THE TACONIC AND APPALACHIAN OROGENIES IN THE HUDSON RIVER REGION

NORTHWARD from Kingston, New York, folding caused by the Appalachian orogeny trends about N–10–E, and unfortunately this direction is also parallel to the axis of Taconic (Ordovician) folding. Therefore, in this part of the Hudson River region, although the Ordovician formations were affected by at least two orogenies, geologists have heretofore been unable to find evidence, in trend lines or other structural features, that the Appalachian folding cuts across the earlier Taconic deformation.

Since cleavage gives an excellent clue to the type and direction of regional stresses, it was thought that a careful study and comparison of cleavage in the Ordovician with that in the Devonian formations might help to distinguish the Taconic and Appalachian orogenies.

Near the axis of Taconic folding, just west of Mount Washington, cleavage in the schists has a strike of N–10–E over a wide area. Along the Hudson River, wherever cleavage is well developed in the Normanskill (Ordovician) grits, it also has a strike of N–10–E.

The Esopus and Schoharie grits (Devonian) are usually within a mile of these Ordovician beds. Cleavage readings were taken at most of the good Esopus and Schoharie outcrops along the strike for some forty miles. It was found that, wherever well developed, the cleavage almost invariably had a trend of N 25–30 E. This cleavage must have been developed by stresses later than the Taconic; and it is noteworthy that the trend corresponds exactly to that of the Appalachian folding, farther south.

It, therefore, seems logical to assume that much of the deformation in the Ordovician beds along the Hudson River has been caused by the Appalachian rather than the Taconic orogeny. Moreover, a careful study of cleavage appears to offer the best means of unraveling the complicated structure of this region.

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CULTIVATED APPLE CHROMOSOMES

IN a recent article on the chromosomes of cultivated apples[1] some eighteen varieties were classified as being either diploid or triploid, and a definite correlation between chromosomal number and meiotic behavior was pointed out.

There has been considerable interest in the problems presented by the larger groups of the Rosaceae, and discussions concerning the Pomoideae have centered about the relationship between "ploidy" and pollen sterility, chromosomal pairing and the origin of the tribe on the basis of chromosomal numbers and behavior.

Because of the interest in the cytology as well as because of certain practical values for the breeder and grower of apples, it has seemed feasible to extend the observations to include certain varieties which are listed herewith.

Baxter	n – 17, 2n – ca. 34
Kinkead	n – 17
Mann	n – 17
Mother	n – 17, 2n – ca. 34
Opalescent	n – 17
Rolfe	n – 17, 2n – ca. 34

It will be apparent that these varieties are all diploid. The correlation between diploidy and regularity of chromosomal behavior in meiosis, noted in diploids studied previously, has proved to be a characteristic of these diploids.

The technique employed was that of the previous investigation, namely, fixation with Carnoy's fluid and embedding in celloidin.

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A HYPOTHETICAL "SANCTUARY" FOR OCEAN-DWELLING SEALS

A RECENT leaflet, signed by C. W. Hobley, secretary of the Society for the Preservation of the Fauna of the Empire, states that the Newfoundland sealing industry "is steadily declining" and that "this spring (1934) about eight ships went out and some 248,000 seals were killed."

He urges that an expedition "should be dispatched with qualified scientific observers, to study the bionomics of the two species involved (*viz.*, Hood and Harp seals) and further as an outcome of their observations to make recommendations regarding a sanctuary, and possibly some protection for immature animals."

The two kinds of seals mentioned—*Harps* and *Hoods*—are pelagic animals. They live in the open sea, and in early spring (usually March) resort to the Arctic ice floes—mainly those in the North Atlantic between Labrador and Greenland—to give birth to their young.

These great ice packs are steadily moving southward, steadily melting and soon disappear, and the seals, old and young, take to the open ocean—and as a rule are not again seen until the following year. They do not normally visit land but spend their entire lives in the sea, except for the brief period in early spring "when a still small voice within" invites them to visit the ice fields for purposes of procreation.

[1] Muriel V. Roscoe, "The Chromosomal Constitution of Certain Cultivated Apple Varieties," *Jour. Genetics*, 28: 157–167, 8 figs., 1933.