

resented by notches in the rims of shallow basins. These are well marked sometimes, showing where the sand and pebbles left the basin, and occasionally a notch is found also on the up-stream side where they entered, if the bowlder be not too small and its up-stream rim too narrow.

*Facetted* bowlders have plane faces or facets worn smooth. Probably in nearly all cases the facets existed in the rough before the scouring. It would be hard in any given case to prove that this was not true. Still, it is possible that facets have sometimes been made by scour when the facet shape did not previously exist. This variety is fairly plentiful.

*Smoothed* bowlders are far more abundant than all the other varieties put together. Almost every bowlder that has a more specific mark of scour shows smoothed surfaces also on other parts. A smoothed bowlder is one that has simply been made smooth by scouring and may not have received any other more definite mark in the process. These bowlders may have been angular or subangular or rounded before the scouring began, and without having their general form changed they were made smooth over all surfaces alike. In the old channels where the scoured bowlders occur almost every one shows more or less of this effect. There are great numbers of scoured bowlders along the roadside near the Presbyterian church in Mattawa and farther east for a quarter of a mile. Near the church there are many fine examples of smoothed and basined bowlders. Some of them are polished so smooth on one or more sides that they glisten a little in the sunshine even when they are dry. They have a smooth, soft feel under the hand, not like a pane of glass, but rather like a surface of finely embossed leather. Most of the bowlders along the road near the church have been moved in road improvement or in clearing ground for buildings. It is probable that the most highly polished parts of the best specimens were previously on the under side or buried, and so protected from the weather ever since they were polished. This suggests that many, at least of the smaller bowlders, were turned over and partly buried during the time of the great outlet river. They were scoured and polished and turned over before the river ceased to flow. It is quite possible that other forms of scour may be found on bowlders which would suggest the propriety of adding more varieties to the list given above. But the forms found by the author, and examined also by Dr. Bell, seem to be fairly well covered by the names suggested.

One other possible variety deserves mention. When the deep cut was made through the bowldery terrace in Mattawa for the branch railroad up the Ottawa, some very curiously shaped stones were found in the gravelly top layer. Among others was one roughly cone-shaped, but flaring out slightly at the base. It is almost perfectly round on any horizontal sec-