the bottom of the large test tube is a hole *M* and over it is snugly fitted a layer of glass wool *L*. Into *B* the stopper *E-E* is placed, through which passes a smaller test tube *C*. This tube also has a small hole at the bottom *K*, and is fitted at the top with a stopper *F-F* through which passes a delivery tube fitted with stopcock *O*.

The large test tube *B* in stopper *D-D* should fit especially tight as it is not to be removed from the stopper. *E-E* should fit more loosely as it may be removed at will.

The bottle *A* is the reservoir for the acid *I*.

The tube *B* is a chamber for holding tube *C*.

C contains the zinc, iron sulfide, marble, peroxide, bleaching lime or fused ammonium chloride, etc. (which should, of course, be in lumps) with which the acid acts. A rack of tubes filled with different reagents and fitted with stoppers the same size as *E-E* afford a ready source for each gas, or tube *C* may be dumped and filled with a different reagent as desired.

Pinch cocks may be used instead of glass, or nearly any preferable type might be substituted.

OPERATION

Tube *C*, containing marble, zinc or whatever substance is required, *J*, and fitted with stoppers *E-E* and *F-F* and tube *G*, cock *O* of which is closed, is introduced into the chamber *B*. The air or gas in *C* prevents the acid from entering.

To operate, open *N* and *O*. Close *N* after acid has run into *C* through *M* and *K* so that the acid will not be forced out of *C*. Pass the delivery tube into the test tube *P* or collect in any other fashion.

To stop the generation, see that *N* is open. Close *O*. The gas will force the acid out of *C*, and out of *B*. The apparatus may then be set away for another time, or if preferred *C* may be removed in a comparatively dry condition both inside and outside after closing *N* so that the chamber *B* will remain empty while *C* is being removed.

The acid need not be changed except when any impurities it contains might interfere with the test to be run, or when it has eventually become exhausted. To supply new acid simply remove the stopper *D-D* which takes with it all the fixtures, empty the jar *A* and refill. Replace the stopper, and all is ready for use.

ARTHUR P. HARRISON
BUREAU OF PLANT INDUSTRY,
U. S. DEPARTMENT OF AGRICULTURE

THE OHIO ACADEMY OF SCIENCE

THE thirty-second annual meeting of the Ohio Academy of Science was held at Ohio State University, Columbus, April 14 and 15, 1922, under the presidency of Professor Raymond C. Osburn, of Ohio State University. Eighty-seven members were registered as in attendance; forty-six new members were elected.

The usual geological excursion was postponed until June 3 and 4, and took the form of a joint field meeting, on invitation of the geologists of the Michigan Academy of Science, for the study of the glacial geology and Silurian rocks of southeastern Michigan and adjoining portions of Ontario. The party was under the leadership of Mr. Frank Leverett, of the University of Michigan, and Professor W. H. Sherzer, of the Michigan State Normal College. Professor J. E. Carman, of the Ohio State University, collaborated in directing the investigations at certain localities.

The Committee on State Parks and Conservation reported progress in the listing of areas suitable for preservation. Director Taber, of the State Department of Agriculture, addressed the academy on the game preserves owned or leased by the state. The academy expressed its formal approval of the establishment of a state commission, including scientific representation, to advise in the acquisition of state parks and preserves and in their regulation to secure the maximum recreational, scenic and scientific returns.

The trustees reported the twenty-fifth annual gift of two hundred and fifty dollars from Mr. Emerson McMillin, of New York City, in furtherance of the research work of the academy. A resolution of thanks and the birthday greetings of the academy were sent to Mr. McMillin by night letter, to reach him on April 16, his seventy-eighth birthday. (The death of Mr. McMillin on May 31 has already been reported in SCIENCE. He was a member

of the academy since 1892, although his residence in New York had made attendance at the meetings impossible for many years).

Professor George D. Hubbard presented an appreciative memoir of G. Frederick Wright, who died on April 20, 1921. Professor Wright had been a member of the academy since 1892, and was one of the first group of fellows elected in 1920. He served as president in 1899. The memoir will appear in the Annual Report.

The following members were elected to fellowship in the academy: Annette F. Braun, Edward E. Clayton, William C. Devereaux, Henry Herbert Goddard, Clarence H. Kennedy, Kirtley F. Mather, Susan Percival Nichols, Bradley M. Patten, Jasper D. Sayre, Alpheus Wilson Smith, Frank R. Van Horn.

Officers were elected as follows: *President,* A. P. Weiss, Ohio State University; *Vice-presidents: Zoology,* Charles G. Rogers, Oberlin College; *Botany,* E. Lucy Braun, University of Cincinnati; *Geology,* Kirtley F. Mather, Denison University; *Physics,* R. C. Gowdy, University of Cincinnati; *Medical Sciences,* C. F. Spohr, Ohio State University; *Psychology,* H. H. Goddard, Ohio Bureau of Juvenile Research; *Secretary,* Edward L. Rice, Ohio Wesleyan University; *Treasurer,* A. E. Waller, Ohio State University.

The scientific program was as follows:

PRESIDENTIAL ADDRESS

Some common misconceptions of evolution: Professor Raymond C. Osburn, Ohio State University.

PUBLIC LECTURES

Disease and disease resistance in plants: Professor L. R. Jones, University of Wisconsin. (In joint session with the Ohio State University chapter of Sigma Xi).

Ether-drift experiments at Mount Wilson, California: Professor Dayton C. Miller, Case School of Applied Science.

PAPERS

Some proposed state parks for Ohio: J. ERNEST CARMAN.

Segregation and man: MAYNARD M. METCALF.

American biological stains for microscopical preparations: S. I. KORNHAUSER.

Further studies in the cytology of Anisolabis: S. I. KORNHAUSER.

Notes on tropical photography: WILLIAM RAY ALLEN.

Some unsolved problems in tidal zone ecology (By title): Z. P. METCALF.

Preliminary survey of certain aquatic habitats on the Bass Islands: F. H. KRECKER.

Some results from a pure-line isolation culture of Euglena gracilis Klebs: W. J. KOSTIR.

A source of material for study of parasites: MAYNARD M. METCALF.

Specific names for parasites: MAYNARD M. METCALF.

Studies of the biology of freshwater mussels: WILLIAM RAY ALLEN.

The relationship of the Syngnathidæ: JAMES E. KINDRED.

A quarter century of bird migration at Oberlin: LYNDS JONES.

A case of unhindered growth of the incisor teeth of the woodchuck: STEPHEN R. WILLIAMS.

A cicindelid from Lake Bennett, British Columbia: LYNDS JONES.

Factors influencing reproduction in the cucumber beetle (Diabrotica vittata Fabr): W. V. BALDUF.

Distribution and control of two important grape insects: D. M. DELONG.

A study of the distribution of the leafhoppers of Presque Isle, Pa.: D. M. DELONG.

Emergence of a subimago Mayfly: F. H. KRECKER.

Some factors which have limited and directed insect evolution: CLARENCE H. KENNEDY.

Insect parasites and predators in spider's nests: MARY AUTEN.

The inter-relation of the Hessian fly (Phytophaga destructor) and one of its parasites: T. H. PARKS.

Biological significance of the endocrines: A. B. PLOWMAN.

The effect of formaldehyde on the vitamins of milk: A. M. BLEILE and R. J. SEYMOUR.

Variation in the dandelion and some of its causes: P. B. SEARS.

A forest map of the Erie basin: P. B. SEARS.

The distribution of flowering plants on the smaller islands of Lake Erie: MALCOLM E. STICKNEY.

The sexual nature of vegetative or dichotomous twins of Arisæma: JOHN H. SCHAFFNER.

Influence of length of daylight on sex reversal in hemp: JOHN H. SCHAFFNER.

Some root and stem rots of clover in Ohio: SYLVESTER S. HUMPHREY.

Mosaic disease of tomato: RAYMOND A. DOBBINS.

Energy relations of plants: E. N. TRANSEAU.

Ecological distribution of grasses of North America: E. L. STOVER.

The algal food of fishes: L. H. TIFFANY.

Seedling blights of corn: WILMER G. STOVER.

The course of a plant disease: WILMER G. STOVER.

Extension work in plant pathology with special reference to the control of corn and potato diseases: E. E. CLAYTON.

Barberry eradication in Ohio: J. W. BARINGER.

A study of variation in Russula: H. C. BEARDSLEE.

Geologic control of river navigation in northeastern Bolivia: KIRTLEY F. MATHER.

The gorges of the Yangtze Kiang: GEORGE D. HUBBARD.

An inter-glacial gorge at Youngstown, Ohio: G. F. LAMB.

New points in the geology of Kelleys Island: MILDRED FISHER.

Some new data concerning the Bellefontaine outlier: CLARENCE F. MOSES.

The Pottsville formation of Ohio: HELEN MORNINGSTAR.

The Bainbridge caves: ROBERT F. WEBB.

The formation of box canyons in sandstone: J. E. HYDE.

Mineralization along the dikes of southern Vermont: HARRIET G. BRAY and ALDEN H. EMERY.

The Wheeler National Monument: ROBERT F. WEBB.

Colloids in geologic problems: GEORGE D. HUBBARD.

Dynamics of the lithosphere: O. C. JONES and GEORGE D. HUBBARD.

Drainage changes north of Lake Superior: ROBERT F. WEBB.

The Arctic as one of the centers of distribution of early Paleozoic faunas: AUGUST FOERSTE.

Meanders of Rio Securé and Rio Mamoré, Bolivia: KIRTLEY F. MATHER.

Iron molding sands of Ohio: J. A. BOWNOCKER.

Report on the Edward Orton Memorial Library: J. A. BOWNOCKER.

New fish remains from northwestern Ohio: J. ERNEST CARMAN.

Some fossils from the Sylvania sandstone: J. ERNEST CARMAN.

Type specimens of fossils in the geological museum at Ohio State University: HELEN MORNINGSTAR.

Stylolites: their nature and origin: PARIS B. STOCKDALE.

A mounted topographic map of Ohio: G. W. CONREY.

Notes on the Cincinnatian: W. H. SHIDDELER.

Forecasting the weather in the Ohio Valley: WILLIAM C. DEVEREAUX.

The electron theory of metals: ALPHEUS W. SMITH.

The effect of a unidirectional field upon alternating current permeability and energy loss in iron: ALVA W. SMITH.

Infra-red absorption bands as a means of determining molecular properties: ERWIN F. LOWRY.

Certain aspects of the problem of the static versus the dynamic atom: F. C. BLAKE.

The study of "illumination" in physics courses: F. C. CALDWELL.

Some interesting pictures in infra-red: YALE ROOTS.

Duriren—a product of Ohio industry: JAMES WITHROW.

A case of dual personality: HENRY H. GODDARD.

The field of psychology: B. H. BODE.

The theory of differential education as applied to the handicapped pupils in the elementary grades: J. E. W. WALLIN.

Qualitative clinical tests and psychological theory: H. B. ENGLISH.

Psychic complexes: A. W. TRETTIEN.

A comparison of initial and subsequent examinations of the same individual by the same psychological methods: MABEL R. FERNALD.

DEMONSTRATIONS

Common mole (Scalopus aquaticus machrinus Refinesque) "embalmed," and internal parasites of same: F. A. HANAWALT.

Tracheation of Lestes nymph: CLARENCE H. KENNEDY.

A plerocercoid (larval) tapeworm from the liver of the squirrel—externally segmented: STEPHEN R. WILLIAMS.

Head of woodchuck, showing unhindered growth of incisors: STEPHEN R. WILLIAMS.

Types of tomato mosaic: RAYMOND A. DOBBINS.

Seedling blights of corn: WILMER G. STOVER.

Stalactites in glacial sand and recent conglomerates from Canton, Ohio: G. F. LAMB.

Illumination charts: F. C. CALDWELL.

EDWARD L. RICE,
Secretary

DELAWARE, OHIO