

ing the mean heat of the place at the surface of the ground. The bottom of the cavern, under the Observatory at Paris, is about ninety feet below the surface of the earth; a thermometer placed in it varies only about one-fifty-fifth of a degree during the whole year, from 52., which is the exact mean temperature of Paris.

It therefore appears, from the preceding observations, that at a certain depth below the surface of the earth, which does not seem much to exceed thirty feet, the thermometer remains unaltered during the whole year, and exhibits the mean temperature of the surface in that locality. Hence the mean temperature of a place may be determined by that of springs flowing from a certain depth (not less than thirty feet) under ground. The wells at New York vary from 32 to 50 feet in depth, and, according to Dr. Nooth, the mean annual variation of their temperature is 2., namely, from 54. to 56.; this would make the mean annual temperature of New York 55. Dr. J. Hunter states that the temperature of the wells at Brighton, in Sussex, vary from 50. to 52., which would make the mean temperature of the air in that part of England, close to the sea, 51.; whilst the mineral spring at Tunbridge Wells, a short distance from Brighton, is always of the temperature of 50., as appears from observation made in winter and summer. Thus it would seem, that at a certain depth below the surface of the earth, a thermometer indicates the mean temperature on the surface, that this depth is not much more than 30 feet; and that, probably, no great increase of temperature could be found at the depth of sixty feet. When, however, we penetrate to a greater depth below the surface, the temperature becomes higher than the mean of the place, and the elevation of the thermometer increases as the depth augments.

Concluded in our next.

QUEENSTON SUSPENSION BRIDGE.—A correspondent of the *Guelph Advertiser* gives the following account:—"The towers are built on each side, and most of the cables are stretched across. When finished, it will be, it is said, the largest suspension bridge in this planet (what they have in other planets of course I cannot say.) It is 1043 feet from tower to tower, and it seems quite fitting that this great work should tie together with non cables the great dominions of the two greatest nations in the world; for the people on the other side admit, that, excepting themselves, we are the greatest nation on the globe; and we in turn admit, that, excepting ourselves, they are the greatest nation! so that putting together the estimation of ourselves and of each other, it certainly comes to this that we are the two greatest nations in the world. But the suspension bridge

is truly a magnificent work! It is expected to be completed this winter. There are to be ten cables in all, each cable made of 250 wires; each wire warranted, I am told, to bear 15,000 lbs.—The wires are not twisted, but lie together straight, and are kept together by a strong wire that is wound around them, the same as you would wind a thread about a bonnet wire. The cables are firmly anchored in the work, and pass over two stone towers some 14 feet high. On the top of these towers are solid iron plates, and rollers on these, upon which are other plates with groovings for each of the cables, so that there is no horizontal strain upon the towers, but all the pressure is perpendicular on the same principal with the pressure on the bridge under the strings of a violin. The cables when extended, have the shape of a rainbow turned upside down, and to the uninitiated, it would seem that a bridge built on these cables would give a merry run down to the centre and then be up the hill to the opposite side. But instead of the planking and pathway being over the cables it is under them, and is to be perfectly level. The centre of the bridge will nearly touch the centre of the cables, whilst at either end, it will be some 60 or 70 feet below them, and the work to be sustained by iron rods suspended from the cables. A road has been cut along the side of the mountain to either terminus of the bridge, where solid walls of masonry have been built. The planking is to be twenty feet wide, intended at present for teams; but the towers and iron plates are constructed, so that extra cables can be run over them so soon as the iron horse may be ready with his train of cars, and judging from the interest at present taken in the subject of railroads, "in each of the two greatest nations," this time is not far distant.

CAPE OF GOOD HOPE.

DISCOVERIES IN SOUTHERN AFRICA—THE NATIVES, PRODUCTIONS, &c.

The news from the interior shows that there is considerable turbulence prevailing among the different native sovereignties or tribes, and that this fact was causing injury to the settlement in various ways. One of the frontier papers states that somewhere about two hundred lives were lost last year, by the collision of different savage tribes, and that similar results will follow in successive years, if the impetuosity of the barbarian people be not restrained.

Discoveries are daily making in regions beyond what was denominated the frontier. Among others, travellers have arrived from the Zulu country. In some places it was fertile and beautiful, with luxuriant vegetation; in others the land was barren, and not a tree to be seen for miles. The chief food of the inhabitants is milk, rice, and sweet potatoes. In one place a party of travellers came to the kraal of one of the principal Zulu chiefs, styled by the natives En Corzin. Here they were hospitably entertained four days. Corzin, the chief, rejoiced in their possession.