I have tried to bring before you the possibilities of causal morphology partly because the same attention has never been given to it in this country as to other branches of botany, and partly because if morphology be conceived in this broader spirit it need not be said that it has no practical bearing. I should not regard it as a serious disability were the study of purely scientific interest only, but this is not the case. When, if ever, we penetrate into the secrets of organization so far as to be able to modify the organism at will (and genetics has advanced in this direction), the practical possibilities become incalculable.

Probably all of us have reflected on what changes the war may bring to botanical work. It is impossible to forecast this, but I should like to emphasize what my predecessor said in his address last year as to pure science being the root from which applied science must spring. Though results may seem far off, we must not slacken, but redouble our efforts towards the solution of the fundamental problems of the organism. This can be done without any antagonism between pure and applied botany; indeed, there is every advantage in conducting investigations on plants of economic importance. It would be well if every botanist made himself really familiar with some limited portion of applied botany, so as to be able to give useful assistance and advice at need. The stimulus to investigation would amply repay the time required. Even in continuing to devote ourselves to pure botany we can not afford to waste time and energy in purposeless work. It is written in "Alice in Wonderland" that "no wise fish goes anywhere without a porpoise," and this might hang as a text in every research laboratory.

A plant is a very mysterious and wonderful thing, and our business as botanists is to try to understand and explain it as a whole and to avoid being bound by any conventional views of the moment. We have to think of the plant as at once a physico-chemical mechanism and as a living being; to avoid either treating it as something essentially different from non-living matter or forcibly explaining it by the physics and chemistry of to-day. It is an advantage of the study of causal morphology that it requires us to keep the line between these two crudities, a line that may some day lead us to a causal explanation of the developing plant and the beginnings of a single science of botany.

W. H. LANG

UNIVERSITY OF MANCHESTER

## *WHICH OF THE PRESENT MEMBERS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE HAVE HELD THE LONGEST CONTINUOUS MEMBERSHIP?*

THIS is a question which often comes up at the meetings and several of the old-time members occasionally claim to be the oldest living member.

Mr. F. S. Hazard, the assistant secretary of the association, in going over the list of members, has drawn up the following statement concerning the members now living:

*Hilgard, Eugene Woldemar, Ph.D., LL.D., University of California, Berkeley, Calif. (11.) 1874. B, C, E.

*Würtele, Rev. Louis Campbell, P. O. Drawer E, Acton Vale, Quebec, Canada. (11.) 1875. E, H.

*Paine, Cyrus Fay, 520 East Avenue, Rochester, N. Y. (12.) 1874. A, B.

*Fairbanks, Rev. Henry, Ph.D., St. Johnsbury, Vt. (14.) 1874. A, B, D.

*Wright, Arthur Williams, Ph.D., Yale University, New Haven, Conn. (14.) 1874. A, B.

*Raymond, Rossiter W., Ph.D., LL.D., 29 West 39th St., New York, N. Y. (15.) 1875. B, C, D, E, I, K.

*Abbe, Cleveland, Ph.D., LL.D., U. S. Weather Bureau, Washington, D. C. (16.) 1874. A, B.

*Beal, William James, Ph.D., Sc.D., 40 Sunset Avenue, Amherst, Mass. (17.) 1880. G.

*Clark, John Emory, 34 South Park Terrace, Long Meadow, Mass. (17.) 1875. A.

*Hinrichs, Gustavus D., M.D., 4106 Shenandoah Avenue, St. Louis, Mo. (17.) 1874. B, C.

*Perkins, George Henry, Ph.D., LL.D., University of Vermont, Burlington, Vt. (17.) 1882. E, H.

*Tuttle, Albert Henry, professor of biology, University of Virginia, Charlottesville, Va. (17.) 1874. F.

*Ward, Richard Halsted, M.D., 53 Fourth St. Troy, N. Y. (17.) 1874. G.

*Bethune, Charles James Stewart, professor of entomology, Ontario Agricultural College, Guelph, Canada. (18.) 1875. F.

*Clarke, Frank Wigglesworth, Sc.D., LL.D., U. S. Geological Survey, Washington, D. C. (18.) 1874. C.

*Dall, William Healey, Sc.D., Smithsonian Institution, Washington, D. C. (18.) 1874. F, G.

*Goodale, George Lincoln, M.D., LL.D., Harvard University, Cambridge, Mass. (18.) 1875. G. (Past president.)

*Morley, Edward Williams, Ph.D., Sc.D., West Hartford, Conn. (18.) 1876. B, C, E. (Past president.)

*Pickering, Edward Charles, Ph.D., Sc.D., LL.D., Astronomical Observatory, Harvard University, Cambridge, Mass. (18.) 1875. A, B. (Past president.)

*Rice, William North, Ph.D., LL.D., Wesleyan University, Middletown, Conn. (18.) 1874. E, F, L.

*Stockwell, John Nelson, Ph.D., 2302 Murray Hill Road, Cleveland, Ohio. (18.) 1875. A, B, C.

*Williams, Henry Shaler, Ph.D., Cornell University, Ithaca, N. Y. (18.) 1882. E.

*Chandler, Charles Frederick, Ph.D., M.D., Sc.D., LL.D., professor of chemistry, Columbia University, New York, N. Y. (19.) 1875. C.

*Cooley, LeRoy Clark, Ph.D., 2 Reservoir Square, Poughkeepsie, N. Y. (19.) 1880. B, C.

*Emerson, Benjamin Kendall, Ph.D., P. O. Box 203, Amherst, Mass. (19.) 1877. E.

*Hale, William Henry, Ph.D., 40 First Place, Brooklyn, N. Y. (19.) 1874. A, B, C, E, F, H, I.

Peck, William Adorno, C.E., 1643 Champa St., Denver, Colo. (19.) D.

Clark, Miss Anna M., 400 West 118th St., New York, N. Y. (20.) H.

*Farlow, William Gilson, Ph.D., M.D., LL.D., professor of cryptogamic botany, Harvard University, Cambridge, Mass. (20.) 1875. G.

*Garman, Samuel, Museum of Comparative Zoology, Harvard University, Cambridge, Mass. (20.) 1874. E, F.

*Smith, Eugene Allen, Ph.D., LL.D., state geologist, University, Alabama. (20.) 1877. C, E.

(The asterisk denotes that the member is a Fellow; the number in parenthesis indicates the meeting at which the member joined the association; the date following is the year when made a Fellow; the letters at the end of line indicate the Sections to which the member or Fellow belongs.)

It is appropriate to mention that the late permanent secretary, Frederic Ward Putnam, emeritus professor of anthropology, Harvard University, Cambridge, Mass., who died only last summer, was, at the time of his death, the oldest living member of the association, having joined at the tenth meeting which was held in Albany in 1856.

L. O. Howard,
*Permanent Secretary*

## *THE MARINE BIOLOGICAL LABORATORY*

The attendance at the Marine Biological Laboratory, Woods Hole, has been as follows:

| | 1911 | 1912 | 1913 | 1914 | 1915 |
|---|---|---|---|---|---|
| Investigators — total | 82 | 93 | 122 | 129 | 137 |
| Independent: | | | | | |
| Zoology | 42 | 44 | 58 | 62 | 69 |
| Physiology | 18 | 14 | 17 | 22 | 20 |
| Botany | 8 | 10 | 11 | 10 | 6 |
| Under instruction: | | | | | |
| Zoology | 12 | 21 | 21 | 31 | 36 |
| Physiology | 2 | 2 | 7 | 1 | 4 |
| Botany | | 2 | 7 | 3 | 2 |
| Students — total | 65 | 67 | 69 | 89 | 105 |
| Zoology | 26 | 24 | 33 | 43 | 47 |
| Embryology | 20 | 15 | 22 | 21 | 37 |
| Physiology | 6 | 11 | 8 | 10 | 15 |
| Botany | 13 | 17 | 7 | 15 | 6 |
| Total attendance | 147 | 160 | 191 | 218 | 242 |
| Institutions represented — total | | 57 | 80 | 77 | 79 |
| By investigators | 37 | 43 | 50 | 51 | 59 |
| By students | 31 | 36 | 41 | 47 | 42 |
| Schools and academies represented | | | | | |
| By investigators | 3 | 2 | 3 | 1 | 3 |
| By students | 9 | 1 | 6 | 5 | 9 |

The evening lectures during the season were:

July 2, "Experimental Production of Racial Degeneracy by Alcohol Poisoning," by Professor C. R. Stockard.