

Coast and Geodetic Survey, vice-chairman of the section, presided at the meeting because of the absence of the chairman, the Reverend A. J. Westland, S.J., who was still suffering from the effects of an automobile accident.

Fifteen papers and reports were presented. E. L. Perry extended his previous report on "Methods and Operations" to include important information on recording paper; J. Lynch, S.J., aroused much interest by his paper on "Amateur Seismology"; and the New England group, headed by D. Linehan, S.J., gave their results of an intensive study of the New Hampshire earthquakes of December, 1940. B. Gutenberg kindly repeated the seismological part of his paper on "Tectonic Processes" given on May 1 before the Section of Tectonophysics of the American Geophysical Union.

The following officers were elected unanimously for next year: *Chairman*, R. R. Bodle, of the U. S. Coast and Geodetic Survey; *Vice-Chairman*, E. L. Perry, Williams College; *Secretary*, W. A. Lynch, Fordham University; *Treasurer*, H. Landsberg, Pennsylvania State College; *Fifth Member of the Executive Committee*, A. J. Westland, S.J., Spring Hill College.

Georgetown University acted as host to the section at an excellent luncheon that brought the proceedings to a close.

WILLIAM A. LYNCH,
Secretary

FORDHAM UNIVERSITY

THE SOUTHEASTERN SECTION OF THE BOTANICAL SOCIETY OF AMERICA

THE second annual meeting of the Southeastern Section of the Botanical Society of America was held in Charleston, S. C., from June 13 to 15, with 41 botanists and their guests participating. Registration was at the College of Charleston. Other institutions cooperating included the Charleston Library Society, which arranged a display of rare botanical works, and the Charleston Museum, custodian of the Stephen Elliott Herbarium.

The program featured tours about the vicinity of Charleston. The botanists were shown work in progress at the U. S. Regional Vegetable Breeding Laboratory by Director B. L. Wade. They were received at Middleton Gardens and also at Middleburg Plantation, the seventeenth century home of E. S. Dingle, bird and flower painter. Other trips included the site of Michaux's garden, the Francis Marion National Forest and Bull's Island of the Cape Romain National Wildlife Refuge. Collecting was done in a variety of southern coastal plain environments, including a cypress swamp, a savannah and a barrier island.

The Charleston Museum was host for an evening's entertainment, where by motion pictures and koda-

slides the botanists were shown scenes from Cypress Gardens, historical Charleston and some of the local flora and bird life.

The business meeting was held after the dinner on Saturday evening. Dr. H. L. Blomquist, retiring secretary, presided, in place of Dr. W. C. Coker, retiring chairman, who had been unfortunately called home. Dr. J. H. Miller, the new chairman, talked on "The Need for Expanding the Botanical Sciences in the Southeastern States." Director E. Milby Burton, of the Charleston Museum, reported on a project to create a park of the Michaux garden site. A resolution was unanimously voted to the effect that the Southeastern Section of the Botanical Society of America endorsed the project and recommended that the administration of the restored Gardens be vested in the Charleston Museum.

In a discussion of the aims of the section it was emphasized that its object was to increase botanical activity and to strengthen the influence of the Botanical Society of America in the South. In furtherance of this object, it was decided to distribute a list of specialists who could assist the members in their taxonomic problems, and to arrange for a breakfast for the section at the Dallas meetings of the Botanical Society.

KENNETH W. HUNT,
Secretary

THE ELEVENTH ANNUAL FIELD CONFERENCE OF PENNSYLVANIA GEOLOGISTS

THE eleventh annual Field Conference of Pennsylvania Geologists was held at Johnstown, Pa., on May 30, 31 and June 1. The Pennsylvania Topographic and Geologic Survey acted as host. The committee consisted of State Geologist Dr. George H. Ashley, *chairman*, Assistant State Geologist Dr. R. W. Stone and R. M. Foose and M. N. Shaffner. About fifty geologists attended. Most of these were from Pennsylvania, but Maryland, New Jersey, New York, Virginia and West Virginia were represented.

Registration was on Friday morning, May 30, at the Fort Stanwix Hotel. During the afternoon a trip led by Dr. Ashley, R. M. Foose and M. N. Shaffner visited exposures of the Allegheny formation about Johnstown. The annual dinner was held that evening at the Fort Stanwix Hotel. Dr. Stone acted as toastmaster. Mayor John A. Conway welcomed the members of the conference. The principal speaker was Andrew B. Crichton, local mining engineer, who spoke about the economic aspects of coal in the Johnstown basin, and presented interesting statistics he has compiled on coal reserves in the Appalachian field. Other speakers were: Dr. B. L. Miller, of Lehigh University; Dr. Arthur Bevan, state geologist of Virginia; Drs. F.

M. Swartz and C. A. Bonine, of the Pennsylvania State College; Dr. C. R. Fettke, of the Carnegie Institute of Technology; R. F. Myers, of Muhlenberg College, and Dr. Parke A. Dickey, of the Pennsylvania Survey. E. A. Munyan, of Charleston, W. Va., showed lantern slides of the ninth conference, which was held in West Virginia in 1939.

On Saturday the group was led by R. M. Foose and M. N. Shaffner through the gorge of the Conemaugh River which cuts across the axis of the Laurel Hill anticline exposing all the rocks of the Allegheny, Pottsville and Mississippian series, and the Upper Devonian strata. Of particular interest was the almost continu-

ous section of rocks from the base of the Pottsville series to the Catskill red beds of the Devonian at the northwest end of the gorge. The group was entertained at supper that evening at the home of Mr. and Mrs. Crichton at Westmont.

The trip on Sunday morning was led by Dr. F. M. Swartz. The party drove eastward over the Allegheny Plateau, crossing rocks of the Coal Measures, and descended the Front east of Portage seeing sections of the Mississippian, Devonian, Silurian and Upper Ordovician Systems. The party disbanded near Altoona.

M. N. SHAFFNER,
Secretary

SPECIAL ARTICLES

PREVENTION OF TUMOR GROWTH (CARCINOMA 2163) BY INTRAVENOUS INJECTIONS OF YEAST AND VITAMINS

IN 1937 Kinoshita,¹ using dimethylaminoazobenzene (butter yellow), produced liver cancer in rats. Ando² reported that the addition of yeast to a butter yellow-rice diet reduced the incidence of liver cancer.

In 1939 Nakahara and his co-workers³ reported that Vitamins (B₁, B₆, nicotinic acid) and their combina-

prevent liver cancers in rats which had been fed butter yellow when a diet of unpolished rice was mixed with 15 per cent. of brewer's yeast.

Recently Rhoads and his co-workers⁵ have demonstrated that riboflavin mixed with casein substantially protects the rats against liver cancers. When either riboflavin or casein alone was added to the diet, the incidence of liver cancer was reduced from 100 per cent. to 70-80 per cent. When both substances were

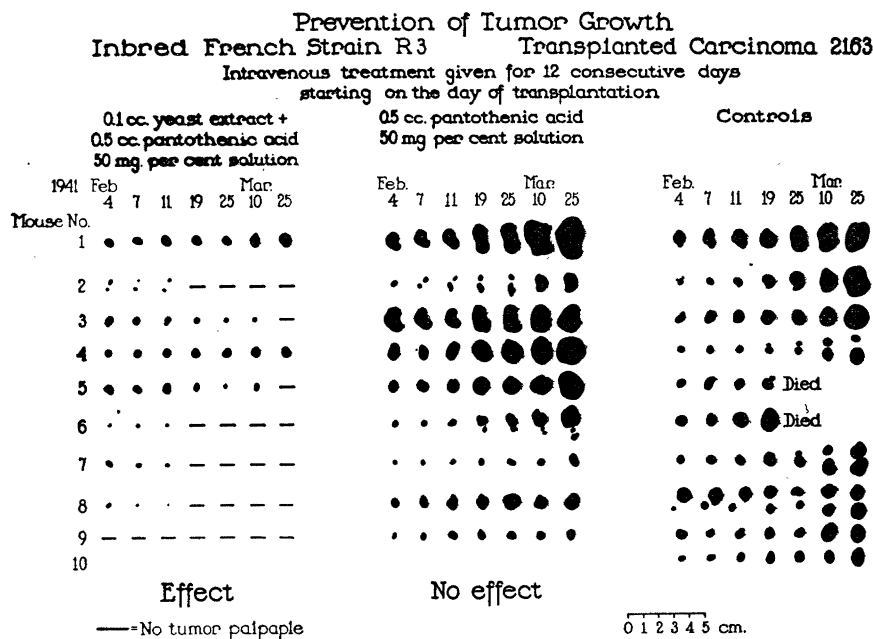


FIG. 1

tions as well as liver eluate and liver-filtrate had no effect on the development of liver cancer.

In 1941 Sugiura and Rhoads⁴ showed that they could

¹ R. Kinoshita, *Trans. Soc. Path. Jap.*, 27: 665, 1937.

² T. Ando, *Gann*, 32: 252, 1938.

³ W. Nakahara, T. Fujiwara and K. Mori, *Gann*, 33: 406-427, 1938.

added simultaneously to the diet, the incidence of malignancy was reduced to 3 per cent.

⁴ K. Sugiura and C. P. Rhoads, *Cancer Research*, 1: 3-16, 1941.

⁵ C. I. Kensler, K. Sugiura, N. F. Young, C. R. Halter and C. P. Rhoads, *SCIENCE*, 93: 308-310, 1941.