

acridians, while the non-protected were much more consistently eaten.

All experiments point to but one general conclusion—concealing coloration protects acridians against bird predators.

The details of these experiments will be published elsewhere.

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COLUMNAR STRUCTURE IN EXTRUSIVE BASALTS

IN two recent texts on geology the impression is given that columnar structure in basalt is a characteristic of intrusive flows. In one text the lower canyon of Yellowstone River, near Tower Fall, is pictured on a plate entitled "Intrusions," with the caption: "Sills lie parallel to surrounding structures." Since the lower basalt at that point rests upon the "Tower Fall Conglomerate," a distinctive stream-gravel, there is no doubt that the bed represents a surface flow. At Overhanging Cliff a child of 14 can recognize the sand and gravel beneath the basalt and understand the porous and ashy contact of the lava on the stream bed. A more diagrammatic section of a lava flow could not be invented.

North of Tower Fall Ranger Station one can look across the river and see where the basaltic lava flowed northward onto the little valleys at the foot of the Precambrian Buffalo Plateau. The river has cut

across these valleys and the intermediate ridges, showing in section the V-shaped valleys, all filled to the same level with columnar basalt. Certainly this was a surface flow. It appears to be a part of the flow at the canyon.¹

Another text pictures Giant's Causeway as an example of intrusive basalt. Now if you stand on the Causeway and look east, you see a high cliff with two horizontal bands of red material lying between layers of columns. The red layers are ferruginous soils developed on the basalts between eruptions. What we really have at the Causeway is a series of successive surface flows of basalt, all of them hardening with columnar structure. To complete the story, near Portrush I collected charred pine wood—a log of it—and a perfect charred cone of the *Strobus* type between two layers of basalt. In the face of these statements the author of the book writes me that "the basalts of Giant's Causeway look like intrusives." These strata are well described and explained in a "Guide to Belfast . . . prepared for the British Association" (1892), and in other publications. Professor Charlesworth, of Queen's University, Belfast, in a letter recently received, restates the extrusive origin of the Giant's Causeway basalts. (*Cf.* *Proc. London Geologists' Assoc.*, 1935.)

Columnar basalts, to be sure, often are intrusive. But care is needed in showing examples of such.

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SOCIETIES AND MEETINGS

THE TENNESSEE ACADEMY OF SCIENCE

THE Tennessee Academy of Science, like the American Association for the Advancement of Science, was initiated by geologists. It was projected by Dr. George H. Ashley, now state geologist of Pennsylvania, promoted at Knoxville by Dr. C. H. Gordon, then professor of geology, University of Tennessee, at Nashville by Dr. L. C. Glenn, professor of geology, Vanderbilt University, and its first secretary was Wilbur A. Nelson, then assistant in the Tennessee Geological Survey, now professor of geology, University of Virginia. Botanists have taken the lead in recent years and were first to organize a section. At the meeting on November 26 and 27, 1937, at George Peabody College, sections in geology and physics were organized, and the three sections had sessions on Friday afternoon, with Dr. Jesse M. Shaver, chairman for botany, Dr. L. C. Glenn, for geology, and Professor Slack, for physics. At the general sessions of the academy, President Louis J. Bircher, of Vanderbilt University, presided on Friday morning and

Vice-President Peyton N. Rhodes, of Southwestern University, on Saturday morning.

The two organizations affiliated with the academy, Tennessee Ornithological Society and the Barnard Astronomical Society, were represented on the program, Albert F. Ganier of the former discussing the subject, "Mid-winter Birds of the Nashville Area," and Mrs. Roberta Lyne, president of the Barnard Club, superintending an exhibit of Barnard manuscripts and the showing of a "McMath-Hulbert Observatory" motion picture film. Five papers by representatives of the federal and state departments of conservation indicated the interest of these organizations in the work of the academy.

Dr. C. H. Gordon, in his address, as the first president in 1912, urged the establishment of a "State Conservation Commission whose functions shall be to provide for the conservation of the material and human interests of the State including the waterpowers, forests, minerals and other resources and conditions affect-

¹ *Cf.* U. S. Geol. Surv. Folio 30, 1899.

ing the material and social welfare of the people." Governor Browning this year has established a department of conservation which has proposed an extensive educational program of conservation and is now engaged in a scientific study of the available natural resources of the state. In view of these facts the academy appropriately passed a resolution to appoint a conservation committee to arrange for cooperation.

The attendance of members at the meeting and the number of papers on the program were the largest in the history of the academy. The address of President Bircher at the academy dinner on "The Aims and Future of the Academy" was most timely for the closing meeting of the twenty-fifth year of the academy. After the address the reshowing of the natural color cinematograph films illustrating the fauna and flora of Reelfoot Lake added much to the enjoyment of the occasion. The Tennessee Legislature last April made an appropriation to the academy for the Reelfoot Lake Biological Station of \$5,000 for the biennium 1937-39. The films were made by Dr. C. L. Baker, director of the station.

A field trip sponsored by the Geology Section and led by Kendall E. Born, of the Tennessee Division of Geology, was made on Saturday afternoon into the Wells Creek Basin, in Stewart County, the largest of the American cryptovolcanic structures.

The officers elected for 1937-38 were: *President*, Jesse M. Shaver, George Peabody College; *Vice-President*, Aaron W. Dieus, Tennessee Polytechnic Institute; *Secretary-Treasurer*, John T. McGill, Vanderbilt University; *Chairman*, Botany Section, Dr. H. M. Jennison, University of Tennessee; *Chairman*, Geology Section (not yet elected); *Chairman*, Physics Section, Dr. Francis G. Slack, Vanderbilt University.

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THE FLORIDA ACADEMY OF SCIENCES

THE second annual meeting of the Florida Academy of Sciences was held at the University of Miami, Coral Gables, Florida, on November 18, 19 and 20. November 18 was devoted to two all-day field trips. One of these was a marine zoological trip under the direction of Professors J. F. W. Pearson and E. M. Miller, of the University of Miami. About thirty-five members of the academy were carried by boat down Biscayne Bay and outside to Fowey Light below Soldier Key. The boat carried diving equipment, and each person was given the opportunity of going to the bottom in about eighteen feet of water and viewing the underwater life.

The other all-day field trip was botanical in nature and was under the direction of Professors W. S. Phillips and W. M. Buswell, of the University of Miami.

The group went to Costello Hammock, one of the many hammocks typical of the region between Miami and Homestead. Mangrove swamps and salt marshes were visited, and the return trip was through the Miami pinelands to the Everglades. Some interesting transitions between these two localities were observed.

On the afternoon of November 19 six papers were presented in a general session, five papers in the Biological Sciences Section and five papers in the Physical Sciences Section.

On the evening of November 19 the annual banquet of the academy was held, with Professor Jennie Tilt, of the Florida State College for Women, vice-president of the academy, as toastmaster. President Bowman F. Ashe, of the University of Miami, delivered an address of welcome, and the retiring presidential address, "The Background of our Knowledge of Florida Plants," was delivered by Dr. H. Harold Hume, director of research of the University of Florida Agricultural Experiment Station.

The achievement medal for an outstanding paper delivered at the 1936 annual meeting of the academy was presented to Dr. H. Harold Hume for his paper, "Cohering Keels in Amaryllids and Related Plants."

On November 20 six papers were presented in the Biological Sciences Section, three papers in the Physical Sciences Section, and two papers in a general session.

At the business session officers for 1938 were elected as follows: *President*, Dr. R. I. Allen, Stetson University; *Vice-President*, Miss Charlotte B. Buckland, Landon High School, Jacksonville; *Secretary*, Dr. J. H. Kusner, University of Florida; *Treasurer*, Dr. J. F. W. Pearson, University of Miami; *Chairman of Biological Sciences Section*, Dr. L. Y. Dyrenforth, St. Luke's and Riverside Hospitals, Jacksonville; *Chairman of Physical Sciences Section*, Dr. B. P. Reinsch, Florida Southern College.

About 100 members and guests were present.

J. H. KUSNER,
Secretary

THE OKLAHOMA ACADEMY OF SCIENCE

THE twenty-sixth annual meeting of the Oklahoma Academy of Science was held at the University of Oklahoma, Norman, Okla., on December 3 and 4, 1937. Of the 410 members, approximately 250 attended the meeting. Ninety-five papers were presented in the various sections.

Dr. Dwight M. Moore, head of the Department of Botany of the University of Arkansas, gave the annual address on Friday evening, December 3, in the Engineering Auditorium. The title of his lecture was "Wild Flowers in Relation to their Environment."