able to resist a power of such stupendous energy, if its direction, instead of being vertical, happened to be oblique or horizontal, would be extremely rash. But if they could yield to a sideway thrust, even in a slight degree, they would become squeezed and folded to any amount if subjected for a sufficient number of times to the repeated action of the same force. We can scarcely doubt that a mass of rock several miles thick was uplifted in Chili in 1822 and 1835, and that a much greater volume of solid matter is upheaved wherever the rise of the land, as in Scandinavia, is very gradual, because there the development of heat is probably at a greater distance from the surface. If continents, rocked, shaken and fissured, like the western region of South America, or very gently elevated, like Norway and Sweden, do not acquire in a few days or hours an additional height of several thousand feet, this can arise from no lack of mechanical force in the subterranean moving cause, but simply because the antagonist power, or the strength, toughness, and density of the earth's crust is insufficient to resist, so long, as to allow the volcanic energy an indefinite time to accumulate. Instead of the explosive charge augmenting in quantity for countless ages, it finds relief continuously, or by a succession of shocks of moderate violence, so as never to burst or blow up the covering of incumbent rock in one grand paroxysmal convulsion. Even in its most energetic efforts it displays an intermittent and mitigated intensity, being never permitted to lay a whole continent in ruins. Hence the numerous eruptions of lava from the same vent, or chain of vents, and the recurrence of similar earthquakes for thousands of years along certain areas or zones of country. Hence the numerous monuments of the successive injection and ejection of melted matter in ancient geological epochs, and the fissures formed in distinct ages, and often widened and filled at different eras.

Among the causes of lateral pressure, the expansion by heat of large masses of solid stone intervening between others which have a different degree of expansibility, or which happen not to have their temperature raised at the same time, may play an important part. But as we know that rocks have so often sunk down thousands of feet below their original level, we can hardly doubt that much of the bending of pliant strata, and the packing of the same into smaller spaces, has frequently been occasioned by subsidence. Whether the failure of support be produced by the melting of porous rocks, which, when fluid, and subjected to great pressure may occupy less room than before, or which by passing from a pasty to a crystalline condition, may, as in the case of granite, according to the experiments of Deville, suffer a contraction of 10 per cent, or whether the sinking be due to the subtraction of lava driven elsewhere to some volcanic orifice, and there forced outwards, or whether it be brought on by the shrinking of solid and stony masses during refrigeration, or by the condensation of gases, or any other imaginable cause, we have no reason to incline to the idea that the consequent geological changes are brought about so suddenly, as that large parts of continents are