

Bureau Creek 5 miles to the northwest. The first section shows Tazewell loess above Bloomington drift. The profile of weathering of the loess extends only slightly into the underlying drift. The other sections consist, in descending order, of Wisconsin till, Iowan loess, late Sangamon loess, Illinoian gumbotil and Illinoian drift. The Iowan loess is entirely unweathered, but the late Sangamon loess is leached throughout. Peat occurs in the lower part of the Iowan loess and in the Sangamon loess. Outside the borders of the Wisconsin drift sheet the Tazewell

and Iowan loesses combine to form the so-called Peorian loess of western Illinois and Iowa. These phenomena emphasize the intimate relationships of the Iowan and Wisconsin drifts and have resulted in the recent reclassifications of the Pleistocene, in which the Iowan and Wisconsin drifts and associated deposits are combined with the Recent to form the Eldoran series.

At noon the conference adjourned.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A NEW METHOD OF ILLUSTRATION

CLEAR and carefully chosen illustrations make for speed and ease of comprehension and thereby increase the value of geological articles. With the foregoing aim in view, the writer used the following method of illustrating a thesis dealing with joints in sedimentary rocks.

The field work was done in the Black River Valley region of New York State, where the thin bedding of the Ordovician strata and the close spacing of the approximately vertical joints made possible the collection of "joint blocks"—rock specimens, two of whose sides are normally bedding plane surfaces and the other sides joint plane surfaces. Care was exercised to obtain blocks with joint plane directions which represented the dominant strikes of the area from which they were taken. As each block was collected, the directions of the joint planes bounding it were carefully ascertained with a Brunton pocket transit and recorded on the block. The writer used a colored pencil for noting the directions, and it worked well on the smooth bedding plane surfaces. For rough surfaces, adhesive tape marked with ink would no doubt prove a better method.

In the laboratory, each joint block was brushed free of dust and loose particles and a six-inch white celluloid scale attached to the face by means of rubber cement. The specimen was then set up against a black background and photographed with a Vogtlander camera.

The use of the black background prevented halation and made possible a longer exposure to bring out details. Also, a black background, which on the negative would be light, made it possible to use opaque for printing and orienting the block on the negative.

The negatives were first coated with retouching fluid. Opaque, which is thick and must be thinned to proper consistency, for pen use, was then applied. The direction of each joint plane was printed parallel to the strike of the plane. A north-south arrow was

drawn in the correct direction, after which the negative was squared with reference to the arrow. The negatives were printed in the usual manner, using No. 3 Velox paper.

In the resulting pictures, the strike relationships of the various joint sets were clearly evident. It is the opinion of the writer that a better presentation and conception of the facts was attained in this way, than if the directions of the joint strikes had been merely diagrammed.

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A SIMPLE METHOD FOR MEASURING SMALL TIME INTERVALS

In many physiological laboratories it is inexpedient to supply each student with an electrically maintained tuning fork to measure small time intervals in nerve and muscle experiments. A dependable and simple arrangement has been in use here for some time where an accurate record of fractions of a second is required. The only conditions necessary are that the laboratory should be supplied with A.C. current from the mains, and the frequency of the current should be known.

The materials needed are a small signal magnet with a light flexible steel vibrator, a lamp socket, a 50 or 60 watt lamp, a push button or switch and a plug. The adjusting screw is removed from the signal magnet so that the vibrator is suspended free above the electromagnet. The coil of the magnet is connected in series with a lamp (as resistance) and a switch, and the circuit is completed by connecting across the mains. When the current is switched on, the vibrator is drawn towards the magnet and vibrates above it at double the frequency of the alternations in the mains. If the pointer of the signal is allowed to record lightly on a revolving kymograph drum, it will draw a series of waves of sufficient amplitude to serve as a time record. The peaks of the waves correspond to the alternate positive and negative surges