogg, who gave an illustrated lecture on the "Flora of the Selkirks," and by Dr. W. R. Taylor, who spoke of his algae—collecting experiences in the same region. The discussion that followed dealt largely with the mosquito crop in the Great Northwest and certain culinary triumphs composed of flour, baking powder and water, greased up a little with bacon fat and successfully only when cooked in the great open spaces.

The second seminar of the season was addressed by Dr. C. H. Farr, who lectured on the "Physiology of Root Hairs." Dr. Farr initiated us into the activities of root hairs when subjected to various mechanical and chemical stimuli, and after showing us a very lengthy and voluminous record, familiarly termed the "root hair

PISCES

Many of the scientific studies carried on by members of the Bureau of Fisheries staff at the Woods Hole station are parts of a well organized international program of fishery investigations in the western North Atlantic. Mr. Elmer Higgins and O. E. Sette, two of the U. S. representatives who attended the last meeting of the North America Committee on Fishery Investigations held at St. Johns, Newfoundland, July 9th and 10th, arrived at Woods Hole last Friday. They report that the past year's results and the future program considered at this meeting augur well for the continued progress of Canadian, Newfoundland, French and American investigations of the ichthyology and oceanography of this region. Cod, haddock and mackerel are the principal species of fish being studied jointly by the nations concerned. Mr. Sette who is in charge of the mackerel investigations in the U. S. will continue at Woods Hole during the major portion of the summer.

A conference of investigators interested in various phases of aquatic biology covered at the station, pursuant to the call of Doctor Albert Mann of the National Museum. The several meetings were well attended and such matters were discussed as the close and extended cooperation of investigators who are interested in the organisms which compose the fundamental food supply of our marine and inland waters,

(Continued on Page 8)

ticker," concluded his talk with a discussion of root hair psychology, much to the delight of the audience.

This week's seminar will have the Rev. A. M. Keefe, who will speak on "Sargassum, with Notes on the Sargassum Sea." On July 26; Dr. Fish of the Fisheries will speak on "Life in the Open Ocean as Seen from the Arcturus." Both of these meetings will be held in the old lecture hall, and from dark rumors that pervade this laboratory life, we feel that steamed Myteli and fudge may increase the purely biological interest of these occasions.

No account of the life of a botany student, however, is complete without a word or two about our "quizzical" staff of instructors. Of late, no day is complete without "a little review—not a test, in any sense of the word, you understand,—just a diagnosis!" Are we not unique? We certainly are!

EMBRYOS

The work in the course up to date has covered the development of the Teleosts, Coelenterates, squid and Crustacea. Dr. Goodrich gave the lectures on the Teleost Embryology, Dr. Plough the Embryology of the Coelenterates, Dr. Grave the Embryology of the squid and Dr. Packard the Embryology of the Crustacea.

Two special lectures have been given thus far by investigators concerning the work in their special fields of research.

Dr. Stockard of Cornell Medical College gave a most interesting lecture on the effect of the environment on the embryonic period of life.

Dr. Clarke of Johns Hopkins also gave a very interesting talk on the development of the vascular and lymphatic systems and the differentiation of wandering cells. Dr. and Mrs. Clarke drew their conclusions from observations made on the tail of a tadpole.

The regular lectures for the coming week beginning Monday, July 19, will be given by Dr. Rogers on the Embryology of the Echinoderus.

Wednesday, July 21, Dr. Henry Fry will give a special lecture on Parthenogenesis.

On Saturday, July 24, Dr. Charles Fish of the Bureau of Fisheries will lecture. He has been working on the larvae found daily in the tow.

In the afternoon of the last day of the study of fish embryology July 6, the class enjoyed a trip to the fish traps. The Cayadetta was used for the trip. Those who became so inquisitive about the process of the hauling of the traps that they went close to them in the skiff found the trip a rather moist one. We rather think the collecting crew enjoys splashing the "bug hunters". At any rate the haul was an exceedingly large one for this time of the year. It was estimated at about a half ton. The forms collected were mostly scup, dogfish, puffers and squids. Before returning Capt. Veeder gave the class an added treat by taking them into Vineyard Sound thus prolonging the ride.

Last Friday morning the class went out on the Nereis to collect plankton. Towing was done through the Hole and in Hadley Harbour. The plankton collected proved to be very rich in Crustacean larvae.

The past week has been a very big one for birthdays in the Embryology class. Red Britten was absent from lab part of the day Tuesday and we believe it may have been

PISCES

(Continued from Page 7)

the possibility of bringing to the attention of the younger biologists some of the many problems which are worthy of immediate attention, ways of gaining the cooperation of established institutions, and other things of mutual interest. As an immediate result of the meetings a committee will be appointed to carefully consider the situation and report at a later date. Visiting delegates participated in a collecting trip on the steamer Phalarope.

Deputy Commissioner Lewis Radcliffe and Elmer E. Higgins, Chief of the Division of Scientific Inquiry, have visited the institution on a tour of inspection—Investigations now in progress at the station, others contemplated for the near future, and matters of general policy as well, received attention.

The aquarium is being constantly visited by numbers of people interested in the many peculiar fishes and other animals to be seen there. An unusually large lobster and a wreckfish are among the late arrivals. The wreckfish, the second individual to be caught in American waters, is of European extraction. He spent the winter in the New York aquarium and now like some of the rest of us is here for the summer. Some seahorses are expected soon.

the effect of celebrating his 21st birthday on Monday.

Nataie Sidman of Montclair New Jersey has been visiting Cecile Conklin during the past week.

Monday evening a beach party was held at Quisset in honor of Sidney Britten's birthday.

Tuesday the mail was exceedingly heavy but it seemed to be all for one person. Gladys Holmes was the lucky girl receiving innumerable packages, letters and postcards. This was Gladys' birthday. In the afternoon a two table bridge party was held at the M. B. L. Club in her honor.

Sunday, July 18 was Jack Harrington's birthday. It was celebrated by another party at Quisset.

Anna Eggerdink and Donnie Getchell spent Tuesday in New Bedford.

Mrs. Holcomb has been away for the week end, spending Saturday at New Bedford and Sunday at Provincetown.

We hear that Guy Horsley took Lida Brannon to Falmouth Saturday morning to have her hair cut.

JELLY FISH

(Continued from Page 2)

ble, just couldn't be placed under the grand head of Protozoa. But we certainly had our first real introduction to the biological profession when tourists passing Penzance ponds in which the "invertebrates" were gleefully disporting themselves, exclaimed, "Hey James, will you look at all those crazy people!" But the difference lay in the fact that we were laughing just as uproariously at them. Poor ignorant creatures!

Did you ever see the "rose-petaled blossoms" of the Tubellaria lifting in the water like a miniature garden of La France roses? But Dr. Young informed us of the fact that they were "perfectly good" members of the zoological family carrying the preponderous name of Coelenterates. And again, a most delicate, lace-lake egret of feathery whiteness was gravely introduced as Schizotricha. How do they stand up under the weight of it all? But that wasn't a circumstance to the thrill we got when Dr. Young found the free-swimming medusa form of Clytia and announced that this was its first entrance into the scientific world.

But we didn't even wait for a Woods Hole fog to disappear before we were frantically trying to dislodge some of Dr. Bennett's Platyhelminthes from our pipettas. Such a time as we had, all but growing triclad intestines ourselves trying to trace out systems when the hungry little beasts had simply gorged themselves with a sumptuous repast of coal dust. Rather the idea you know of tracing a black thread on a black carpet with all the electric lights turned off. But we found a rather effective means of getting around the difficulties—smash them gently but firmly—presto, the dinner gone, and the dinner handling apparatus appears.

If anybody wants to find out as much about Annulata as the invertebrates intend to learn, we'll say that Dr. Martin is lecturing July 20, 21 and 22, while Dr. Bissonette follows that subject with the Bryozoa on July 23.

Nature records the death of Professor A. Magnin, formerly professor of botany and director of the Botanic Garden, University of Besancon; of Professor W. F. Shanks, professor of physiology in the University of Leeds since 1923 and formerly lecturer in physiology in the University of Glasgow.

TOWN TOPICS

Woods Hole, with its little harbors filled with fluttering sails, its verdant hills breathing out a welcome fragrance, and its cozy farms reflecting its cheery spirit, is a true beauty spot; at this time of the year especially, it overflows with happiness and wide awake people. Wide awake people who live near together, but many of whom do not know of one third the activities surrounding them. So this, dear reader, will be our aim in the future, to keep the dwellers of Woods Hole in touch with each other and with the current events of the day. We hope you will co-operate with us.

The ladies of the M. E. Church will hold their annual sale in the vestry of the church on Wednesday, July 21, at 3 p. m. Aprons, fancy articles, candy and home cooked food will be on sale.

Mrs. James J. Marshal of Quisset is organizing a couple of teams of women golfers at the Woods Hole Club. During the summer these teams will encounter formidable opponents, at the various golf courses on the Cape and golf enthusiasts are awaiting the tournaments with considerable interest.

Miss Helen Burkart, director of the Seymour School of Musical Re-education at Washington, D. C., is stopping at the Rowen cottage this summer. Miss Burkart is taking pupils.

Miss Joan Fay has returned from a recent trip abroad.

Ho-all ye citizens! Come one—come all! Come to the Parish House Wednesday, July 28, and enjoy yourself. Home cooking, candy, fancy work, tea, ice cream, and grab! The annual fair of the Church Work Association of the Church of the Messiah. A good time guaranteed! Don't miss it!

ANIONS AND SNOITAC

(Continued from Page 7)

output of muscular tissue on stimulation (using a real feras thermostat) and a repetition of some of Dr. Loeb's experiments on the varying of certain properties of gelatine with ph. Several members of the class have undertaken independent problems; but these have not yet matured sufficiently to be called researches.

THE COLLECTING NET

VOL. 1. NO. 2

WOODS HOLE, MASS., THURSDAY, JULY 29, 1926.

TEN CENTS

TOWN TOPICS

Lifeless Body Found

Off Hedge Fence

Put! Put! Put! Sounded the steady beat of the engine of the Coast Guard Base 239, as she cut through the calm waters about one-half mile off Hedge Fence Lightship, southeast of Nantucket. Suddenly the trusty engine stopped, and the base drew alongside a dark object floating in the water. The object was hoisted aboard, and the crew drew back in surprise. Before them lay the limp body of a man long since dead.

"It was awful!" said the quartermaster. "I judge he was a man of about forty or forty-five years. He was about five foot ten, and wore a merchant marine dungarees. He had on light brown shoes and gray stockings. Two things that I noticed were peculiar. He had a long knife fastened in his belt, and he had a small hole in the back of his head. This latter might have been caused by striking something as he fell. We didn't know him, and were unable to locate him, so we took him to the Marine Hospital in the Vineyard. He is still there, and as yet unidentified."

Judge Walsh from New Bedford is visiting his relatives on the M. H. Walsh estate of Woods Hole.

Woods Hole fire apparatus was called out last week to aid Falmouth in extinguishing a stubborn fire in the town dump at Gifford and Jones street.

Currents in Hole

This week the current in the Hole seems to run from Buzzards Bay to Vineyard Sound according to the following schedule:

July 28.....	7:59 P.M.
" 29.....	8:56 "
" 30.....	9:52 "
" 31.....	10:56 "
Aug. 1.....	11:50 "
" 2.....	12:09 A.M.
" 3.....	1:06 "
" 4.....	1:59 "
" 5.....	2:48 "

In each case approximately six hours later it reverses itself and runs from the sound to the bay. There is a period of about 15 minutes when the surface water appears to be stationary.

Laboratory Activities

Friday, July 30, 4:30-6:00 P. M.

Botany Tea. M. B. L. Club.

Friday, July 30, 8:00 P. M.

Evening Lecture
Auditorium. Open to the public.
"The Properties of Certain Artificial Membranes" by Prof. L. Michaelis, John Hopkins University.

Saturday, July 31, 9:00-12:00 M.

Dance, M. B. L. Club.

Monday, Aug. 2, 8:00 P. M.

Botany Seminar
Old Lecture Hall. Open to the Public. "Mosaic Diseases and Leaf Variations", by Fanny Fern Smith.

Tuesday, Aug. 3, 8:00 P. M.

Evening Lecture
Auditorium. Open to the public.
"Absorption of Irons by Orange and Walnut Seedlings", by Dr. Howard S. Reed, University of California.

Friday, Aug. 2, 8:00 P. M.

Evening Lecture
Auditorium. Open to the public.
"Reef Building and Land Forming Plants", by Dr. Marshall Howe, N. Y. Botanical Garden.

The Collecting Net

Dr. Robert Chambers was appointed chairman of the name Committee whose duty was to select a title for our new publication. Those serving on the committee were: Dr. Robert Chambers, chairman, Drs. Clark, Dawson, Edwards, Fry, Harvey, Knower, Lancefield, Lewis, Packard, Mavor, Pantin and Speidel.

The committee, after due consideration, decided upon "The Collecting Net" for the permanent name of the new weekly. It recommends, also, that the entire list of names be printed in the forthcoming issue of "The Collecting Net" to afford entertainment to its readers and to indicate the difficulties which confronted the committee.

Miss Sarah Dunlap submitted the winning name and she will shortly receive the \$5.00 prize. The second choice of the committee was "Lab Lines" which was submitted by _____

The entire list of names submitted follows: M. B. L. Enlightener, Heterozoids, Trial and Error, Missing Links, Amphioxious, M. B. L. Catalyist, Puffers Digest, M. B. L. Dope Sheet, aMoeBaLette, Collecting Net, Biolog, Bio-Hopper, M. B. L. Seine, Embryeller, W. H. Indicator, Hole Thing.

(Continued on Page 8)

Distinguished Biologists Deliver Lectures

Leading Biologists Give Evening Lectures To Enthusiastic Audiences

The twenty-ninth annual series of evening lectures is now well under way and the members of the laboratory have been privileged to hear a number of important communications on diverse subjects. In addition to the lectures by Drs. Chambers and Jennings, which have already been reported, talks have been given by Drs. Pearl, Coghill, Redfield, Metz, Fenn, Witschi and Patten. Abstracts of these lectures, with the exception of the last two are given below.

NEW ARRIVAL IN STURTEVANT FAMILY

Dr. and Mrs. A. H. Sturtevant announce the arrival of a fine baby boy on Monday.

CLUB DANCE A SUCCESS

There was a sound of revelry by night. Beneath the mystic light of Japanese lanterns were gathered the beauty and the chivalry of forty-two states and three foreign countries. From the confines of the sedate old M. B. L. Club issued forth the alluring strains of music; the mournful note of the saxophone, the dreamy tones of the violin, the ting-a-ling of the spritely banjo, the staccato beat of the drum, and the sustaining rumble of the piano. In all fairness we ask you: why speak of Paul Whiteman or Vincent Lopez when we have this excellent aggregation of native talent in our very midst?

We doubt if there is anyone in Woods Hole who does not know what we are trying in our feeble way to describe. But, lest there should be some poor soul who was out of town that night, let us say forthwith that we refer to the dance given by the M. B. L. Club for its members at the club house on Saturday evening, July 24th.

Promptly at nine o'clock, the music by an excellent orchestra of five pieces began. At first, only a half dozen couples took

(Continued on Page 8)

Alcohol and Longevity

The regular series of the evening lectures at the Marine Biological Laboratory was opened on Tuesday, June 29 by Dr. Raymond Pearl who is professor of biometry and vital statistics in the School of Hygiene and Public Health. The title of Dr. Pearl's lecture was: "Alcohol and Longevity".

A restudy was made of the effects of extreme alcoholism or moderate drinking as compared with total abstinence in man. To eliminate usual probability of errors in conclusions on this subject which are too generally largely assumption on inadequately tested data; the cases were selected with special care and the records made and checked up by experienced students. Many curves and tables were shown illustrating the various problems involved, proving as the author's conclusion that moderate indulgence gives a more nearly normal curve than either heavy drinking or total abstinence.

Growth of Nerve Cells

Professor G. E. Coghill of the Wistar Institute of Anatomy and Biology, on Friday evening, July 2, delivered a lecture on "The Early Development of Behavior and Related Nervous Structures in Amblytoma." Dr. Coghill summed up in finished form the main results of his work of the last twelve years, published in the *Journal of Comparative Neurology* and other papers. His clear diagrams and demonstrations of relationships

(Continued on Page 7)

The Collecting Net

Issued under the auspices of
The M. B. L. Club

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Eleanor Sloane *Profoelthemathecoida*
Helen Jennings *Town Topics*

Cooperation in Research

Our civilization has progressed rapidly since man first learned that cooperation and organization were essential to his advancement—nay, even to his existence. Likewise cooperation in research and scientific progress go hand in hand. The field of science has been split up into components so diversified and specialized that one person alone no longer can comprehend one of its major divisions. Yet fundamentally they are inter-related, hence for intelligent research close cooperation is essential.

Some workers are reticent about letting others know just what they are doing or how they are doing it. This attitude is to be condemned, except perhaps on rare occasions in the field of medicine and surgery. This is not in the interest of science, even though in some cases it may be better for the ego. A captain in the war who leads his men to battle for his own glory is not a good soldier. He must coordinate his activities with those of the others for the good of the whole.

A research worker is supported almost without exception directly or indirectly by charity, although in the end the community reaps dividends far in excess of its contributions. People should not be taxed, and benevolent persons should not donate money, that one group of individuals may be glorified at the expense of others and to the detriment of scientific progress.

Investigators at our own laboratory are not sufficiently acquainted with the problems and methods of their co-workers for the greatest productiveness in their research. It turns out that in countless cases the knowledge of what one investigator was do-

ing would have materially helped another.

An hour spent in the laboratory of another scientific worker could probably be spent in no better way. Mutual discussions of the problems met by the individual workers is most productive in the formation of new ideas.

The proposal to initiate at the beginning of the next season a system whereby this can be accomplished deserves the hearty support of every one interested in the progress of scientific research. The general plan will be to have the different investigators volunteer to devote one day during the season to showing other investigators the work that is being carried out in their respective laboratory. These volunteers will profit:

(1) By the privilege of learning about other work and visiting other laboratories.

(2) By reducing the number of interruptions resulting from persons dropping into their laboratories to learn of their work while they are in the midst of carrying out an important series of experiments.

(3) By the satisfaction of realizing that they are doing their utmost to promote scientific research.

The cost for the printing and the paper alone in our last issue amounted to \$83.75. We sold about 380 copies of our weekly at 10c each and we carried advertising material to the extent of about \$30.00. We thus find ourselves somewhat better off financially than we had predicted. We cannot hope to increase our income greatly by an increased number of readers for they are limited; but we can look forward to devoting a little more space to advertisements. Every member of the laboratory should make a special point of patronizing those stores which insert announcements in our columns. They are contributing to our support, and it is our duty to reciprocate.

Those who helped in preparing the directory and whose names are not on the editorial staff are S. Wright, Walburger A. Peterson, and Margaret Sumwalt. We are grateful for their assistance.

LIVING ACCOMMODATIONS FOR LABORATORY WORKERS

(Continued from last week)

This ever increasing demand and insistence of invading summer laboratory workers and friends who came along soon created a new situation in the little town. Rooms were scarce, available houses fewer, and rates went up until the sky was the

limit, since there was no more land to be had for either town resident or laboratory worker. The very life of the laboratory seemed threatened when the "beach lots" were opened up, to be added to the already growing "Crow Hill" section. Later came the Gansett property, and finally the new undeveloped tract for further building.

This seemed to provide amply for the future growth of the settled part of the community, annually returning to the laboratory as their summer home. But Woods Hole residents had reached the limit of their powers to accommodate the additional increasingly large number of laboratory workers who come only for a season or two, and who do not yet wish to take on the responsibilities of regular residents. Since many of us residents must have bathrooms, electric lights, automobiles, etc., rents and room rates for the transient summer visitor are apt to climb. Hence many who have desired to come for a season or so, have found rates and openings prohibitive. The situation has led to the building of dormitories for this class of worker.

The laboratory developed dormitories some time ago from dwellings which came into its hands, and postponed the time of effectually meeting this need until the last minute. These dormitories have grown to surprising proportions for both single men and women and for families; but still there is a steady demand for really adequate quarters for the very type of young investigators not yet established who would be greatly benefitted here and who could help so materially in developing the laboratory's work.

It is for this still unsatisfied need, so important to the very life of the enterprise represented by the Marine Biological Laboratory, that the newly announced brick dormitories and apartments are to be built. These buildings will provide quarters at low rates for many not placed in the present dormitories, some of which will still be used.

Eight houses, including the homestead and the old brick building, now serve as dormitories and belong to the laboratory.

The Dexter House has been a favorite dormitory for families and some single students ever since it ceased to be a hotel where some of us boarded. Its use will now be discontinued.

The Ritter House, with family suites always in demand, on the corner of West and Center streets, opposite the old lecture hall, will now be taken down. The Whitman House nearby, now the Women's dormitory, on the next lot, will be moved. So there will be ample room for the new brick apartment house.

This will be set back on the grass and will have three stories and a good basement. At first about three-quarters of the whole will be built in form of an angle with the angle opening southward toward Center street. Later another wing will join the east end of the angle.

The plans of the apartment house show twelve very attractive family suites, each with living room, kitchen, and bath; half of these with two bedrooms and half with one. In addition there are two suites with two connecting bedrooms and private bath between on each floor; while along the hall there is a row of eight to ten single bedrooms with a bath in common at the end of the hall.

On the first floor there is a large living room for common use by those not provided with a private one. The basement also contains trunk rooms, store rooms, and a laundry and kitchen for common use. There is also a furnace by which the building can be heated for any wishing to stay in cold weather; a very important provision. There is a full equipment of electric lights, running water, screens, and necessary furniture.

It is expected also to maintain family suites in the Hubbard House, as at present. Rates are not yet fixed but will be far below anything now asked.

The other brick building, the new dormitory, will likewise be three stories and a basement and will stand on the Drew lawn, in front of the Drew House. It will face the Eel Pond on the corner of East and North streets.

It is planned for 100 students, one wing to hold 50 women, the other 50 men. The basement holds storerooms, boilerroom, etc. The first floor has a large social room, placed centrally and opening into a patio with garden. To each side of this central arrangement are six or seven bedrooms, each with two beds, and running water, while nearby is a large wash room with toilets, showers, etc. Each of the other two floors are similarly arranged for 37 students; one-half for men, the other for women. Certainly there is nothing left to be desired here. The bathrooms and large social room can be heated. In addition to all this, it is planned to put several beds in each of the rooms of the Drew House to care for 35 or 40 younger men; and similarly to fix up the Kidder House or the Whitman House for 35 or 40 girls.

H. McE. K.

Who said Woods Hole wasn't a popular place? In the past week there have been more yachts in the harbor of Woods Hole than there have been since the war.

DIRECTORY FOR 1926

Abbreviations

Botany Building.....Bot.
Brick Building.....Br.
Lecture Hall.....L.
Old Main Building.....O. M.
Rockefeller Building.....Rock.

The abbreviations used for the positions and institutions are the same as those incorporated in "American Men of Science." Thus, taking Dr. Amberson as an example, his position during the regular college year is assistant professor of physiology at the University of Pennsylvania. His work at the laboratory is carried out in the Brick Building in Room 309.

THE STAFF

Lillie, F. R., Director, prof. emb., chair, dept. zool., Chicago.
Jacobs, M. H., Associate Director, prof. gen. phys., Pennsylvania.

ZOOLOGY

I. Investigation

Calkins, G. N., prof. protozool., Columbia.
Conklin, E. G., prof. zool., Princeton (absent).
Grave, C., prof. zool., Washington (St. Louis).
Jennings, H. S., prof. zool., Hopkins.
Lillie, F. R., prof. of emb., Chicago.
McClung, C. E., prof. zool., Pennsylvania.
Mast, S. O., prof. zool., Hopkins.
Morgan, T. H., prof. expt. zool., Columbia.
Parker, G. H., prof. zool., Harvard (absent).
Wilson, E. B., prof. zool., Columbia.

II. Instruction

Dawson, J. A., instr. zool., Harvard.
Martin, E. A., asst. prof. zool., Col. City, N. Y.
Cole, E. C., asst. prof. zool., Williams.
Bennett, R., instr. biol., Tufts.
Bissonnette, T. H., prof. biol., Trinity.
Grant, Madeleine P., asst. prof. zool., Mount Holyoke.
Willier, B. H., asst. prof. zool., Chicago.
Young, D. B., assoc. prof. biol., Arizona.
McClullen, Helen, lab. asst. in Woods Hole course.

PROTOZOOLOGY

I. Investigation

See Zoology

II. Instruction

Calkins, G. N., prof. protozool., Columbia.
Baker, W. B., assoc. prof. biol., Emory.
MacDougall, Mary S., prof. zool., Agnes Scott.

EMBRYOLOGY

I. Investigation

See Zoology

II. Instruction

Goodrich, H. B., prof. biol., Wesleyan.
Grave, B. H., prof. biol., Wabash.
Packard, C., assoc., Inst. Cancer Res., Columbia.
Plough, H. H., prof. biol., Amherst.
Rogers, C. G., prof. comp. phys., Oberlin.

PHYSIOLOGY

I. Investigation

Bradley, H. C., prof. phys. chem., Wisconsin (absent).
Garrey, W. E., prof. phys., Vanderbilt Med. (absent).
Lillie, R. S., prof. gen. phys., Chicago.
Mathews, A. P., prof. biochem., Cincinnati.

II. Instruction

Jacobs, M. H., prof. gen. phys., Pennsylvania.

Amberson, W. R., asst. prof. phys., Pennsylvania.

Fenn, W. O., prof. phys., Rochester.
Knowlton, F. P., prof. phys., Syracuse.

Hartline, H. K., asst. in Woods Hole course.

BOTANY

I. Investigation

Dugger, B. M., prof. plant phys., Washington (St. Louis).
Allen, C. E., prof. bot., Wisconsin (absent).
Brooks, S. C., Dept. Public Health, Washington, D. C.
Robbins, W. J., prof. bot., Missouri (absent).
Schramm, J. R., Editor-in-Chief, Biological Abstracts, Pennsylvania (absent).

II. Instruction

Lewis, I. F., prof. biol., Virginia.
Hazen, T. E., asst. prof. bot., Barnard.
Taylor, W. R., asst. prof. bot., Pennsylvania.

INVESTIGATORS

Amberson, W. R., asst. prof. phys., Pennsylvania, Br. 309.

Anderson, Pearl, inst. zool., Maryland. O. M. Base.

Armstrong, P., instr. anat., Cornell Med. Br. 318.

Avery, Mrs. M. S., bacteriologist, Am. Univ. Beirut, Syria. Br. 111.

Avery, B. F., prof. anat., Am. Univ. Beirut, Syria. Br. 111.

Arvo, Impi, res. asst. zool., Union. Br. 343.

Arzberger, E. G., plant path. Dept. of Agric. Washington, D. C.

Baker, H. N., grad. stud. zool., Hopkins. O. M. Base.

Baker, W. B., assoc. prof. biol., Emory. O. M. 21.

Barth, L. G., grad. asst. biol., Michigan. Br. 217.

Baskerville, Margaret, asst. prof. phys., geo. med.

Bennett, R., instr. biol., Tufts. O. M. 25.

Benson, Gertrude C., grad. stud. zool., Michigan. Br. 217.

Bergner, A. Dorothy, grad. stud. zool., Columbia. Br. 314.

Bigelow, R. P., prof. zool., Mass., Inst. Tech. Br. 340.

Bissonnette, T. H., prof. biol., Trinity. O. M. 31.

Blumenthal, R., grad. stud. phys., Pennsylvania. Br. 217.

Bodansky, O., res. asst. chem. Columbia. Br. 122C.

Bodine, J. H., asst. prof. zool., Pennsylvania. Br. 220.

Bowen, Edith S., instr. zool., Hood (Maryland). Rock. North.

Bowen, R. H., asst. prof. zool., Columbia. Br. 327.

Bowling, Rachel, stud. biol., Columbia. Br. 331.

Bowman, P. W., instr. bot., George Washington. Bot. 22.

Breifenbacher, lect. zool. McGill. Br. 306.

Bridges, C. B., res. asst., Carnegie Inst. Br. 332.

Brieger, F. G., Rockefeller. res. fellow. Bussey Inst. Bot. 6.

Brooks, S. B., biologist, Hygienic Lab., Washington, D. C. Bot. 4.

Brooks, Mrs. M. M., assoc. biol., Hygienic Lab., Washington, D. C. Bot. 4.

Brown, D. E. S., instr. phys., N. Y. Univ. Br. 342.

Byerly, T. C., prof. zool., Iowa State L. 23.

Calkins, G. N., prof. protozool., Columbia. Br. 331.

Cattell, W., res fellow biol., Memorial Hosp., N. Y. Br. 123.

Cattell, M., instr. phys., Cornell Med. Br. 214.

Chambers, R., prof. anat., Cornell Med. Br. 328.

Chen, T. Y., grad. stud. protozool., Columbia. Br. 314.

Chidester, F. E., prof. zool., West Virginia. Br. 344.

Choate, Dorothy, stud. zool., Pennsylvania. Br. 217.

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Clark, E. R., prof. anat., Pennsylvania, Med. Br. 311.

Clark, L. B., grad. stud. zool., Hopkins. Br. 315.

Cobb, N. A., agr. technologist, U. S. Dept. Agr. Rock. East.

Cole, E. C., asst. prof. biol., Williams. O. M. 24.

Cole, L. J., prof. genetics, Wisconsin. Br. 118.

Collett, Mary S., assoc. prof. phys., Western Reserve. O. M. 4.

Coolidge, T., grad. stud. biochem., Harvard Med. Br. 107.

Copeland, M., prof. biol., Bowdoin. Br. 334.

Covell, W. P., asst. anat., Rockefeller Inst. Br. 209B.

Cowdry, E. V., assoc. memb., Rockefeller Institute. Br. 209B.

Craighill, Caroline. Br. 223.

Cuajunco, F., instr. anat., Univ. Philippines. Br. 111.

Curtis, W. C., prof. zool., Missouri. L. 28.

Darby, H. H., instr. biol., N. Y. Univ. Br. 342.

Dawson, J. A., instr. zool., Harvard. O. M. 29.

DeForest, D. M., instr. biol., Union. Br. 343.

DeGraff, A. C., instr. phys., N. Y. Univ. Med. Br. 110.

Donaldson, H. H., prof. neur. Wistar, Inst. Br. 117.

Dolley, W. L., Jr., prof. biol., Buffalo. Br. 339.

Downing, R. C., asst. zool., Wabash. Br. 234.

Dugger, B. M., prof. plant phys., Washington (St. Louis). Br. 122A.

Edwards, D. J., assoc., prof. phys., Cornell Med. Br. 214.

Ellsworth, R. M., asst. physician, Hopkins Hosp. Br. 302.

Fales, Doris E., grad. asst. zool., Western Reserve. Rock. North.

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Fenn, W. O., prof. phys., Rochester Med. Br. 313.

Fogg, J. M., Jr., inst. bot., Pennsylvania. Bot. 22.

Fogg, L. C., grad. stud. zool., Columbia. Br. 314.

Folger, H. T., instr. zool., Michigan. L. 32.

Fry, H. J., asst. prof. emb., N. Y. Univ. O. M. Base.

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Gates, F. L., assoc. memb. Rockefeller Institute. Br. 209A.

Gates, G. E., head biol. dept., Judson Col., Burma. Br. 217.

Genther, Ida T., asst. instr. phys., Wisconsin. Br. 122C.

Glaser, O. C., prof. biol., Amherst. Br. 204.

Glusker, D., grad. stud. phys. Pennsylvania Med. Br. 309.

Goldfarb, A. J., prof. biol., Col. City N. Y. L. 34.

Goodrich, H. B., prof. biol., Wesleyan. Br. 210.

Gordon, Isabella, Res. Worker, Imperial College, London.

Grand, C., asst. anat., Cornell Med. Br. 328.

Grant, C. W., instr. bact., Battle Creek. Br. 111.

Grant, Jean F., instr. St. Mary's Sch. (N. C.). Bot. 3.

Grant, Madeleine P., asst. prof. zool., Mt. Holyoke. O. M. 32.

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Grave, C., prof. zool., Washington (St. Louis). Br. 226.

Guthrie, Mary J., asst. prof. zool., Missouri. Br. 336.

Hague, Florence, asst. prof. phys., Oregon Agr. Rock. North.

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Harnly, M. A., grad. stud. zool., Columbia. Br. 314.

Harvey, E. N., prof. phys., Princeton. Br. 116.

Hayden, Margaret A., asst. prof. zool., Wellesley. O. M. 5.

Haynes, Rachel, histologist, Commission Stand. Biol. Stains. O. M. Base.

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Hemmeter, J. C., prof. clin. med., Maryland. L. 33.

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Hess, Walter N., prof. zool., De Pauw. Br.

Hickman, Jane F., grad. stud. zool., Missouri. Br. 217.

Hinricks, Marie A., Nat. Res. fellow, Chicago. Br. 335.

Hisaw, F. L., asst. prof. zool., Wisconsin. L. 26.

Hogben, L., assoc. prof. zool., McGill. Br. 213.

Holt, L. E., assoc. in pediatrics, Hopkins Hosp. L. 29.

Hoskins, Mrs. M. M., asst. prof. anat. N. Y. Univ. Col. Dent. Br. 305.

Hewland, Ruth B., asst. prof. biol., N. Y. Univ. Br. 315.

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Inman, O. L., prof. biol., Antioch. Br. 114.

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Jacobs, M. H., prof. gen. phys., Pennsylvania. Br. 102.

Jennings, H. S., prof. zool., Hopkins. Br. 304.

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Just, E. E., prof. zool., Howard. Br. 228.

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Knowlton, F. P., prof. phys., Syracuse Med. Br. 106.

Koehring, Vera, instr. zool., Smith. Br. 217.

Kuhn, Lieut. Harry A., chief Dept. Toxicology, Chem. Warfare Service, Edgewood Arsenal. Br. 217.

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Lancefield, Rebecca C., asst., Hosp. Rockefeller Institute. Br. 206.

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- Landis, E. M., grad. stud. phys., Pennsylvania. Br. 309.
- Lewis, I. F., prof. biol., Virginia. Bot. 26.
- Lillie, F. R., prof. zool., Chicago. Br. 101.
- Lillie, R. S., prof. phys., Chicago. Br. 326.
- Loeb, L., prof. path., Wash. Univ. Med. Br. 122C.
- Long, Margaret E., grad. stud. zool., Pennsylvania. Br. 217.
- Loucks M. M., fellow phys., Minnesota. Br. 110.
- Lucas, A. M., instr. zool., Washington (St. Louis). Br. 111.
- Lucke, B., asst. prof. path., Pennsylvania. Br. 310.
- Lynch, Ruth S., instr. zool., Hopkins. Br. 304.
- Lyons, C., stud. zool., Alabama. Br. 217.
- Manwell, Reginald D., senior grad. asst., Amherst.
- McClung, C. E., prof. zool., Pennsylvania. Br. 219.
- McCutcheon, M., asst. prof. path., Pennsylvania. Br. 310.
- MacDougall, Mary S., prof. biol., Agnes Scott. O. M. 22.
- McMullen, Eleanor C., instr. zool., Cornell. L. 31.
- McNamara, Helen, tchr. Rockefeller Institute. Br. 207.
- Martin, E. A., asst. prof. zool., Col. City N. Y. O. M. 2.
- Mast, S. O., prof. zool., Hopkins. Br. 312.
- Matthews, Annette, stud. biol., Maine. L. 24.
- Mavor, J. W., prof. biol., Union. Br. 343.
- Means, J. H., prof. clin. med., Harvard Med. Br. 110.
- Metz, C. W., staff memb. Carnegie Inst. Cold Spring Harbor. Br. 222.
- Michaelis, L., resident lect. med., Hopkins. Br. 319.
- Miller, H. M. asst. to C. Grave. Br. 226.
- Mitchell, W. H. Jr., grad. stud. protozool., Harvard. Br. 217.
- Mitchell, P. H., assoc. prof. phys., Brown. Br. 233.
- Morgan, T. H., prof. exp. zool., Columbia. Br. 320.
- Morrill, C. V., asst. prof. anat., Cornell Med. L. 27.
- Morrison, Mary E., grad. stud. phys., Pennsylvania. Rock. North.
- Morse, S., assoc. biophysics, Cleveland Clinic. Br. 341.
- Moses, Mildred, res. ass't. Carnegie Inst. Br. 223.
- Nachtshiem, H., fellow Int. Ed. Board. Br. 333.
- Nadler, J. E., instr. phys., Georgia. Med. Br. 110.
- Nassonov, D., asst. zool., Leningrad (Russia). O. M. 3.
- Nomura, S., asst. prof. phys., Imperial Univ. Japan.
- Nonidez, J. F., assoc. anat. Cornell Med. L. 22.
- Oliphant, Dolores, stud. zool., Mt. Holyoke. Bot. 1.
- Orbison, Agnes, asst. prof. zool., Elmira. Br. 336.
- Packard, C., assoc., Inst. Cancer Research, Columbia. O. M. 26.
- Page, I. H., chemist, Eli Lilly. Br. 325.
- Palmer, G. D., asst. prof. chem., Kansas State. O. M. Base.
- Pantini, C. F. A., physiologist, Marine Biol. Assoc., Plymouth, Eng. Br. 324.
- Parmenter, C. L., asst. prof. zool., Pennsylvania. Br. 221.
- Pasquini, P., Int. Ed. Board Fellow, zool. Br. 315.
- Peebles, Florence, phys. L. 21.
- Perkins, E. B., grad. stud. zool., Harvard Med.
- Perlzweig, W. A., assoc. med., Hopkins Hosp. Br. 319.
- Peterson, Walburga A., fellow zool., Chicago. O. M. Base.
- Plough, H. H., prof. biol., Amherst. Br. 126.
- Plunkett, C. R., instr. phys., N. Y. Univ. Br. 1.
- Pollack, H. med. stud., Cornell Med. Br. 328.
- Pollister, A. W., asst. biol., Columbia. Br. 314.
- Pond, S. E., asst. prof. phys., Pennsylvania Med. Br. 216.
- Popa, G. T., chief asst. emb., Bukarest (Roumania). Br. 225.
- Potter, G. E., instr. zool., Iowa State. L. 23.
- Rand, H. W., assoc. prof. zool., Harvard. L. 30.
- Ratcliffe, F. N., grad. stud. biol., Princeton. Br. 110.
- Redfield, A. C., asst. prof. phys., Harvard Med. Br. 107.
- Redfield, Helen., nat. Res. fellow, Columbia. Br. 314.
- Reznikoff, P., assoc. anat. instr. med., Cornell Med. Br. 328.
- Rogers, C. G., prof. phys., Oberlin. Br. 218.
- Rowlee, Silence, instr. bot., Wellesley. Bot. 1.
- Salant, W., prof. phys., pharm., Georgia Med.
- Schevring, Ludwig, Int. Ed. Board Fellow (Munich, Germany) (arriving the first week of Aug.)
- Schultz, J., asst. zool., Columbia. Br. 314.
- Schrader, F., assoc. prof. biol., Bryn Mawr. Br. 125.
- Schrader, Mrs. I. H., instr. biol., Bryn Mawr. Br. 125.
- Schwartzbach, S., med. stud. Maryland. Br. 122B.
- Scott, J. P., photographer, Science Service. O. M. 6.
- Scott, W. J., grad. stud. phys. Pennsylvania. O. M. 7.
- Shearer, E. M., grad. stud. emb., Princeton. Br. 110.
- Smith, D. C., res. worker, Harvard Med. Br. 217.
- Smith, Fanny F., res. asst. plant phys., Washington (St. Louis) Br. 122A.
- Smith, W. A., res. asst. phys., Pennsylvania. Br. 205.
- Sonneborn, M. T., grad. stud. zool., Hopkins. Br. 303.
- Spaulding, Janet, res. asst. anat., Cornell Med. Br. 317.
- Speidel, C. C., assoc. prof. anat., Virginia. O. M. 28.
- Stern, C., res. fellow zool., Kaiser Wilhelm Inst. Br. 333.
- Stockard, C. R., prof. anat., Cornell Med. Br. 317.
- Strong, O. S., assoc. prof. neur., Columbia. Br. 8.
- Sumwalt, Margaret, grad. stud. phys., Pennsylvania. Rock. West.
- Svenson, H. K., asst. prof. biol., Union. Bot. 2.
- Taylor, I. R., instr. phys., Pennsylvania. Br. 217.
- Taylor, W. R., asst. prof. bot., Pennsylvania. Bot. 25.
- Thomas, Francis K., Secretary to Dr. Means, Mass. General Hosp., Boston.
- Thomas, G. W., med. stud. Harvard Med. Br. 108.
- Titlebaum, A., stud. emb. Columbia. Br. 314.
- Uhlenhuth, Mrs. E., res. asst. to Dr. Uhlenhuth. Br. 122D.
- Uhlenhuth, E., assoc. prof. anat., Maryland Med. Br. 122D.
- Uhlmeier, Bertha, asst. prof. protozool. Washington (St. Louis). Br. 226.
- Vicari, Emilia M., med. stud., Cornell Med. Br. 317.
- Wallace, Edith M. artist to Dr. Morgan, Columbia. Br. 321.
- Walters, Mary J., med. stud., Pennsylvania. Br. 205.
- Wecse, A. O., prof. zool., Oklahoma. L. 25.
- Wheeler, P. H., med. stud., Harvard med. Br. 210.
- Wieman, H. S., prof. zool., Cincinnati. Br. 334.
- Wierda, J. L., inst. anat., Cornell, Br. 312.
- Wilbur, Lois, instr. phys., Pennsylvania. Br. 217.
- Wilhelm, J. F., Jr., asst. zool., Wabash (Ind.). Br. 234.
- Williams, R. G., Nat. Res. fellow neur. Pennsylvania. Br. 311.
- Willier, B. H., asst. prof. zool., Chicago. O. M. 27.
- Wilson, E. B., prof. zool., Columbia. Br. 322.
- Wilson, J. W., asst. prof. biol., Brown. Br. 329.
- Witschi, Mrs. E., asst. to Dr. Witschi, Univ. Basel, Switzerland. Br. 127.
- Witschi, E., lect. zool., Univ. Basel (Switzerland). Br. 127.
- Wolff, W. A., grad. stud. chem. Pennsylvania. Br. 8.
- Woodruff, L. L., prof. protozool. Yale. Br. 323.
- Woodward, Alvalyn E., assoc. prof. phys., Maine. L. 24.
- Young, D. B., prof. biol., Arizona. O. M. 33.
- Zimmerman, Averill A., asst. biophysics, West. Reserve. Br. 314.

STUDENTS

- The abbreviations used are the same as in the list of Investigators. In the case of Miss Arnold the information given is that she is an undergraduate student at Wellesley College and that she is taking the course in botany at the laboratory. If the person in question has a position other than that of an undergraduate student it is so indicated.
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- Avery, B. F., prof. anat., Am. Univ. Beirut, Syria, Zool.
- Beale, Alice, Radcliffe, Zool.
- Bean, R. C., teach. biol., Girls' H. S., Boston. Zool.
- Beaver, P. C., Wabash, Zool.
- Bonner, Miriam C., Mt. Holyoke, Emb.
- Bing, F. C., Pennsylvania, Phys.
- Borden, Mabel A., Dalhousie, (Can.) Bot.
- Boyd, Marjorie, instr. phys., Mt. Holyoke, Phys.
- Brannon, Lida C., instr. biol., Dana Hall, (Mass.) Emb.
- Britten, S. A., Hamilton, Emb.
- Brown, Helen J., instr. St. Mary of Springs (Ohio) Bot.
- Buehler, Katherine, teach. biol., Albany H. S., Bot.
- Campos, F. A. deM., asst. phys., S. Paulo Medical Sch. (Brazil) Emb.
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- Carpenter, Esther, asst. zool., Wisconsin, Emb.
- Chase, A. M., Amherst, Zool.
- Chen, H. K., grad. stud., Illinois, Emb.
- Chen, T. Y., grad. stud., Columbia, Protozool.
- Clark, Elizabeth B., Radcliffe, Bot.
- Clarke, G. L., Harvard, Zool.
- Cline, Elsie, Hopkins, Bot.
- Climenko, D. R., Dartmouth, Emb.
- Connard, Mary H., Vassar, Bot.
- Conklin, Cecile L., instr., Goucher, Emb.
- Craighill, Caroline B., lab. asst., Carnegie Inst. (Washington).
- Copeland, J. J., Earlham (Ind.), Bot.
- Crawford, W. W., grad. asst. zool., Missouri, Zool.
- Crosman, A. M., grad. stud., Columbia, Protozool.
- Cuaunco, F., instr. anat., Univ. Philippines, Emb.
- Daniel, G. E., Arkansas, zool.
- Dawley, Charlotte, asst. zool., Washington (St. Louis), zool.
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- Dowling, A. S., grad. stud., Harvard, phys.
- Drayer, C. S., Ohio Wesleyan, zool.
- Duryee, W. R., Yale, zool.
- Dyer, Helen A., asst. pharm. hygienic lab., Washington, D. C., phys.
- East, Elizabeth W., Wellesley, zool.
- Eggerdink, Anna G., Hunter, emb.
- Else, F. L., instr. zool., Pennsylvania, emb.
- Esaki, S., asst. prof. zool., Chicago, emb.
- Farr, Marion M., asst. zool., Vassar, zool.
- Field, Madeline E., asst. phys., Mt. Holyoke, phys.
- Gaffney, Catherine A., Hunter, bot.
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- Getback, Elizabeth L., asst. biol., Goucher, protozool.
- Getchell, Donnie C., asst. biol., Colby, emb.
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- Gordan, Isabella, res. worker, Imperial College, London.
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- Hardesty, Mary, Newcomb, zool.
- Harrington, J. T., Dalhousie, emb.
- Herman, Myra, grad. stud., Columbia, emb.
- Herskowitz, I. A., Columbia, zool.
- Hess, W. N., prof. zool., De Pauw, phys.
- Hewes, Edna M., grad. stud. Rochester, zool.
- Hewitt, Dorothy C., Mt. Holyoke, zool.
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- Hollander, F., Nat. Res. fellow, med., Yale, Phys.
- Holmes, Gladys E., Brown, emb.
- Holmes, M. Thelma, instr., biol., Syracuse, phys.
- Holton, Ruth G., protozool.
- Horsley, G. W. Virginia, emb.
- Hummel, Katharine P., zool.
- Hunt, T. E., Jr., Chicago, zool.
- Hurlbutt, Ellen L., instr. zool., Connecticut, zool.
- Irwin, Marion S., instr. zool., Carleton, zool.
- Jeffers, Katharine R., Missouri, zool.
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- Miller, R. M., Lafayette, zool.
- Morris, Helen S., Hunter, proto.
- Morton, H. S., Dalhousie (Can.), phys.
- Nalin, Laura J., asst. zool., Missouri, zool.
- Nelsen, O. E., instr. zool., Pittsburgh, emb.
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- Parpart, A. K., grad. asst. zool., Amherst, protozool.
- Parpart, Mrs. E. R., grad. stud. Smith, emb.
- Parker, R. C., asst. biol., Yale, zool.
- Parsons, Elizabeth, Oberlin, zool.
- Payne, Nellie M., Nat. Res. fellow, Pennsylvania, zool.

Perrine, Ruth R., Oberlin, zool.
Peterson, Dagmar H., res. zool., N. J. Agri. Exp. Sta., bot.
Pierce, Madeline E., Radcliffe, zool.
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Pike, M. H., Michigan, zool.
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Rich, Robins, Sweet Briar, zool.
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Showers, Edith, Smith, protozool.
Sloane, Eleanor, Wilson, zool.
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TeWinkel, Lois E., assist. zool., Barnard, protozool.
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Underwood, Katharine, A. B. Vassar, zool.
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Van Duyne, S. Elizabeth, phys. and teacher, Goucher, emb.
Vordemberge, Anna M., Goucher, bot.
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Montgomery, Hugh, acting assistant
Lawrence, Deborah, secretary.
Oliphant, Dolores, typist.
Veader, Marjorie, typist.
Griffin, Charlotte, file clerk.
Look, Elizabeth, file clerk.

CHEMICAL SUPPLY ROOM

Strong, O. S., assoc. prof. neur., Columbia, Director.
Wolff, W. A., grad. stud. chem., Pennsylvania, Asst. Director.

ASSISTANTS

Ballard, Mary, stud., Mt. Holyoke.
Dunlap, Anna C., stud., Wellesley.
Haas, Dorothea, stud., Mt. Holyoke.
Hale, J., stud., Oberlin.
Holbert, Pauline, stud., Elmira.
Jennings, B., stud., Friends Sch. (Baltimore).

SUPPLY DEPARTMENT

Gray, G. M., curator.
Veeder, J. J., captain.
Lewis, E. M., engineer.
Leathers, A. W., head, shipping dept.
Crowell, Ruth S., secretary.
McAfee, Cora L., secretary.
Ballard W. W., collector.
Conklin, P., fireman.
Crane, S., collector.
Davis, W. A., collector.
Godrich, J., deckhand.
Healy, D. C., collector.
Hilton, A. M., collector.
Hobbs, K. L., collector.
Jackman, W. L., collector.
Lawrence, L. T., collector.
Lewis, E. M., engineer.
Lillie, W., deckhand.
Lowney, L., substitute engineer.
McInnis, J., collector.
Pearse, R. L., collector.
Robinson, W., ships carpenter.
Tressler, W. L., collector.
Wamsley, F. W., collector.
Whitelaw, R. N. S., collector.

BUILDING AND GROUNDS

Hilton, H. A., supt. buildings and grounds.
Larkin, T., supt. mechanical dept.
Phipps, R. E., mechanician.
Hemenway, W., carpenter.
Bisco, A. H., storekeeper and head janitor.

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Elliot, Edith L., sec. Board Nat. Res. Fellowships, biol. sciences.
Thorne, Louise C., Sec. to Dr. Cole.

BUREAU OF FISHERIES

Snyder, Prof. J. O., zool., Stanford, room 118, Director.
Buhrer, Edna M., (at Fisheries Lab. with Dr. N. A. Cobb), junior nematologist, U. S. Dept. Agric., room 123-5.
Bullington, W. E., prof. biol., Randolph Macon (Virginia), room 123.
Christie, J. R., assoc. nematologist, U. S. Dept. of Agri., room 123.
Cobb, N. A., nematologist, Dept. of Agriculture, room 123.
Conger, P. S., diatomist, asst. to Dr. Albert Mann, Carnegie Institution, Washington, D. C., room 123.
Connolly, C. J., instr. comp. psy., Catholic Univ., Washington, D. C., room 123.
Corder, Margaret N., sec. to Dr. Cobb, room 123.
Crosley, R. W., assisting Dr. P. S. Galtsoff, U. S. Bur. Fisheries, room 123.
Drayton, Jessie E., U. S. Bur. Fisheries, Washington, D. C., sec. to director, Fisheries Lab., room 118.
Eichorn, A. S., asst. in zool., Western Reserve, Cleveland, O., storekeeper Fisheries Lab., room 131.
Fish, C. J., assoc. aquatic biol. U. S. Bur. Fisheries, room 115.
Fish, Mrs. Marie P., field assist. at large, U. S. Bur. Fisheries, room 115.
Ford, Regina M., asst. librarian, U. S. Bur. Fisheries, Washington, room 143.
Galtsoff, Mrs. P. S., technician, assist. to Dr. Galtsoff, Bur. of Fisheries, Woods Hole, Mass., room 122.
Galtsoff, P. S., aquatic biol., U. S. Bur. Fisheries, room 122.
Goffin, R. A., collector, U. S. Bur. of Fisheries, Woods Hole, room 119.
Gray, I. E., asst. prof. of zool., Tulane, room 123.
Hall, F. G., prof. of biol., Duke Univ., room 123.
Heinly, Helen M., (at Fisheries Lab. with Dr. N. A. Cobb), junior nematologist, U. S. Dept. Agric., room 123-1.
Hoffses, G. R., supt. U. S. Fisheries Station, Woods Hole, room 117.
Lepkovsky, S., res. worker, Dept. of Zool., Wisconsin, room 123.

Linton, E., parasitologist, Dept. of Zool., Pennsylvania, room 146.
MacCallum, G. A., parasitologist, Baltimore, Bureau of Fisheries, Woods Hole, room 144.
Perkins, E. B., Harvard, room 123.
Schroeder, W. C., field assist. at large, U. S. Bur. Fisheries, room 140.

Seiwell, H. R., assist. in zool., asst. to Dr. P. S. Galtsoff, U. S. B. F., room 123.
Sette, O. E., assist. in charge, Div. of Fishery Industries, room 140.
Stough, H. B., asst. prof. zool. Idaho, room 123.
Wilson, C. B., prof. of biol., State Normal School, Westfield, Mass., room 123.

EXHIBIT
Scientific Instruments
July 19th to 30th
LECTURE HALL
Bausch & Lomb Optical Co.
 Executive Offices and Manufactory
Rochester, N. Y.

FIRE ALARM KEY
SPECIAL SIGNALS

22 Daily Test Signal at 12 o'clock noon and 4:30 P. M.
 33 General Alarm, followed by a box number.
 4 Forest Fire. This may be followed by a box number.
 12 Chimney or other Small Fire reported over telephone.
 21 No School signal at 7:45 A. M.
 55 Aid requested by "out of town" call.

All persons are warned to comply with the new "right of way" law for fire apparatus and not park within 600 feet of any fire, and also to "pull over" and permit apparatus to pass.

If you do not know how to operate a fire alarm box, ask any fireman and he will be glad to show you. Visitors are welcome at any fire station during the day.

Box	Location	Box	Location
14	Phinney's Boat Shop	341	Hilton's, Glendon Rd., W. H.
15	Tower House	342	Nobska Pt. Section, W. Hole
16	Terrace Gables Hotel	343	Fenno's Farm House, Quissett
17	Vineyard Sound Hotel	345	Marshall's House, Quissett
18	Maravista District	346	Quissett Four Corners
19	Davisville District	347	School House, W. Hole
23	Cor. Morse R. & Palmer Av.	343	Carlton Estate, Nobska
232	Surf Drive	349	Gansett Section
234	Almshouse	35	West & Millfield Sts., W. H.
235	Queens' Buyway	36	U. S. Buoy Yard, W. Hole
236	Railroad Station	37	Steamboat Wharf, W. Hole
237	Jones Road & Gifford St.	38	Prospect St., & Buz. Bay Ave.
238	Clinton Ave. & King St.	39	Penzance Point Section
24	Falmouth National Bank	41	East Falmouth Post Office
242	Teaticket Post Office	412	Sandwich & Brick Kiln Rds.
25	Wood Lumber Co.	413	East Falmouth, Fuller's Cor.
26	Falmouth Grade Sch. Main St.	42	Menauhant District
27	Cor. Main and Walker Sts.	43	Waquoit District
28	High School, Main & Srore Sts	432	Fresh Pond District
29	Cor. Clinton & Scranton Aves.	45	West Falmouth District
32	Hose No. 5 Station, W. Hole	46	North Falmouth District
324	Gunning Point District	47	Megansett
325	Sippewisset Hotel District	48	Silver Beach
326	Quissett Harbor House	49	Hatchville District
34	Quissett & Buz. Bay Aves.	492	Ashumet District

NEW BEDFORD, MARTHAS VINE-YARD & NANTUCKET STEAM-BOAT LINE

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Summer Schedule

Corrected to July 4, 1926

Week Days				
Leave	A.M.	A.M.	P.M.	P.M.
N. Bedford	7.10	8.45	1.30	4.30
Woods Hole	8.40	10.15	2.50	6.00
Oak Bluffs	9.40	11.00	3.40	7.10
Due V. Haven	...	11.50	...	6.45
Due Ed'town	...	...	...	8.00
Due Nantkt	12.15	...	6.15	...

Sundays

	A.M.	P.M.
Leave New Bedford,	7.45	5.30
Leave Woods Hole,	9.05	6.45
Leave Oak Bluffs,	9.55	7.30
Due Nantucket,	12.15	10.00

Week Days

Leave	A.M.	A.M.	P.M.	P.M.
Nantucket,	...	6.00	...	12.30
Edgartown	4.00	...	...	...
Oak Bluffs	4.40	8.15	11.05	3.00
V. Haven,	5.10	...	11.55	...
Woods Hole	5.50	9.15	12.40	3.45
Due N. Bed.	7.35	10.50	2.20	5.25

Sundays

	P.M.	P.M.
Leave Nantucket,	12.00	1.45
Leave Oak Bluffs,	2.25	4.00
Leave Woods Hole,	3.25	4.45
Due New Bedford,	5.00	6.10

W. A. SMITH, General Agent.

WHAT'S WHAT In Wood's Hole

STANDARD TIME

Telegraph Office Hours

Week Days	6:30 a.m. to 9 p.m.
Sundays	8 a.m. to 11 a.m. 3 p.m. to 7 p.m.

STANDARD TIME

Post Office Hours

Mails Due	8.25 a.m.
" "	2.30 p.m.
" "	5.50 p.m.

Mails Close	5.45 a.m.
" "	8.45 a.m.
" "	3.30 p.m.

Office Hours... 6 a.m. to 6.50 p.m.

No Mails on Sunday

DAYLIGHT SAVING TIME

Library Hours

Wednesdays and Saturdays	3 p.m. to 5 p.m. 7 p.m. to 9 p.m.
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TRAIN SCHEDULE

DAYLIGHT SAVING TIME

Boston to Falmouth—Week Days.

	A.M.s	A.M.	A.M.	P.M.s	P.M.	P.M.†	P.M.†	P.M.	P.M.s
Boston,	7.05	8.30	1.03	1.06	3.03	4.03	4.30	8.30	
Brockton,	7.45	9.06	...	1.42	...	4.38	5.06	9.12	
Middleboro,	8.10	9.29	...	2.08	3.55	...	5.29	9.42	
Wareham,	8.32	9.53	...	2.29	...	5.19	5.50	10.04	
Buzzards Bay	7.00	8.45	10.10	2.30	2.44	4.25	5.30	6.05	10.22
Mon. Beach,	7.05	8.50	10.15	2.35	2.51	4.29	5.34	6.10	10.27
Pocasset,	7.10	8.55	10.20	2.39	2.56	4.32	5.37	6.15	10.32
Cataumet,	7.15	9.00	10.26	2.44	3.01	4.37	5.42	6.20	10.37
N. Falmouth,	7.19	9.03	10.31	2.47	3.05	4.40	5.45	6.24	10.41
W. Falmouth	7.29	9.10	10.40	2.55	3.13	4.48	5.53	6.32	10.48
Falmouth,	7.37	9.18	10.53	3.03	3.22	4.56	6.01	6.41	10.57
Woods Hole.	7.45	9.25	11.00	3.10	3.30	5.03	6.08	6.50	11.05

Falmouth to Boston—Week Days.

	A.M.	A.M.†	A.M.†	A.M.	P.M.	P.M.
Woods Hole,	6.30	7.15	8.15	10.25	2.00	5.05
Falmouth,	6.37	7.22	8.22	10.33	2.08	5.13
West Falmouth,	6.44	7.29	8.29	10.40	2.15	5.40
North Falmouth,	6.51	7.36	8.36	10.47	2.22	5.27
Cataumet,	6.54	7.39	8.39	10.51	2.26	5.31
Pocasset,	6.58	7.43	8.43	10.55	2.30	5.37
Monument Beach,	7.02	7.47	8.47	11.00	2.33	5.40
Buzzards Bay,	7.08	7.52	8.52	11.05	2.40	5.45
Wareham,	7.22	8.04	9.04	11.18	3.04	5.57
Middleboro,	7.54	...	...	11.41	3.30	6.15
Brockton,	8.22	...	...	12.05	4.00	6.43
Boston,	9.00	9.20	10.18	12.40	4.35	7.17

SUNDAY TRAINS

	To Boston Read Down				From Boston Read Up	
	A.M.	P.M.	P.M.	P.M.*	P.M.	P.M.
Woods Hole,	9.10	4.35	5.05	6.00	9.00	9.25
Falmouth,	9.18	4.42	5.13	6.07	9.08	9.18
West Falmouth,	9.25	...	5.20	6.14	9.15	9.10
North Falmouth,	9.32	...	5.27	6.14	9.22	9.03
Cataumet,	9.36	...	5.31	6.24	9.26	9.00
Pocasset,	9.40	...	5.37	6.28	9.30	8.55
Monument Beach,	9.45	...	5.40	6.32	9.34	8.50
Buzzards Bay,	9.50	...	5.45	6.37	9.40	8.45
Wareham,	...	...	5.57	6.51	9.55	8.32
Middleboro,	...	...	6.15	7.18	10.15	8.10
Brockton,	...	...	6.43	7.43	10.45	7.45
Boston,	...	...	6.37	7.17	8.17	7.05

* Cape Codder—June 27 to Sept. 12 inclusive.
† Will not run July 5 or September 6.
s Saturdays only.

BUSS SCHEDULE

WOODS HOLE & FALMOUTH HEIGHTS—SUMMER SCHEDULE
In Effect June 21 to September 1, 1926, inclusive.

Rates Between—Woods Hole and Falmouth, 25c; Woods Hole and Quissett, 20c; Woods Hole and Falmouth Heights, 40c; Quissett and Falmouth, 20c; Falmouth and Falmouth Heights, 20c. Children under 12 years, half fare. Children, Woods Hole and Falmouth, Round Trip, 25c. 10 Trip Tickets between Woods Hole and Falmouth \$2.00 (Adults only).

Daylight Saving Time

	A. M.					P. M.				
Leave										
Woods Hole,	8.05	10.00	11.20	1.45	3.10	5.00	6.45	7.45	9.30	10.15
Falmouth,	8.30	10.20	11.45	2.05	3.30	5.20	*7.00	*8.00	*9.45	*10.30
Due										
Fal. Heights,	8.40	10.30	11.55	2.15	3.40	5.30	...	...	...	...
Leave										
Fal. Heights,	8.50	10.35	12.00	2.20	3.45	5.30	...	...	...	...
Falmouth,	9.15	10.45	12.15	2.40	4.15	5.40	7.15	9.00	9.45	†11.00
Due										
Woods Hole,	9.30	11.05	12.35	3.00	4.35	6.00	7.35	9.25	10.10	11.30

* Due † About two minutes after show.

Sundays Only—Daylight Saving Time

	A. M.			P. M.		
Leave Woods Hole,	8.40	10.10	11.30	3.00	6.00	7.50
Arrive Fal. Heights,	9.05	10.35	12.15	3.30	6.30	8.40
Leave Fal. Heights,	9.15	10.40	12.20	3.35	6.35	8.45
Falmouth,	9.25	10.55	12.30	3.45	6.45	8.55
Due Woods Hole,	9.45	11.15	12.50	4.05	7.05	9.10

Bus makes connections for church service morning and evening. 10 Trip tickets between W. Hole and Fal. \$2.00 (Adults only).

NOTICE—Service between Falmouth Heights and Falmouth, evenings, is as follows: 10 passenger Bus connecting with 7.00 and 9.00 p.m. moving pictures.

Leave Falmouth Heights,	6.45	7.30	8.30	9.30
Arrive Falmouth,	7.00	7.45	8.45	9.45
Leave Falmouth,	7.05	8.00	9.00	11.00
Arrive Falmouth Heights,	7.25	8.15	9.15	11.15

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Open from 8:30 A. M.
Until 11:00 P. M.

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Bug Hunters!
Don't chase all over town for food for your beach parties. We have everything in our store next to the Post Office
FRESH BREAD, MEAT and ALL CANNED GOODS
QUICK SERVICE LOW PRICES
Morrison's Market
Woods Hole, Mass.

THE SEA URCHIN

IT PRICKS WITHOUT DISCRIMINATION

It is with great trepidation that we learn of the establishment of a daily newspaper which is to be the official organ of the Marine Biological Laboratory. The staff selected by the executive committee is given below:

Dr. Thomas Hunt Morgan, Editor-in-chief.

Dr. Henry J. Fry, Assistant Editor.

Dr. C. R. Plunkett, Business Manager.

Miss Louise Duggar, Private Secretary to the business manager.

It will be a case of the survival of the fittest, but we think that our weekly will persist despite our formidable competitor.

All members of the laboratory are invited to attend the christening of Clark's trusty sailboat at 3:00 P. M. on Saturday afternoon. A bottle of Canada Dry will be broken across the bow. It has not yet been decided whether it shall bear the name "Ima Gona" or "Sinkanaa."

A committee was organized to install a telephone in the office of the custodian of apparatus. The receiver only was deemed sufficient.

A bicycle race is to be staged between Wesleyan and Columbia shortly. The Columbia representative will be assisted by his own chromosomal group.

Dr. Darby is trying to work off superfluous flesh on the dance floor. The outlook is bright if the floor holds. He also has the record of being the only man to play a 7-0 tennis match.

Dr. J. A. Dawson, president of the International Horseshoe-pitching Association and general manager of the Amoeba Distributing Corporation of America, has been having the "goll darndest" time this summer. Besides taking charge of the invertebrates, commuting week ends and pitching horseshoes, he has been appointed official chaperon of the Dalhousie contingent.

Dr. Read Ellsworth's "limousine" has been accepted by the community. Any one wishing to use it should apply to the physician of the laboratory but be sure to bring pliers along to turn the key. Dr. Ellsworth is buying his gasoline in single gallon lots and before the summer is over he hopes to wean the car.

DISTINGUISHED BIOLOGISTS DELIVER LECTURES

(Continued from Page 1)

between structure and function in the establishment of reflexes from the primary system to those of increasing complexity in amphibian larvae give a new and fundamental clew to problems of nervous regulation and structure. The speaker ended with the general conclusion that nerve cells continue their growth and establish new relations during life. We should not then think of the nervous system even in adults of higher forms as a set of fixed and finally differentiated elements but as constantly capable of changes and extensions in its units, with new possibilities of reactions and associations.

H. McE. K.

Blood Respiration

Professor Alfred C. Redfield, of the Harvard Medical School, gave a paper on "The Respiratory Proteins of the Blood" in the auditorium, Tuesday evening, July 6. The varied behavior and capacities of hemoglobin in vertebrate blood and of hemocyanin in invertebrate blood in relation to oxygen and carbon dioxide were set forth very fully and thoroughly by the speaker. A considerable series of animals were studied and many curves and tables were thrown on the screen furnishing a valuable set of comparative data for reference in further blood studies; and a surprising individuality and variability was discovered in the behavior of the blood of various organisms along these lines.

H. McE. K.

Genetics of Sciara

Dr. C. W. Metz, of the Station for Experimental Evolution at Cold Spring Harbor, on Tuesday evening, July 13, delivered a lecture on "Aberrant Features of Chromosome Behavior and Genetic Behavior in *Sciara* and the Problems They Present." Two abstracts of this paper have been received by *The Biologist* and since, to a certain extent, they supplement each other, both are printed below.

(1) The lecturer described a novel relationship between the chromosomes of the two sexes in the fungus-gnat *Sciara*, and several peculiarities in chromosome behavior, including the regular occurrence at one spermatocyte division of a monocentric mitosis, involving cell division and chromosome segregation. In these flies the male possesses two more chromosomes than the female, which are confined to the male line, "sex-limited."

Both microscopic study and breeding experiments indicate

that in the males an unusual relation exists between the maternal and paternal chromosomes. This opens up new lines of work to compare with the condition in the females and to explain differences with other forms. Many lantern slides were shown to illustrate this interesting report of progress.

(2) The cytological phenomena of three species of the rather primitive fly *Sciara* were investigated. The chromosome groups and the characteristics of the reduction process were found to be essentially the same in all three species and to differ very widely from conditions found in other diptera studied. The female possesses four pairs of chromosomes and the male those four pairs and in addition two very large chromosomes that are therefore referred to as "sex-limited." After the last spermatogonial division the ten chromosomes apparently do not conjugate, but segregate into two groups with a monopolar spindle. One group of four is cast off in a small bud. The other group, four plus both of the sex-limited chromosomes, there undergoes an equatorial division and a second bud with five chromosomes is given off (two sex-limited chromosomes and three of the four other chromosomes). One of the four pairs of chromosomes divides but both daughter halves remain in the main cell body. This main cell body then transforms directly into a spermatozoon, one coming from each final spermatogonium, all sperms being alike with seven chromosomes. The mode of inheritance of a mutant character was such as to suggest that a male re-

ceives it only from the mother. While the cytological study of the female has not been completed, peculiarities of distribution are expected to be encountered that supplement those of male.

C. B. B.

Muscular Activity

On July 21, in the fifth of the series of evening lectures, Dr. Wallace O. Fenn, professor of physiology at the University of Rochester, treated the members of the laboratory to an interesting discussion of certain phases of the energetics of muscular contraction. Dr. Fenn was the first American student to work in the laboratory of Professor A. V. Hill, in University College, London, and much of his lecture was devoted to an account of the work carried out by him in this laboratory. Using the delicate methods for the measurement of heat devised by Hill, Dr. Fenn was able to show that the muscle, following stimulation, liberated more energy when it was allowed to shorten than when shortening was prevented, and that the muscle is able to adjust the energy expended to the load to be lifted. This was true even when the load was altered after the muscle had begun to shorten. Furthermore during relaxation a definite liberation of heat takes place which is proportional to the load to be lowered. These facts were brought out by a number of ingenious "tricks," as Dr. Fenn aptly called them, by means of which the load on a muscle could be changed at any time during the actual process of contraction and relaxation.

THE ELIZABETH THEATRE

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WEDNESDAY and THURSDAY, JULY 28—29

Matinee Wednesday Only at 2.30

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The tang of the sea—the thrill of the chase—all the adventure and romance of the lives of the intrepid heroes of a famous era in this masterpiece of the deep.

Admission 50 Cents; Children 25 Cents

FRIDAY, JULY 30, 1926.

"THE 'SAVAGE'"

With BEN LYON and MAY McAVOY

Come over—meet the savage—he's a bad, bad boy, but you'll love him—he never was much in a dinner coat—but in a bear skin he knocks 'em all cold.

COMEDY

TOPICS

SATURDAY, JULY 31, 1926.

Matinee at 2:30

Zane Grey's "BORN TO THE WEST"

A Paramount Picture with JACK HOLT and RAYMOND HATTON

If you have red blood in your veins, this picture is for you. Slam-bang action—thundering thrills and pleasing romance.

PATHE NEWS

COMEDY

ALGAE

This week's tale of adventure begins fittingly with the seminar held Monday evening in the old lecture hall. The Rev. A. M. Keefe who spoke on "Sargassum, with Notes on the Sargassum Sea," and completely destroyed any lurking romantic notions that any of us may have had of this "Isle of Lost Ships." The aftermath of the seminar consisted of a large pot of mytili, crackers, and an overwhelming supply of fudge concocted by the hand of Fanny Fern Smith. This feast was prepared in lab, but by a unanimous vote, it was decided that the moonlight on the beach was irresistible; and that, after all, if one is eating mytilus for the first time, it's better to do it in the dark. So the Botany Army marched down to the sea with the commissary department bringing up the rear. After the edibles had disappeared, we sang all the songs we knew in all the keys available and in as many parts as could be wished until someone suggested getting back in time for the morning lecture, and the army demobilized.

This week's seminar is addressed by Dr. Fish of the Fish Commission, whose subject is "Life on the Open Ocean, as Seen from the Arcturus." The commissary department shows signs of continued activity and all looks well.

Dr. Lewis announces that the Twelfth Annual Indoor Track and Field Meet will be held in the Botany Laboratory on Monday, Aug. 2.

EMBRYOS

Beginning Tuesday Dr. Packard lectures the embryology class on fertilization and cell lineage. Dr. E. E. Just gave a special lecture Friday on fertilization.

This has been a very busy week in the lab. Dr. Rogers didn't seem to mind the heat and thought we ought to work even if we did have headaches. Most of the students are repeating experiments that were failures during his reign, but that is all in the interests of science and nobody really cares.

Catherine Hinchey entertained during the week Miss Lydia Fletcher of Providence, R. I.

Dr. Lindsey and Mr. Matteson of Seymour, Ct., visited Cecile

Conklin during the week end. Lida Brannon entertained a boy friend.

One thing that must not be forgotten is the peach treat that Bob Climenko held last Tuesday. Every member of the class received a peach, especially Dr. Rogers.

THE TENNIS TOURNAMENT

All the tournaments—men's and women's singles, men's doubles and mixed doubles—are to be finished up this week if possible. The women's singles are all played off except the finals, which will be between Miss Field and Miss Holt. In the men's singles, Lancefield is up to the final bracket. Goodrich and Bennett have yet to play. Lewis plays the winner, and then the finals will be between Lancefield and one of these three.

DANCE AT THE M. B. L. CLUB

(Continued from Page 1)

advantage of it, but by 10 o'clock there were approximately a hundred people dancing on both floors of the club.

During the evening, delicious fruit punch was served which was rendered doubly delicious by the warmth of the evening.

It is generally agreed that the dance was by all odds the most delightful affair ever given in the club, and on all hands we hear nothing but the most lavish praise for the untiring efforts of the members of the dance committee of which Mrs. McCutcheon was chairman.

"THE COLLECTING NET"

(Continued from page 1)

Ebb Tide, Woods Hole Ph, Protoplasm, King Crab, Puffer, Woods Howler, Woods Holler, Embee-yeller, Amylopsin (A Digest of Laboratory News), W. Hole News, Embielle, Observation, Data, Round the Lab Group, Time Killer, Demonstration, Lab Lines, Cattellog, Confucian, Aristotle's Lantern, Squirt (Issued Weekly), Town Pump, Sea Horse, Amebocyte (It Circulates), Fog Horn, MarBioLab News, Limulus, Volvox, Agassiz News, M. B. L. News, Bug Hunters Snews, M. B. Lism, Lobster Claw, Aquarium, Larboard Log, Biologue, Woods Hole Mixer.

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THE COLLECTING NET

VOL. 1. NO. 3

WOODS HOLE, MASS., THURSDAY, AUGUST 5

TEN CENTS

TOWN TOPICS

The Falmouth Nursing Association will give a fete on Village Green in Falmouth, on Thursday, Aug. 5. The following attractions are listed: marine biological exhibition, Punch and Judy, fortune telling, clown ring throwing, putting match, Bridgewater band, block dancing, and booths dispensing everything imaginable. Lots of fun and a worthy cause are the reasons why the Village Green will be so popular on Thursday evening.

Sir Frederick Whyte, president of the legislative assembly in India, 1920-1925, and now a summer resident of Woods Hole, addressed the sixth annual session of the Institute of Politics, now being held at Williams College on the general political situation in the Orient at the present moment. He asserted that much of the "yellow peril" propaganda that is being disseminated in this country is purely mythical and he severely criticized the attitude taken by many of the "critics" of the situation. His address was delivered on July 30.

An afternoon tea party was given at the Sea Robin for twelve children on Thursday afternoon, in honor of the Misses Pauline and Sally Crittenden of New York.

The annual fair of the Church Work Association of the Church of the Messiah was a great success. The proceeds from the fair exceeded those of last year by a nominal sum.

Currents in Hole

At the following hours the current in the hole turns to run from Buzzards Bays to Vineyard Sound:

Aug. 6.....	3:38	A.M.
" 7.....	4:27	"
" 8.....	5:10	"
" 9.....	5:58	"
" 10.....	6:38	"
" 11.....	7:18	"
" 12.....	7:59	"
" 13.....	8:46	"

In each case the current changes six hours later and runs from the Sound to the Bay.

Laboratory Activities

Friday, Aug. 6, 4:30 - 6:00 P. M.
Bureau of Fisheries Tea.

Friday, Aug. 6, 8:00 P. M. Evening Lecture. "Absorption of Kations and Anions by Plant Roots", by Dr. Howard S. Reed, Graduate School of Tropical Agriculture, University of California.

Saturday, Aug. 7, 8:00 P. M. Club Plays. Auditorium. Open to the Public. Tickets for the plays will be placed on sale at the M. B. L. Club on Friday at 9:00 A. M. Prices: reserved seats, \$1.25 and \$1.00; unreserved seats, \$.75.

Monday, Aug. 9, 12:00 - 1:00 P. M. Instruction ends. 4:00 P. M.

PROFESSOR CALKINS SAILS FOR EUROPE

Professor Gary N. Calkins, director of the protozoology course at the Laboratory, sailed from Boston for Europe on Sunday, August 1st, at 2:00 P. M. on the Cedric. For the next year, he will hold the office of Director of the American University at Paris. At the same time he intends to do some research abroad and to visit as many of the foreign laboratories as possible. About January 15 he will return to New York for three months after which he intends to return again to Paris to remain there until October, 1927.

During Dr. Calkins' absence this summer the protozoology course will be in the hands of Dr. Mary S. MacDougall and Dr. Woolford B. Baker.

BUREAU OF FISHERIES

An Aquarium Curiosity

The usual work on fishes contains very little about the interesting fish, called the sea-horse.

Typical sea-horses (Hippocampus) bear a very close resemblance to the knight of the chessboard rather than to the popular idea of its likeness to a horse's head. In fact by attaching a coiled worm to the base of a chessboard knight there is obtained an inanimate imitation of a sea-horse. The name Hippocampus is derived from the Greek *hippos*, horse, and *kampe*, worm or caterpillar. However

(Continued on Page 2)

UNCATENA ADRIFT OFF JUNIPER POINT

Coast Guard Boats Prevent Stranding of Well-Known Passenger Boats

Shortly after leaving the dock at Woods Hole, Tuesday evening, August 3, the Uncatena, bound for points on Marthas Vineyard, was disabled through the sudden breaking of the radius arm of the starboard side-wheel.

M. B. L. INVESTIGATORS HAVE PICNIC

On Monday, August 16, there is scheduled an M. B. L. investigators' picnic to Tarpaulin Cove if the weather proves favorable.

Investigators will be asked to sign up for themselves and their immediate families on the bulletin board of the laboratory as it is necessary to know ahead of time the number to go on the Cayadetta.

Hot coffee will be served at the picnic, but all investigators will be asked to bring their own sandwiches. (A collection may be taken up on the boat to cover the cost of clams!)

Corporation Meeting

The annual meeting of the Corporation of the Marine Biological Laboratory will be held in the auditorium of the laboratory at Woods Hole, Mass., on Tuesday, August 10th, at 12 o'clock noon for the election of officers and trustees and the transaction of such business as may come before the meeting.

PROIFOELHELMATHCOIDA

How does this tongue twisting scientific terminology suit our biological intuitions? Confidentially it's nothing but a protozoan attacked by a sponge, which was throttled by a sertularia, this poor creature being absorbed by a tapeworm, which was somewhat chewed up by an ascaris, which fell prey to the hungry clutches of a starfish—and that starfish inhabits the confines of an aquarium in the invertebrate laboratory. So there you have it, the story of the life history of the inverte-

(Continued on Page 6)

The Uncatena was well-filled with passengers and the forward deck held its capacity of automobiles when it started out from Woods Hole. Suddenly a series of grindings was heard from the shore and the boat was observed to be acting in a strange fashion. Rapidly it drifted around Juniper Point and became lost to the view of those in Woods Hole. The captain of the boat ordered the anchor to be lowered.

Coast Guard To Rescue

About this time the Coast Guard boat, CG 237, appeared on the scene and made fast by a line to the bow of the drifting boat. This puny but powerful rescue boat then put on all power and gradually got under way. After it had arrived in Woods Hole Harbor with its charge well in tow, another Coast Guard boat came up and between the two of them, they cased it into dock, accompanied by stern commands of the captain of the Uncatena and the tinkling of bells on the rescue boats.

Two women were the first to descend the gangplank, the

(Continued on Page 8)

Sedgwick Memorial Lecture Delivered by Dr. Morgan

In delivering the fifth lecture of the series founded in honor of Professor Sedgwick, Professor T. H. Morgan, of Columbia University, dealt with the relation between the two fields, Genetics and the Physiology of Development.

Genetics has made clear the necessity of using homogeneous, and even homozygous material, in physiological work and has developed methods for securing such materials. Often genetic

(Continued on Page 5)

Bureau of Fisheries

(Continued from Page 1)

aside from the superficial resemblance of parts, the only homology that exists is between the head of the sea-horse and the head of a horse. The constricted portion of the sea-horse does not correspond with the neck of the horse but with the abdomen, the fish having no true neck.

There is a curious modification of the finless tail, which deprives the fish of locomotion, however it gives the tail a new function—prehension—resulting from its power to curl inwards and sideways. The tail is wound around the stem of some plant and the body held quite erect. The body is thrust outward at various angles, the tail being wound around the plant in a double coil. One eye will look in one direction and the other will remain in position or roll the opposite way. This demonstrates clearly that the fish can move its eyes independently of each other, and in different directions. Its actions remind one of a near-sighted person.

When it releases itself from its support it moves in a vertical plane, tail curved inward, the dorsal fin undulating like a screw propeller, and its pectorals vibrating in harmony.

The natural food of the sea-horse consists of small crustacea, such as copepods, sand fleas, shrimps and the young of higher forms. In aquaria a substitute has been devised in the form of the larvae of the common gnat or mosquito. The fish will slowly approach its food, peering at it and suddenly the animal disappears as though sucked in. The food must be at rest for the sea-horse is too slow to get anything moving.

This popular curiosity can be seen in the aquarium of the Bureau of Fisheries. It is a recent addition, having been obtained during the past week from the New York Aquarium by Robert A. Goffin, collector of the bureau.

The Logger-Head Turtle

The logger-head turtle, *Cheloniidae*, is the large sea-turtle seen in the Bureau of Fisheries pool. This is the fourth year that it has been on exhibition. It was captured in a fishermen's net in Buzzards Bay directly beyond Penzance Point. Each winter it is displayed in the City Aquarium of Boston and in the summer it is brought back to Woods Hole to be placed in the open pool.

When first caught this turtle was approximately one-half its present size, then weighing about from fifty to sixty pounds. Its carapace is covered with

bony plates, the highest portion in the front and the widest near the middle. At the present time the length of the carapace is three feet and the width at its widest portion is two feet, while the weight is over one hundred pounds.

Little experimentation has been done on this turtle but it is known that after entering water it will swim out to sea attracted by the darker blue of the water. It will move away from transparent and opaque red orange and green, it moves toward transparent or opaque blue. The young under restricted environment are found to be photophilous, responding to a large area of low illumination rather than to a small area of high illumination.

Recent Arrivals

Borodin, N. Collector, Brooklyn Museum, N. Y. Bureau of Fisheries Laboratory, room 123.

Fries, E. G. B., Harvard Graduate School. Bureau of Fisheries Laboratory, room 123.

Woods Hole Reminiscences

Dr. Edward Linton gave an extremely interesting lecture last Thursday evening to a delightful audience at the Fisheries. The subject of his talk was "Reminiscences of Woods Hole," and many a chuckle was heard as he related curious incidents of his early acquaintances here. He told of the founding of the Fisheries, and about the lives of men connected with it, as Spencer Baird and Vinal Edwards. Dr. E. G. Wilson added a few remarks and brought out the fact that he became affiliated with the Bureau of Fisheries four years earlier than the speaker of the evening. Refreshments were served and everyone spent an enjoyable evening.

AOZOTORP

In the lectures by Professor Gary N. Calkins, the discussion of the derived organization of protozoa has given place to the more interesting subject of the fundamental organization, or the fundamental vital activities of living things, as exemplified by the protozoa. In the laboratory, the incessant hunting for species different from those already found and drawn still continues. It is both a disappointment and a source of some satisfaction to go over a drop of pond-water, and when the various forms come into the field of the microscope, to be able to recognize a large number of them, even though they are not available as additional species, because they have already been drawn.

The protozoa are just as nervous as ever, in spite of the usual doses of such "nerve tonics" as

neutral red and iodine solution. Certain members of the class seem to have a propensity for finding particularly nervous beasts, for they claim that every time a horse-shoe lands at the peg outside the building, the protozoa proves that he possesses at least one of the attributes of living things, namely, irritability, and demonstrates it by "jumping" at least "ten feet." Maybe the protozoologist in question means ten cilia, rather than feet. At any rate, the beasts are occasionally given rather severe censure at such times. The study of living forms "cute forms" has given way to some extent to the preparation of stained permanent mounts. Here the bugs are subjected to the drastic measures of sticking, stopping, staining and studying.

But on the whole, the laboratory work for the past week has been rather sparse, due to activities outside. The protozoology picnic, held Thursday, July 22nd, was a great success. The *Cayadetta* left the dock at 11:45 with a merry crowd of about 40 people aboard. After a delightful trip across Vineyard Sound, the boat docked at Tarpaulin Cove. The day was an ideal one for a picnic, and the swimming was very enjoyable. The sandy beach is an excellent one and the place is a delightful picnic ground. The dinner provided was certainly not the least enjoyable part of the program. Dinner was in order immediately after landing, and it is astounding what a boat-ride and a picnic spirit will do to one's appetite. In the morning's lecture, the class marvelled at the enormous capacity of some of the ciliates, as regards food. In the afternoon, everyone proceeded to demonstrate a quite similar capacity, devouring a tremendous quantity of mytili, lobster, sausage, pickles, etc., etc. too numerous to mention so that the original self must have been reduced to the thinnest possible layer surrounding the "gastric vacuoles." Also, the fact was pointed out in the morning, in the specific case of didinium, that after a heavy meal, he must not be disturbed in any way, as the slightest irritation will bring about the bursting and consequent dissolution of the animal. Those on the picnic know exactly how Didinium feels at such a time, for they felt just that way. At least, they sat around very quietly for a considerable time, no one venturing to exercise, certainly not in the water. About 4:30, after an afternoon of swimming and boating and games, all scrambled to get ready for the trip back to Woods Hole when the *Cayadetta* appeared on the horizon. It was truly the end of a perfect day. Friday, July 23, the protozo-

ology tea was held at the M. B. L. Club from 4:00 to 5:30, and, like the other affairs of the class it was a big success, as all will testify who were there. It was noted that several of the male members of the class were absent, failing to act their part as hosts at the tea. There is some talk of penalizing these by having them stand treat for the whole class the first warm afternoon that comes along. Let this be a warning to the hosts of future teas.

Last week Dr. C. L. Liu of the protozoology class spent several days with friends in Maine. He brought back some cultures of pond water which have been found to contain some very interesting protozoa.

On Saturday, July 31st, Dr. G. N. Calkins gave the last of a series of thirty lectures. The lecture work is over one week before the formal closing of the course due to the fact that Dr. Calkins sailed for Europe on Sunday, August 1st.

The identification of species in the laboratory is completed and most of the class is now occupied with making slides and studying for the final examination which comes Monday morning, August 9th.

The social end of the class has been well taken care of this past week. On Thursday an ice cream and cake party was held with the funds left over from the class picnic. On Saturday another ice cream and cake party was held on the proceeds of a series of class pictures.

SOUTH HARPWELL

HOTEL BURNS

Fifty guests fled from the Ocean View Hotel at South Harpwell, Me., as the house was destroyed by fire at midnight last Friday. The flames were visible 20 miles at sea.

The origin of the fire was undetermined. A fiery cross had been burning on a nearby hill shortly before the fire in the hotel was discovered but whether sparks from that or from the hostelry's kitchen started the flames, firemen were undecided.

No guest was injured but practically lost all their possessions.

The hotel which stood on an eminence, overlooking Casco bay, formerly was the Lawson house and for 50 years was one of the best known in Maine. It was owned by Eli Perry, Portland.

The Ocean View House was well known to some of our biologists who frequented the old Harpwell Laboratory of bygone days.

THE SEA URCHIN

IT PRICKS WITHOUT DISCRIMINATION

It was seriously suggested by an influential member of the laboratory community that this column be christened "The Drosophila." The editorial staff carefully considered this proposal which seemed especially appropriate owing to certain circumstances which can be appreciated better by them than by most of the readers of the paper. However, their better judgment prevailed, and hence its present name.

A certain prominent botanist demonstrated his enthusiasm for dancing at the Club House on Saturday night by his rapid and determined entrance through the doors of the club. He turned out to be more unpopular than one would suppose. Although he almost went down on his knees and presented a pathetic picture of pensiveness and persuasiveness, two charming young ladies absolutely refused to dance with him.

For the benefit of those who want to know—the new fire alarm was selected because of its musical quality. It is known unofficially as the sick cow and the dying calf.

Dr. Robert Chambers caught his train with fifteen seconds to spare on his last trip to North Truro. Last year's record shows that in one case he had thirty seconds less to spare.

Dr. Patten's lecture has born immediate fruit. One of our ladies could not come to a lecture because, as her friend put it, she was afflicted with ostracodermitus.

The third floor "banana group" is performing "Morganatic" marriages this year again—among their Drosophila.

Mrs. Calkins and Mrs. Dunlap are organizing a woman's secret society. The nature of the society is veiled in mystery, but we learn that the qualifications for membership are startling.

The official representative of the U. S. Post Office at Woods Hole has organized his staff so that the New York morning papers, mailed daily during the summer, will reach their subscribers now at the laboratory on or before Christmas Eve.

Mr. Walter O. Luscomb, we learn, has just traded his horse for a second-hand motorcycle.

Ringling Bros. and Barnum and Bailey have engaged for the winter at outlandish salaries the

services of Dr. Robert Chambers and Dr. P. Reznikoff. It is believed that their troupe of well trained Amoebae will be a great drawing card.

A sad accident occurred in Botany Lab the other day. Joseph Copeland severely sprained his shoulder while attempting to pat himself on the back for having identified, all by his own little self, just as many algae as had one of the teams. The sympathy of the general public is solicited.

It appears that a representative of the Society for the Prevention of Cruelty to Animals attended Dr. Chambers' lecture and demonstration. He was horrified at the wanton cruelty of bayoneting a living soul. Court action will be taken.

The biologist who delivered the Sedgwick Memorial Lecture on the evening of July 27 appropriately celebrated the event with his family by dispensing with bicycles and using in their place his four-chromosome car as a means of conveyance to the laboratory.

OUR BACIA

Extra! Fenn Says "No Fair"

It will be recalled that in the first, last, and only issue of the Question Mark, it was rumored that, in order to come to a decision in the weighty problem—Who Should Give the Lecture on Oxidation Potentials on July 24 Drs. Fenn and Amberson would probably find it necessary to have recourse to the flippant process of coin-tossing. Such has been the case. But the matter has been decided, not by the hand of Fate alone, according to your correspondent's interview with the victim.

In introducing his lecture on July 24, Dr. Fenn took the opportunity to make certain very grave charges against his colleague and opponent in the matter. According to his statement, there is ample evidence that the penny employed in the contest was, like some of the products of our genetics laboratory, a two-headed monster. Realizing the seriousness of such an allegation we made haste to interview Dr. Amberson, but he "had nothing to say," further than that he had been as horribly shocked by the accusation as we had. Since then we have been unable to locate Dr. Fenn, so that the ultimate outcome of the allegation is as yet uncertain.

Apart from its human interest, this episode has had a peculiar effect on the physiology class. Several of its members

have become interested in the effectiveness of various physico-chemical properties on monster-formation on copper-penny embryos. The lecture-program for last week was as follows:

Monday, July 26, Dr. B. Meigs, Some Aspects of the Relation between Nutrition and Health.

Tuesday, July 27, Dr. E. M. Landis, Physiology of Capillaries.

Wednesday, July 28, Dr. D. J. Edwards, Heart Physiology with Particular Reference to Conduction.

Thursday, July 29, Dr. Hall-owell Davis, Metabolism of Nerve.

Friday, July 30, Dr. Frank Lillie, Protoplasmic Conduction.

Saturday, July 31, Dr. K. Hartline, Some Photo-biologic Reactions.

On Thursday of last week, Dr. Knowlton took over the laboratory work from Dr. Amberson.

The list of the remaining lectures in physiology follows:

Monday, Aug. 2, Dr. F. P. Knowlton, The Mechanism of Nervous Conduction, with an Analysis of the Various Phases.

Tuesday, Aug. 3, Dr. Knowlton, Conclusion of the Above.

Wednesday, Aug. 4, Dr. C. F. A. Pantin, Some Phases of Ameboid Movement, with Particular Reference to Ionic Influences.

Thursday, Aug. 5, Physiology Picnic.

Friday, Aug. 6, Dr. P. H. Mitchell.

Saturday, Aug. 7, Dr. Knowlton, Comparative Physiology of the Nervous System.

Monday, Aug. 9, Dr. Knowlton, Conclusion of the Above and the Course.

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SCIENTIFIC WORKERS AND THE MESS

All members of the M. B. L. rejoice at the very moderate charge made for food at the mess, and yet one of the elements which makes this possible seems open to criticism. We refer to the practice of charging "outsiders" at the \$10.00 per week rate. At best it can hardly be called a democratic principle, and when it is applied to a fellow scientist who for one reason or another is not registered as a laboratory worker it becomes especially unfortunate. Take the case of a Harvard physiologist who with his family visited the laboratory last week as a guest of certain members. The opportunity of talking to this worker was of the greatest value to a considerable group, as was also the opportunity of hearing a lecture which he was invited to give before one of the classes. This guest was charged over forty per cent. more than the rest of us pay, thus in effect he was asked to contribute toward our board.

There is a large group of biologists who annually visit Woods Hole for short periods, and, although they do not regularly work in the laboratory, they contribute much to the support of the institution. Many of these investigators come from contributing laboratories, are former laboratory members or members of the corporation; and as such have for years contributed to our welfare. They should be welcomed to the laboratory as one of our group, and the present discrimination against them, which in a number of cases has been a source of ill feeling, should be abolished.

The mess is taxed to capacity

and with its present facilities it is doubtless necessary to impose limitations on the number who can eat there. All must appreciate that this necessity for limitation presents a very difficult problem, but is there not room for improvement. If the question could be presented before the members of the corporation at their next meeting we believe that they would approve of some modification of the present arrangement.

Many of us do not realize that Dr. Merkel Jacobs, professor of physiology at the University of Pennsylvania, has been conducting a course in calculus for the biologists at the laboratory. There is no fee of any description connected with the course. His lectures, whose contents are of immediate applicability to the problems of biology, and a masterpiece in clearness and simplicity, are given on Tuesday and Friday afternoons at quarter of five in the Old Lecture Hall. Those of us attending, greatly appreciate the time and trouble that he is taking to teach us how to wield a tool which is becoming increasingly more essential in all fields of biological investigation.

We are duly grateful to the laboratory for assigning us Room 232 in the Brick Building for the official headquarters of *The Collecting Net*. In so doing they have given us what we most needed to help us in our work. And the spacious room satisfies our vanity!

All the business and editorial work is to be carried on in this room. New copy, advertisements, etc., however, may be left in Room 123 if it is more convenient for those concerned.

There are two ways in which the readers of "The Collecting Net" can help forward its usefulness. They are:

(1) Keeping one of the editors fully informed about the activities of present and past laboratory workers. Notes on new arrivals, departures, marriages, changes in position, etc. are read with interest and appreciated by all.

(2) Making a special point of purchasing supplies from or in other ways doing business with the firms that take advertising space in our paper. And when this is done, inform them that "I saw your advertisement in *The Collecting Net*."

We regret that the following name was accidentally omitted from the investigators' list in the "Director for 1926."

Esaki, Shiro, asst. prof. zool., Chicago (Keio Univ., Tokyo), emb., Br. 121.

Dr. and Mrs. Pantin of Plymouth, England, who were in Woods Hole in June, have made a flying visit to California and are now back with us at the laboratory.

Dr. Patten Lectures on His Spitzbergen Trip

The evening lecture of July 22, "Hunting for Missing Links in Spitzbergen," was given by Dr. William Patten, professor of biology at Dartmouth college, and well known through his numerous publications which are based on embryological and anatomical studies of rare beauty and marvellous technical excellence. A large and appreciative audience heard Prof. Patten's graphic account of his "hunt." The hunt was inspired by the information that there had been found in the northwest corner of Spitzbergen certain fossil animals, called Ostracoderms, in a very wonderful state of preservation. These fossils, in Professor Patten's words, hold the key to his scientific problem, the origin of the vertebrates; hence the expedition to Spitzbergen.

The first part of the lecture dealt with the position of the Ostracoderms "on the great highway of evolution." Regarded as the connecting link between the Giant Sea Scorpions and the vertebrates, they resemble the former in the general structure of the head, the paired jaws with lateral movement rather than the forward-backward movement of all true vertebrates, the oar-like appendages, the eyes and the minute structure of the shell-like armor; on the other hand, they possess certain characters of the fishes; notably, fins and tail. Illustrations brought out these points.

There now followed an account of the Hunter's experiences during his trip from New York to Oslo and thence to Spitzbergen. Numerous beautiful photographs and the lecturer's descriptions made this the large part of the lecture. Despite handicaps on one sort or another, the "hunt" was a success.

Returning from Spitzbergen, Dr. Patten visited the State Museum at Stockholm where many Spitzbergen Ostracoderms are under investigation by Professor Stensio. Thanks to Stensio's generosity, Professor Patten had the opportunity to study what are perhaps the most perfectly preserved fossils known to science: blood vessels, cranial nerve, and other delicate structures show up with such clearness that they seem more like models than fossils millions of years old. The study of these priceless specimens led Professor Patten to conclude that the "missing link" in animal evolution has at last been found.

E. E. J.

Dr. Michaelis Talks on Semi-Permeable Membrane

On Friday evening, July 30, Professor Leonor Michaelis, of Johns Hopkins University, lectured on the subject "The Properties of Certain Artificial Membranes as a Model for Cell Membranes." Dr. Michaelis described the properties of a series of membranes of different degrees of permeability. These differences arise from variations in the size of the channels or pores through the membrane, permeability decreasing as the pore diameter diminishes. Thus thoroughly dried collodion membranes are much more effective than are the more permeable and more porous collodion membranes usually used.

Membrane permeability for ions can readily be studied by observations upon electrical potential differences arising across the membrane when it separates solutions of the same electrolyte in different concentration, or equal concentrations of two different electrolytes. In the first instance theory demands that, if the diffusion of one ion be completely suppressed, an E. M. F. of 51 millivolts will be observed at 20°C when the concentration ratio is 10:1. This E. M. F. is produced by the definite orientation of anions and cations across the membrane producing an electrical double layer. The E. M. F.'s measured across dried collodion membranes closely approximate the theoretical maximum, values of 50 to 55 millivolts being obtained. More permeable membranes give lower values. In the dried collodion membranes the movement of anions appears to be almost completely suppressed; cations are able to move through the pores. Across such membranes there is therefore the possibility of an interchange of cations when the membrane separates solutions of two different electrolytes; anions are not exchanged.

This differential effect upon the movement of anions and cations is correlated with the electrical charge upon the membrane. In most membranes, as in dried collodion, this charge is almost always negative. Through such membranes positively charged cations can move, negatively charged anions are retarded or completely stopped. In protein membranes the charge is determined by the pH. On the alkaline side of the isoelectric point the charge is negative, and cations can penetrate; anions are retarded or stopped, and the E. M. F. observed in the "concentration effect" shows the more dilute solution to be electropositive. On the acid side of

(Continued on Page 5)

HISTORY OF THE PLAYS

An evening of one-act plays, given by and for the benefit of the M. B. L. Social and Tennis Clubs, has become an institution. They had their precursors in impromptu vaudeville performances which had been gotten up sporadically from time immemorial. The first regular plays were presented in 1921. "Suppressed Desires" and "Behind the Beyond" formed the menu in a little theatre improvised in the Mess Hall. It was there that Dr. Lyon blossomed out as a comedian without a peer.

For the next three years the plays were given in Community Hall. In 1922 the program consisted of "The Workhouse Ward", "The Pot-Boiler", and "The Willow Plate". The first mentioned was perhaps the most finished of all the plays which have yet been given, with the parts taken by Mrs. Lowtner, Dr. Linton and Dr. Lefevre, all accomplished actors. The scenery for "The Willow Plate", designed by Mr. Vignoles was most artistic.

In 1923 there were presented "The Trysting Place", "The Birthday of the Infanta" and "Russian Drama as it Was and Is". Outstanding were the acting of Dr. Copeland, as the half-wit, and the marvelous wind-machine devised by Dr. Thatcher.

Next came "Bimbo the Pirate" and "The Wood's Hole Follies". The hit of the evening was a laboratory song arranged by the Glasers to the tune of "Mr. Gallagher", in which Mr. Gray, Capt. Veeder, and Alfred Hilton appeared on the stage for the first time.

Last year the plays were given in the new M. B. L. Auditorium. "The Philosopher of Butterbiggens", "The Medicine Show", and "The Raft", were presented, with beautiful music between acts by Nancy Wilson and Barbara Lull. We can still hear the wails of Dr. Linton, the Philosopher, while for atmosphere, none of the plays has surpassed "The Medicine Show". It would be difficult to decide which of the three—Dr. McClung, Dr. Lyon, or Dr. Simpson, portraying Mississippi River characters, looked the most disreputable. Perhaps the prize should be given to Dr. Lyon, whose costume came in part from the village dump, and in part as a result of dragging the pond behind the Lyon's Den.

The success of the plays has depended as much upon the workers behind the scenes as upon the actors. A small army is required for directing, making scenery, costumes and curtains, arranging lights, handling advertising, ticket sale, programs, posters, and ushering. It is doubtful whether there is to be found anywhere a more willing or efficient group for such community enterprises than in Wood's Hole. Need we add that the third essential, an intelligent and appreciative audience, can always be counted on in Wood's Hole?

THE TENNIS CLUB

The M. B. L. Tennis Club had its simple beginnings more than a quarter of a century ago when Oliver Strong initiated play on the level ground where the Mess Court now stands. This pre-cultural or Old Gravel period culminated in 1913, when the present Mess court was constructed with the liberal aid of Benjamin Strong.

As Oliver Strong gradually withdrew from active play it became evident that a more formal organization was needed. In 1917 a committee, composed of D. J. Edwards, E. R.

PLAYS FOR 1926

PROGRAM

The M. B. L. Club and The M. B. L. Tennis Club

present

The Annual Benefit Plays

M. B. L. AUDITORIUM — AUGUST 7, 1926.

Auspices: Marine Biological Laboratory

1.—THE ROBBERY—a comedy by Clare Kummer

CHARACTERS

(In order of appearance)

Fielding L. C. Fogg
 Edie Upton Bobbie Rich
 Bob Hamilton D. F. Robertson
 John Upton C. E. McClung
 Margaret Upton Mrs. F. Hollander

Scene: Hall above the Upton's Apartment.

2.—AU CLAIR DE LA LUNE,
 Peggy Clark and Vicky Glaser.

3.—FRERE JACQUES

Vicky Glaser, Sara Meigs, Mary Meigs, Marjorie Mitchell,
 Margaret Mast, Camilla Riggs, Peggy Clark.

4.—THE DRUMS OF OUDE, a melodrama, by Austin Strong

CHARACTERS

Stewart, a sentry Jack Fogg
 Captain McGregor P. H. Mitchell
 Sargeant MacDougal W. W. Cranford
 Lieutenant Hartley W. F. Hahnert
 Mrs. Clayton Lida Brannon
 Hindustan Servants P. W. Bowman,
 A. S. Eichorn

Scene: Interior of palace occupied by British in India.

5.—THE COURTSHIP OF MILES STANDISH
 (in modern dress)

John J. J. Murphey
 Priscilla Miss Impi Arvo

6.—THE SAME OLD THING, a farce, by Roi Cooper McGrue

CHARACTERS

Julia Elsie Rosmeisl
 She Janet Spaulding
 The Other Man H. S. Fry
 He R. M. Ellsworth
 Author F. Hollander

Scene: Her Boudoir.

COMMITTEES

General Chairman E. R. and E. L. Clark
 Direction A. Keefe, Dorothy Glaser, E. L. Clark
 Scenery A. Hutton Vignoles, R. C. McGaun, L. S. Rowell,
 Eleanor Sloan.
 Stage—Curtain: F. E. Chidester, C. A. Packard, E. A. Martin,
 D. E. Lancefield, M. Copeland.
 Costumes: . . . Mrs. D. J. Edwards, Mrs. Edwin Linton, Mrs. I. F. Lewis,
 Mrs. Meigs, Thelma Holmes, Doras Weston, Katherine Jeffers.
 Properties: . . . Elizabeth Kinney, Marie Fish, Harriet Walker, H. S.
 Morton, May McKay, Madeline Field, Helen Dyer, Ruth Lynch,
 W. H. Dolley.
 Lighting: S. E. Pond, W. R. Duryee
 Business Publicity: . . . D. J. Edwards, E. R. Clark, R. Bennitt, C. Morrill,
 I. F. Lewis, Myra Sampson, Edith Elliot, Mary Howe, Marjorie
 Boyd, Helen Miller, W. W. Crawford, etc.

Hoskins, and I. F. Lewis drew up a plan of re-organization which was put into effect.

As attendance on the Laboratory grew it was felt that more courts were needed, and a successful effort to raise money for this purpose was carried through by the exertions of

the players and the cordial backing given by summer residents on Penzance and elsewhere in the neighborhood. Three courts were built on land near the Breakwater Hotel purchased from the Fay Estate in 1922. There Beach courts lie too low for good natural drainage, so that the

THE M. B. L. CLUB

The M. B. L. Club was organized in 1914 and received from the Laboratory Officials the use of the present clubhouse to be used as a social center for those associated with the M. B. L. and the Fish Commission. The general expenses are met by club dues. In 1920, to meet the demand for more space in the Clubhouse, the decision to enlarge the porch at a cost of \$1,500.00 required the raising of money. The entertainment committee agreed that with only \$21 in the treasury, it must devise a plan for "getting rich quick". Rapid action followed and within a month the first M. B. L. production, modestly called "An Entertainment," was presented to a highly appreciative audience, and \$227 was received by the club. The necessity of raising more money and the enthusiastic demand for another play resulted in a second production in 1921 even more successful than the first.

Encouraged by such success and by gifts to a special Porch Fund the porch was built and used in 1922, but only half paid for. Fortunately an annual play had then become a tradition and in 1923 over \$650 was realized. This was shared with the tennis Club which proceeded to build the present tennis courts near the bathing beach. In subsequent years the club received part of the proceeds, and up to 1925, the sum of \$1,874.50 had been turned over for club uses. The porch was completely paid for and the remainder transferred to a savings account to be used for special improvements for the Club. One of these, the redecorating of the interior of the Clubhouse, is now in progress. The Club has for several years borne the expense of repairing and transporting the bathing raft, and is now sponsoring the newest venture of the M. B. L. the publication of "The Collecting Net". It is now suggested that a West porch be built, and the need is evident after the last two evening dances. To help make this and later necessary improvements the Club will need additional financial support. This can best be given through patronage of the play to be presented this year, which promises to be a greater success than those of all preceding years.

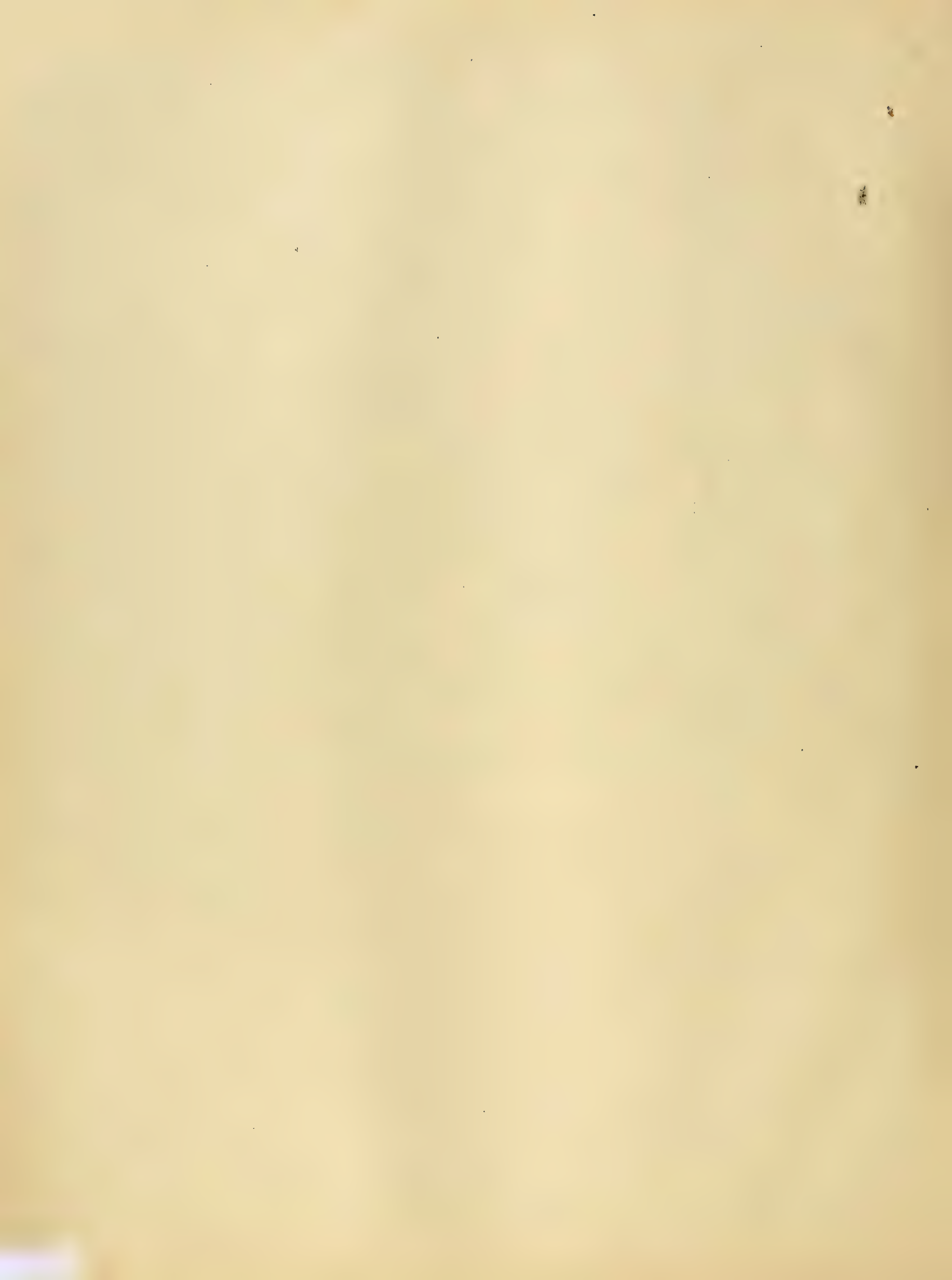
excellent surface is usually too moist for fast play. The balls soon become discolored and heavy, so that the greatest problem at present before the Club is the improvement of these courts. Experiments are now planned to determine whether tile drainage will suffice to keep them dry, or whether it will be necessary to build them up by a liberal use of cinders with a new surface on top. It is planned to use for this purpose any funds that may come to the Club in the near future.

The Club conducts an annual tournament which brings out keen competition in all events. Cups are presented to the winners in the singles matches, and in the mixed doubles the names of the winners are inscribed on the Strong Cup, a permanent trophy given by William Strong and kept in the Laboratory offices in the Brick Building.

The liberal support given the Tennis Club by the Players' Club has been for years one of the strongest factors in affording good tennis facilities at a reasonable cost to workers at the Laboratory.

TICKET SALE

Tickets for the plays will be placed on sale at the M. B. L. Club Friday at 9 A. M. Prices: reserved seats, \$1.25 and \$1.00; unreserved seats, \$1.75.



Dr. Michaelis Talks on Semi-Permeable Membrane

(Continued from Page 4)

the isoelectric point the membrane is positive, anions can penetrate, cations are retarded, and the more dilute solution is negatively charged.

Such observations lead to a consideration of the mechanisms involved in the production of such differential effects. Several factors may be involved. The hydration of the ions may account for the differences observed between a series of ions of the same size, and may contribute to the retardation of the movement of ions of one sign. A more important factor is the membrane charge itself. Negatively charged membranes become so through the absorption of anions upon their surfaces, including the walls of the pores. Some or all of the anions may thereby be immobilized, while cations are still free to move.

Bioelectric phenomena, such as injury and action currents, may arise across living membranes in similar fashion, these non-living membranes serving as a model for their action.

W. R. A.

Genetics and Development

(Continued from Page 1)

variations and variations due to changes in environment are superficially indistinguishable. In the study of the size that Princess beans attain by growth, the genetic variations are reduced practically to zero by self-fertilization which is the normal method of propagation of this bean. Johannsen was thus able to show precisely what was the effect of differences in environment, and furthermore, was able to demonstrate the stability of the hereditary factors from generation to generation.

In tobacco the puzzling physiological problem of self-sterility was simplified by East's demonstration that three distinct but allelomorphous types of plant existed. The failure to self-fertilize could then be shown to be due to the slower rate of growth of the pollen tubes where certain genetic constitutions were present.

The complex data known for the increase of vigor upon crossing and the decline of that vigor upon inbreeding have been reduced to relatively simple Mendelian terms, and the problem put in shape for more purely physiological investigation, some of which has been carried out.

On the other hand, the factors with which the physiologist deals, temperature, time, etc.,

must be as carefully controlled by a geneticist, as was illustrated in the study of such characters as "abnormal abdomen" and "reduplicated legs" in *Drosophila*.

The chromosomal mechanism that produces two sexes under certain "normal" conditions may give quite a different result under other conditions. For example, by regulating the number of light-hours to which dioecious hemp was exposed, the development of pollen on normally pistillate plants and of ovules on male plants was brought about. Breeding tests by McPhee showed that the chromosome constitution had not altered but that the "sex" had been reversed by environmental agency. Similar cases with frogs and toads have been found and tested with like results. Especially interesting is the case of the fly *Miastor*, where lines that are genetically male reproduce as parthenogenetic females if development is delayed at the larval stage.

The roles that the enzymes play in the determination of genetic characters has long been studied in such favorable cases as hair-color in mice, the anthocyanin series of colors in stocks and sweet peas and in the melanin pigments of various insects. Such enzymes may play the deciding role at any stage in the development of an organism. But between such enzymes and the primary controllers of development, the genes, there is probably often a very long chain of reactions, though it is possible that some enzymes are directly synthesized by the genes in the course of their own growth activities or during the so-called resting phase.

The emphasis put by various writers such as Robertson upon the roughly sigmoid curves that seem to hold for the data of many phases of growth was criticized on the ground that the processes involved are often so complex that such curves can have little more than descriptive value. The nature of the rates of increase of populations, of individuals, of organs, of cells and probably of most cell-organs are of this highly complex nature. Conceivably, however, the growth of the gene is of a simpler, more purely chemical, nature. Certainly the governing agency of the synthesis of the gene lies within the gene, which, in this special limited sense may be said to grow by autocatalysis.

C. B. B.

Dr. E. J. Conklin, professor of biology at Princeton university, arrived in New York on Saturday, July 31, on the Aquitania. He will come down to Woods Hole to attend the meeting of the trustees of the laboratory.

NATIONAL RESEARCH COUNCIL MEETING

The customary summer meeting of the executive committee of the Division of Biology and Agriculture of the National Research Council, will be held in Woods Hole this year on August 11th. The present membership of this body consists of L. J. Cole, chairman; I. W. Bailey, B. M. Duggar, C. E. Allen, R. A. Emerson, Ross G. Harrison; J. R. Schramm, and J. R. Mohler.

Special committee sessions of groups having charge of certain of the division's projects will also occur around this date.

The office of the Division of Biology and Agriculture and the Board of National Research Fellowships in the Biological Sciences is to remain at Woods Hole until about the middle of September, when it will return to Washington.

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(Continued from Page 1)

brate course subjected to this terrific expression.

The invertebrates found out last week that there are "worms and worms, yea, and yet more worms" to cover the world for the first foot underground. The second fact that has been startling us is the discomfiting knowledge that Annelid anatomy may be just as complicated to handle as a one man row-boat out in the Hole. But the circulatory system of arenicola proved so interesting to two members of the class that they actually stayed away from mess and hash for fifteen minutes to finish a dissection. (Speaking of scientific enthusiasm and denying the flesh.) But our dissections were made in fear and trembling when Dr. Martin told us in no uncertain terms that "This is the first year for a long time that we have been able to secure enough arenicola for everybody—so remember, *no one* can have a second helping!" No wonder our hands shook and one member of the class almost died of shock when she discovered that she had made a ventral instead of a dorsal incision.

But we did take time off from the nereis pelagica and arenicola to go to Kettle Cove. That is we thought we were going to Kettle Cove, but the winds and Captain Veeder decided that we were not going that far; so much "to the glory of the skipper and the discomfiture of the invertebrates" (for reference see R. C. Parker) we were deposited on a "shoreless coast" four miles from the cove. Then one feeble member of this cross country expedition asked Dr. Dawson plaintively "How far is it?" He cleverly comforted, as he winked at Dr. Cole, "Only a mile or so." Then, that "so" turned out to be three solid up and down hill miles; but it was not biologically unfruitful, because we succeeded in convincing one biologist that Shropshire sheep could not and never can be goats.

Then Friday Dr. Bissonnette and the fifty-five invertebrates plunged into the Bryozoa for a good day's work. Did you know that Lepralia boasts key holes that will never be scratched up by a fumbling key and Hydroides sports colors that would reduce any bathing beach "to a panic" (see H. McClellan for that expression). Twelve hours after we had finished up that job, we were setting out in a cool, clammy, damp and slightly moist Woods Hole rain for North Falmouth. We felt like shipwrecked mariners holding out our tongues to catch the precious rain drops, only our object this time was to be as microscopic as

possible and stop as few of the H₂O globules as we could. Needless to say none of us were remarkably successful; so that we were just about as damp as our own great-grandfather Limulus when we arrived. But the North Falmouth flats proved to be the most thickly populated fields yet visited; perfect hordes of scallops, fiddler crabs, clams, malampas, nassa obseleta, and bitium were encountered; and this time it wasn't a case of "If I could *only* find something" but "If I could *only* identify all the things I've found." Coming back we were so proud of ourselves that the sun burst forth to evaporate our dampness and in the Hallelujah chorus.

After four days delving into the intricacies of Arthropoda we have decided that lobsters as a culinary field of operation are far too tame a sport for the invertebrates, so we must needs discover how they go about the process of mastication instead of performing the same rite on them. And, when we speak of Limulus we become so tangled up in his nerve ring that we gaze delightedly at the simple spirals of Busycon. Simple? Just wait until we have waded through his nervous system on Monday and then we may have an entirely different story to tell.

Anyone who finds his laboratory work interfering with his tennis, swimming, picnicking, or other business is reminded that there is always time *later in the evening* to dissect another arenicola.

All invertebrates who are in the habit of promenading in the laboratory are requested either to equip themselves with balloon tires or else to go bare-foot for microscopic animals have been so frightened by the tremors caused by these individuals of a weighty reputation that they have stamped and broken several cover-glasses.

Perhaps you have heard a donkey bray? No doubt you know the sound of a fog horn? Surely you are familiar with the Woods Hole fire signal. But have you heard the invertebrate soprano?

Dr. Bennitt insists that the color of the Portuguese Man-of-War is ultra-violet.

Dr. Dawson and Captain Veeder have decided that, in order not to overload the *Cayadetta*, lunches shall be left on the wharf on the remaining field trips.

Then we stated last week that Guy Horseley took Lida Brannon to Falmouth for a hair cut but failed to mention the fact that they rode gally homeward in a butcher's delivery wagon.

How to draw salt water in the lab:

1.—Choose as flat a dish as possible.

- 2.—Use the tap with the finest nozzle.
- 3.—Place the nozzle upon the dish.
- 4.—Holding the dish in the left hand, turn on the water with the right. (Care should be taken to give the cock a vigorous and complete half turn.)
- 5.—Attempt to catch the falling dish with the right hand and show some effort to arrest streaming nozzle with left hand. (A little practice will be required to master this change of hands.)
- 6.—When neighboring drawings and dresses have been sufficiently spotted with salt water, retire quickly and quietly to your place.
- 7.—Repeat exercise twice each day.

Dr. and Mrs. Julius Bronfbrenner are rejoicing in the arrival of a daughter, now about two weeks old. Dr. Bronfbrenner is in charge of the course work in bacteriology this summer at the University of Chicago.

The house of Dr. and Mrs. Kenneth A. Rice in the Gansett region is nearing completion and will soon be occupied by the Rice family.

Dr. E. G. Conklin who is making a trip around the world has been heard from in China.

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The Boyce Thompson Institute for Plant Research. Professor John M. Coulter.

Parrots At Home. Dr. Alexander Wetmore.

Hunting Bighorn With a Camera. Dr. Vernon Kellogg.

The Progress of Public Health In China. Dr. Reginald M. Atwater.

Politics and the Public Health. James A. Tobey.

Excursions In Experimental Psychology. Professor Raymond Dodge.

The Birth of Modern Science. John K. Robertson.

The Friendship of Two Old-Time Naturalists. J. S. Wade.

Geologic Romance of the Finger Lakes. Professor Herman L. Fairchild.

Radio Talks On Science: The Planet Mars, James Stokley; How Plants Behave When Diseased, Professor B. M. Duggar.

The Peculiarities of the Sensation of Cold. Professor D. Fraser Harris.

The Progress of Science: Electric Farming; A Queer Kettle; Professor Lucien Gallois; Variation of the Sun's Heat.

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CHILDREN'S SCHOOL OF SCIENCE

Ding! Dong! Came the familiar sound from the little old schoolhouse. The children of Woods Hole blinked. What could it mean? School in the summer? They hastened to find out.

It was the summer of 1912 when a group of energetic women, namely, Mrs. J. P. Warbasse, Mrs. T. H. Morgan, Mrs. C. R. Crane, and Mrs. F. Lillie, had met to consolidate their carefully wrought plan into an active being—that was to have a summer school for the children of the town and the children of the faculty members, where, under careful guidance, they might spend a few hours each morning combining play with work in an educational way. The school started with a fairly large enrollment. Science, singing and dancing were the main subjects taught, with slight stress upon the science. That first year there was also a kindergarten class, a singing class for parents in the evening, and anything desired was taught. A pageant was held at the end of the year.

Each year the enrollment grew, and for the last several years it has been approximately 100. The character of the school has changed too, and is now called "The Children's School of Science," a school for the study of natural history under the direction of the Woods Hole Summer School Association. An executive committee with chairmen of the committees have direct management of the school, and are glad to receive suggestions relative to the work from members of the association. Parents are requested to join the association and membership is also open to anyone interested in the school. The latter is supported by voluntary subscriptions and by a guarantee fund. All children over seven years of age are eligible. At the end of the term there is always a "Parents' Day" when the work of each class will be explained by the pupils and illustrated by the collections, apparatus, selected leaves from note books, etc. A complete schedule extends over twelve weeks. The teaching staff this year consists of Miss Alice E. Clarke and Miss Katharine A. Clarke, both from the Friend's School, Baltimore, Md.; Mr. Henry E. Wondergen, East High School, Rochester, N. Y.; and Mr. Rosseter D. Olmstead, chief of staff, Children's University School, New York City. The courses taught are nature study, plant life of Woods Hole, birds and their nests, animals of

Woods Hole, general science, animal biology, insects, plant biology, and nature and development of plants. Field trips are taken occasionally that the children may see and study the plants in their natural environment.

Truly the summer school is something which Woods Hole should boast of, and heartily support, for the study of science brings one to a greater realization of life and of the many wonderful phenomena of our busy world.

Helen Jennings.

We hear that it is a matter of only a few hours until wedding bells will peal forth for Dr. Charles Parmenter. All we can say is, we wonder how he escaped this long!

Dr. and Mrs. W. H. Addison and their daughter Agnes are traveling in Europe this summer. They expect to spend most of their time in Stockholm.

Miss Emilie Vicari, who has been teaching at Sweetbriar College in Virginia, will be at Cornell Medical next year.

Dr. Mary Mills Patrick is spending the summer in Woods Hole. Dr. Patrick who has spent many years in Turkey as president of Constantinople College is engaged in preparing a book on the Greek Stoics.

Dr. Hallowell Davis, instructor of physiology at the Harvard Medical School, and his family were in Woods Hole from Tuesday to Friday of last week.

Professor Michaelis was asked by one of our Woods Hole ladies how he ever thought up his brilliant experiments. The secret of his success is due to the fact, he said, that he had nothing else to do.

Dr. B. M. Duggar left last week for Ithaca, where he will remain until after the International Congress of Plant Sciences which is being held at Cornell University between August 16 and 23. Dr. Duggar is general secretary of the congress.

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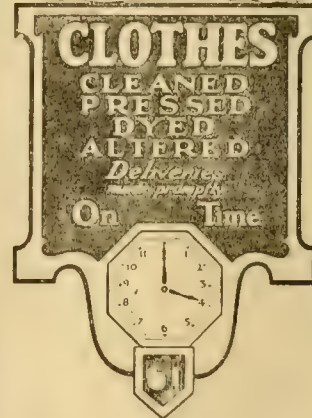
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ALGAE

The botanists last week were prepared for their weekly cruise but their hopes were dashed to an untimely death when the gallant skipper reported a north-easter blowing, a sinking barometer, squalls in the offing, a typhoon just behind Pine Island and a waterspout in the Eel Pond. The trip was called off and the lunch bequeathed to the zoologists, but Dr. Hazen, fearing the effect of so great a disappointment, gave us a little quiz to make up for it. Like the Boy Scouts, he maintains that "Be Prepared" in his personal opinion is an excellent motto. He says that his classes are accustomed to being questioned at any time, and he feels that they should be prepared to go collecting at any time. If you should see our budding algologists next week carrying buckets to mess, or wearing bathing suits to lecture, it doesn't mean that we're out "on location" but that we're prepared for almost anything.

This week started off with a collecting tour de luxe aboard the *S. S. Cayadetta* to Cuttyhunk and Black Island. The trip was a great success with the buckets and bottles filled, Helen Brown's knee sprained, and several bad cases of sunburn reported. Speaking of sunburn, the botany department strongly recommends picric acid. It soothes, heals, and imparts a pleasing canary tint to the affected parts.

Monday evening, what was left of the gallant boataneers attended the seminar addressed by Dr. Fish of the fish commission, who spoke on "Life in the Open Ocean as Seen from the Areturus." Afterwards a very juicy party was held up in the lab, consisting of steamed *Mytili* and watermelon.

Still another event, not without marked significance, is the "coming out" into terpsichorean circles of one of our revered staff. The debut came as a great surprise to all concerned and great things are expected.

This week's seminar will be on "Mosaic Diseases and Leaf Variations" with Dr. Fanny Fern Smith officiating in the double capacity of lecturer and lord high purveyor of the fudge.

Treasure Trove

For four weeks we have been puzzled by a pile of mouldy pennies lying on Mr. Fogg's table, and finally we nerved up enough courage to ask the why and wherefor of the accumulation—this is the story.

In 1923, Mr. Fogg, deciding that investigation was the occupation of the elite at Woods Hole, decided to test with theory that money attracts money. Like the eminent Skeptics Club,

he immediately undertook the practical solution of his problem and with the usual generosity shown in these parts, was given all the scientific apparatus and equipment that was needed.

In 1923, five or six pennies were left on a laboratory table with no explanation. These pennies have been found gradually increasing in number until at the last counting there were 385 of them.

Mr. Fogg as yet has arrived at no definite conclusion as to the exact cause of this phenomenon. It may be the theory that "like attracts like," or the origin may represent that in the life histories of certain algae where a single cell may give rise to a filament and later an expanded colonial form. Mr. Fogg stated that the second theory was perfectly possible although no quadriciliate zoospores of the *Casteria* type had been found swarming around the pile. Our own belief is that the old theory of spontaneous generation has been disposed of too summarily.

We are perfectly willing to leave this field of investigation open to anyone interested, and turn to a consideration of the disposal of this material. Mr. Fogg suggested turning the pile over to the one with the best suggestions for its disposal. Our own idea was to test some of these "end to end" statistics. Dr. Lewis suggests buying lobsters some Monday night. Perhaps, however, the best idea would be not to kill the golden goose or the quadriciliate zoospores or whatever is at the bottom of the thing, but to let it go on until we can build a botany lab nearer the beach and have it entirely surrounded with tennis courts.

Uncatena Adrift

(Continued from Page 1)

second one carrying her pet Peckinese. Then the crew proceeded to unload the cars, after which the rest of the passengers disembarked.

A hurry call was sent to Vineyard Haven which resulted in the Pequot's being dispatched forthwith. This took over the task of transporting the otherwise disappointed passengers to their destination.

Back On Schedule

Workmen at once started repairing the break in the rod and early this morning the Uncatena sailed directly for Edgartown, reaching there about four. She returned to New Bedford on schedule time and left on return trip at 9:45.

Dr. Morton McCutcheon has been appointed assistant professor of pathology.

EMBRYOS

The lectures for the week are on the Annelids, Mollusca, and Tunicates. Dr. Graves gave the lectures on Annelids and Mollusca on Tuesday, Wednesday and Thursday. Dr. Plough will lecture on the Tunicates on Friday and Saturday mornings. On Friday, July 30, Dr. E. E. Just lectured on the phenomena of fertilization.

A great part of the last week was spent in anticipation of the class picnic which was held Monday, August 2. Though the weather was a bit discouraging and the heavy fog made it advisable to hold the picnic at Kettle Cove rather than at Tarpaulin Cove, the day was a most successful one. Thanks are due to Captain Veeder for the preparation of a bounteous feed. Space will not allow the full account of the menu but there really was nothing lacking. A group around the fire eagerly persuaded Dr. Packard to tell the famous story of "Hubert and the Frog." A number of the party, wishing to mitigate the effects of the hearty meal, walked back to Hadley Harbor where they were picked up by the *Cayadetta* on the return journey.

Mrs. Climenko is visiting her son, Robert.

Sidney Britten went to Marblehead, Saturday, to meet his mother who returned with him. Mrs. Britten will spend some time at Woods Hole with Dr. and Mrs. Knowlton.

Information concerning the residence of the person who on Sunday destroyed the gonione-

mus cultures that Dr. Plough so carefully prepared will be appreciated and the informer amply rewarded.

We did have a good story on Bob Climenko but as he refused to have his name in the article, in any connection other than the treat he gave we will have to forego the pleasure.

Mary Catherine has a new room and a new roommate.

TENNIS

Except for the men's doubles all the tournaments are up to the finals. Monday, Aug. 2, the Lancefields play Iglehart and Lewis. Miss Iglehart, as soon as this match is played off, will leave for Southampton where friends are anxiously awaiting her delayed arrival. Field and Holt were to have played Thursday, July 29, thus finishing the ladies' singles, but the rain prevented the game. Lancefield and Lewis again come together for the men's single as they have done so often before. Because of the departure of Mr. and Mrs. Speidel, the men's doubles became somewhat involved, but as it stands now, Patten and Patten play Strong and Harvey in the semi-finals. Lancefield and Inmas play the winners.

Professor Leon A. Hausman, of Rutgers University, has recently been made the science editor of *Compton's Pictured Newspaper* of Chicago. He has also been invited to contribute studies of mammal hair and fur to the revised edition of the *Encyclopaedia Britannica*.

The Elizabeth Theatre

FALMOUTH, MASS.

HIGH CLASS PHOTOPLAYS

Show Starts at 7.45 — Feature Picture at 8.30

Short Reels Repeated After the Feature Picture.

A COMPLETE SHOW AFTER 8.30

Saturday Two Shows at 7.00 and 9.00 O'clock

Matinees Monday, Wednesday and Saturday at 2.30

FRIDAY, AUGUST 6th, 1926

"SPORTING LOVER"

with CONWAY TEARLE

SATURDAY, AUGUST 7th, 1926

"STILL ALARM"

SPEEDING FIRE HORSES

THRILLING RESCUES

It is the Master of All Fire Dramas

MONDAY, AUGUST 9th, 1926

"ELLA CINDERS"

with COLLEEN MOORE

TUESDAY, AUGUST 10th, 1926

"PALS FIRST"

WEDNESDAY, AUGUST 11th, 1926

"STELLA DALLAS"



WILLIAM J. RING
1839-1926

William J. Ring, aged 87 years, the third oldest man in Falmouth and the oldest resident of the village of Woods Hole, passed away at the home of his daughter, Mrs. John L. Condon, Wednesday, August 4, after an illness of about two weeks. Mr. Ring had previously enjoyed excellent health, and had lived for some years with his daughter, Mrs. John L. Condon, who is his sole survivor.

He was a veritable source of information, and enjoyed telling stories of his early sea faring life, of Woods Hole in the old days when a person coming to the village came either by boat or by stage coach. Mr. Ring was well educated and well informed, having been at one time an accountant, and his travels had given him a wonderful store of knowledge.

He was well known and well liked by the people of Woods Hole most of whom had known him since early childhood.

William Ring was one of the most interesting characters of Woods Hole. Time had apparently not dulled his memory, for in rich brogue betraying his Irish ancestry, he would recall the dates and places of events that took place in his boyhood. Snowy white whiskers formed a contrasting border to the ruddy glow of his cheeks; and behind his thick-lensed spectacles his eyes twinkled as he recalled the days when he was a sailor.

Mr. Ring was born in Ireland on May 14, 1839, and when a young man 1865 went to New York. He worked in Philadelphia and Boston for a year and on December 19, 1868, came to Woods Hole to make his home. For 20 years he was employed at the Guano Works on Penzance Point which is remembered by the older inhabitants of Woods Hole. After giving up this work he was made foreman on the Woods Hole district roads, and was active in this work until only five years ago.

Funeral services were held from St. Joseph's Church in Woods Hole at 9 o'clock on Friday morning. Interment was in St. Joseph's Cemetery in Falmouth.

Well Known Impersonator to Appear in Woods Hole

Coming—Monday, August 16, 8:00 p. m.

Elizabeth Gurrell Whiting, impersonator, presenting "The Man From Home" at the Woods Hole Community Hall. Admission \$1.00. Proceeds for benefit of M. E. Church.

Laboratory Activities

Friday, August 13, 8:00 P. M. Evening Lecture. "Biology Students in British Guiana" by Dr. H. D. Fish, professor of zoology, University of Pittsburgh. (Illustrated) Open to the Public.

Investigators Picnic

A picnic for M. B. L. investigators and their families has been arranged for August 16th. The *Cayadetta* will leave the wharf opposite the Brick Building at 10:30 and 11:30 for Tarpaulin Cove. Return trips will be made at 3:30 and 4:30. Those who wish to go on this picnic should sign up on the form posted on the bulletin board of the vestibule of the Brick Building.

Captain Veeder has offered to help make the picnic a success and will have clams and coffee cooked on board the *Cayadetta*. The only expense connected with the trip will be for the clams, to cover which expense a collection will be taken up on the boat. All are expected to supply their own sandwiches, watermelon, lobsters or whatever is desired. Coffee will be furnished by the M. B. L. Club, but not cups and spoons.

In case of change of plans of any investigator after Thursday when the form for signing will be removed from the Bulletin Board, please notify some member of the committee which includes Mrs. Mavor, Mrs. McCutcheon, Miss Guthrie, Dr. Copeland and Mr. Svenson.

NATIONAL ACADEMY MEMBERS WORK HERE

Among the investigators working in the Marine Biological Laboratory this summer are eight members of the National Academy of Sciences.

The National Academy has at present two hundred and twenty

(Continued on Page 5)

Dr. Jacobs Selected at Meeting of Trustees to Succeed Dr. Lillie as Director of M. B. L.

At the meeting of the Trustees of the Marine Biological Laboratory on Tuesday, August 10, Dr. Frank R. Lillie presented his resignation as Director of the laboratory. This position has been held continuously by Dr. Lillie since 1908. Under his able administration the laboratory has become the leading institution of its kind in the world. His resignation does not mean his withdrawal from participation in the general affairs of the laboratory for he remains as president of the corporation; and the executive committee is to define the respective duties of president and director.

Dr. Merkel Jacobs has been associate director for the past year and was appointed by the trustees to succeed Dr. Lillie. Dr. Jacobs is professor of general physiology at the University of Pennsylvania and is the author of extensive papers in his field. For some time Dr. Jacobs has been in charge of the physiology course at the laboratory.

Trustees Relected

The following scientists were elected by the members of the Corporation to serve as Trustees until 1930.

E. G. Conklin, Princeton University.

Otto C. Glaser, Amherst College.

Ross G. Harrison, Yale University.

H. S. Jennings, Johns Hopkins University.

The Tide in the Hole

At the following hours the current in the Hole turns to run from Buzzards Bay to Vineyard Sound:

Aug. 12	7:59 A. M.
Aug. 13	8:46 A. M.
Aug. 14	9:31 A. M.
Aug. 15	10:18 A. M.
Aug. 16	11:10 A. M.
Aug. 17	11:55 A. M.
Aug. 18	12:18 P. M.
Aug. 19	1:10 P. M.

In each case the current changes six hours later and runs from the Sound to the Bay.

F. P. Knowlton, Syracuse University.

M. M. Metcalf, Oberlin, Ohio. William Patten, Dartmouth College.

W. B. Scott, Princeton University.

Dr. Woodruff Elected to Important Positions

Dr. L. L. Woodruff, professor of protozoology at Yale University succeeds Dr. Calkins as Clerk of the Corporation. Dr. Woodruff was also elected to the position of Secretary, *pro tem*, of the Trustees.

Lawrason Riggs, Jr. was re-elected treasurer of the Corporation.

Member of Executive Committee Appointed

Dr. Caswell Grave, professor of zoology at Washington University and Dr. Otto C. Glaser, professor of zoology at Amherst College were elected to succeed Dr. Conklin and Dr. Stockard whose terms automatically terminate this year. The Executive Committee of the laboratory is now composed of the following trustees:

Frank R. Lillie, *Ex. off. Chairman*.

Merkel H. Jacobs, *Ex. Off.*

Lawrason Riggs, Jr., *Ex. Off.*

T. H. Morgan, to serve until 1927.

I. F. Lewis, to serve until 1927.

Caswell Grave, to serve until 1928.

Otto C. Glaser to serve until 1928.

(Continued on Page 4)

TENNIS

Lewis Wins Men's Singles Miss Field Defeats Mrs. Holt

Last week witnessed the completion of all the matches in the tennis tournament. With the playing of the finals in the women's singles on Friday afternoon, August 6, there came to a formal close the most interesting and successful tennis season in the annals of Woods Hole.

The men's singles event was won by Dr. Ivey F. Lewis who, playing his customary steady and accurate game, defeated Dr. D. E. Lancefield in straight sets, 6-3; 6-2.

Paired with Miss A. Iglehart, Dr. Lewis was also victor in the mixed doubles. This team defeated Dr. and Mrs. Lancefield, 7-5, 6-4, and won the right to have its name inscribed on the Strong Cup, the permanent trophy for this event which is kept in possession of the Laboratory.

Lancefield and Inman won the men's doubles by a circuitous route when they defeated the Pattens in a semi-final match, 8-6, 7-5, after having previously won their finals match with Speidel and Hitchcock by the score of 6-2, 6-3.

Miss Madeline Field emerged victorious from a splendid list of entries in the women's singles by virtue of a hard-earned win over Mrs. Holt, the match going to three sets, 6-2, 5-7, 6-2.

Lancefield Loses

The mixed doubles match, which was played on Monday afternoon, August 2, drew a large audience. Lewis and Iglehart got away to a good lead in the first set, but their opponents soon tied the score and for half a dozen games it was anybody's match. Lancefield seemed bothered by the damp court which slowed down the bounds, but played a very strong game overhead. Lewis and Iglehart broke thru Mrs. Lancefield's low-bounding serve in the eleventh game, coming to the net to make sharp placements; the next game, and with it the set at 7-5, was their's on Dr. Lewis's serve.

The second set produced some of the finest tennis seen during the entire tournament. Both sides made many placement aces, Miss Iglehart in particular taking the net at every opportunity and angling sharply for points. The issue, as in the first set, seemed at no time certain, but Lewis's superior steadiness and uncanny trimming of the lines proved the deciding factor, and the set went to Lewis and Iglehart at 6-4.

The names of the winners will now appear on the cup for the mixed doubles tournament which

was presented by William Strong and which resides permanently in the Main Building.

Lewis Triumphs

As has happened so often before in Woods Hole tennis history, I. F. Lewis and D. E. Lancefield came together in the finals of the men's singles. Great interest centered in this match, which was played on the Mess Court at 4 P. M., Wednesday, August 4, and a large and eager gallery was in attendance.

Lancefield, winning the toss, chose the court, and Dr. Lewis took the first game on his own serve. Lewis then broke thru Lancefield's service and, placing with marvelous accuracy, ran out the next three games. With the score 5-0 against him Lancefield steadied and won his own service. Then there followed a long deuce game, productive of many brilliant rallies, which finally went to Lancefield. The eighth game was Lancefield's on service. He was playing carefully at this point, hitting deep to the corners, and against any but a player of superb steadiness would have stemmed the tide and turned defeat into victory. Lewis, however, possessed the necessary margin of consistency, returning seemingly impossible shots from all corners of the court, and ran out the ninth game on his own service for the set at 6-3.

Games went with service in the second set until the fourth game when Lewis broke thru and led at 3-1. Lancefield brought the score to 3-2 with a brilliant love game and Lewis retaliated by uncorking the most spectacular placing of the whole match. He had his opponent constantly on the run and was finding the lines and corners with machine-like precision. The sixth game was his and Lancefield trailed at 2-4. Making a determined stand, Lancefield kept his powerful serve on Lewis's backhand in the next game. But to no avail. What looked like sure service aces were returned from difficult angles for placements and Lancefield's returns were finding the net. The seventh and eighth games went to Lewis and with them the set and the match. Final score: 6-3, 6-2.

Miss Field Wins

The final match in the women's singles followed immediately after the conclusion of the doubles on Friday afternoon. Miss Madeline Field, the dark horse of the tournament, met and defeated Mrs. Holt, the brilliant stylist, 6-2, 5-7, 6-2. Miss Field won her own and Mrs. Holt's serve and led 2-0. Games then went with service until 3-1, when Mrs. Holt double-faulted badly and trailed at 1-4. The sixth, a long deuce game, went to Miss Field. Both play-

ers were stroking the ball well and many of the rallies seemed interminable. The next two games followed service and the set was Miss Field's at 6-2.

With a lead of 3-2 in the second set, Mrs. Holt won two long deuce games. Coming from behind and playing carefully Miss Field evened the match at 5 all. Mrs. Holt's beautiful, free-swinging backhand and forehand drives were unerringly accurate now and in the next two games, and with them the set at 7-5, were hers.

The third set saw Miss Field as steady as ever while her opponent, playing with abandon, made frequent errors. Both players, altho adhering mainly to the back court, took the net often and their fine placing drew repeated applause from the large gallery. Breaking thru for a lead of 3-1 in the fourth game, Miss Field was never again headed by her adversary, who seemed to tire rapidly, and altho she dropped another game the set was easily hers by the score of 6-2.

Miss Field's splendid victory is the more remarkable in that it was gained over the strongest set of entries that this event has seen here in recent years. It is sincerely hoped that she will return to grace Woods Hole tennis courts in the future.

Men's Doubles

Such a discrepancy crept into the progress of the two brackets of this event that it seemed virtually to meet itself coming back. The lower half moved rapidly and Speidel and Hitchcock found themselves up to the final round before even the second round of upper bracket matches had been completed. This delay in the upper half was due to the delayed arrival of Dr. Newton Harvey who was paired with William Strong. Lancefield and Inman were also in this bracket, and on the chance that they might come thru it victoriously they played a premature finals match against Speidel and Hitchcock, beating them 6-2, 6-3.

Strong and Harvey finally met William and Bradley Patten in a second round match and lost to them by the score of 6-4, 6-4. These two teams were very evenly matched and the conflict, which was played at the Strong court on Penzance Point, was productive of fast and brilliant tennis.

This brought the Pattens into the semi-finals against Lancefield and Inman. The meeting between these two teams took place on the Mess court at 4 o'clock, Friday, August 6, and despite the damp condition of the court produced many thrills. The Pattens directed their attack at Inman, who seemed

more than equal to the occasion, making many fine returns from the net. Lancefield played a strong overhead and serving game and the combined offensive of this team, aided by a decided unsteadiness on the part of the Pattens, enabled them to pull out a victory after two hard-fought sets, 8-6, 7-5. The results, then, completely vindicate the early defeat of Speidel and Hitchcock at the hands of Lancefield and Inman, and to the latter team goes the Men's Doubles Championship for 1926.

Miss Jeffers to Lecture

A lecture on "The City of Rome" will be given Thursday evening, August 13, at 8 o'clock in the small lecture room of the Marine Biological Laboratory, by Miss Mary Jeffers, of Bryn Mawr. The admission charge will be 35 cents.

On Thursday evening, August 19, Miss Jeffers will give her illustrated lecture on "The Mediterranean Cruise." This is one of the most popular travel talks and is anticipated with much pleasure. This lecture will be given in the Community hall for the benefit of the Church of the Messiah, Woods Hole.

Miss Jeffers and Dr. Florence Peebles are spending the summer at their home, The Lantern, Gardiner Road. They have recently returned from a lecture trip to the Pacific coast.

CHEM ROOM REACTIONS

The Chem Crew thinks you're a pretty good sort,
But all the same they have their sport,
When investigators, sage and wise,
Make such requests that take the prize.
One great man, absorbed in his work,
Sets up, asks for one rubber cork.
Another, as great, nonchalantly and placid,
Wants half a pint of pure Osmic Acid,
While ordering several hundred cc.s
Of solutions made with Baker's C. P.'s,
From speaking of hundreds, his voice still resounds.
He orders Squibbs Ether, five hundred pounds.
They ask for preposterous dye combinations,
For chlorides and sulphates and such preparations.
But the thing that surpasses all radical cubing
Is—"A seven-foot length of solid glass tubing!"
We find odds and ends that not rarely amuse,
Absent mindingly left but intended to use,
From trick apparatus of the intricate type,
And what they came down for, to Perly's lost pipe.
Then when we've walked down to the very last rack
And brought the requested shape and size back,
And decided the next'll be a moment of ease,
Nay—lo! and behold!—it's—"An other one please."
pH.

THE MESS AND ITS ORGANIZATION

Very few of us know how the mess grew with the laboratory. Since the beginning of the M. B. L. the number of people has mounted steadily from year to year. With this increase the capacity of the mess hall has been enlarged several times. In 1918 it was necessary to take on as part of the dining room the piazzas on both ends of the dining hall. The next increase is shown by the fact that the old mess hall, which was burned to the ground on March 17, 1920 seated only 250 while the present mess hall seats 450 people. The number eating at the mess in 1920 was less than 250; now 530 people obtain their food there.

To better acquaint the diners with those who prepare their food we have printed below a list of the entire service force:

Student Assistants—Ballard W. W.; Barth, L.; Beaver, P.; Borden, Mabel; Britten, S. A.; Carpenter, Esther; Crawford, Mrs.; Crawford, W. W.; Daniel, G. E.; Gates, G. E.; Healey, D. E.; Johnson, Helen; Kinney, Elizabeth; Lillie, W. M.; Lu, H. L.; Lucas, A. M.; Maclean, B. L.; McCoy, O. R.; McGaun, R. C.; Mc Mullen, E. B.; Miller, Helen M.; Pinkston, J. O.; Rich, Robbins; Robb, R. C.; Robertson, D. F.; Rowell, L. S.; Shearer, E. M.; Woods, F. H.; Zeek, Pearl M.

Mess Personnel—Brooks, Amy, Boston Univ., waitress; Coombs, Mrs. C. C., Cambridge, chambermaid; Coombs, Eleanor, Cambridge H. S., waitress; Coombs, Mrs. N. E., Boston, stewardess; Currie, F. S., Cambridge H. S., asst. dish washer; Downing, Isabelle, Newton Highlands, head waitress; Drown, Emma, Wellesley, general worker; Elliott, Thelma, Maryland Univ., waitress; Fisher, L. J., Ridge Tech., house man; Gray, Caroline, Cambridge H. S., waitress; Larson, John P., Cambridge, dish packer; MacDougal, Mary, Boston, general worker; Murphey, J. J., Rindge Tech., chief dish washer; Naterman, H. L., Tufts Med., asst to chef; Nordstrom, Knute A., Amherst, chef; Pease, Mrs. Mary, Florida, pastry cook; Pond, Frances, Haverhill, chambermaid; Pond, Mrs. F., Haverhill, chambermaid; Ricketts, Mrs. F., Boston, waitress; Ricketts, F., Boston, pastry cook (asst.); Roche, Elizabeth, Ireland, chambermaid; Roche, Margaret, Boston, chambermaid; Tyler, A. R., Rutgers, gen. asst.; Young, Mrs. J., Woods Hole, chambermaid; Young, Virginia, Newton H. S., waitress.

The marriage of Miss Dorothea Chambers, cousin of Dr. Robert Chambers and Mr. Donald Blaisdell, of New York City, will take place at the Church of the Messiah, Woods Hole, on Saturday afternoon, August 14. A reception will be held afterwards for their immediate friends at Bobtucket Cottage.

Miss Hilda E. Karns has just returned from a visit to Weston, Mass. where she delivered a lecture entitled "Toads in our Gardens" at the Hillcrest Gardens.

Saturday Night Club Plays Success

Productions Enthusiastically Received by Capacity Audience

A very worth while program of one act plays was presented to a full and enthusiastic house on Saturday evening in the M. B. L. auditorium. This is the sixth year in which a series of plays has been given by and for the benefit of the M. B. L. and Tennis Clubs. The moving spirits behind these plays have been Dr. and Mrs. Clark who have been unsparing in their time and efforts to provide plays and casts to satisfy all appetites. When one considers the short period of rehearsal, often but a few days and never more than two weeks, one is impressed by the efficient co-operation of groups producing the plays. The directing committee consisting of Dr. Keefe, Mrs. Glaser, and Mrs. Clark deliberately chose a contrasting program of high and low brow plays so that all tastes would be satisfied. It is not an easy matter to strike a happy medium but it is the general opinion that in this occasion it has been done. Long intermission for shifting scenery, the bugbear of most amateur theatricals were cleverly avoided by providing the same setting for all plays, the only variable parts being in the immediate center stage and the furniture.

The first play, "The Robbery", like most of Clare Kummer's plays is full of light humor and philosophizing. The cast was well chosen and the parts were played with remarkable finish considering the short period of rehearsal. Dr. McClung was the outstanding actor and after a few more annual appearances should qualify for the legitimate stage. The background of this play deserves mention for its effective simplicity.

The French folk songs dramatized by the children were the most artistic plays on the program in the opinion of many. They were like quaint pictures out of a French nursery song book. In "Au Clair de la Lune", Peggy Clark as Mon Ami, Pierrot, showed her natural histrionic powers to advantage while Vicky Glaser at the window was aided by nature in representing a toothless, irate Pierre. Shedding one's front teeth at seven has some advantages. The scene shifters were an important part of the picture in their blue smocks as they brought in the quaint blue door with a window with red curtains above, white

picket fences and gay flowers. Incidentally these two, R. C. McGann, and L. P. Rowell made the scenery themselves which they manipulated with such effect. A program of such little scenes would make a delightful evening for young and old.

Frère Jacques, a roundel, enacted by a group of children with Peggy as Frère Jacques, was spontaneous and delightful to which the audience responded in chorus. These song plays were of true artistic merit and we hope we will hear more of them.

The melodrama, "The Drums of Oude" by Austin Strong was full of suspense and mystery and the atmosphere was well sustained throughout. The two leading parts gave an opportunity for finished acting, and the parts were ably portrayed by Miss Brannon and Dr. Mitchell. The background of an Indian city was colorfully painted in relief by Mr. A. Hutton Vignoles. Mr. and Mrs. Vignoles gave generously of their holiday in Woods Hole to make this play a success. In fact, the success of the entire program depended largely on the willing and efficient group of helpers of whom there were over 100 including casts and committees. Special thanks is due to Mr. Larkin for his able assistance.

Between the acts following the melodrama Miss Katherine Tyler gave a splendid rendering of a Symphonic Etude by Schumann. Unfortunately pianos do not take kindly to sea air and it was a gracious act for any musician to play on this particular one.

Passing from the sublime to the ridiculous the vaudeville skit entitled "The Courtship of Miles Standish", while well performed, seemed out of place to some. A large part of the audience consisted of students who gave the last two plays, "The Courtship of Miles Standish" and "The Same Old Thing" which were rather of the college type of burlesque, a most enthusiastic reception. It was the purpose of the committee to end up the program with plays of lighter vein after the really worth while Indian play. This fact explained the drop in the program and apparent discrepancy in type of plays presented.

The last play, "The Same Old Thing", a farce by Roi Cooper McGrue seemed to get the

greatest reaction from the audience. There were some, however, to whom the play seemed uninteresting, and scarcely worthy of the costume of the leading lady!

The plays had a most appreciative audience and we think the committee is to be congratulated on the choice of plays some one of which was bound to satisfy. We believe some of the "high brows" who perhaps suffer from a strong artistic sense would have regarded the program if ending after the fourth play as better balanced and more finished. Of the many good programs which have been given this program was undoubtedly the best.

D. M.

H. A. DANIELS

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THE ENTERPRISE

FALMOUTH, MASS.

The Collecting Net

Issued under the auspices of
The M. B. L. Club

Vol. I. No. 4. Aug. 12, 1926

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C. C. Speidel *Vice-Pres.*
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Eleanor Sloane. *Jelly Fish*
Helen Jennings. *Town Topics*
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Restrictions

Probably no institution exists where research can be carried out with as much freedom as at this laboratory. Red tape and petty regulations are almost unknown here, and our work is unhampered by restrictions of doubtful wisdom.

We have always taken pride in this sense of informality and freedom. We view, therefore, with apprehension the recent practise of the locking of the balance rooms. Even the undergraduates of our colleges and universities are allowed to use balances of this character without supervision. And it is almost adding insult to injury to read the notice posted on the balance room doors and learn that for more sensitive balances the Custodian of Apparatus must be consulted.

But even aside from belittling our intelligence and training it is a great inconvenience. The key to the balance rooms, so the notice informs us, may be obtained in a nearby room. But what if the Custodian of the Key is absent? Many investigators carry on work at night, and therefore may need to weigh material after the Custodian of the Key has retired. If it is necessary to lock the balance room doors, might not some provision be made so that experiments could be carried out in the absence of the Custodian of the Key?

The fact that to some it seems necessary to guard the balances under lock and key reflects perhaps upon those who have been using the equipment in question. It is unfortunate that this is the case, but it seems scarcely necessary to impose restrictions at the expense of the convenience of the experienced investigator.

A large proportion of the investigators leave their rooms un-

locked day and night even though they contain microscopes and other equipment whose value totals perhaps a thousand dollars in some cases. It seems strange that the laboratory must so carefully guard equipment costing only fifty or a hundred dollars when individual investigators leave more delicate and expensive apparatus in rooms of which even the doors are often left open.

The Evening Lectures

We learn with interest that the trustees of the laboratory plan to take under consideration the question of the publication of the evening lectures delivered at the Marine Biological Laboratory.

The laboratory undertook at one time to publish, bind and sell these volumes at a nominal sum, but owing to financial difficulties this arrangement was discontinued in 1921. This is a loss to science and to the Marine Biological Laboratory. The lectures are a fairly complete mirror of the work carried out at the laboratory, and would eventually form a valuable historical series on the progress of research in the biological sciences.

TRUSTEES MEET

(Continued from Page 1)

The complete list of the trustees (except those listed above) follows:

(As of August 10, 1926.)

Ex Officio

Frank R. Lillie, president of the corporation, University of Chicago.

Merkel H. Jacobs, director, University of Pennsylvania.

Lawrason Riggs, Jr., treasurer, 25 Broad street, New York City.

L. L. Woodruff, clerk of the corporation, and secretary of the board of trustees, Yale University.

Emeritus

Cornelia M. Clapp, Mount Holyoke College.

Gilman A. Drew, Eagle Lake, Florida.

To Serve Until 1929

C. R. Crane, New York City.
I. F. Lewis, University of Virginia.

R. S. Lillie, University of Chicago.

E. P. Lyon, University of Minnesota.

C. E. McClung, University of Pennsylvania.

T. H. Morgan, Columbia University.

D. H. Tennent, Bryn Mawr College.

E. B. Wilson, Columbia University.

To Serve Until 1928

H. H. Donaldson, Wistar Institute of Anatomy and Biology.

W. E. Garrey, Vanderbilt University.

Caswell Grave, Washington University.

M. J. Greenman, Wistar Institute of Anatomy and Biology.

R. A. Harper, Columbia University.

A. P. Mathews, University of Cincinnati.

G. H. Parker, Harvard University.

C. R. Stockard, Cornell University Medical College.

To Serve Until 1927

H. C. Bumpus, Brown University.

H. E. Crampton, Barnard College, Columbia University.

W. C. Curtis, University of Missouri.

George T. Moore, Missouri Botanical Garden, St. Louis.

W. J. V. Osterhout, member of the Rockefeller Institute for Medical Research.

J. R. Schramm, University of Pennsylvania.

William M. Wheeler, Bussey Institution, Harvard University.

Lorande L. Woodruff, Yale University.

Those present at the meeting of the Trustees were:

F. R. Lillie
H. H. Donaldson
W. E. Garrey
C. Grave
A. P. Mathews
C. R. Stockard
H. C. Bumpus
W. C. Curtis
J. R. Schramm
L. L. Woodruff
E. G. Conklin
O. C. Glaser
R. G. Harrison
H. S. Jennings
F. P. Knowlton
M. M. Metcalf
W. Patten
W. B. Scott
C. R. Crane
R. S. Lillie
E. P. Lyon
C. E. McClung
T. H. Morgan
E. B. Wilson

New Members of Corporation

The following scientists were nominated and elected to regular membership by the Trustees:

J. H. Bodine, Ph.D., Univ. of Penn.
C. J. Connelley, Ph.D., Catholic Univ. of America.

C. H. Farr, Ph.D., Washington Univ.

W. O. Fenn, Ph.D., Univ. of Rochester.

F. L. Gates, M.D., Rockefeller Inst.

J. T. Halsey, M.D., Tulane Univ.

F. L. Hisaw, Ph. D., Univ. of Wisconsin.

Marian Irwin, Ph.D., Rockefeller Inst.

Irving Paige, M. D., Cornell.

Bradley Patten, M.D., Western Reserve Univ.

J. W. Wilson, Ph.D., Brown Univ.

311 Members of Corporation

Two Life Members of the Corporation died during the past year. They were: Miss Amy Folsom and Miss Eugenia Gardiner both of whom were

residents of Boston. Dr. George R. Lyman, professor at the University of West Virginia, a regular member of the Corporation also died. The fifty nine members of the Corporation attending the meeting rose and remained standing while Dr. Woodruff read the names of these deceased members.

The following members attended the Corporation meeting at 12:00 M. Tuesday:

C. E. Allen
R. P. Bigelow
S. C. Brooks
H. C. Bumpus
J. McK. Cattell
McK. Cattell
W. Cattell
R. Chambers
E. R. Clark
R. E. Coker
L. J. Cole
Mary E. Collett
E. G. Conklin
M. Copeland
E. V. Cowdry
W. C. Curtis
H. H. Donaldson
B. M. Duggar
Elizabeth H. Dunn
D. J. Edwards
Mrs. E. G. Gardiner
W. E. Garrey
O. C. Glaser
H. B. Goodrich
C. Grave
E. N. Harvey
Margaret A. Hayden
T. E. Hazen
O. L. Inman
M. H. Jacobs
H. S. Jennings
A. M. Keefe
H. McE. Knower
F. P. Knowlton
F. R. Lillie
R. S. Lillie
E. Linton
E. P. Lyon
C. E. McClung
E. F. Malone
A. P. Mathews
J. W. Mavor
Mrs. E. B. Meigs
P. H. Mitchell
S. Nomura
C. Packard
Florence Peebles
H. H. Plough
S. E. Pond
F. H. Pratt
A. C. Redfield
C. G. Rogers
J. R. Schramm
W. B. Scott
C. R. Stockard
W. R. Taylor
E. Uhlenhuth
E. B. Wilson
L. L. Woodruff
D. B. Young

Three of the thirty-eight life members of the corporation attended this annual meeting. These were: Professor E. G. Conklin, Mrs. E. G. Gardiner and Professor E. B. Wilson.

Dr. Walter E. Garrey, Professor of Physiology at the Vanderbilt University Medical School in Nashville, Tenn., arrived in Woods Hole, August 10, to attend the meeting of the Trustees of the Marine Biological Laboratory. Dr. Garrey has just returned from a trip through Europe.

Dr. Livingston Farrand, president of Cornell University, is visiting Woods Hole with his family.

THE SEA URCHIN

IT PRICKS WITHOUT DISCRIMINATION

The members of the staff took a certain pride in the leading prick of this week; but, alas, it has been censored by individuals older and wiser than they. A member of the "banana group", however, was concerned; and should he wish to be privately pricked he may come personally, (or send a representative) to room 211 and see what was not fortunate enough to be classified among "the survival of the fittest."

The well known botanist has, we learn, at the last moment, been awarded the Carnegie Medal for Life Saving.

On the first and second Tuesday of each month at 10:00 A. M. and 3:00 P. M. the custodian of apparatus will conduct a balance users' test in the main hall way of the brick building. The fee for the license is \$5.00. The balance on which the test is taken must be furnished by the applicant. The following conditions are imposed:

(1) The applicant must have reached his thirtieth birthday. An affidavit must be presented to substantiate this fact.

(2) The applicant must be a citizen of Massachusetts and must have been a worker at the laboratory for a period of at least thirty days.

(3) Before granting of the license the applicant must solemnly promise (a) To wash his hands and his face and painstakingly dry them before entering the balance room; (b) To speak, should it be necessary to say anything, in a low and carefully modulated voice to prevent resonance and consequent destruction of the more delicate portions of the apparatus; (c) After locking the door and removing the key, to plug the key hole with cotton to prevent the entrance of bacteria, dust, or moisture. The following oath is then administered to the licensee

The Oath of Ponderates

I swear by Galileo, the physicist, by Newton and by Einstein, and all the chemists and physicists that, according to my ability and judgement, I will keep this oath and stipulation: to reckon him who taught me weighing equally dear to me as my parents; to share my substance with him who permits me the use of a balance, and relieve his necessities if required; to regard his balances as on the same footing with my own equipment, and to teach them this art if they should wish to learn it, without fee or stipulation, and that by percept, lecture and every other mode of instruction, I will impart a knowledge of the art to my sons, and to those of my teachers and to disciples

bound by a stipulation and oath, according to the law of the Custodian, but to none others.

I will follow that method of treatment which according to my ability and judgment I consider for the benefit of my balances, and abstain from whatever is deleterious and mischievous. I will weigh no deadly poison for anyone if asked, nor suggest any such counsel, furthermore, I will not give to a novice an instrument to ascertain a weight.

With purity and holiness I will pass my life and practice my art. I will weigh not caustic soda without watch glass; nor will I slop vitrol. I will not weigh a chrystal that be deliquescent, but will leave this to be done by the custodian of this work. Into whatever balance rooms I enter I will go into them for the benefit of science, and will abstain from every voluntary act of mischief and destruction, and further from the production of blemishes or knocks, large or small.

Whatever, in connection with my professional practice or not in connection with it, I may see or hear in the realm of science which ought not to be spoken abroad, I will not divulge, as reckoning that all such should be kept secret.

While I continue to keep this oath unviolated may it be granted me to enjoy life, and the practice of the art, respected by all men at all times; but, should I trespass and violate this oath may the custodian, in wrath, daily reprimand me!

Fragment of conversation overheard at Whitman House:

First fair damsel: Why he's married.

Second fair damsel: What? Married???

First fair damsel: Uh-huh. The men that come here hide their marital entanglements under a bushel.

Second fair damsel: Oh! a case of burning their bridges behind them, I suppose.

On Saturday evening at 10:37 Miss Impi Arvo and J. J. Murphy announced their engagement in a novel manner. It has already been rumored that Miss Arvo has made reservations on the train leaving on the coming Saturday for Reno, Nebraska.

NATIONAL ACADEMY MEMBERS WORK HERE

(Continued from Page 1)

nine members, selected as the foremost American men of science chosen from all fields. It is of interest to note that one of the founders of the Academy was Louis Agassiz, who was the founder of the Anderson School of Natural History on Penikese Island, and thus the forerunner of the Woods Hole Laboratory. The Academy was organized during the Civil War, with two stated objects; to afford recognition to men of science having done work of great importance, and, especially, to aid the government in the solution of scientific problems having a practical bearing on the conduct of the public business. The first meeting was held in the chapel of

the University of New York, on April twenty second, 1863, with a membership of fifty. It was at once afforded the public and governmental recognition it still holds. A recent development is the awarding and administration of fellowships supported by the Rockefeller Foundation and other grants, through its subsidiary, the National Research Council.

The members of the Academy working in the laboratory are H. H. Donaldson, Professor of Anatomy in the Wistar Institute, H. H. Jennings, Professor of Zoology Johns Hopkins, Frank

R. Lillie, Professor of Embryology University of Chicago and Director of the Marine Biological Laboratory, Thomas Hunt Morgan, Professor of Experimental Zoology Columbia University, C. E. McClung, Professor of Zoology University of Pennsylvania, E. B. Wilson, Professor of Zoology Columbia University, Charles R. Stockard, Professor of Anatomy Cornell Medical College, Gary N. Calkins, Professor of Zoology Columbia University. Of the eight academy members, seven are Trustees of the Marine Biological Laboratory.

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CORPORATION BY-LAWS

It is deemed appropriate at this time to reproduce the By-Laws of the Corporation of the Marine Biological Laboratory. These follow:

I. The annual meeting of the members shall be held on the second Tuesday in August, at the Laboratory, in Woods Hole, Mass., at 12 o'clock noon, in each year, and at such meeting the members shall choose by ballot a Treasurer and a Clerk, who shall be, *ex officio*, members of the Board of Trustees, and Trustees as hereinafter provided. At the annual meeting to be held in 1897, not more than twenty-four Trustees shall be chosen, who shall be divided into four classes, to serve one, two, three, and four years, respectively, and thereafter not more than eight Trustees shall be chosen annually for the term of four years. These officers shall hold their respective offices until others are chosen and qualified in their stead. The President of the Corporation, the Director and the Associate Director of the Laboratory, shall also be Trustees, *ex officio*.

II. Special meetings of the members may be called by the Trustees to be held in Boston or in Woods Hole at such time and place as may be designated.

(Continued on Page 8)

FOREIGN BOTANISTS HERE

Professor B. Nemeč, plant physiologist, with Professor Domin, botanist, and Madam Domin of Charles University, Prague, Czechoslovakia, have been visiting our laboratory this past week-end on their way to the International Botanical Congress at Ithaca.

Professor Nemeč has long been well known for his experimental cytological investigations, and has been recently engaged in a study of symbiotic bacteria in plant cells.

Professor and Madam Domin are extensive travellers and expect to visit the West Indies this Fall to continue their investigations on ecological problems.

Visiting Scientists

A few of the visiting scientists who came down to Woods Hole for the meetings or for other reasons during the last few days are here listed:

E. G. Conklin, E. P. Lyon, W. E. Garrey, A. P. Mathews, H. C. Bumpus, W. C. Curtis, J. R. Schramm, M. M. Metcalf, B. Nemeč, Professor and Madam Domin, J. M. Cattell, R. E. Coker, J. A. Detlefsen, H. H. Donaldson, B. M. Duggar, R. G. Harrison, J. E. Kindred, F. H. Pratt, W. B. Scott.

BIOLOGICAL WORK IN RUSSIA

"The Collecting Net", hunting more for human beings than for fish,—happened to catch recently at the M. B. L. Club a rather rare and interesting personage, Dr. N. Borodin, former professor at Petrograd Agricultural College, connected at the present time with Brooklyn Museum. He came here to collect some material for the Museum as well as for his studies on the rate of growth of fishes. We asked him about the biological studies in Russia at the present time and received the following short and general information.

With the improvement of general living conditions in regard to food and lodging, the scientific studies in Russia gradually resume their former trend, and there appear many new young biologists, disciples of pre-war professors, though the number of biologists is still far from sufficient to fill all positions on the scientific staffs of the Universities. Research work is carried on much better in the institutions which are not connected with teaching in the Universities, because these institutions are free from the rather offending control of the aggressive representatives of the Soviet Government, which puts its heavy hand on the education of the country in general. These representatives try not only to control the finances of the universities and colleges, but also to intrude into the policy, plans of teaching, etc., which cause great trouble in the normal academic life, and very often causes the feelings of the educators to become quite insupportable. Only those who have succeeded in "accommodating themselves to the environments" or in "acquiring a protective coloration" feel satisfied; all others suffer morally, more or less... Moreover, there is a severe and imbecile censure of all publications not excluding the scientific ones. To illustrate: One farsighted Soviet censor insisted that the word "petrography" must be substituted by "Leninegraphy", because Petrograd is named Leningrad.

Among the scientific institutions in which research work is carried on more or less normally the following must be mentioned: Institute of Experimental Biology at Moscow, Dr. N. K. Koltzoff, Director, Peterhof Institute of Natural Sciences near Leningrad, Prof. K. Derugin, Director, Wolga Biological Station, Saratov, A. N. Behning, Director, Biological Station at

Sebastopol, Crimea. Besides these there are three ichthyological laboratories at Astrakhan, Baku, and Kerch, which are making investigations in applied biology and ichthyology.

All of those stations exclusive of two (at Peterhof and Kerch) existed before the war and revolution. The Moscow Institute publishes the "Journal of Experimental Biology"; The Peterhof Institute—"Travaux de l'Institut des sciences naturelles de Peterhof". The Wolga Hydrobiological Station publishes "Arbeiten der Biologischen Wolga Station", and "Russian Hydrobiological Journal"; Astrakhan, Baku and Kerch Ichthyological laboratories publish "Annual Reports".

Persons further interested in the problems studied by the said stations may look up the named publications which are to be found among the serials received by the M. B. L. library. Although they are published in Russian, the contents and the summaries of papers are always given in English and German.

Being asked about the life and work at Woods Hole, Dr. Borodin expressed his admiration of the unique possibilities for biological investigation presented by the M. B. L. in its present state, and its rare accommodations for the work. He showed also a special interest in the energetic life of students and young investigators in biology who come here from different states and countries.

Dr. Borodin, besides his scientific books and papers, is the author of a book on the "United States and Russia" and is particularly interested in American life and in education in general.

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Afternoon Tea

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JELLY FISH

The invertebrates have wriggled away but this is the last little flagellum floating backward to show that we have been here. And, honestly, we are afraid that the trail of our progress is indelibly impressed on the M. B. L. and especially upon a certain long-suffering laboratory which will be just a little worse and more battered after our struggle with the intricacies of the anatomy of Busycon. What an animal! Half the invertebrates were reduced to, well, we won't call it profanity because we *absolutely* cannot, will not draw in three planes of space.

Evolutionary adaptation certainly played havoc with the artistic temperament of the class that day. But just before we finished the dissection, when determination had reduced our jaws to rugged warning, we took time off and had our picture taken. Twenty years hence, embryo scientists at Woods Hole will gaze at that picture with awe and envy and the present invertebrates with hoary beards will shake their heads and sigh reprovingly, "This present generation of invertebrates!—now when I took the invertebrate course—". But now the only thing we can think of is, "It's all over", plus an explosive "darn" or something stronger.

So just to have a grand and glorious good time together before August 9 rolled around the whole invertebrate "gang" went to Tarpaulin Cove for the one and only picnic. We refuse to say we had a "grand and glorious time", that would be putting it mildly and if we raved with the degree of enthusiasm we feel, such charming phrases as "gush", "trash", et cetera would float by night upon the fogs of Woods Hole. Do you want to know what we did?—well, just try and find out what we did not do. Dr. Dawson is getting just a little too versatile, Woods Hole. We are afraid he will have to find larger hunting grounds or enter Major League baseball. Baseball as the invertebrates play it is an experience never to be forgotten—mixed teams, good players, bad players, reverse batting, underhand pitching, and a field that would have made splendid sled riding in January. And with such a weight of hard caps, the swarthy team, headed by Dr. Dawson, walked off the field with one broad grin. And, then we ate, and Napoleon's army had nothing on the invertebrates when it came to "travelling on their stomachs". The food that disappeared down fifty-five well-developed oesophagi was startling in the extreme. Time out!

Have you ever heard the latest use of chewing gum? The invertebrates have discovered that if you chew gum two minutes furiously, out of it you can model anything in five minutes from a typewriter to a circumoesophageal ring. But the interest in art soon waned, so the track aspirants tried their luck at the charming pastime of three-legged races.

Then for about an hour the invertebrates were changed to vertebrates of fish-like locomotion for the swimming races. Prizes were awarded for men's and women's free for all, mixed back stroke race, cake carrying contest, in which the staff was pitted against the student representatives.

But what we want to know is, why does everything have to end so soon. Captain Veeder and Jack simply insisted that all the invertebrates get back in time for Mess even though half of us had food all over our exteriors as well as the interior—(that is, have you ever tried blueberry pie in a pie eating contest?). And then it was all over,—the invertebrates are no more!

Survival of the Fittest!

The following list has been compiled for the benefit of the world at large and those mentioned below in particular to inform it and them of those who have declared their intention of remaining in Woods Hole until September 1, or longer.

Those who will remain during September are the following:

Armstrong, P., Arvo, Impi, Arzberger, E. G., Biddle, P. L., Baskerville, M., Bodansky, O., Bridges, C. B., Briggs, Mr., Briggs, Mrs., Bronson, Mary W., Buhner, Edna M., Cattell, M., Cattell, W., Chambers, R., Chamberlain, Thelma, Chen, T. Y., Chidester, F. E., Christie, J. R., Clapham, H., Claasson, Mrs. J. H., Claasson, Mary, Cole, E. C., Cobb, N. A., Corder, Margaret N., Crosby, R. W., Curtis, W. C., Darby, H. H., De Forest, D. M., Deins, W., Detlefsen, J. H., Duggar, B. M., Duggar, Louis, Dunlap, Anna C., Dunlap, Mrs. K., Dunlap, Sarah, Eichorn, A., Elliott, Edith, Esaki, S., Field, M., Fogg, L. C., Fish, C. J., Fish, H. R., Fish, H. D., Genter, Ida, Gordon, I., Grand, C., Grave, B. M., Guthrie, Mary J., Hance, R. T., Harnly, Marie, Harnly, Morris, Hartline, H. K., Heilbrunn, L. I., Heinly, Helen M., Herman, M., Hess, Olga T., Hughes, T. P., Hunt, T. P., Jeffers, Katherine, Johnson, H. R., Just, E. E., Keefe, Rev. A. M., Kindred, F. A., Kindred, Mrs. F. A., Koehring, Vera, Knowlton, F. P., Kunitz, M., Lancefield, D. E., Lancefield, R. C., Lewis, Ivy, Linton, E., Linton, Mrs. E., MacLellan, G. A., Mavor, J. M., McAfev, C. L., McClung, C. E., McClung, Mrs. C. E., McClung, Beth, McClung, Virginia, McCutcheon, M. M., McKwen, Dr. McKwen, Mrs. Montgomery, Hugh, Nachtheim, H., Naaler, J. Ernest, Nahm, L., Nassonov, D., Nomura, S., Pasquini, P., Patrick, M., Packard, C., Packard, Mrs. C., Plunkett, C. R., Sewall, H. R., Schrader, I. F., Scott, Julian, Schrouder, W. C., Schwartzbach, S., Sheuring, Dr. Ludwig, Somneburn, M. Tracy, Smith, Wilbur, Stocking, Mrs. C. H., Synder, J. O., Taylor, Ivan, R., Taylor, W. R.

Thorne, Louise, Titlebaum, Albert, Tyler, A. Ranger, Tyler, Katherine, Uhlenhuth, Mr. E., Vanbaun, Dr. and Mrs., Vicari, Emilio, Walters, Mary Jane, Wieman, H. S., Mavor, Mrs. J., Witschi, E., Witschi, Mrs. E., Wilson, C. B., Woodruff, L. L., Choate, D., Grant, Jean, F., Lynch, Ruth, Orbison, Agnes.

The Torpedo Ray

For ages the torpedo has been known to possess all the properties that we now associate with it. Today as in the past it carries terror and wonder to the layman. Its reputation is so extreme that it has been the nature of many episodes.

The organ by which the torpedo produces this charge of electricity is analogous to that of the Leyden jar. These electric organs are large flat uniform bodies, lying on each side of the head. They consist of hexagonal prisms in contact with the integuments above and below. Each of the prisms is divided into transverse compartments filled with clear, jelly-like fluid and lined by an epithelium of nucleated corpuscles. Between the epithelium and the compartments are the nerve ramifications. Each organ receives one branch of the Trigeminal nerve and four branches of the Vagus. The magnitude and the number of the nerves bestowed on these organs in proportion to their size are very extraordinary. Nerves are given to parts, either for sensation or action.

The fish gives the electric shock voluntarily, when it is excited to do so in self-defence or intends to stun or kill its prey. However to receive the shock the object must complete the galvanic circuit at two distinct points, either directly or through the medium of some conducting body. A painful sensation may be produced by a discharge conveyed through the medium of a stream of water. The electric currents created in these fishes possess all known powers of electricity, they render the needle magnetic, decompose chemical compounds, emit a spark, light an electric bulb.

When the torpedo is weakened or near expiring it ceases to communicate the electric shock. After successive transmissions it must rest before it is able to produce another shock. It will sometimes allow itself to be touched, this is a voluntary act. With each effort of the animal to give a shock there is an accompanying depression of the eyes and a great degree of bodily quietness.

These rays are very common in the vicinity of Gay Head Light being brought back on every trip of the Phalarope for exhibition at the aquarium of the Bureau and for experimental purposes.

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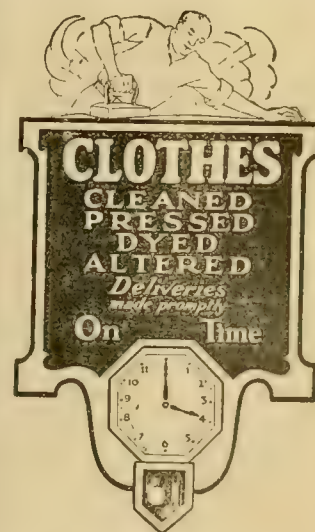
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CORPORATION BY-LAWS

(Continued from Page 6)

III. The Clerk shall give notice of meetings of the members by publication in some daily newspaper published in Boston at least fifteen days before such meeting, and in case of a special meeting the notice shall state the purpose for which it is called.

IV. Twenty-five members shall constitute a quorum at any meeting.

V. The Trustees shall have the control and management of the affairs of the Corporation; they shall present a report of its condition at every annual meeting; they shall elect one of their number President of the Corporation who shall also be Chairman of the Board of Trustees; they shall appoint a Director of the Laboratory; and they may choose such other officers and agents as they may think best; they may fix the compensation and define the duties of all the officers and agents; and may remove them, or any of them, except those chosen by the members, at any time; they may fill vacancies occurring in any manner in their own number or in any of the offices. They shall from time to time elect members to the Corporation upon such terms and conditions as they may think best.

VI. Meetings of the Trustees shall be called by the President, or by any two Trustees, and the Secretary shall give notice thereof by written or printed notice sent to each Trustee by mail, postpaid. Seven Trustees shall constitute a quorum for the transaction of business. The Board of Trustees shall have power to choose an Executive Committee from their own number, and to delegate to such Committee such of their own powers as they may deem expedient.

VII. The accounts of the Treasurer shall be audited annually by a certified public accountant.

VIII. The consent of every Trustee shall be necessary to dissolution of the Marine Biological Laboratory. In case of dissolution, the property shall be disposed of in such manner and upon such terms as shall be determined by the affirmative vote of two-thirds of the Board of Trustees.

IX. These By-laws may be altered at any meeting of the Trustees, provided that the notice of such meeting shall state that an alteration of the By-laws will be acted upon.

X. Any member in good standing may vote at any meeting, either in person or by proxy duly executed.

ALGAE

Last week the botanists celebrated as usual with a Monday night seminar. As the poster in lab predicted, the Botany Department of Woods Hole Marine Biological Laboratory presented Miss Fanny Fern Smith (herself) in Mosaic Diseases and Leaf Variations. After the lecture the class adjourned to lab and engaged in the Annual Indoor Track and Field Meet. The events were exciting and hotly contested. The first of these was the 30-inch dash, a feat of great skill and daring. The "thirty inch" refers to the length of a piece of string to which is tied a marsh-mallow, and the point of the contest is to obtain the marsh-mallow which is swinging at the other end of the string by suction or any other means except anchoring the string between two incisors and using the tongue as a spool. This was won by Helen Brown with Fanny Fern Smith running a close second. The second event was the Six Oar Race in which the water consuming ability of the botany department was demonstrated to be phenomenal. The third event was a relay in which eligibility was limited to the ability to whistle under ordinary circumstances. The physical and mental strain in this contest was tremendous, and the exertion required in whistling, then eating a gigantic milk cracker, saying "six, thick, thistle sticks", and whistling again, resulted, in several cases, in a sort of hysterical exhaustion. The fourth event was a boxing match in which the New York pugilists (of the weaker sex) defeated the All New England challengers and broke all previous records. (That was all the breakage recorded). The last event was a spelling bee in which Father Keefe triumphed, although the whole crowd gave out on "manoeuvred". When all the fudge had been consumed, the last seminar of the season broke up.

Friday's trip to Gay Head was sufficient consolation for the absence of a Botany Picnic. The collecting was exciting. It always adds zest to collecting if there is surf and to have to sneak up behind the breakers and grab, and then when you have a basket full of algae to have a wave sneak up on you! It has always seemed particularly tragic to us that there is no instrument to record the surprised expression assumed by a botanist when he finds himself sitting down where he never expected to sit, and his hoard of algae floating back to its native habitat. Besides the surf, however, there was the additional attraction of the Gay Head clay and lobster sandwiches. But

since no botany trip can be considered complete without some truly spectacular occurrence, the climax was afforded when Grace Griffin dived off the *Cayadetta* and found she couldn't get back. Dr. Taylor immediately hopped out of his shoes and off the deck with a mighty splash, not even taking time to take off his glasses. It was very dramatic while it lasted, but it didn't last long, because a skiff had to be launched to pull them both in. Nevertheless it was an original touch, and originality is our aim.

Professor Gorokhoff and his family are spending the summer on Millfield street. Dr. Gorokhoff is professor of music at Smith College. Before taking this position he was leader of a choir in New York City.

Dr. C. L. Parmenter, assistant professor of zoology and Miss Hazeltine Stedman, instructor in zoology at Mount Holyoke College, were married on Monday, August 2.

Dr. Safford of the Department of Public Health of Boston, has taken what was once Vinal Edwards' barn for the summer. Dr. Edwards used the top floor until his death three years ago as a museum. The house is located on Quisset Avenue, opposite Millfield Street.

Dr. Leon Augustus Hausman and his wife arrived in Woods Hole Sunday for a few days stay. Dr. Hausman is Associate Professor of Zoology at Rutgers University, and is well known for his research on mammalian hairs.

Professor I. F. Lewis, in charge of the botany course here, departed suddenly at the end of last week upon the receipt of a telegram announcing the death of his father.

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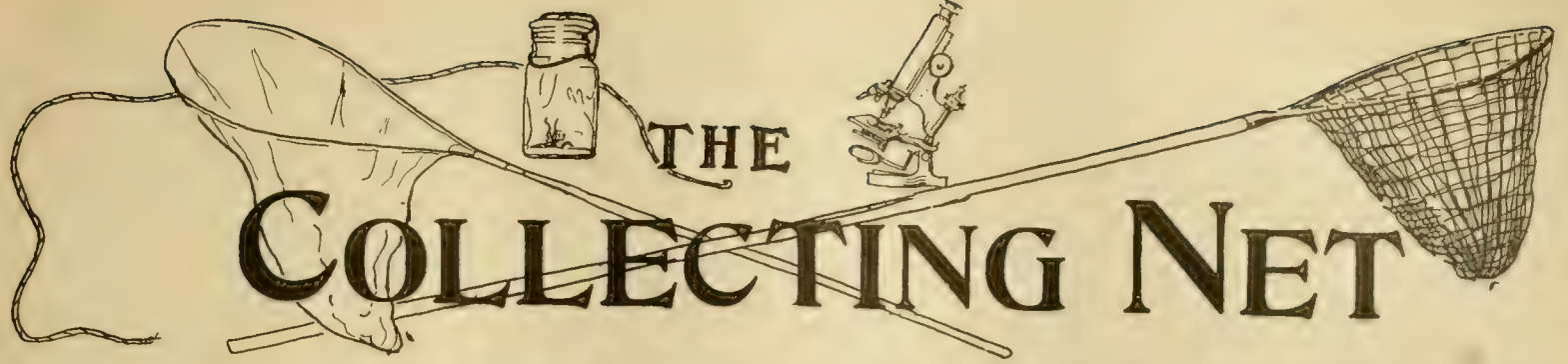
with Harold Lloyd

Tuesday, August 16
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Wednesday, August 17
"SPARROWS"

with Mary Pickford



TOWN TOPICS

Listen, everybody! On Tuesday, August 24th in the Community Hall, Woods Hole, the annual fair of St. Josephs Church will be held. Cake, candy and fancy work tables will be on sale. Dancing in the evening, will furnish a good time until midnight. On August 25th the same affair will be repeated in Falmouth. Come one and all. The celebration begins at three o'clock in the afternoon.

Miss Mary E. Wood, librarian of the Boone Library, Central China University, Wuchang, China, will give a talk on the training of librarians in China, and on the new movement for establishing libraries in the Chinese Empire. The affair will be held at the home of Mrs. W. M. Crane on Thursday afternoon, August 26th. All those interested are cordially invited to attend.

A delightful musical was held at the home of Mrs. W. M. Crane on Sunday afternoon, August 15th. A program of select music was rendered by Miss Ilse Huebner, pianist, and Miss Nancy Wilson, cellist. Those present were much enthused by the inspiring music and everyone spent an enjoyable afternoon.

If there is any inhabitant of Woods Hole who should hold his head very high it is Mr. Franklin L. Gifford, who has had his picture in the papers twice this month; once in the New York Times, and once in the Boston Post, as "The Artist of Woods Hole". However, Mr. Gifford is serenely unconscious of his fame, and paints on undisturbed. Most of his paintings are of marine type, with that fascinating twang of the sea worked in with every stroke of the brush, as only those who are well acquainted with the sea and its life are able to express. Woods Hole has every reason to be proud of Mr. Gifford!

NATATORIAL CONTESTS COLORFUL

Isabel Morgan Stars in Water Sports August 9—Canoe Tipping Furnishes Thrills.

The annual Water Sports Festivities of Woods Hole were held on the Cayadetta Wharf on Monday afternoon, August 9. In more or less full view of an eager and numerous throng of spectators who lined the shore, swimmers, divers and paddlers of both sexes, old and young, made merry.

Miss Isabel Morgan was the outstanding star of the occasion, winning first place in three events, helping win the Girls' Relay, and coming out victorious in the Canoe Tilt.

As has always been the case in the history of Water Sports at Woods Hole in recent years the success of the event was due in large measure to the patronage of Mrs. J. P. Warbasse. Sponsored by her, these festivities have become an annual feature looked forward to by many.

The various events were ably handled by Mr. Allen, a visitor at the Warbasse residence, and were announced by Mr. Hugh Montgomery. Contestants were summoned to the end of the pier and given instructions well in advance of their event so that the contest was attended by the minimum delay.

(Continued on Page 3)

PROTECTIVE ASSO. OFFICERS ELECTED

Slight Change Made in Policy

At the annual meeting of the Woods Hole Protective Association held July 28, in the Lecture Hall a new group of officers were elected and the policy of the forthcoming year was discussed.

This Protective Association was established five years ago to provide for some sort of protection to the vacant homes of the summer colonists. Since the inception of the organization about ninety members have

(Continued on Page 7)

Botanists Lecture

Drs. Reed and Howe Talk to Large and Interested Audiences

Absorption of Ions

The evening lecture of August 6, "Absorption of Kations and Anions by Plant Roots", was given by Dr. Howard S. Reed of the Graduate School of Tropical Agriculture, located at the Citrus Experiment Station, Riverside, California. The experiments which have been done under his direction have been designed to study the absorption of different elements in the soil. The methods used were similar to those used in standard balanced culture solution studies with the exception that the plants were grown so as to permit observation over an extended period of time. Orange trees were grown in large metal containers for several years in order to simulate orchard conditions. The effect of the anions and kations of nutrient salts was determined upon the basis of dry weight increase. At present the experimenters are attempting to determine the effect upon the plants of traces of various rare elements when they are added to the standard culture solution.

J. M. F.

Deposition by Marine Algae

"Reef Building and Land Forming Plants", was the subject of an illustrated lecture delivered by Dr. Marshall Avery Howe, of the New York Botanical Gardens, in the Auditorium on Tuesday evening, August 3.

Dr. Howe spoke first of the different organisms which play a part in the formation of land and pointed out that, contrary to common belief, the corals are by no means always the most important of these. In fact, a recent survey of a so-called "coral reef" resulted in the placing of the corals as fourth in the order of their effectiveness as agents in building up land, first and second rank being held by marine algae.

Of the minute algal organisms which aid in deposition the Diatoms are by far the most significant. These forms, which are possessed of a siliceous skeleton, exist in the plankton in countless numbers and diatomaceous earth, often many feet deep, occurs at several well known localities. Many of these deposits are found in the temperate regions and on land areas which have undergone considerable uplift in past geologic time.

The larger marine algae which are important as land formers, belong chiefly to the great groups Chlorophyceae and Rhodophyceae. The former contains, in the order Siphonales, such genera as Halimeda, Udo-tea, and Penicillus, all of which are lime-encrusting forms and occur conspicuously in the warmer waters of the tropics. The presence of these plants on the beaches of southern Florida and Jamaica, for example, where their limy skeletons contribute to the gradual upbuilding of the positive land element, must be regarded as of prime importance.

(Continued on Page 2)

The Tide in the Hole

At the following hours the current in the Hole turns to run from Buzzards Bay to Vineyard Sound:

Aug. 20	2:08 P. M.
Aug. 21	2:53 P. M.
Aug. 22	3:59 P. M.
Aug. 23	4:51 P. M.
Aug. 24	5:46 P. M.
Aug. 25	6:31 P. M.
Aug. 26	7:36 P. M.
Aug. 27	8:21 P. M.

In each case the current changes six hours later and runs from the Sound to the Bay.

BOTANISTS LECTURE

(Continued from page 1)

Among the Rhodophyceae, also, are to be found a great number of lime-encrusting genera, such as Lithothamnion, Lithophyllum and Goniolithon, which form flat, calcareous encrustations, and Galaxaura and Corallina, which are branched types. Earlier, when little was known about the life histories of these organisms, many of them were regarded as corals and were called Nullipores. It is known now that these lime-secreting red algae, which exist chiefly in the warmer tropic and subtropic waters are important agents in the extension of the land areas. Many of them are exceedingly beautiful in habit and bear a superficial resemblance to the true corals.

In addition to the marine forms there are certain microscopic algae belonging to the Myxophyceae which occur in hot springs, such as those in portions of the western United States, and may be materially concerned in altering land surfaces.

In concluding the lecturer dwelt upon the importance of algae as fossil deposits. Many fossils, formerly supposed to be of animal origin, have since been shown to possess a microscopic structure identical with that of some of the modern corallines. Others, in cross section, show the vegetative and reproductive features of a type like Lithothamnion.

It is altogether possible that some of the most puzzling pre-Cambrian deposits may be directly attributed to the products of plant metabolism. *J. M. F.*

Dr. Fish Lectures

"Biology Students in British Guiana" was the subject of an interesting illustrated talk given by Dr. H. D. Fish, professor of zoology at the University of Pittsburgh last Friday. The next issue of the *Collecting Net* will contain an account of his lecture.

QUADRANT ELECTROMETER MISSING

A quadrant electrometer has disappeared from the confines of the Laboratory and an exhaustive search this summer has failed to reveal any traces as to its whereabouts. It was probably lost in 1924 when the Rockefeller Building was moved from the edge of the Eel Pond to its present site.

The instrument is worth well over two hundred dollars and Dr. Hitchcock, its owner, will be grateful for any information concerning this valuable piece of apparatus.

The Woods Hole Index

The second number of the *Woods Hole Index*, published by the Dolphin Press of Woods Hole, under the editorship of Dr. Elizabeth Dunn, has been released under date of August first.

The leading article is by Dr. E. V. Cowdry, of the Rockefeller Institute and the Marine Biological Laboratory, strongly advocating the increased use of canoes in this vicinity by those physically and mentally competent. The article is obviously based on extensive experience, and is replete with excellent advice and sagacious warnings, even against those snares of canoeing into which the author himself is reputed to have fallen! Trips are outlined, types of canoes considered, and even the most advantageous position for the paddler (while paddling!) is described. It is quite refreshing and even mildly amazing that one who professionally considers sagaciously the innermost structure of cells should commit himself so irrevocably to articles showing that the opportunity for work has been only one of the attractions of Woods Hole!

Charles J. Fish has written, from a somewhat economic viewpoint, concerning the investigations of the New England Fisheries. Infant mortality among baby cod, reaching the astounding height of 5,999,998 deaths from every six million eggs; the reason for the high concentration of cod in Massachusetts Bay, and the possibilities of such institutions as the Mess completely exterminating the food fish of these regions are all considered.

A feature of interest to the more serious is a bibliography of scientific papers dealing with the Woods Hole area. For the most part they concern marine fauna, but some are botanical. For the more cultured there is a poem by Eleanor Addison entitled "Falmouth to Woods Hole." One might suspect the conditions epitomized existed only before the days of Mr. Nickerson's busses, and the schools of flivvers presumably spawning on the banks of the Eel Pond. Marie Poland Fish has described the habits of several types of tropical fish occasionally seen in these waters. The sail boat enthusiast receives anonymous approbation from "F. E. K." in an article which, while interesting, rather fails to tell us anything not of general knowledge.

Book Shop to Close

Of obituary nature, the editorial tells us that the Book Shop, so long established in

Woods Hole is to be closed after this season. It has been a unique landmark, and its loss will be felt not only by those who have purchased an occasional volume or sailing chart, but also by those of us who have considered it as typifying the erudition of our community.

The Index we believe to have a most interesting and useful field in acquainting us with the possibilities of enjoyment and acquisition of knowledge of natural history, and eagerly hope that the vast fund of accumulated experiences of the older habitues of the Hole will become available to us through its pages.

T. P. H.

LIBRARY NOTES

The Library Report presented by the Librarian, Mrs. Priscilla B. Montgomery, to the Trustees at their Annual Meeting contained items of interest and importance to the laboratory, particularly those in investigative work.

Since last summer seventy five periodicals have been added to our subscription list, raising the number of those currently received to over five hundred. In addition to these there are about three hundred sets of journals which have suspended publication, more or less complete. The number of bound journals exceeds twelve thousand.

The librarian is eager to know of new journals appearing and to receive suggestions as to the purchase of sets of periodicals not at present in our library, and useful in biological research.

Another item of importance concerned the "new book corner". A majority of the books in this collection are furnished by the publishers to the library without charge as an advertising measure. In order to convince other publishers that this donation is profitable the librarian asks that each person purchasing a book himself, or recommending the purchase of a book after becoming acquainted with it through this means leave a record of the fact on the bulletin board on the stack. Suggestion as to new books desirable to add to this collection will also be welcomed.

There are on file in the library over thirty thousand separate reprints, which are becoming constantly more useful to investigators. Twenty five thousand were received during the past year as a result of an appeal to members of nine American scientific societies and the Physiological Society of England. These are being indexed

by author as well as by subject matter. It is particularly desired to obtain a complete set of reprints, in duplicate, of articles by investigators working in the Marine Biological Laboratory, and such contributions will be especially welcome.

The General Education Board has granted the library the sum of ten thousand dollars, payable over a period of five years for the purchase of complete sets of journals. The amount so far available has permitted the purchase of fifty-seven such sets, the most important being *Pflüger's Archiv für gesammte Physiologie*, *Virchow's Archiv für Pathologische Anatomie und Physiologie* and *Comptes Rendus* of the Academy of France.

On August twenty-eight there will be held at Woods Hole a meeting of representatives of numerous scientific libraries such as the New York Academy of Medicine, the American Medical Association, the Crerar Library, Biological Abstracts, Rockefeller Institute, Smithsonian Institution, the Library of Congress, the Surgeon General's Library and numerous university libraries to consider special problems in library administration.

Some of the questions to be discussed are the exchanging of duplicates, the establishment of a clearing house to dispose of unwanted sets, the interchange of books between libraries, the selection of special fields of responsibility for a given library and the choosing of journals for subscription.

The Biological Bulletin

Since the enlargement of the Biological Bulletin the accumulated manuscripts have all been published or are in press and it is now possible to issue papers with a minimum of delay.

The attention of investigators at the laboratory is, therefore, called to this condition. The director will be pleased to receive manuscripts for publication in the October and November numbers.

Dr. Francis G. Benedict, director of the nutrition laboratory of the Carnegie Institution of Washington, recently left Boston to attend the twelfth International Congress of Physiology to be held at Stockholm in August. He will then make an extended tour of scientific institutions in the different European countries, and will return to Boston about January 1.

The death is announced of M. Albert Frouin, who for twenty-six years has been director of the physiological laboratories of the Pasteur Institute, Paris.

WATER SPORTS

(Continued from Page 1)

Probably no feature of the day was more popular with the crowd than the Tub Race, altho the Canoe Tipping ran it a close second. The winners of the former event were Miss Isabel Morgan for the girls, and George Duggar for the boys.

A complete summary of the contest follows:

Boys' Race: 12 years and under—Distance 50 yds. Winner: Lionel Flynn; Second: John Faggi.

Girls' Race: 12 years and under—Distance 30 yds. Winner: Letty Field; Second: Betty Patten.

Boys' Dive 12 years and under. Winner: R. Kaltenborn; Second: John Faggi.

Girls' Dive: 12 years and under: Winner: Letty Field; Second: Betty Patten.

Boys' Race: 15 and under. Winner: Ben Bacon; Second: A. Madeira. Time: 30 4-5 seconds.

Girls' Race: 15 and under. Winner: Isabel Morgan; Second: Vera Warbasse. Time: 39 seconds.

Boys' Dive: 15 and under. Winner: Ben Bacon; Second: Eric Warbasse.

Girls' Dive: 15 and under. Winner: Isabel Morgan; Second: Sara Dunlap.

Boys' Race: 16 and over. Winner: Eric Warbasse; Second: Pete Warbasse. Time: 27 4-5 seconds.

Girls' Race: 16 and over. Winner: Priscilla Gurney; Second: Constance Prosser. Time: 32 seconds.

Boys' Dive: 16 and over. Winner: Eric Warbasse; Second: Herman Field.

Girls' Dive: 16 and over. Winner: Constance Prosser; Second: Eleanor Sloan.

Boys' Relay Race: Won by Rudel Marvin, Pete Warbasse, Walter Lillie and Dana Allen.

Girls' Relay Race: Won by Isabel Morgan, Molly Wilson and Eleanor Sloan.

Boys' Tub Race: Winner: George Duggar. Time 1 min., 20 seconds.

Girls' Tub Race: First Heat: Isabel Morgan; Second Heat: Emily Lillie. Final Heat: Isabel Morgan. Time: 38 seconds.

Boys' Canoe Tilt: First Heat: Eric Warbasse and Bruce Crane. Second Heat: J. Ames and Ben Bacon. Final Heat: Ames and Bacon.

Girls' Canoe Tilt: Won by Isabel Morgan and Vera Warbasse in one heat.

CHARMING SUMMER WEDDING HELD

Popular Bride Honored By Large Group of Friends

Even the sun peeped forth from the clouds of fog and rain behind which it had been hiding the past while, to look upon the pretty wedding of Dorothea Nesbit Chambers, of Constantinople, and Donald Blaisdell of New York, at the church of the Messiah last Saturday afternoon.

Decorations of smilax, bayberry, and woodland fern made and appropriate background for the delicate Parisian frocks in flower colors worn by the bride and her attendants.

The bride, as fair as the lillies which graced the altar, wore a white georgette dress of simple fashion elaborated with deep embroidery. Her court train of creamy chiffon satin embroidered with orange blossoms had been worn by Mrs. Robert Chambers at her own wedding and the point lace veil, an heirloom of Mrs. Doughty-Wylie, was sent from England for the occasion.

Miss Dorothy Applegate, maid-of-honor, wore pale green georgette and carried a bouquet in which larkspurs and yellow gladioli mingled their blues and golds. Her frock, of the same design as the sheer pink gowns worn by the matrons-of-honor and the organist, was long-waisted and full skirted and was bordered at the hem with many petaled flowers of the same material. The flowing sleeves were formed from a shoulder scarf of georgette caught at the wrist. Graceful wide brimmed hats of black and fascinating bouquets in pastel pinks, blues, and lavenders completed the ensemble.

Dorothea and Mary Averett Seelye, the two small nieces of the bride were charming in dainty flower-girl costumes of soft voile printed in sweet-pea colors over green crepe de chine slips.

The bride, a Bryn Mawr and Columbia graduate, who has been devoting her time to welfare and educational work in Turkey was given away by her cousin, Dr. Robert Chambers of Woods Hole and New York, and was married by her brother-in-

law, Mr. Lawrens Seelye of The American University, Beirut, Syria, who, with his family, is in this country at present.

The matrons-of-honor were Mrs. Laurens Seelye, the bride's sister, and Mrs. D. V. Garsten of New Haven, a cousin.

The bride was fortunate in having her college classmate, Miss Katherine Tyler of Baltimore, the accomplished pianist, to play the wedding music. While the guests were assembling Miss Tyler played *Larghetto* from Beethoven's 2nd Symphony, *Ave Maria* by Bach Gounod, and *Handel's Largo*. The bride's entrance was heralded by the *Wedding March* from *Lohengrin* and the ceremony closed with the *March of Mendelsohn*.

The groom was attended by his brother, Mr. William Blaisdell, and the ushers were: Mr. D. V. Garsten of New Haven, Ahmed Hassan Bey, of Constantinople, Mr. C. W. Hinton and Dr. I. H. Page, both of New York. Their informal white flannels and dark coats were in keeping with the summer picture.

After the wedding, Dr. and Mrs. Chambers gave a reception at Bobtucket Cottage in honor of the bride and groom. The bride received standing on the same oriental rug on which her mother at the British Embassy in Constantinople, as well as the other brides of the family, had received their wedding guests.

The relatives present were Mrs. T. C. Blaisdell, of Slippery Rock, Pa., mother of bridegroom; Dr. and Mrs. Talcott Williams, of New York City, Miss Sonia W. Williams of Bronxville, N. Y., Rev. and Mrs. W. F. Williams of Stonington, Conn., Professor and Mrs. F. W. Williams of New Haven, Conn., Master Talcott Seelye, Masters Robert, Jr., William Nesbitt, Edward Lucas and Bradford Chambers.

The out of town guests included Miss Mary Allen, of Worcester, Mass., Mr. and Mrs. Archie A. Coates, of New York City, Miss Julia Hall, of Plainfield, N. J. and Constantinople, Mr. Stanley Knight, of New Haven, Miss Mabel Nelson, of New York City, Mr. and Mrs. C. F. A. Pantin, of Plymouth, England, Dr. E. Grace White, of Chambersburg, Pa., Mrs. J. S. Winslow, of Fort Bragg, N. C., and Miss Helen Gunther, of Englewood, N. J.

There were present also a large number of Woods Hole friends who had known the bride on her previous visits here.

COLLECTING NET GIVES DANCE

The staff of *The Collecting Net* sponsored a dance that was held at the M. B. L. Club Saturday evening, August 14. While not very many couples attended, a congenial time was enjoyed. About twenty couples were present.

An orchestra composed of Jerry Boze, saxophonist, Alice McNaught, violinist, Mrs. Fisher, violinist, and Mr. Fisher, pianist, made the air lively with appropriate music. Mr. Fisher added variety to the program by rendering vocal choruses to the selections.

Through the efforts of Miss Pearl Zeek the clubhouse was very prettily decorated. Some of the floral decorations were obtained from the house of Dr. Chambers where they had been used during the marriage ceremony of his niece. Two baskets of batchelor buttons which were used to decorate the piano at the club, had been previously used by the bridesmaids at the wedding.

The dance was considered delightful by all who attended, and expenses were more than met charging the modest sum of \$1 a couple.

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Issued under the auspices of
The M. B. L. Club

Vol. 1. No. 5 Aug. 19, 1926

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Gravity

The editorial appearing under the heading of "Restrictions" has been successful in provoking a considerable amount of discussion, and has thus perhaps served a useful purpose. To some it seems that both sides of the question were not equally considered, and the purpose of this note is to bring out some facts which were perhaps not known to their full extent at the time the editorial in question was written.

It is with consternation that we learn the extent of the misuse of the balances of the laboratory. In 1924 and 1925 ignorance or carelessness resulted in the damaging of balances to the extent of \$150.00; and last summer a set of weights certified and standardized by the Bureau of Standards was incapacitated. The cost of replacing lost parts and replating the weights with gold would have been equal to the cost of a new set of weights or \$67.50. Already this year one of the five kilogram balances has been seriously injured and the estimate given for its repair is \$100.00. Four sets of ten milligram riders have disappeared. Due to the deleterious effects of calcium chloride on the posts and of sulphuric acid on the wood work a \$150.00 balance has been recently sold for \$10.00.

If the facts were not indisputable it would be difficult to believe that such things would occur at the hands of research workers in an institution of this kind. Protective action of some character was imperative and the locking of the balance-rooms and the placing of the key in semi-inaccessible quarters was resorted to. It is interesting to note however that the balances of highest precision are not locked, but are under the cus-

todianship of an experienced worker who is ready to assume the obligations involved in exchange for the privilege of having the balances in his room.

One wonders, however, if this is the best possible solution. We learn that little or no damage has been done since the adoption of this system, but we are confident that hand in hand with this improvement goes greater inconvenience and less usage of the balances. For two reasons one might hesitate to weigh material when under normal conditions he would not think of doing otherwise. They are:

(1) The time taken in locating the key, and the possibility of not being able to obtain it on reaching the designated room.

(2) The reluctance of the younger workers to trouble those investigators in charge of the key who are older and busier than they.

The object of the Laboratory is, of course, to make arrangements whereby its apparatus can best forward scientific research. This policy is not necessarily carried out by guarding its equipment so that it is easily accessible *only* to the older and experienced investigators.

Locking the balance rooms apparently does not actually prevent a novice from using the scales and he is just about as likely to carry off weights or weigh caustic soda without a container whether he has to hunt up a key or not. An analogous situation might be the case of the autoclave that was rather severely damaged by failure to remove the flame until after the water had boiled away. Had the autoclave been locked in a special room and the key only available after signing for it, the accident would not have been prevented. (The writer is intimately acquainted with the investigator, 'and knows whereof he speaks!')

If these unfortunate conditions under consideration are caused by the carelessness of those making measurements it is a difficult situation. Investigators and their assistants must realize their responsibility. They must exercise the care in the use of precision apparatus that they would use when working with their own microscopes and other delicate equipment.

But if they are due to ignorance the laboratory is in part responsible for the treatment accorded to their balances. Directions for their use and the precautions that must be taken should be clearly written and prominently displayed. Unless an individual can give satisfactory indications that he is thoroughly familiar with their use and care, perhaps permission to use the balances might not be granted until he was personally

shown how to operate them.

The system of requiring the worker to sign before entering the balance room is an excellent plan. This fixes the responsibility, and he is likely to leave things in perfect condition. His immediate superior might be the next to use the balances!

But is it necessary to lock the balance rooms? If it is, can not the key be placed in their immediate vicinity where any laboratory worker can obtain it at any time, and yet without inconveniencing himself or any one else?

The following plan is humbly submitted:

(1) Place one of the Harvard Trip scales (the total value of which falls under \$20.00) in once of the general laboratory rooms on each floor. With these scales it is possible to determine the weight of a ten gram mass to an accuracy of at least one per cent. In probably 95 per cent of the cases where the weight of a material must be determined, the nature of the experiment does not warrant more precise measurements.

(2) Supervise in the most effective manner the use of the more expensive balances. Two plans are possible.

(a) To retain the present plan, preferably modifying it in some way to make it somewhat less drastic.

(b) To place the better balances in the rooms of the older investigators. Here a responsible person will be in the immediate vicinity for a greater part of the time.

Of the latter two possibilities (b) would obviously better safeguard the apparatus from injury due to ignorance or carelessness.

Placing the Trip scales in separate rooms from the more expensive balances would have the two distinct advantages (1) of serving research better by making the operation of weighing material as simple as possible; (2) of reducing greatly the unnecessary use of the high precision apparatus. It will do much toward checking the inherent tendency to weigh material on precision balances when biological factors and physical conditions introduce errors far greater than those involved in weighing on the Harvard Trip balances. On authority we learn that the atmospheric conditions of Woods Hole cause (unless professional technique is used) a three per cent error in the weighing of half gram samples.

The present system is objected to on two grounds:

(1) Investigation is actually hampered by the inconveniences involved; (2) it hurt our sense of pride and honor to feel that we can not be trusted.

Restrictions here are few and

the laboratory is known throughout the world for its lack of red tape in its administration. The government of the library and the "honor system" incorporated therein is worthy of commendation. Any person connected with the laboratory, (or those who are not for that matter) may enter the stacks at any time unquestioned; books may be taken out at will. They are treated with respect; these privileges are not abused. Why? Because we have been placed upon our honor and realize our responsibilities; and because we understand the treatment that should be accorded these tools.

In compiling the list of members of the National Academy of Sciences working in the laboratory this summer the name of Professor Lorando Loss Woodruff was inadvertently omitted. Dr. Woodruff, who is Professor of Zoology at Yale University, and has been on the Staff of Instruction of the Marine Biological Laboratory since 1905, is asked to accept our apologies

This omission would not have occurred had it been possible to locate a list of the present members of the academy at the time the note was written. We are glad to learn that the year book of the association is about to be placed in our library.

In this column last week it was stated that the laboratory discontinued publishing the evening lectures in book form in 1921. The date instead should have been 1899.

CONGRESS OF PLANT SCIENCES

An event of interest to laboratory workers in botany is the meeting of the International Congress of Plant Sciences at present in session at Cornell University. No gathering of like scope has been held since the session of the Third International Botanical Congress at Brussels in 1910. This Congress has never before convened in this country. Dr. B. M. Duggar is general secretary for the congress. The Congress is intended to bring together leaders in all fields of botanical science, including plant chemistry, phytopathology, bacteriology, pharmacognosy and pharmaceutical botany, agronomy, horticulture and forestry. The meetings will last from August 16 to August 23.

Among those attending from the Marine Biological Laboratory are Ethel Stippler, W. R. Taylor, S. B. Brooks, F. Hollander, J. B. Scott, J. R. Schramm, B. M. Duggar, B. Nemeč, Professor and Madame Domin.

THE SEA URCHIN

IT PRICKS WITHOUT DISCRIMINATION

A certain individual will probably be surprised to note the sparsity of references to him in the column this week. It is unfortunate that in the issue of August 5, there accidentally appeared three notes concerning this person. "Hold" was marked on the galley proof beside a couple of these pricks, but the printer did not take full cognizance of the general physiological fact that the reactions evoked by intermittent stimulation are far greater than those resulting from continued excitation.

It is rumored that when a prominent member of the collecting crew combed his hair the other day he discovered a fishhook that he had been missing for the past three weeks.

Miss Impi Arvo and J. J. Murphey announced their engagement in a novel manner to a large group of their friends on August 7 at 10:37 P. M. It has already been rumored that Miss Arvo has made reservations for the train leaving on the approaching Saturday for Reno, Neb.

COAST GUARD PICKS UP CHINESE JUNK

Many people in Woods Hole watched with interest the dragon colored Chinese junk that passed through the Hole during the latter part of July. The "Amoy", which sailed across the Pacific in 87 days three years ago, was taken in by the Coast Guard boat in Long Island Sound last week for carrying Chinese men who could not produce passports. On finding that the two men in question were students, one at Harvard and the other at the Massachusetts Institute of Technology, the "Amoy" was released.

The junk, sails and all, is painted in brilliant primary colors, and is decorated with dragon's eyes. Although retaining the outward appearance of its original state it has been fitted out with modern plumbing and other conveniences. The craft, though sixty-eight feet long, draws only four feet of water. Alfred Nilson, an author, is its captain.

Mr. D. M. DeForest, of Union College, broke one of the bones in his right arm in July while cranking the Ford of Professor H. K. Svenson.

A WOODS HOLE CONFERENCE ON RESEARCH IN AMERICAN COLLEGES

Twenty Four Colleges Send Representatives to Conference Here

The promotion of productive scholarship in American colleges was the subject discussed at a conference of college and university representatives held at the M. B. L. on Tuesday, August 17th. This and two similar conferences held in Washington in December 1924 and March 1925, owe their origin to the enthusiasm for research and initiative of Dr. Maynard Metcalf; and to the realization by individuals and by institutions of the necessity of encouraging research in American colleges.

At the first conference, which fourteen representatives of ten institutions attended, factors militating against research and methods of facilitating research were outlined. The possibility of forming a national organization was discussed and a committee was elected to formulate a project. This committee, consisting of C. E. McClung, Professor of Zoology of the University of Pennsylvania; Maynard M. Metcalf, Chairman of the Division of Biology and Agriculture of the National Research Council, serving as Chairman of the Committee; John A. Muller, Vice President, Swarthmore College, and Professor of Mathematics and Astronomy; George D. Olds, President, Amherst College; Anne Young, Professor of Astronomy, Mount Holyoke College, arranged for a second conference to be held in Washington on March 20th, 1926. Invitations were sent to colleges throughout the country requesting that the College send the President, the Dean or some member of the faculty interested in the promotion of research as a representative to this conference.

Twenty-four colleges sent representatives. A project was submitted and discussed. Methods already in operation in different colleges for the encouragement of research were outlined, and suggestions offered for increasing the opportunities and the stimulus for research in American colleges.

It was agreed that a research committee in each college could do much to foster interest in research on the part of the faculty and the administration; and that recognition by such an organization as the National Research Council would facilitate the work of such committees. After a day of discussion it was voted to request the Division of Educational Relations of the National Research Council to organize a committee or board to study the promotion of productive scholarship among teachers in American colleges. A committee, consisting of Professor Mary Calkins of Wellesley College, Chancellor Samuel Capen of the University of Buffalo, Professor Edward Ellery, dean of Union college and secretary of Sigma Xi; Professor C. E. McClung of the University of Pennsylvania, and Dr. Maynard Metcalf, chairman division of biology and agriculture, National Research Council; presented this request accompanied by a detailed report of the preliminary conferences, an argument for the project presented, and a plan of organization of such an administrative committee as that suggested in the project.

The Division of Educational Relations considered the request at its meetings in 1925 and 1926 and voted that the chairman be asked to secure some representative of the division who could represent its interest; and aid in promoting research by means of a series of conferences with the colleges concerned.

At the conference held at the M. B. L. twenty-one institutions were represented. List of representatives may be included; see page 5. Dr. Goodrich of Wesleyan acted as chairman and Dr. Sampson of Smith College as secretary. At the request of the chairman, Dr. McClung stated

some of the reasons why he, as a university professor, was interested in this movement to promote research in American colleges. At the present time a large proportion of graduate students come from small colleges, receiving their inspiration for research from teachers in these institutions. It is desirable to relieve such teachers from heavy teaching schedules, and to supply them with adequate equipment that they may be encouraged to continue their own research and interest undergraduates in productive work. This proposed plan of betterment of the academic life in colleges is one of the enter-

prises of the National Research Council. Evidence of interest and of action on the part of a group within a college, such as the Research Committee at Oberlin, or on the part of representatives from colleges at the conferences already held will both serve to emphasize the importance of the movement to the chairman of the division of Educational Relations of the National Research Council, and may hasten the appointment of a representative from the division who shall hold conferences with college faculties. The National Research Council once convinced of the importance of the project can succeed in obtaining financial support if it is needed. Dr. McClung suggested that if the colleges use the resources already available in furthering productive scholarship, the National Research Council will then be in a position to ask for support for such research.

Dr. Metcalf then gave a brief report of the results of the previous conferences, and stated that it was now realized by those interested in the plan that the initiative should

(Continued on Page 8)

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CZECHO-SLOVAKIAN MINISTER HERE

The Czecho-Slovakian Minister to the Court of St. James, M. Jan. Masaryk, with Mme. Masaryk (nee Frances Crane) recently arrived at Woods Hole from Prague, where they had been visiting the Minister's father, President T. G. Masaryk of Czecho-Slovakia, and will spend the month of August vacationing and seeing old friends in Woods Hole, after which they will spend some time in Canada on official business before returning to London.

Mr. Daniel C. Healy, a member of the collecting crew, suffered a broken radius bone in his forearm and several torn ligaments in his wrist, when the engine of the motor dory, *Marjorie*, kicked while he was trying to start it, on the afternoon of July 28. He was rushed to the hospital in Boston, where the proper treatment was given the broken member. Mr. Healy is now recuperating in Woods Hole and is expected to have the full use of his arm in about five weeks.

Woods Hole, although a mere speck on the map, is a busy little place just the same. Not only does it allure people to come, and charm them to stay for the summer months, but our little town also is a witness to much travel. Last week a number of people were unable to board one of the boats for the Island as it was filled to capacity.

SUNDAY ON THE WATER

The difficulty of rowing the whale boat through the Hole under adverse conditions was clearly demonstrated on Sunday afternoon. It is believed that the constant negative acceleration of the craft was responsible for the decision of Capt. S. that there were other spots just as ideal for his picnic as the one originally decided upon.

Among those bathing on Sunday were Phil Wheeler and two friends who arrived off Juniper Point before the canoe turned over in which they had been paddling. Due to the current and wind a swim of about a hundred yards was in order, and successfully made.

Skipper C. made a brave attempt to convey a group of his friends to the East Gutter on Sunday morning in his trusty sail boat. Adverse circumstances of varied nature prevented the completion of his trip. It is thought that one of the contributing factors was the peculiar psychological reactions produced upon all who board this famous vessel.

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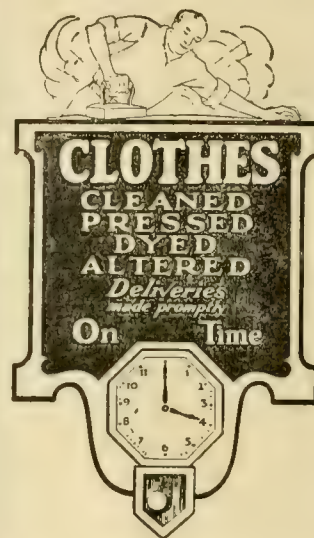
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Hunting Bighorn With a Camera. Dr. Vernon Kellogg.

The Progress of Public Health In China. Dr. Reginald M. Atwater.

Politics and the Public Health. James A. Tobey.

Excursions In Experimental Psychology. Professor Raymond Dodge.

The Birth of Modern Science. John K. Robertson.

The Friendship of Two Old-Time Naturalists. J. S. Wade.

Geologic Romance of the Finger Lakes. Professor Herman L. Fairchild.

Radio Talks On Science: The Planet Mars, James Stokley; How Plants Behave When Diseased, Professor B. M. Duggar.

The Peculiarities of the Sensation of Cold. Professor D. Fraser Harris.

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PROTECTIVE ASSOCIATION

(Continued from Page 1)

joined. By far the larger proportion of the members are what are known as contributing members. The rest, all-year-round residents of Woods Hole, are known as non-contributing members and do not share the responsibilities that are common to the other members.

Each contributing member pays five dollars into the treasury. This money goes toward the salary of an inspector whose duty it is to make weekly rounds to the homes of all the members and note whether everything is ship-shape or not. If any irregularities are observed by the inspector he at once notifies the secretary who notifies the owner. In this way many heavy losses have been averted. The inspector has frequently found dwellings improperly locked immediately after the departure of the residents. Then during the winter the storms are wont to cause minor injuries to the buildings which, if they are not fixed, might result in a loss of a more serious nature. There is also the factor of the inspector's discovering evidences of unlawful entrance. It is interesting that in the year before the founding of the association, sixteen cases of unlawful entrance were reported, whereas since that time there have been but two or three a year.

There is an additional fee of one dollar to those members who may have cause to have workmen enter the place during the winter who will find it necessary to procure the use of the key.

It had been customary in past years to employ the inspector between October first and June first. At the meeting held this July, the time was increased to include June fifteenth.

Succeeding Dr. R. P. Bigelow, as Chairman of the association, is Dr. H. H. Plough. E. M. Ellis, chief engineer of the *Cayadetta*, was elected to the position of vice-chairman. Miss Florence Tinkham succeeded the Rev. J. Bancroft as secretary-treasurer. The two other members were elected to the executive committee.

The business meeting consisted of the reports of the secretary and treasurer on the events transpiring in the past year. The Rev. Bancroft, in his double capacity rendered these reports which were favorably accepted by the members of the association.

About thirty members attended the meeting.

The Coleman and Bell Company announce to the workers of the M. B. L. that their official news organ, *The Reagent News*, dealing with methods of technique, etc., will be glad to receive and publish short contributions of interest to the profession under the name of the contributor. *The Reagent News* though a small paper reaches 7500 scientists throughout the world. All articles should be addressed to the editor of *The Reagent News*, The Coleman & Bell Co., Norwood, Ohio. Anyone wishing to obtain the publication regularly may do so free of charge by simply requesting to be placed on the mailing list.

The series of moving pictures taken by the Beebe Expedition on the last voyage of the *Arcturus* are being shown on Wednesday evenings at the Elizabeth Theatre. Laboratory workers thus have the opportunity of viewing directly many of the things that Dr. Fish has told us about.

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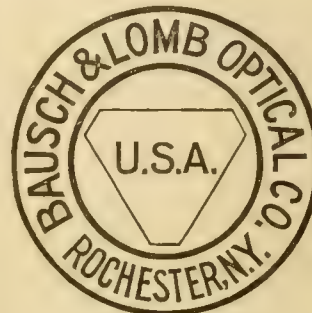
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Woods Hole Conference

(Continued from Page 5)

come from the colleges. He further suggested that as a first step an attempt be made to establish research committees in colleges which should work to secure cooperation of faculty and administration, and support for research within the college. The successful operation of such committees in universities was described by Professor McClung and Dr. Chidester. Dr. Rogers gave an account of the organization of such a committee at Oberlin and the advantages already obtained through it. Dr. Howland gave an interesting account of the successful drive for a research fund recently conducted at the Washington Square College of the City of New York by a member of the English department, thus indicating what can be done by an individual in a college toward promoting research. Dr. Hogue and Dr. Collett spoke in favor of obtaining a representative from the National Research Council to stimulate college faculties to engage in research; of the policy of consultation trips from colleges to universities; of exchange of instructors between colleges and between colleges and universities.

The following resolutions were drawn up:

1. That the conference approves the suggestion that research committees be established in American colleges for the encouragement of research.

2. That it favors the plan of the Division of Educational Relations of the National Research Council to appoint a representative to visit colleges to discuss the promotion of research.

It was voted to request the National Research Council to finance the sending of reports on the project to the colleges known to be interested, with the proposal that those interested in the creation of research committees or otherwise furthering research in their institutions send written statements to this effect to the National Research Council.

It was generally agreed that the following procedure might best be followed: the creation of research committees in colleges to promote research within the institution by every possible method; the election of a liaison member for consultation with similar members of committees in other colleges; a small executive committee, elected by liaison members to act for them in aiding research.

It was voted that the chairman of the Woods Hole Conference call another meeting at his discretion, with the expectation that research committees may be established in some colleges within the coming year which could send liaison members to such a meeting.

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MEMBERS DEPART

A list of people who have been eating at the Mess and have left town since last Friday is given below:

Paul Beaver, P. W. Bowman, S. C. Brooks, Helen J. Brown, Sidney Britten, C. J. Connolly, Oliver McCoy, George Daniels, J. E. Drayton, Helen Dyer, Mrs. J. E. Dyer, J. M. Fogg, Gladys Gordon, Ira Hansen, Dr. and Mrs. F. Hollander, G. H. Humphreys, W. Jackman, Elizabeth Kinney, Dr. and Mrs. M. M. Loucks, Al Lucas, Helen Miller, Donald B. McMullen, Mrs. J. Musgrave, Olive C. Nelson, Robin Riche, A. C. Severinghaus, Jack Shultz, Joseph Taussig, W. R. Taylor, Miss Willard, Ferris Woods, Chao-Fa Wu, Pearl Zeek.

The International Congress of Physiology opened a five-day session at Stockholm on August 1 under the presidency of Professor J. E. Johansson. There were 567 delegates in attendance, the United States and Germany sending 100 each, and France and England 40 each.

The heading "Gravity" of the first editorial has a double significance which perhaps may not be immediately obvious to all.

On August 13th at 3 P. M. the annual exhibition of the work done by pupils of the School of Science was held in the Woods Hole Schoolhouse. A large and interested group of parents and friends attended.

Among the famous gigglers of the world will go down the names of Miss L. T. and Miss H. J. It has been suggested that a contest be staged between them to determine the champion.

POST OFFICE HOURS

The usual hours during which the window is open for delivery of mail, sale of stamps and other business, are given below, but may be slightly changed, dependent on the arrival of trains and the size of the mail.

Daylight Saving Time
7:00 — 9:30 A. M.
11:00 — 11:30 A. M.
12:00 — 3:30 P. M.
4:30 — 6:50 P. M.
7:30 — 7:50 P. M.

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Thursday, August 19

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Friday, August 20

"MY OLD DUTCH"

With Mary McAvoy

Saturday, August 21

"ROLLING HOME"

With Reginald Denny

Monday, August 23

"INTO HER KINGDOM"

With Corinne Griffiths

Tuesday, August 24

"MAN TRAPPED"

With Clara Bow

Wednesday, August 25

"The BLACK PIRATE"

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TOWN TOPICS

**Marjorie Veeder
1905-1926**

Miss Marjorie Veeder's sudden death on Tuesday is a great shock to everyone, and to those who knew her in her work in the library is especially hard. Miss Veeder had been assisting in the library since November, 1925. Everyone who came into contact with her enjoyed her brightness and her friendliness, and all feel the deepest sympathy for her parents and her family.

We are very sorry to hear of the unfortunate accident that happened August 20th to Gilbert Denham of Falmouth, when a delivery truck driven by him collided with the morning train from Woods Hole. The train hit the vehicle broadside, knocking the car some distance and seriously injuring its driver. Denham was leaving the freight office and his car stalled on the tracks. Although the train was slowing down to make a stop the collision was unavoidable. Denham was treated by Dr. T. A. Wiswall, and rushed to the Cape Cod hospital at Hyannis. He is reported in a serious condition, having a fracture of the spine. We wish him a speedy recovery.

We extend our heartiest congratulations to Mr. W. O. Luscombe, who celebrated his 75th birthday at his home on Nobska Road, Thursday, August 19th. A dinner party was given him by his immediate family, and a large, lighted birthday cake was ceremoniously brought in by his two small grandchildren, Anita and Betsy Luscombe. A reception was given him later in the afternoon by his numerous friends. The house was prettily decorated for the occasion, and filled with bouquets of flowers. He received many gifts, among which was a beautiful young mare, given by his wife and his son.

(Continued on Page 6)

**JUNGLE LABORATORY
DESCRIBED BY DR. FISH**

In spite of all superstitions to the contrary the evening of Friday, August the 13th, was a fortunate one for the laboratory workers and others who were privileged to hear a most interesting lecture given by Dr. H. D. Fish, professor of zoology at the University of Pittsburgh, entitled "Biology Students in British Guiana." The Laboratory of Tropical Biology has been operated during the summer of 1924, 1925 and 1926 at Kartabo, British Guiana, under the supervision of Dr. Fish and members of the staff.

The idea at Kartabo has been to provide opportunity and inspiration for students of tropical biology, and for this purpose it is unusually well situated, being located at the junction of the mighty Mazaruni and Cayuni rivers, in the heart of a tropical rain forest which stretches some 2000 miles to the south and west, probably the most extensive and little known jungle area in the world.

Very interesting colored lantern slides were shown of Georgetown, the capital of British Guiana, including the beautiful and diverse botanical gardens and the polyglot population made up principally of negroes and East Indians with a fair sprinkling of English, Portuguese, Chinese, and an occasional aboriginal red skin.

The audience was then conducted on a trip by steamer some 60 miles up the Essequibo river to the government penal colony from where a launch was taken to the laboratory three miles further on.

Views were then shown of the jungle trails, the tangle and mystery of the "great bush" itself, the streams, the Indians, their villages, their primitive method of preparing food, which were perfect in detail, and complete in story.

More than 100 slides of animals were shown including those of the only photographs ever taken of the fresh water Esse-

(Continued on Page 7)

**Plymouth Laboratory
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DR. C. F. A. PANTIN

The land of the Pilgrim Fathers sees today the greatest development of marine biology in America; the M. B. L. of Woods Hole. By an odd coincidence their old home at Plymouth in England now leads marine biology in the British Isles.

The desire for intellectual freedom which made the Pilgrims leave Devon was part of the spirit of Plymouth town, and it seemed to King Charles II that there was more of this spirit than was consistent with royal dignity. So to make sure that no unfortunate incidents should occur, the King, in 1666, built a citadel; a fine citadel on Plymouth Hoe, where Drake had played bowls. It commands a splendid view of the sound, a

sheet of water about two miles square surrounded on three sides by land, and to the south partly closed from the open sea by a large breakwater. And the old builders had so arranged matters that two great ramparts on the seaward side enclosed an ideal site for a marine laboratory. This was the site selected two hundred and twenty-two years later by the Marine Biological Association of the United Kingdom for the building of their laboratory.

The association draws its members mainly from the universities of Great Britain and from among those people who are interested on the applications of marine biology, particularly to fishery problems. The M. B. A. laboratory is supported partly by private benefactions, partly by subscriptions from members and partly by a government grant. Although it was founded at about the same time as the M. B. L., its growth has not been so rapid. But additions during the last few years have doubled former laboratory accommodation, which is now about equal to that of the old building of the M. B. L. Under the able direction of Dr. E. J. Allen, F. R. S., who has long been in charge, the laboratory is today a most active center of biological research.

The object of the M. B. A. laboratory is two-fold. On the one hand it provides accommodation for visiting biologists

(Continued on Page 3)

The Tide in the Hole

At the following hours the current in the Hole turns to run from Buzzards Bay to Vineyard Sound:

Aug. 28.....	9:26 P.M.
Aug. 29.....	10:25 P.M.
Aug. 30.....	11:25 P.M.
Aug. 31.....	
Sept. 1.....	12:29 A.M.
Sept. 2.....	1:29 A.M.
Sept. 3.....	2:25 A.M.
Sept. 4.....	3:15 A.M.
Sept. 5.....	3:57 A.M.
Sept. 6.....	4:39 A.M.
Sept. 7.....	5:12 A.M.
Sept. 8.....	6:00 A.M.
Sept. 9.....	6:28 A.M.
Sept. 11.....	7:14 A.M.
Sept. 11.....	7:49 A.M.
Sept. 12.....	8:26 A.M.
Sept. 13.....	9:14 A.M.
Sept. 14.....	9:58 A.M.
Sept. 15.....	10:41 A.M.

In each case the current changes six hours later and runs from the Sound to the Bay.

THE BABY REVOLUTION

(The following skit was written apropos of the recent events on the bathing beach during which it was revealed for the first time to certain members of the laboratory that the exposure of infants to the direct rays of the sun is considered to have a pernicious influence on adult minds. It is based on actual occurrences in which laboratory members, the police department, a Catholic priest and natives of Wood's Hole took part.)

Scene: A stretch of sandy beach at Woods Hole, Mass.

Time: July 28, 1926.

Characters: Wild Wives; Sensible Husbands; Nice Nurses; A Lot of Babies; The Chief of Police; a Quahaug Digger.

As the curtain goes up, confusion and lack of order seem to be main motif. The babies insist on crawling away from their mothers and burrowing in the sand. For this reason a quahaug digger (sometimes called clam-digger) has been selected as stage director. He leisurely (he's a native) digs out the babies and tosses them back to the Wild Wives. Due to his efforts we can see that there are two groups on the sand, which can be roughly classified as the Overdressed Babies and their keepers and the Underdressed Babies and their mothers. The former seem puny and listless; the latter sturdy, tanned, and extremely active. The Sensible Husbands are at the time working in the Laboratory or golfing. The Chief of Police can be seen now and then peering out from behind a beach-plum tree.

First Wild Wife: My husband is a specialist on the therapeutic value of sun's rays on the human body. He says the rays do more good than all the pink pills Lydia Pinkham ever thought about. My boy Hank has never been sick a day in his life, and he gets a long sun-bath every day.

Second Wild Wife: I cured my little Jack of a bad attack of eczema by sun baths. Let's take their suits off, so they can enjoy the sun and salt water the way Nature intended them to!

Chorus of W. Ws.: Let's.

Process of undressing is rapid, and half a dozen brown bodies sprawl in the white sand or splash gleefully in the waves.

Naked Babies:

A revolt we will stage on the sand,
Our rights to be free we demand,

Like Eden's first pair
No clothes will we wear,
Though we're breaking the Law
of the Land.

Overdressed Babies:

We're all dressed up all the live-long day

With stiff white suits and hair in bows,

We can't have any fun this way
O Nurse! Can we take off our clothes?

Nice Nurses: Horace! Percival! Come away! Don't look at those children! Their mothers have no shame for their sex.

Overdressed Babies: What's shame? What's sex? They can play a lot better without any clothes on.

Chief of Police: Come in here, you, who do you think you are, Earl Carroll? Put some clothes on them kids, or I'll have you up for moral turp.

Wild Wives: What harm does it do? Who's the complainant?

Chief of Police: Father John, a priest up the line. He's afraid for your morals.

Wild Wives: More likely for his medicine. Here come our husbands, they'll back us up, and we'll take it to court.

Sensible Husbands: O dears, of course it's much healthier for the kids to be without clothes; and they like it a lot better; and we haven't any objection ourselves, but—

Naked Babes: Daddy! What's the matter with our bodies? Why can't we go without clothes?

Sensible Husbands: Well, you see, children, some of you are boys, and some of you are girls, and your bodies are different. That is, well—er—boys and girls shouldn't play together naked. The sexes shouldn't see each other naked. Put on your clothes.

Naked Babes: Oh, we know now what sex and shame are.

Their frank and unashamed glances turn furtive and abashed; they turn their backs on one another and without taking the time to put clothes on, burrow rapidly out of sight in the sand. The Wives and Husbands call loudly for the Stage Director to dig them out; but as he belongs to the Quahaug Diggers' Union, he has quit at five o'clock. Curtain.

John Copeland

NOTES

The Honorable William M. Butler, United States Senator from Massachusetts, has made two visits to Woods Hole during the past two weeks. His motor yacht, *Akbar*, excited no little comment as it lay moored to the *Cayadetta* dock last Sunday evening.

Dr. Fred Stewart, Assistant in Bacteriology at the Rockefeller Institute, has been visiting in Woods Hole for the past week.

Mr. Harold L. Weatherford

of the Harvard Medical School Department of Anatomy is spending a two-week period here.

Dr. C. P. Rhoades and Dr. Percy Davidson, of the Boston City Hospital Laboratory spent the week end here.

The Palo Company, which has been giving an exhibition of scientific apparatus in the Old Lecture Hall during the past week, has lost a pair of Busch Prism Binoculars (8x Ultralux Model). Mr. Ball who was in charge of the exhibit will be grateful if any information concerning them can be given to Mr. McNaught.

The *Commonwealth*, one of the regular steamers of the Fall River Line was towed to Newport on Saturday due to a slight crack which appeared in its crank shaft. It will probably not be back on duty until Labor Day.

Dr. and Mrs. R. P. Cowles and their two daughters of Baltimore are spending a few weeks at Woods Hole. Dr. Cowles is associate Professor of Zoology at Johns Hopkins University, and is working at the Laboratory here.

Dr. L. L. Woodruff, Professor of Protozoology at Yale University will take charge of the Protozoology course at the Marine Biological Laboratory for the season of 1927. He succeeds Dr. Calkins during the absence of the latter in Europe.

Jack Fogg left Woods Hole on Tuesday to join a Botanical exploring expedition to Newfoundland. Dr. M. L. Fernald, Professor of Botany at Harvard University, heads the expedition. The third member of the party is Bayard Long of the Philadelphia Academy of Sciences.

Oak Bluffs was the scene of a series of ten raids conducted almost simultaneously by Prohibition Officials, on Saturday evening shortly before seven. Eight persons were taken into custody and fifty thousand dollars of alcoholic fluid was confiscated. Several members of our coast guard station here assisted in the foray on the illicit liquor dealers.

The *Sunday Standard* of Aug. 22 devotes a page and a half to an illustrated account of the work of Dr. and Madam Paul S. Galtsoff, who are studying various phases of the oyster problem: It features photographs of Dr. and Madam Galtsoff, and an attractive picture showing the Bureau of Fisheries Wharves with Crane's wharf and Juniper Point in the background.

THE JUNGLES OF
BRITISH GUIANA

V-Wake far trailing, off southward
we're sailing

Toward the Carribean Sea.
Sky opal-bright with white tropical
light.

Water rich blue that is deep—dark as
night.

Thunder heads stately; great bundles
of fleece,
Tinted with rose-pink and shaded
cerise.

Lightning and rain in our lea!

Water-soaked rot-blackened, wabbling
stump,

Olive-green, storm-scattered
weed.

Waves dimple-checked and with
bright silver flecked.

"Bone-in-our-teeth" that is rainbow
bedecked.

Double arched spectra through gray
shower mist;

Reds, yellows, greens, backed by dull
amethyst,

Glow, shift and mount, fade,
recede.

Gliding o'er, sliding o'er, riding o'er
swells,

Gently come, silently gone!

Dipping and slipping and gracefully
tipping.

Cables slow swinging or tarpaulin
whipping!

Washing and swashing waves, never
at rest;

Choppy waves, sloppy waves breaking
a crest!

Steadily, readily on!

Darkness and cascades of phosphorous
light;

Life-flares in waters that leap!

Yellow-blue fire-balls in gray foam
of night!

Bowings and flowings and glowings
so bright!

Flurrying, hurrying, scurrying flight,
Whirling and swirling and furling
from sight!

Passions aflame in the deep.

Pelican perched on a slow floating
log!

Gulls craning necks o'er our
stern.

Dolphins, abreast of the bow-wave's
swift crest,

Rolling and turning and jumping
with zest!

Flying-fish slith'ring up, flittering
tail,

Long fins far stretching, skimming,
sail

Gracefully banking a turn!

West point of Cuba! Pigeons in flocks
Fast winging toward Yucatan.

Fin of a shark like a scimitar dark!

Small school of whales that are out
for a lark!

Smoke-trail far South and a slow-
moving "tanker,"

Speedy white "Fruit boat!" A breeze
that's a spanker!

Tan stinging skin that is wan.
H. D. F.

Dr. Milton Fairchild, distinguished educator, arrived in Woods Hole on August 22. Dr. Fairchild is author of many books in the fields of the Character Education and has been chairman of the Character Education Institution of Washington, D. C. since 1911. He is touring, taking an automobile trip to inspect the research institutions of the country, and plans to remain with us for about a week.

The Plymouth Laboratory

(Continued from Page 1)

who wish to do research there. This side of its activities is quite parallel to the M. B. L. On the other hand, the association maintains a staff of about twelve research workers who remain permanently at the laboratory. This enables many marine problems to be attacked which can only be studied effectively if observations are made continually over long stretches of time; such, for example, as the study of seasonal variations in the plankton.

Problems of strict industrial applications are already investigated at various laboratories of the government. The association has therefore taken the wise course of encouraging the staff to pursue investigations of fundamental significance rather than those of immediate applicability. The field covered by these investigations is very wide and can only be described briefly. They include: factors influencing the growth of diatoms, Dr. E. J. Allen; bionomics and pathology of the oyster, Dr. J. H. Orton; seasonal changes in phosphates, silicates and nitrates of seawater which prove to be limiting factors for diatom growth and hence control the whole marine food supply, Dr. W. R. G. Atkins and W. H. Harvey; quantitative plankton distribution, F. S. Russell. Feeding habits of planktonic animals—each animal eats another animal until finally the last animal eats diatoms, which, being vastly in the majority have as usual to put up with it—Dr. M. V. Lebour. Animal communities on the sea floor, O. D. Hunt. The genetics of *Gammarus*—quite a marine *Drosophila*—Mrs. E. W. Sexton; herring migrations, E. Ford; gametogenesis in mollusca, F. Palmer; biochemistry of fish livers, H. O. Bull; comparative physiology of digestion in invertebrates, C. M. Yonge; cell physiology, particularly amoeboid movement, C. F. A. Pantin. The majority of this work is published in the "Journal of the Marine Biological Association."

This big range of work has made a good library covering almost every branch of biology and chemistry a vital necessity. It is also important in another way. A visiting investigator can always find someone who is able to give him detailed information as to suitable organisms that are available for work in any field.

This brings us back to laboratory accommodations for visiting investigators. There is available accommodation for some forty workers besides the permanent staff, rooms or tables being obtained simply by appli-

cation to the director. This side of the laboratory's activities is assuming an ever increasing importance, for, as with the M. B. L., the number of visiting investigators increases rapidly every year. The increase is largely due to the formation of a department for general physiology and experimental biology with quite adequate means for the purchase and upkeep of all the necessary apparatus which such a department demands. The department was only formed since the war, but it now accounts for fifty per cent of the research undertaken by visitors at the station.

Material is collected partly on the shore. The seventeen foot tide gives a fine exposure for this, and during the student courses it gives rise to a series of highly romantic maroonings. The majority of the material is collected by boat. The laboratory owns a trawler, the S. S. "Salpa", about the size of the *Halcyon*, also a large motor boat and a sailing boat for work within the sound. The boats are well fitted with the usual gear, including otter trawls, dredges, nets, and such strange apparatus as is from time to time invented by the younger members of the staff.

The fauna is certainly the richest in England. Apart from the general Atlantic coastal fauna, many Arctic forms reach down to Devonshire by way of the Irish and North Seas; and Plymouth is sufficiently far south to come within the range of some forms properly belonging to the Mediterranean region. Compared with Woods Hole the Plymouth fauna is very interesting, for it is in many ways complementary. *Limulus*, alas! is not with us. (*Amphioxus* is the ancestor of the true Briton). But in place of *Limulus* there are two very large crabs (*cancer edulis* and *Maia squinado*) which grow to nearly a foot across, and besides the common lobster there is the Rock Lobster (*Palinurus*). In the same way *Arbacia* and the sand dollar are replaced by *Echinus* (*E. esculentus* and *E. miliaris*) and the Heart urchins (*Echinocardium* and *Spatangus*). In passing it may be said that one member of the staff has undertaken the noble task of eating everything specifically entitled "edulis" and "esculentus." So far he is doing as well as can be expected, though he fears that the modern rapid changes in zoological nomenclature may convert an "edulis" into an "emeticus" in the very act of deglutition.

The collecting grounds themselves are very varied. Within a radius of a few miles are sand, gravel, mud, and rocky shores of both limestone and igneous rocks.

The season is different at Plymouth from that at Woods Hole. The resident workers keep the laboratory open the whole year, an arrangement rendered possible by the very mild winters of Devonshire. The fauna is at its best at two distinct periods: (1) March to June and (2) the end of August to the beginning of October. Many visitors come at these times and courses are run for students, one in March in general marine biology, and one in September, an advanced course in comparative physiology. The classes are, however, much smaller than those of the M. B. L.

Although the M. B. A. laboratory has still far to go to reach the size of the M. B. L., yet both fulfill a similar function—they both serve as clearing houses for active biological research, and each one draws investigators not merely from one institution alone but from all over their respective countries. A visit to Woods Hole brings one in contact with almost every aspect of American biology, far more so than would a visit to any other single institution. Plymouth may now be said to have taken up a similar position with respect to Great Britain.

There could be no better point of contact between American and British biologists than that which might be provided by a free interchange of investigators between the two laboratories. Not only does a visiting investigator find himself stimulated by seeing fresh types and new methods, but he gains by meeting representatives from all over the country an intimacy with his biological cousins that gives him an invaluable key wherever he may choose to go subsequently.

And it is just as easy to disembark at Plymouth and then go on to London a day, a week, a month, or even a year later—you can not outstay your welcome.

Dr. Cobb Talks On Importance of Nema Study

Nematodes and the lack of scientific interest in them was the subject of an informal lecture last Thursday evening in the smoking room of the Fish Commission residence by Dr. N. A. Cobb of the U. S. Department of Agriculture. Dr. Cobb deplored the fact that nematology with its valuable opportunities for experimentation is so neglected by scientists, declaring that the destruction to plants and the diseases to humans which nematodes cause although little is yet known about this second evil, are a great incentive to study.

An interested audience of about twenty-five attended the lecture. Dr. Cobb illustrated his words with skillfully prepared colored slides and blackboard sketches. At the close of the address he invited the comments and questions of zoologists in an open forum, in the course of which it was suggested that the general lack of interest in nematology might be accounted for by the ignorance among students of the proper use of the microscope and of invertebrate zoology in general.

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The Collecting Net

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The M. B. L. Club

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- J. M. Fogg *Sports*

Research In Biology

"The Collecting Net" started in life with a definite purpose. It wants to report facts and news of interest, to forward scientific research, and it wants to foster and encourage that indefinable "something" which for want of a better name is sometime called the "spirit of the laboratory". The atmosphere of research, informality and goodwill here is unique and precious. It is as much a part of the institution as are the buildings and equipment on the grounds of the laboratory. It is the essence of the laboratory, and if the latter has a soul, this "something" is it! Our little weekly dedicates itself to the forwarding the objects of the Marine Biological Laboratory.

To be associated with the Marine Biological Laboratory is a privilege, an honor and a definite responsibility. There is no place on earth where so many fine people gather—united by the common purpose of forwarding research in the biological sciences—to understanding the living organism and its behavior in all its aspects and phases. It is a worthy aim, and the joy and intense satisfaction of wresting from Nature its carefully guarded secrets can be appreciated only by those who are actually engaged in research. To us it seems that one has not known life to its full extent until he has struggled for months with an intricate problem of biology, gradually illuminating points that were before in total darkness. Greater is the joy than the successful culmination of business propositions to a business man; greater than that sensed by the architect on seeing before him his dreams and plans as a permanent monument in brick and mortar.

Those of us who have been

working here for any length of time fall under its influence and become devoted to the laboratory and its work. Memories of one summer spent within its walls will last a lifetime; and without exception those who have had the privilege wish to return again—not only once but season after season—and each year one's affection for Wood's Hole and the laboratory increases by leaps and bounds. It knows no limit!

The Marine Biological Laboratory is implanted on firm foundations with assets totaling more than two million dollars. It is quite time that the question of awarding research scholarships to promising students and beginning investigators was taken under consideration; and to this end *The Collecting Net* is going to undertake a campaign to raise money for a Research Scholarship Fund which will be initiated at the beginning of the season in 1927. After a careful study of the financial situation we are convinced that we can meet our publication expenses next summer by charging five cents a copy for our little bulletin. But we shall maintain our present charge of ten cents; and half of the proceeds from the sale of copies will be turned over to the proposed Scholarship Fund.

Even if no external aid was volunteered a sizable sum could be accumulated before the end of the season. But the laboratory has many friends and we firmly believe that they would consider it a privilege to forward scientific work in such a striking manner.

On another page Dr. Pantin, who is the resident staff member in physiology at the Plymouth laboratory, points out the possibilities of making an arrangement whereby there might be a free interchange of investigators between the Marine Biological Laboratory Association at Plymouth, England, and our own laboratory. The question of funds may at first seem to present a formidable barrier, but probably we can provide money to pay the traveling expenses of our investigators who would be selected to go to Plymouth. It is hoped that funds can be obtained in England to enable the Plymouth laboratory to likewise completely reimburse its representatives to our institution.

Such an arrangement would do much toward promoting biological research and do its bit toward fostering international good will; and it would directly benefit both laboratories concerned in innumerable ways. The plan is a worthy one and it deserves the hearty support of all who are interested in forwarding biological research.

Science and Music

From the standpoint of one interested in biological Woods Hole any evidence that non-biologists are settling here in increasing numbers is welcome. It will contribute to preserving influences which will help the workers.

By the greatest good fortune the laboratory people seem to have now acquired sufficient land and to have agreed on a simplicity of social attitude which will inhibit undesirable diversions.

A number of cultivated people have been attracted by this, and those are welcomed who desire to contribute to a free enjoyment of the true university atmosphere of the place. Biologists are glad to discover, near by, students of philosophy, engineering, or medical specialties. College presidents, political economists, publishers, journalists, artists, musicians: all seem to belong. Even some others, non-professionals and owners of large places become interested in the laboratory and actually win a high place in the esteem of the biologists by their sincere efforts to help in some way.

We all recognize the sympathetic understanding of one philanthropist who has become one of us. He expressed it not only by generous benefactions which have induced others to support the work of the laboratory, but by joining in, through personal acts which should maintain the fine old spirit of the place. From time to time, he has shared with us works of art and music which he brought here for our mutual enjoyment and stimulus. It was a wonderful experience to hear the Russian Choir on the lawn, with its interpretation of old Russia and the character of a great people. The whole community profited immensely by the way this was done.

Music furnishes common ground, where all of this diverse community may meet and join in mutual appreciation of aspects of the imagination and of thought which in some manner are sure to touch each special interest, and may serve as effective stimuli to higher achievement in science.

These thoughts are called forth by Mrs. Murray Crane's musical of last week. Here was a most sincere effort. The audience showed deep appreciation of the work of Miss Nancy Wilson and Miss Hubner, who played with such authority and skill as to achieve the highest praise. Theme and accompaniment sang true and beautiful, as is only possible at the hands of trained professionals. The program was grouped with a historical

motive and Mrs. Crane's brief and excellent talk, with explanations and discussion, was a very happy idea.

Such groups have gathered before in Woods Hole, though perhaps seldom with such definite purpose to further the study as well as the enjoyment of music. Here were real artists holding up to us intellectual ideals and practical accomplishment in a field fundamentally related to our own work.

Such examples of constructive imagination help us.

It is certainly to be hoped that these chamber-music assemblies shall be continued in our free hours. And what a great thing it would be should this lead further to the development of music for the community, in some way similar to the great example set by the Russian Choir.

H. McE. K.

Inadvertently the following name was omitted from the "Directory for 1926":

Corey, H. Irene, res. asst. to Dr. McClung, Pennsylvania, Br. 219.

To the Editor of the Collecting Net:

At the wonderful centre that has gradually been built up here at Woods Hole, one has the privilege of listening to a large number of the most brilliant lights of the many institutions scattered throughout these United States. One cannot but glory in the fact that our places of learning possess so many men of high scientific attainment, of so high an order of individual integrity and not least, so noble a capacity for making material sacrifices in the cause of Intellectual Progress.

But, alas, other, less agreeable reflections are aroused. Wonder at the almost universal ignoring of the first principles of Art to which these men have presumably dedicated their lives. These men are students of science. True. There are, granted, a few who devote their lives to investigation and research. But the great majority surely are drawing their salaries as teachers of Youth; yet they seem to have taken no thought whatever of making themselves audible to their audience. Few of these men but would laugh at the most learned scientist who could not present the results of his labors in clear cogent English (or some other language!) All will be inclined to agree, I fancy, with Harvey Robinson's belief that a lack of clarity in expression is at bottom only a lack of clarity in thought. Yet, frequently, to their students they are worse than obscure. They are unheard.

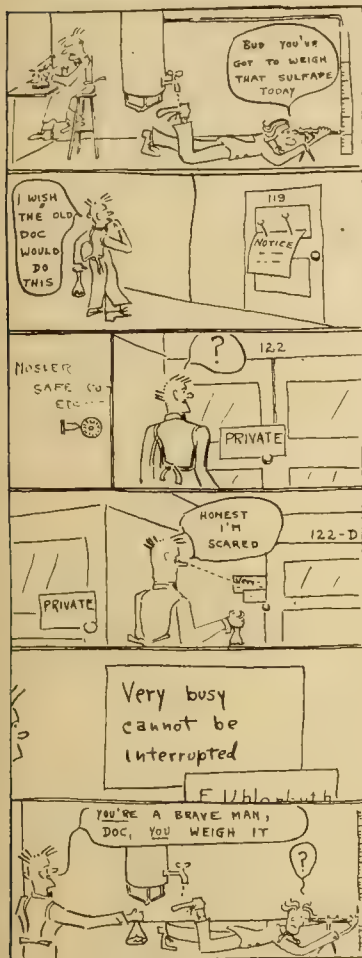
There is probably not one of those gentlemen who would be guilty of publishing a text-book printed on cheap paper and printed in execrable type. Yet almost all of them are willing to set forth the results of their research in verbal dress that to my way of thinking, is even less excusable. As a Trustee of a College, I am appalled at the almost general cold-shouldering of the art of making one's self heard and understood in the lecture room. It is not possible to cast all the blame upon the architects' shoulders. There are too many teachers whom it is difficult to understand across the dining room table!

A. Nathan Meyer.

THE SEA URCHIN

IT PRICKS WITHOUT DISCRIMINATION

That Weighty Problem



We were shocked beyond measure last Sunday morning when an exhaustive search failed to reveal that classic book on evolution—the Holy Bible—in what is supposed to be one of the finest libraries of its kind in the world. The situation was untenable. It could not be allowed to stand.

Fortunately the Trustees of the laboratory saw fit to severely censor the Librarian at a special meeting on Tuesday afternoon called for that purpose. The Editorial Staff wish to commend the Trustees for their prompt and efficient action in relieving the situation.

The *Cayadetta* is docked at the Fish Commission Wharf for repairs. It seems to have withstood successfully all the various collecting trips and course picnics of the summer. A sad blow was dealt, it appears, by the rigors of the Investigators' Picnic of last week.

A petition signed by the two individuals concerned accounted for the repetition in our last issue of a note in this column which had appeared a week previously!!

In September the moon is full at 3:19 P. M. on the twenty-first of the month. This piece of information is given for the Ne-reis-collectors and for others who may be concerned.

We have been asked whether "Calvinism" is a conservative doctrine. This question seems to be open to debate? Can our readers help us?

The most important matter that came up for consideration at the meeting of the laboratory Committee on Policy at its evening session was the question of the lettering to be used in inscribing the words "Thou shalt not weigh" on the walls of the lobby of the new building.

FISHES OF THE DEEP SEA

It was from specimens of fish taken from the North Atlantic that evidence has been found showing that fishes of the deep sea had anatomical structure and organization specially adapted for these physical conditions. The agreement among these fishes was that their connective tissue was so weak that it would yield and break under the slightest pressure, thereby causing great difficulty in preserving their bodies. Another characteristic was that some of the specimens were picked up floating on the surface of the water, having met their deaths while engaged in digesting or swallowing fish not much inferior or even superior in size to themselves.

The first peculiarity was accounted for by the fact that if those fishes really inhabited the great depths supposed, their removal from the enormous pressure under which they lived would be accompanied by such and expansion of the gases within their tissues as to rupture them and to cause a separation of the parts which had been held together by the pressure. The second circumstance is explained by the fact that a fish organized to live at a depth of between 500 and 800 fathoms seizes another fish usually inhabiting a depth of between 300 and 500 fathoms. The latter fish struggles to escape and carries the attacking fish out of its depth into a higher stratum, where the diminished pressure causes such an expansion of gases as to make the destroyer with its victim rise with increasing rapidity towards the surface, which they reach in dead or dying condition. Specimens in this condition are often

found and therefore occurrences of the kind must happen very often.

Deep-sea fishes are not limited in their range, consequently, physical conditions of the depths of the ocean must be the same or nearly the same all over the globe. The deep-sea fishes are not of a peculiar order, but chiefly modified forms of surface types. Nothing was known of the exact depths inhabited by those fishes until observations were made during the voyage of H. M. S. "Challenger". These results showed that deep-sea fishes inhabited the strata from 200 fathoms, as the *Melamphaes*, to 2650 fathoms, as the *Coryphaenoides filicauda*.

Dr. Charles P. Tibus, who is director of the newly formed School of Microscopy in New York, is visiting Woods Hole.

Lecture Given by Miss Jeffers

The lecture of "A Mediterranean Cruise" by Miss Mary Jeffers, last Thursday evening, was appreciated by a large audience. Miss Jeffers lectures with ease and her ready wit enlivens a wide experience as a linguist and archeologist in Europe.

Many valuable pictures all taken personally were made into lantern slides and colored by Dr. Peebles, who has been Miss Jeffers' companion abroad for many trips.

Tuesday evening Aug. 24th, at 8 o'clock, in the M. B. L. lecture hall, Miss Jeffers lectures on "Romola"—this is followed on the evening of the 31st by the last lecture on Paris.

It is a welcome addition to the life of Woods Hole to have lectures of this unusual type.

L. B. J.

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TOWN TOPICS

(Continued from Page 1)

The recent death of Madison Edwards, chaplain of Seaman's Bethel at Vineyard Haven, has caused much grief among those who knew him here. He was born in Woods Hole, and observed his 74th birthday on August 13th. For half a century, wherever New England ships have sailed, he has been well known and greatly loved, and he has spent 33 years of devoted service to sailors.

He was at the Boston Seaman's Friend Society for a few years, and then instituted a Seaman's Bethel at Tarpaulin Cove, where he remained in charge for five years. He went to Vineyard Haven in 1893, and passed away at his home there on August 15th. He was the son of Capt. Ben and Mary L. Edwards. His father was the first buoy setter on the New England coast. He is survived by his wife, two daughters and a son. His daughter Mrs. Austin Tower is assistant chaplain of the Bethel. His other daughter is Miss Mary Edwards of Boothbay, Me., and his son Howard Edwards of Oak Bluffs.

Dr. and Mrs. P. W. Whiting of Orono, Maine have just returned to Woods Hole. Dr. Whiting, head of the Department of Biology at the University of Maine, and his wife, who also has her Ph. D. are carrying out research in genetics there.

Prof. J. M. Bronsted, from the Polytechnic Institute of Copenhagen, Denmark, has been lecturing on Chemistry at Columbia University during the last week, and has just arrived in Woods Hole for a short vacation.

Mr. George A. Plimpton, the well-known publisher is visiting Woods Hole. He has been connected with Ginn & Co. since 1882, and is at the present time trustee of Amherst College. Dr. Plimpton has the largest collection of text books from the earliest date of printing, and medieval manuscripts of an educational character, in the world. Some time ago he donated a library of first editions of nearly every Italian writer along with the original manuscripts to Wellesley College.

Dr. David H. Tennent, formerly on the Embryology Investigation staff of the Laboratory and at present professor of Biology at Bryn Mawr College, has recently returned to Woods Hole. Douglass M. Whitaker a graduate student at Stanford University is working with Dr. Tennent. Both have just returned

from The Tortugas where they have spent the summer working.

Dr. Halsey, professor of Bacteriology at Tulane Medical School, is spending the summer with his family in the Warren cottage. Ethel, his oldest daughter, is a reporter for the Associated Press and left last Sunday evening for New York. Miss Noel Halsey, his other daughter, has been selling Chrysler cars this summer at Woods Hole.

The Juniper Point Players will present an entertaining program on Tuesday evening, consisting of three short plays, at the Laboratory Auditorium on Monday, August 30, at 8:30 P. M.

A Woods Hole choral society is being organized under the direction of Mr. Gorokhoff, professor of music at Smith College. The first meeting was held at the M. B. L. Club on August 24, at which Dr. Edwin Linton was elected president.

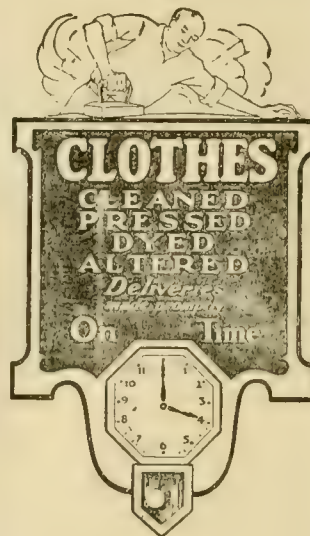
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 Juniper Point Players present
 Eugene O'Neil's "Bound East
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 Young's "The Twilight Saint."
 M. B. L. Auditorium, Woods
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- The Boyce Thompson Institute for Plant Research. Professor John M. Coulter.
- Parrots At Home. Dr. Alexander Wetmore.
- Hunting Bighorn With a Camera. Dr. Vernon Kellogg.
- The Progress of Public Health In China. Dr. Reginald M. Atwater.
- Politics and the Public Health. James A. Tobey.
- Excursions In Experimental Psychology. Professor Raymond Dodge.
- The Birth of Modern Science. John K. Robertson.
- The Friendship of Two Old-Time Naturalists. J. S. Wade.
- Geologic Romance of the Finger Lakes. Professor Herman L. Fairchild.
- Radio Talks On Science: The Planet Mars, James Stokley; How Plants Behave When Diseased, Professor B. M. Duggar.
- The Peculiarities of the Sensation of Cold. Professor D. Fraser Harris.
- The Progress of Science: Electric Farming; A Queer Kettle; Professor Lucien Gallois; Variation of the Sun's Heat.

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JUNGLE LABORATORY

(Continued from Page 1)

quibo dolphin and a line giant or 15 banded armadillo. The pictures of peripatus, giant tree snails, fresh water sting rays, tree frogs of startling color and Hoatzins were of special interest.

A slight shudder went through the audience when Dr. Fish showed slides of the Red Howler monkey and the iguana, relating the while their place on the menu of the laboratory workers. The writer, however, can personally attest their palatability, especially when served a la Kartabo.

Dr. Fish was anxious to compare the biological opportunities elsewhere in British Guiana with those at Kartabo and made use of a canvas covered canoe to go 225 miles into the interior ultimately reaching Kaieteur Falls on the Potaro River. Here a stream some 400 feet wide and 20 feet deep drops perpendicularly 741 feet (five times as high as Niagara) into a gorge which extends down stream some 50 miles between parapets 1200 feet high.

Above these falls there are small savannah-like open spaces in the midst of the rain forest. The smaller trees and shrubs bring the flowers and consequently the insects of the tree-tops down to the ground where they can be studied in a way which is impossible in the deep jungle for there one sees few flowers on the ground.

Dr. Fish related the excellence of health conditions in that part of the colony and one can easily imagine the enthusiasm of any worker when it is possible, as happened in one instance, to collect 100 species of lepidoptera in four hours, many of them undescribed.

M. C. K.

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MANY WORKERS LEAVE

The following people have been eating at the Mess and have left town since last Saturday:

Mary Ballard, W. C. D. Bewick, Dr. W. C. Bullington, Virginia Burke, Miss E. L. Burritt, L. H. Button, Jack Cattell, Sally Chostney, Mrs. J. R. Christie, L. B. Clark, Elsie Cline, L. J. Cole, Mrs. N. C. Curtis, W. Duryee, Helen Dyer, Mr. and Mrs. H. T. Folger, G. M. Franke, E. Gabritshevsky, M a d e l i n e Geanb, Mr. and Mrs. R. P. Hance, Mabel Hedge, Mr. Kline, E. Mentz, Eleanor Mitchell, William H. Mitchell, Mrs. H. Neubauer, N. Norodin, Mark Potter, F. N. Ratcliffe, Dr. Richter, Miss Richter, Bessie G. Roche, C. G. Rogers, Edith Showers, Adair Sohst, Evelyn Sohst, Mrs. and Mr. R. C. Sohst, Curt Stern, F. W. Stewart, Edith Stiffler, N. W. Stiffler, A. H. Sturtevant, Margaret Sumwald, G. W. Thomas, Edna Vreeland, Marion P. Watson, E. W. Grace White.

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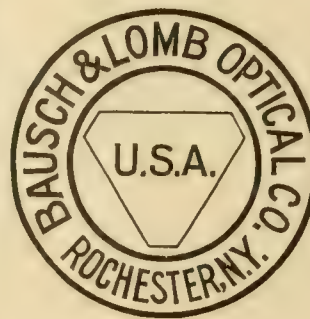
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To The Investigators of The Marine Biological Laboratory:

As you no doubt know, we recently exhibited some of our apparatus at Woods Hole. Perhaps you were one of the very busy people who were unable to attend the exhibit, or perhaps you were not able to examine some of our apparatus as carefully as you would have liked.

We announced and exhibited for the first time an entirely new line of apochromatic objectives. We are very proud of these objectives and justly so. Several authorities have pronounced them to be "at least the equal of any objectives I have ever examined".

We are offering the following apochromatic objectives:

Cat. No.	Focus	Num. Aperture	Price
150	16 mm.	0.30	\$26.00
152	8 mm.	0.60	39.00
154	4 mm.	0.95	52.00
156	3 mm.	0.95	56.00
158	2 mm.	1.30	69.00
159	2 mm.	1.40	100.00
160	1.5 mm.	1.30	90.00
161	3 mm.	1.30	69.00
162	3 mm.	1.40	100.00

We also are offering a 3 mm. water immersion achromatic objective with a numerical aperture of 1.10. This is an exceptionally well corrected objective of unusual brilliance. The price is \$30.00.

Our new Rotary Microtome No. 815 attracted considerable attention. This microtome is patterned after our No. 820 precision rotary microtome, which has been the standard for so many years. This new microtome will consistently cut sections from 2 to 40 microns in thickness in multiples of 2 microns. The price, \$175.00.

The new combination binocular-monocular body, the universal binocular microscope with its great range of magnification and unequalled stereoscopic vision, the new fork type substage and many other older standard instruments received their full share of attention.

We will be very pleased to send literature describing any of our various products, or if you desire we will be glad to send our products themselves on approval, in order that you may have an opportunity to thoroly test them.

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MOTOR REGULATIONS

The following information is given for the benefit of workers from other states, planning to bring automobiles to Woods Hole for the next season:

Persons keeping cars in the Commonwealth of Massachusetts for periods of less than thirty days will not require licenses either for the machine or operator, provided that they are registered in a state granting similar privileges to Massachusetts cars. Persons staying over this period must secure both types of license.

Beginning January first next no motor vehicle can be registered in Massachusetts without submitting proof of liability security with the application. Three types of security are recognized as adequate, (1) the ordinary Liability Insurance Policy with at least ten thousand dollar limit, (2) a surety Bond in the sum of ten thousand dollars or (3) a deposit of five thousand dollars in cash or securities with the Division of Highways. It is specified that the Insurance or Bonding Companies must be authorized to do business in Massachusetts to be acceptable. Under the amended Act judgment may be taken against the owner of a car so registered for all damages incurred by anyone operating the car with his "expressed or implied consent", as well as when he himself is operating.

KAIETEUR

Amber torrents pouring, diving,—
Snow-white fern-tips sinking,
dropping,
Falling, shooting, pounding,
bounding,
Roaring, spraying, spreading,
floating!

Swirling mist-clouds darting, leaping,
Hazy vapours cloaking, drenching,
Lifting, rising, soaring, drifting,
Cleaning, cooling, thinning,
clearing!

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BOOKS MISSING FROM LIBRARY

The following books have been lost from the library during the summer. The librarian would be grateful if they could be located.

(1) Michaelis, Leonor: Practical Physical and Colloidal Chemistry. 540 M 58.

(2) McClendon and Medes: Physical Chemistry in Biology and Medicine. 540 M C 132.

(3) Carnegie Inst. Publication No. 327. Bridges and Morgan.

On August 20th the coast guard Base 291 went to the rescue of a yacht which had run on Great Ledge. The yacht was the *Halcyon II.*, belonging to Geo. L. DeBlois of Marblehead. She was headed for Nantucket, carrying five passengers, and ran into the ledge under full sail. The Base pulled her off after 20 minutes work and towed her into the harbor where she anchored. No damage was done.

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NOTICE

Copy could not be obtained before going to press. The schedule for which this space was reserved will be found posted at the Mess and at the Main Bulletin Board in the Brick Building.

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