

rection, or parallel to what may be called the axis of elevation. It appears that these fissures will not commence at the surface, but at some lower part of the mass. The whole series of stratified masses will be affected by the tension in the same manner, but under some conditions the fissures may not reach to the surface. The fissures will be of nearly uniform width at all depths, except that unequal elasticity in the dislocated strata will cause some differences. It is not inconsistent with mechanical principles to admit that more than one parallel fissure may originate simultaneously, and they may be subsequently prolonged, so that many parallel fissures (especially below the surface) may exist together, the fruit of one general action. No sooner, however, are the fissures extensively formed than new conditions arise, and any further fracture can be produced only in new directions. Wherever such a system of parallel fissures is found to exist in the same mass of strata, it is physically impossible that they can have originated at considerably different times, though the prolongation of a fissure may have been effected long after its origin.

2. *Formation of transverse fissures.* — In a district, circumstanced as stated, the application of any further force would cause extension of the now free parallel parts of the mass only in the direction of their length, and consequently produce ruptures at right angles to the former fissures. One or more of these transverse fissures might in like manner be produced in each of the parallel bands of displaced strata. In any country which manifests two systems of parallel fissures, one at right angles to the other, it is absolutely certain that the effects are due to no more than one general elevatory force, and one continuous effect for each system of parallels; a series of partial forces at particular points or different times could not produce the effects.

3. *Formation of fissures in a conical elevation.* — If the mass of strata moved offer a uniform resistance, a conical elevation of a part can only be occasioned by