

benches in lateral valleys owe their present courses to glacial embarrassments. The Ausable has an old valley near Keeseville west of its present course, and the drift filling must be very deep at and above Keeseville.

The deep notches of the Winooski and the Lamoille rivers through the Green mountains, draining lowland basins on the east of this range, correspond in topographic development with the high level valley floors worked out in the Adirondacks, but this stage is apparently older than that of the immediate vicinity of the Hudson and Champlain valley floors.

GLACIAL MOVEMENT THROUGH THE HUDSON AND CHAMPLAIN VALLEYS

The observed striae throughout the Hudson and Champlain valleys, accord closely with the direction of the axis of this great depression and with the expansion and contraction of the valley walls. Throughout the entire district the direction of transportation of debris, the arrangement of the glacial deposits, the form of roches moutonnées and every feature indicative of glacial erosion points conclusively to the general southward movement of ice from the broad open northern expanse of the Champlain valley southward.

Along the New York shore of Lake Champlain there is marked tendency of the striae to turn southwestward, indicating a movement of the ice upward over the basal slopes of the Adirondacks as the ice became pressed within the narrowing southern part of the Champlain valley. At Port Henry this tendency is so marked that it may be doubted whether further detailed examination of the region back from the lake may not show the existence of local glaciers moving down the slope so as to produce the eastwest striation seen just south of the town [*see* p.156].

Through the southern arm of Lake Champlain the ice moved southwestwardly through the defiles of the mountains and out on the plain about Fort Edward. This southwestward movement is well shown at Glens Falls where striae have a course n. 63° e. Thence the movement was southward through the Hudson valley. About Albany the ice appears to have backed up in its advance against the Helderberg escarpment on the south and west. It has long been known that, in this latitude,