

the flow of springs, and the discharge of oil or gas from natural or artificial openings. Many springs and wells show a daily periodicity in the volume of the flow, corresponding with the diurnal variations in the pressure and temperature of the atmosphere. Such facts increase the presumption that lunar and solar tidal actions may affect the flow of molten matter, and also the distribution of stresses and movements in the earth's crust.

XIX. THE FRAMEWORK OF THE MOUNTAINS.

MOUNTAIN STRUCTURES.

LET us imagine ourselves standing on the bald summit of Mount Marcy. This is the highest peak of the Adirondacks. It rises 5,400 feet above sea-level. Beneath us, on every side, spreads a wilderness of mountain swells and intervening wooded valleys. In the dim and smoky horizon, in some directions, we glimpse the indications of white villages and smoking chimneys, and crawling locomotives, and navigated waters; but the aspect, on the whole, is one not suggested by the knowledge that we stand in the Empire State with its five millions of citizens. Here nature still rules in one of her wildest moods.

Notice the forms of these summits. How symmetrically the contour sweeps from the lower and flatter slopes upward. How gracefully these mountain swellings dissolve in the green ground of the landscape beneath. Look at our feet; the naked rock lies cracked and weathered by the frosts of unnumbered Winters. The chips of the mountain strew the cone for eight hundred feet below. There the mountain firs, shrinking from the weather, begin to appear, but only as prostrate, crawling, and stunted shrubs. These rocks are Eozoic. How hard and crystalline and stubborn they look. These black crystals are *pyroxene*; the dark, dusky ones are a species of feldspar called *labradorite*. The mixture forms a rock known as *Norite*. Polished surfaces present a highly pleasing appearance. This rock forms all the central mass of