

THE Association to Aid Scientific Research by Women has renewed its support of the Zoological Station at Naples, suspended since 1917, and, for the season of 1925, has appointed Mrs. Mary Mitchell Moore (Bryn Mawr, '15), wife of Dr. William E. Moore, of Rutgers College, as its "scholar." The association contributed for nineteen years, beginning in 1898, to the support of the American Women's Table at Naples.

UNIVERSITY AND EDUCATIONAL NOTES

WASHINGTON UNIVERSITY, St. Louis, has announced a gift of \$1,000,000 from Charles Rebstock.

JOHN D. ROCKEFELLER, Jr., has contributed \$1,000,000 for endowment of the Divinity School of the University of Chicago.

THE sum of \$50,000 has been given to the Johns Hopkins University by James Speyer, of New York, to establish a lectureship fund to bring scientific men to the university from Germany.

A REGULAR four-year medical course, leading to the degree M.D., has been established by the University of Wisconsin. Hitherto the first two years only have been offered.

STANFORD UNIVERSITY has organized a school of engineering, combining the work of all its engineering departments in a four-year undergraduate course leading to the professional degree of engineer. The new school will begin functioning at the opening of the next college year in October. Professor Theodore J. Hoover, at present head of the department of mining and metallurgy at the university, is to be the dean.

DR. HELEN P. WOOLLEY, psychologist of the Merrill-Palmer School, Detroit, has been appointed director of the Institute of Child Welfare Research and professor of education, with a seat in the faculty of Teachers College, Columbia University.

DR. E. F. MALONE has been appointed Francis Brunning professor of anatomy at the University of Cincinnati.

DR. HENRY BLUMBERG, of the University of Illinois, has been appointed professor of mathematics at the Ohio State University.

DR. EARL B. MCKINLEY, national research fellow in medicine with Professor Bordet at the University of Brussels, has been appointed as assistant professor of bacteriology in the College of Physicians and Surgeons, Columbia University.

DR. THOMAS D. HOWE, Ph. D. (Wisconsin, '25), has been appointed instructor in biology at the James Millikin University.

DR. IVAN C. HALL, professor of bacteriology in the New York State College of Agriculture at Cornell University, has become head of the department of bacteriology and public health in the new University of Colorado Medical School at Denver.

DR. WILLIAM W. CORT, associate professor of helminthology, department of medical zoology, School of Hygiene and Public Health, the Johns Hopkins University, has been promoted to a professorship of helminthology.

DR. ARTHUR W. WRIGHT, of the Boston City Hospital, Boston, has been appointed assistant professor of pathology at the Vanderbilt University Medical School at Nashville.

DR. HIBBERT WINSLOW HILL, London, Ont., has been appointed professor of bacteriology and professor of nursing and public health at the University of British Columbia, to succeed the late Dr. R. Mullin.

At the University of Cambridge, D. Keilin, Magdalene College, has been appointed university lecturer in parasitology and J. A. Carroll, Sidney Sussex College, assistant director of the Solar Physics Observatory, has been appointed university lecturer in astrophysics.

DISCUSSION AND CORRESPONDENCE

THE ART OF PLUVICULTURE

IT is remarkable, when we consider the varied attempts in our country to grow rich without risk or effort, that one of the most certain enterprises of this sort has been almost completely overlooked by trade-schools, as well as by the argus-eyed press.

The professions of crystal-gazing, clairvoyance, kleptomania, and the like, receive due attention from the press, as well as by the police, all efforts to benefit humanity by these means being everywhere discouraged. The ancient arts of astrology and horoscopy, however, have their quarter-column in most of our leading papers, while the modern diversions of pluviculture, chiropractics and hormonism are everywhere treated with respect.

Of these none can be more scientific than is pluviculture or rainmaking, as it is commonly called. Yet nowhere so far as I have noticed is the method of operation made clear, nor the economic laws which make it, not only valuable to the farmers, but a sure thing in general. Even the astute Father Ricard goes on with his prophecies, apparently oblivious to the work of other scientists right within the range of his storms and sun spots.

For successful rain-making, it is necessary to find first a region in which rain is expected but has failed to come. The first element is then to find a few

hundred ranchers willing to give, let us say \$8,000 to ensure a storm, worth easily let us say \$50,000 to them.

The pluviculturist has next to build a modest shack or to set up a tent for his chemical operations. Next he prepares certain chemicals in accordance with a secret formula. These may cost \$50 more or less, according to the likelihood of further demands for extension of his operations. What the formula is, naturally no one has explained. Let me suggest a formula of my own. Take first ten pounds of pulverized chlorate of potash, and an equal amount of granular cane sugar. Mix these carefully in a wooden tub and when ready pour over them a liter (or pint) of sulphuric acid (c. p.). This simple and inexpensive preparation will produce surprising results. These may be brilliantly enhanced by using a pound of magnesium ribbon, to one end of which a lighted match has been applied, the whole sent into the air by attachment to a sky-rocket. This is most effective towards night or after clouds begin to form. Then certain salts of strontium yielding red light, barium yielding green, and other salts yielding lights of different colors, should be set on fire. That this formula of mine has been used by any professional rain-maker, I do not know. I am sure that any pharmacist might furnish something equally good. Some also use an old-fashioned fanning mill to condense the air, but that is less impressive.

Now that the chemistry has been provided for, the most important point follows, the economics of the process. There is an international institution known as "Lloyds" which insures anybody against anything, after a study statistical or meteorological of the chances. It charges a modest premium which naturally varies with the probabilities. If you want a clear day for a picnic, or a football game, Lloyds will for a consideration insure you against rain. Lloyds do not control the weather, but while losing the premium charged you will receive enough to finance your pleasure or your sport next time. You can insure a base-ball player against striking out, or an airship from falling into the sea, in accordance with scientifically accepted probabilities. Every well-regulated stadium or other center of culture is a client of Lloyds.

Now let the rain-maker insure himself against a rain-less day. I do not know the premium which Lloyds would charge. In California it would vary, being relatively low in March, especially in the north, rising higher to one hundred per cent. or even more in July.

Let us suppose that a dry period should occur in March, the month of all months when rain is most

desired in Coarse Gold, let us say, in Alcalde, and in Calxico. Let us take a high estimate, assuming that the premium charged is \$2,000, on amount of insurance in case of a dry day being \$8,000. The balance sheet of rain-making is shown below:

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| A. In case of rain | |
| Received from the people of Alcalde..... | \$8,000 |
| Paid for chemicals and housing..... | 50 |
| Paid for premium to Lloyds..... | 2,000 |
| | <hr/> |
| Balance of profit..... | \$5,950 |
| B. In case of no rain | |
| Received from Lloyds | \$8,000 |
| Paid for chemicals and housing..... | 50 |
| Paid for premium to Lloyds..... | 2,000 |
| | <hr/> |
| Balance of profit..... | \$5,950 |
| C. In A: case of rain | |
| The people of Alcalde pay \$8,000, and receive rain worth \$50,000. | |
| D. In B: case of no rain | |
| The people of Alcalde pay out nothing and receive nothing. They are then ready to try again. The transaction thus involves therefore no loss to anyone except to Lloyds in case of B. And this great corporation knows how to recuperate elsewhere. But under A, of course, the people of Alcalde would have had their rain anyhow. | |

There is one element of risk. Once in San Diego County and once again in Fresno County the rain came as a desolating deluge, doing much damage and relatively very little good. It is said that under these conditions the cautious pluviculturist saw fit to take no chances and never collected his fee.

It was Barnum, was it not, who stated the lesson to be drawn: "A sucker is born every hour." Herbert Spencer insisted that "to save men from the consequences of their folly would fill the world with fools."

For this reason perhaps the press discourages crystal-gazing and applauds the pluviculturist.

DAVID STARR JORDAN

A ROOT ROT OF ALFALFA

MANY fields of alfalfa throughout the state of Colorado during the past year have exhibited a dying out due to a root rot.

The disease first manifests itself on plants three or more years old as a flagging of the shoots in the spring. These shoots remain wilted for some time, irrespective of moisture conditions, and eventually die and are not replaced. Sections of roots of affected plants reveal a plugging of the vascular system with