EIGHTH ANNUAL FIELD CONFERENCE OF PENNSYLVANIA GEOLOGISTS

THE eighth annual meeting of the Field Conference of Pennsylvania Geologists was held in Maryland, West Virginia and Virginia from May 27 to 30, inclusive. The total attendance of 96 members and guests included, besides Pennsylvanians, geologists from the U. S. Geological Survey, New York, New Jersey, Massachusetts, Delaware, Maryland, West Virginia and Virginia.

The conference hosts were the members of the Virginia Geological Survey. The 1938 committee consisted of Dr. Arthur B. Cleaves, *chairman;* Dr. Arthur Bevan, state geologist of Virginia, *local chairman;* Professors F. M. Swartz and R. E. Sherrill.

On Friday evening an assembly was held in Cumberland, Md., and details of the following day's stratigraphic trip explained by Dr. Frank M. Swartz.

On Saturday the entire conference participated in a field excursion covering strata ranging from Upper Cambrian to Upper Devonian, in the area lying between Cumberland, Md., Keyser, W. Va., and Winchester, Va. Drs. Frank M. Swartz and Charles Butts were the leaders.

The annual dinner was held at the George Washington Hotel in Winchester on Saturday evening. A welcome was extended to the conference by the president of the Winchester Chamber of Commerce. Other speakers were Dr. Arthur B. Cleaves, 1938 chairman, of the Pennsylvania Topographic and Geologic Survey; Dr. Arthur Bevan, local chairman, state geologist of Virginia; Dr. Charles Butts, of the Virginia Geological Survey; Dr. Frank M. Swartz, of Pennsylvania State College; Dr. Wm. M. McGill, assistant state geologist of Virginia, and Dr. Bradford Willard, of the Pennsylvania Topographic and Geologic Survey, who was the official representative of the conference at the International Geological Congress in Russia in 1937.

The field excursion on Sunday, led by Dr. Swartz and Dr. Butts, from Winchester to Luray, Va., covered strata from Upper Cambrian to Upper Devonian and included a study of the Massanutten Mountain syncline. In the evening a complimentary trip through Luray Caverns was enjoyed by the conference.

On Monday morning the party was led by Mr. George W. Stose, of the U. S. Geological Survey, from Luray to Panorama and Front Royal and studied the pre-Cambrian-Cambrian complex exposed on the north half of the Skyline Drive.

The conference as a whole disbanded at Front Royal on Monday noon, but a small group under the leadership of Dr. Arthur Bevan traveled to Leesburg, Va., and examined the Triassic beds exposed there.

The 1939 field conference will be held in West Virginia, where the West Virginia Geological Survey will be hosts. Members of the committee for the 1939 conference are: Dr. Paul Price, state geologist of West Virginia, *chairman;* Professor Benj. L. Miller, Department of Geology, Lehigh University; Professor R. E. Sherrill, Department of Geology, University of Pittsburgh, and Dr. Arthur B. Cleaves, secretary-treasurer, of the Pennsylvania Topographic and Geologic Survey.

The guide book for the 1938 conference was prepared in permanent form as a special bulletin of the Virginia Geological Survey. It is the first of a series planned by that state. It can be obtained from the state geologist of Virginia and the title is: Guidebook Field Conference of Pennsylvania Geologists, Virginia, 1938. Guide Leaflet No. 1.

ARTHUR B. CLEAVES,
Secretary.

SPECIAL ARTICLES

THE STRUCTURE OF THE INSULIN MOLECULE

ON the basis of the Cyclol hypothesis,[1] a structure C_2 was proposed for the insulin molecule.[2, 3] C_2 is a cage structure consisting of a fabric carrying side chains, bent over a truncated tetrahedral framework.[2] The only metrical parameter, a (a mean between C–C and C–N bond lengths), taken[2] as 1.5 A, defines the dimensions of C_2. C_2 molecules with axes parallel fit the rhombohedral cell of the insulin lattice given by an x-ray analysis.[4] They can be arranged with any orientation α in the corresponding hexagonal cell, and α was necessarily left undetermined.[3] Further data, namely, Patterson-Harker diagrams, have now become available.[5]

It has been stated that these diagrams are incompatible with the structure I proposed for insulin.[5] I have therefore made a study of the Patterson-Harker diagrams given by C_2. The skeleton of C_2 is a truncated tetrahedron with six slits whose centers give an octahedron of side $l = 8\sqrt{6}a$. All the vectors between points on its framework lie on or within a truncated octahedron of side $2l = 16\sqrt{6}a = 58.8$ A. Postulating concentrations of atoms near these six octahedral

[1] Wrinch, *Nature,* 137: 411, 1936; *Proc. Roy. Soc.* (London), 160A: 59, 1937.
[2] Wrinch, *Nature,* 139: 972, 1937; *Proc. Roy. Soc.* (London), 161A: 505, 1937.
[3] Wrinch, SCIENCE, 85: 566, 1937; *Trans. Faraday Soc.,* 33: 1368, 1937.
[4] Crowfoot, *Nature,* 135: 591, 1935.
[5] Crowfoot, *Proc. Roy. Soc.* (London), 164A, 580, 1938.