

formation—the Niagara Limestone. We find it at the Niagara river, which gives its name. It is seen along the gorge from Lewiston to the Falls. It is the top rock of this gorge, and over its brink at the Falls, the vast body of water is precipitated. The reaction of the water against the underlying shale wears it away. The limestone is undermined, and huge pieces break off from time to time. So the Falls recede; so the gorge is continued backward; so the seven-mile gorge was formed; and we have recently ascertained that during thirty-three years the recession has been three feet a year.

From the Falls eastward, this limestone continues its outcrop to Rochester and beyond. Westward and northwestward it trends toward Cape Hurd, a promontory separating Georgian Bay from Lake Huron. Continuing under the northern part of Lake Huron, it forms the southern portions of the Manitoulin Islands; it borders the northern shore of Lake Michigan; separates Bay de Noc and Green Bay from Lake Michigan, and borders the western side of the lake to Chicago, extending beyond and into north-western Indiana. From north-western Illinois, a belt stretches north-westward diagonally across Iowa. At Sandusky, Ohio, an area expands like a great spatula over parts of Ohio, Indiana, and Kentucky, stretching to the southern part of Kentucky. But through the broadest part of this spatula is a great oval perforation, within which are embraced Cincinnati, Richmond (Ind.), Madison, Frankfort, and Lexington (Ky). On the great Silurian mass of limestone are situated Rochester, Niagara Falls, Milwaukee, Chicago, Joliet, Huntington (Ind.), Sandusky. Next below the *Niagara Limestone* lies the *Niagara Shale*, and then the *Clinton* formation; but both of these become limestones at the west, and unite with the Niagara limestone to augment the central mass. Next above the Niagara limestone comes the Salina formation, of shales, clays, and marly limestones—a formation which, as we stated in Talk XXIII, yields the country a vast amount of salt and gypsum. At the bottom of the Silurian are found two fragmental formations, the *Oneida Conglomerate* and the *Medina Sandstone*