

Urallian mountains, gold in, 57;  
 Upper Silurian rocks, 63; fossils of, 259, 412.  
 Useful rocks in the earth, 52.  
 Utica Slate, 64.

## V.

**VALLEYS** of elevation, 109; of denudation, 109; original, 109; of subsidence, 109; terraced, 110.  
**Variogated Marls**, 68.  
**Vegetable life**, when first appeared on the globe, 248.  
**Vegetable kingdom**, classified, 236.  
**Vertebral animals**, 287, 268.  
**Vesuvius**, 178.  
**Veins** defined, 80; in Lowell, and Cornwall, 81; in West Hampton, 82; in Salem, 83; in Colrain, 84; in Vermont, and Conway, 85; general sketch of, 86; metallic, their width, rocks traversed by, 895; most productive near unstratified rocks, 895; of segregation, 80; of injection, 80; of different ages, 895.  
**Vermont**, the, 182.  
**Vertical movements of land**, 199; without earthquakes, 199; accounted for, 198.  
**Vertical range of animals and plants**, 363.  
**Vesuvius**, minerals from, 84; eruptions from, 178.  
**Vicksburg group**, 417.  
**Villarica**, constantly active, 180.  
**Volcanic action**, 170; hypothesis of, 192; breccia, 85; craters, 170; ancient, 182; beneficial upon the whole, 379; power its seat, 176, 180; glass, 85; conglomerate, 85; islands formed by, 178, 181.  
**Volcanoes**, extinct and active, 170; submarine and subaerial, 170, 178; constantly active, 180; intermittent, 171; in lines, 170; products of, 84; amount lava from, 177; number of, and of

eruptions, 171; phenomena of, 172; dynamics of, 176.  
**Volcanic rocks**, 42, 77.  
**Voltzia**, 289.

## W.

**WACKE**, 83.  
**Wad**, 123.  
**Wall**, in mining, 321.  
**Water**, its distribution, 203; in the rocks, 212; its expansion in freezing, 97; its agency in the metamorphism of rocks, 211; in the production of the igneous rocks, 212; in lava, 212.  
**Watt's experiment on basalt**, 88.  
**Waves**, their effects, 116; of translation, 117.  
**Wealden formation**, 69; clay, 69.  
**Wells**, frozen, 153.  
**Wells**, Artesian, 124.  
**Wenlock shale**, 64; limestone, 64.  
**Werner's theory of veins**, 396.  
**Whale**, fossil, 337, 340.  
**Whim**, 393.  
**Whitsunday Isle**, 164.  
**World**, very old, 371, 372; had a beginning, 384; its supposed eternity, 377; time of creating not fixed, 354; in a fallen state, 380; in a condition of mercy, 381.  
**Wyman, Prof. J.**, on Raniceps, 285.

## Y.

**YORKTOWN group**, 417.

## Z.

**ZEUGLONDON**, 340.  
**Zinc**, its ores, and situation, 56.  
**Zoological provinces**, 240; classification, 287.  
**Zoophytes**, 248.