## CONTENTS.

Virginia, 556. Its extension from the Schuylkill into North Carolina described by Maclure, 557. Five areas of it in North Carolina, 558. Flexible sandstone or itacolumite, 561. Lower Taconic in South Carolina, Georgia, and Alabama; pyrophyllite, rutile, and diamonds, 563. Licher on the Itacolumite series of King's Mountain, South Carolina, 564. He compares it with the diamondbearing rocks of Brazil and Hindostan, 564. Mineralogy of the Lower Taconic, 568. Henry Wurtz on these rocks in North Carolina, 569. Lower Taconic east of the Appalachian valley, in New Jersey, Rhode Island, Maine, New Brunswick, and Nova Scotla, 570. In Ontarlo; the Hastings series, 574. Lower Taconic on Lake Superior; the Animikie series, 578. Distinguished from Huronlan; studies by Rominger, 580. The name Taconian proposed, 582. Relations of Taconian to eozoic and paleozoic times, 583.

- 5. UPPER TACONIC OR FIRST GRAYWACKE. Traced from the Hudson to the lower St. Lawrence, 584. The Upper Taconic or Taconicslate group, defined by Emmons in 1842, and then included in the Silurian system. 586. Its relations to the Champlain division; Lower and Upper Taconic farther distinguished, 588. Upper Taconic in Pennsylvania, 589. The Green-Pond Mountain belt, 590. Upper Taconic in eastern New York; its apparent inversion by parallel faults, 592. Red Sand-rock of Vermont, 593.
- 6. UPPER TACONIC IN CANADA. History of the so-called Quebec group, 594. An Inverted series at Quebec, 596. Stratigraphical breaks, 598. Studies in the Ottawa basin, 590. Relations of the Ordovician limestones, 600. James Hall on the Hudson-River group, 001. Logan on the Cambrian or First Graywacke in New York, 603. Distribution of Ordovician and Silurian along the Cambrian belt, 604. The First Graywacke or Upper Taconic with the Sparry Lime-rock, is the Hudson-River group, 607. The copper-bearing sandstones and amygdaloids of Lake Superior, called Quebec group by Logan, 610. Their history, 611. They are named Keweenian, 614. A similar series in Arizona and Texas, 616.
- NORTH AMERICAN PALEOZOIC HISTORY. The Eozoic lands and the Cambrian sea, 616. First or Cambrian Graywacke, 617. The Ordovician sea, 618. The Green Mountains and White Mountains, 620. Keweenian and Cambrian series; Movements of strata, 621.
- 8. THE TACONIC HISTORY REVIEWED. American Cambrian in different areas compared, 622. Rocks of Grand Cafion group and of Newfoundland, 624. The Taconic system named, 627. First Graywacke or Taconic slate-group and Sparry Limerock, 627. Mather and his hypothesis, 628. Speculations of various observers, 630. First Graywacke or Upper Taconic called Hudson-River group, and, later, Quebec group, 633. Its Cambrian age, 635. Farther studies of the First Graywacke series, 638. J. D. Dana on the Taconic question, 642. The Taconic succession defined by Emmons, 643. The Sparry Limerock is Upper Taconic, 645. Five unlike views as to Lower Taconic or Taconian, 648. Distribution

xvi