the members of the Egyptian Geological Survey "became obsessed by the notion that the Nile Valley and the Gulf of Suez were parts of the rift system," and that a later interpretation of both these features as valleys of erosion—one of them moderately submerged—was much retarded by that premature conclusion. He rejects Gregory's correlation of the Pacific basin and the African plateau, doubts the production of rift valleys by tension, suggests that their structure may be due to compression, and notes that their form may have been much influenced by erosion, especially in those African depressions which have a scarp only on one side. He therefore wisely urges that the whole problem should be regarded as needing much further investigation before a safe conclusion can be announced.

Ball is, however, over-conservative in asserting that "the only sure proof of the existence of a trough fault is to be obtained by tracing across the floor of the trough the same strata as occur at higher levels in the bounding scarps." This overlooks the competent physiographic evidence of faulting that is provided when a nearly rectilinear scarp truncates a series of deformed strata or a body of massive rocks, as pointed out by Gilbert in his studies of the Great Basin ranges. For example, the trough of the Rhine from Basal to Bingen rarely shows rock outcrops on its floor; evidence of its depression between subparallel faults is derived chiefly from the topography of its enclosing scarps. Similarly, the Limagne, a broad rift-depression in central France, drained northward by the Allier between the highlands of Auvergne on the west and those of the Monts du Forez on the east, is floored with lacustrine or fluviatile sediments of modern date, while the enclosing highlands consist of ancient crystalline rocks. The existence of marginal faults here has long been accepted by French geologists, although the kind of evidence dmanded for faults by Ball is not forthcoming. Crystalline rocks are not seen on the floor of the depression, and even if they were, they could not be proved to be down-faulted. The evidence of down-faulting is found in the nature of the enclosing scarps. It may be noted in passing that the Limagne is not strictly a rift valley, but a resequent rift valley, in that since its first production by down-faulting, when it was truly a rift valley, it has been filled with inwashed sediments to the level of the enclosing highlands at a time when the whole region stood lower than now, and later on, after a broad elevation without faulting, the inwashed sediments have been washed out as deep as river-grade permits, thus again leaving the enclosing scarps in relief. The evidence of this succession of events is clearly furnished by the presence of isolated volcanic necks in the midst of the depression, and of surviving spurs of the weak sediments capped with lava flows, that project into the depression about at the level of the adjacent highlands. A resequent rift-valley of this kind must evidently differ from an initial rift-valley in having the height of its enclosing scarps determined by the depth of recent erosion, not by the drop of the original faulting.

To return to Africa: If so great a series of rift valleys really exists there as is represented on Gregory's map, some of them should show scarps that truncate the structures of the enclosing highlands, and the evidence that such scarps provide for down-faulting should not be overlooked. The possibility that some of the African rift valleys have been filled and excavated again in resequent fashion like the Limagne should also be inquired into.

W. M. Davis

Cambridge, Mass.,
October 31, 1920

SCIENTIFIC EVENTS

THE SIXTEENTH ANNUAL NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL EXCURSION

The sixteenth excursion of the New England geologists was taken in the vicinity of Middletown, Connecticut, October 8 and 9, under the direction of Professors William North Rice and Wilbur G. Foye. About twenty-five persons were in attendance, among whom were representatives from Harvard, Massachusetts Agricultural College, Mount

Holyoke, Smith, Trinity, University of Vermont, Wesleyan, Williams and Yale.

On Friday afternoon, October 8, the pegmatite dikes at Collins Hill, Portland, were visited. Twenty-two mineral species have been found at this locality and the party was fortunate in collecting, among other species, flat, purple, transparent apatite crystals which showed strongly developed facets of the first and second order prisms, the first and second order pyramids, and the basal pinacoid. The relations of the pegmatites to the Bolton schist, the intrusive contacts of the Maromas and Glastonbury gneisses with the schist, the interglacial course of the Connecticut river were brought to the attention of the party.

Friday evening an excellent buffet lunch was served at Fish Hall by invitation of Wesleyan University. After the lunch the party listened to an address by Professor W. M. Davis, whose classic work on the complicated structure of the Connecticut Triassic has long been a model for structural geologists. During the lecture he gave a most interesting account of the methods he employed in working out the fault structures in the vicinity of the excursion of the following day. He also discussed the mechanics of the faulting and erosion which produced the striking topography of the Connecticut valley.

At the conclusion of this lecture, Professor Rice, also a pioneer student of the Connecticut Triassic, described in detail the faulted structures between the Lamentation Mountain and the Hanging Hills blocks which were to be visited on the morrow. Professor Foye exhibited a collection of minerals from the pegmatite dikes in the vicinity of Middletown, and gave a brief account of the localities from which they were obtained.

Saturday morning the party was conducted by autotruck and on foot to some of the step faults and drag dips along the line of the great fault described by Professor Rice the evening before.

Lunch was eaten at Spruce brook by a picturesque waterfall. After lunch the resignation of the secretary who had been in office for eighteen years was accepted, and Professor Foye was elected for an indefinite term.

At Spruce Brook the contact of the main trap sheet with the overlying conglomerate was studied. Pebbles of the underlying trap were found in the basal layers of the conglomerate and the contemporaneous character of the main sheet was established.

At two localities, lying west of Lamentation Mountain, the problematic "pillow lavas" of the anterior sheet were examined, and their origin discussed by members of the party. The Meriden "ash bed," also within the anterior sheet, was visited and created considerable discussion, but the general opinion favored a volcanic source for the deposit.

At the Lane quarry north of Meriden was seen a pahoehoe surface of lava overlain by a denser flow showing that, in this locality at least, the main trap sheet did not consist of but a single flow.

None of the many enjoyable and profitable excursions taken by the New England geologists has been more successful than this one.

HERDMAN F. CLELAND,
Retiring Secretary

"PHYSIOLOGICAL REVIEWS"

A NEW journal under this name will be published quarterly by the American Physiological Society under the editorial direction of W. H. Howell, Baltimore; Reid Hunt, Boston; F. S. Lee, New York; J. J. R. Macleod, Toronto; Lafayette B. Mendel, New Haven; H. Gideon Wells, Chicago; D. R. Hooker, Managing Editor, Baltimore.

The main purpose of the *Physiological Reviews* is to furnish a means whereby those interested in the physiological sciences may keep in touch with contemporary research. The literature, as every worker knows, is so extensive and scattered that even the specialist may fail to maintain contact with the advance along different lines of his subject. The obvious method of meeting such a situation is to provide articles from time to time in which the more recent literature is compared and summarized. The abstract journals render valuable assistance by condensing and classifying