

nounced, that by the munificence of Mrs. Chapman, the Institution was to be made the depository, of all the professional plans and papers, of the late William Chapman, of Newcastle.

Mr. Harrison presented a drawing of the Drops erected by him at South Shields, and gave an account of the method of working them.

Some remarks were made, on the various methods which had been **Maps.** employed, for representing the nature of a country, as to levels and slopes. In one map of Warsaw, the level of every point was shewn; in the Ordnance maps of France, the heights of most principal points, above the level of the sea, were noted. With respect to slopes, different degrees of shading might be used advantageously for mountain ground, the gentle inclinations being lightly, and the steep places deeply shaded. In some Prussian maps, mountain ground was represented by circular lines at assigned distances; the lines being very near for considerable slopes. One objection to this plan was, that an engraver aimed at a degree of accuracy, which he could rarely arrive at; he could not easily possess sufficient data, to enable him to put the lines, all round a mountain, with any tolerable degree of accuracy.

“On the velocity of the Water in Belfast Harbour.” By William Bald, C.E., F.R.S.E., M.R.I.A.

The Bay of Belfast, or Belfast Lough, is about eleven miles long by **Belfast Harbour.** three miles broad, and has a depth of water varying from two to eight fathoms at low tide. The bottom consists of mud, and is an excellent holding ground. The mean of thirteen observations, assigns the low water line of spring tides, during the months of January and February last, at 2 feet above the cill of the gate of the new Graving Dock.

The waters of the river Laggan, fed by a basin whose area is 200 square miles, are discharged into Belfast Bay. The average quantity of rain annually being about 36 inches, and assuming that one-third of this falls into the sea by the Laggan river, the quantity will be equal to 1 foot of depth over the whole basin. The mean daily quantity, will be somewhat more than fifteen millions cubic feet. This is the power which, combined with the tidal water, serves to keep open the Channel of Belfast.

On a map, accompanying this paper, are delineated the velocities of the ascending and descending currents, at different states of the tide and parts of the channel.