

Of the whole body of scientific and literary men in England, Scotland and Ireland, the names of only twenty-six are to be found on the pension list. In science, there are no more than six, viz., Sir David Brewster, £297; Dr. Dalton, £300; Ivory, £300; Faraday, £300; Sir James South, £300; and Mrs. Somerville, £300. In literature, ten, viz., the poet Campbell, £184; Dr. Jamieson, £100; Millingen, £100; Southey, £455; James Montgomery, £150; Sharon Turner, £200; Tom Moore, £300; Banim, £150; Sir William Ouseley, £100; Miss Mitford, £100, and the widow and descendants of Paley (eight persons) £300, or £25 each. The total sum bestowed upon the literature and science of Great Britain and Ireland is therefore about £4,000, in a pension list of £132,554, or less than one-thirtieth of the whole!!

CABINET OF SCIENCE.

GEOLOGY.—The superficies of our planet is calculated to contain about one hundred and ninety millions of square miles; but could we be raised to a sufficient height above the earth, so as to have its whole enlightened hemisphere for our horizon, we might perceive as it revolved under our feet, how small a portion is fitted for the habitation of man. More than three fifths of the earth's surface are covered by the ocean; and if from the remaining part we deduct the space occupied by polar ice and eternal snow, by sandy deserts, sterile mountains, marshes, rivers and lakes, the habitable portion will scarcely exceed one fifth of the whole of the globe. Nor have we reason to believe that at any former period, the dominion of man over the earth was more extensive than at present. The remaining four fifths of our globe, though untenanted by mankind, are for the most part abundantly stocked with animated beings, that exult in the pleasure of existence, independent of human control, and no way subservient to our necessities or caprice. Such is and has been for several thousand years the actual condition of our planet; hence we may feel less reluctance in admitting the prolonged ages or days of creation, when numerous tribes of the lower orders of aquatic animals lived and flourished, and left their remains imbedded in the strata that compose the outer crust of our planet.

The ocean has been an important agent in effecting vast changes on the surface of our globe. The average depth of the sea has been differently estimated, according to Laplace this depth cannot be less than ten miles, to account for the height of the tides by the laws of gravitation. No admeasurement by soundings has exceeded the depth of one mile and a quarter.—*Bakewell.*

ORIGIN OF BOGS.—The origin of many bogs, from the decay of ancient forests, is strikingly illustrated by the fact that the roots of successive generations of trees have been found rooting upon each other. A beautiful instance of a succession of forests upon the same spot occurs near Portmore, in the county of Antrim. The superficial stratum of bog timber in this district consists of oak, often of very great dimensions; beneath them we find another stratum of timber, consisting almost entirely of the trunks of fir trees. In the parliamentary reports concerning the bogs of Ireland, there is an account of a bog in which there is a succession of three layers of roots of firs,

proving that three forests have flourished in succession on the same spot. In Westmeath, according to Archdeacon Vignolles, three layers of trees are to be found, alternating with as many beds of peat, from three to five feet in thickness. The trees in each layer appear to have arrived at maturity, and could not have been co-existent. These trees are of enormous size, and many of them bear the marks of fire. It may appear strange to some how fir-trees should be able to support themselves on the unstable surface of a bog, but at present there are many thriving plantations of fir-trees in such situations in several parts of the country.—*Dublin University Magazine.*

SOLIDITY OF SNOW—SUFFERING FROM THIRST.—It must appear strange to readers ignorant of the Polar regions, to hear that the people suffer more from thirst, when travelling than from all the other inconveniences united. By us, at home, where the snow can never be very cold, where it can therefore be easily melted by the ordinary heat of the body, and where it can even be eaten as a substitute for water, the very different temperature of the same substance in that country is easily overlooked, as many persons are even ignorant of this fact. No great inconvenience can occur as to this matter, where its heat is rarely much below the freezing point, and scarcely ever falls as low as twenty degrees. It is a very different thing, when perhaps the highest temperature of the snow, during the winter months, is at Zero, and when it often falls to minus fifty or more, or to eighty degrees below the point at which we should attempt to thaw or eat it in England. Were it not so bad a conductor as it is, we could, in this country, no more take it into the mouth, or hold it in the hands, than if it was so much red hot iron: but from that cause this consequence at least does not follow. The effect, nevertheless, which it does produce is that of increasing, instead of removing, the thirst which it is endeavoured to quench; so that the natives prefer enduring the utmost extremity of feeling, rather than attempt to remove it by the eating of snow.

CHARCOAL, DIAMOND, AND LOAF SUGAR.—The charcoal of commerce contains salts and other impurities; the purest is that sold under the denomination of lamp-black.—Chemically considered the diamond is pure carbon. The identity of these substances, so apparently dissimilar, is proved by a variety of experiments. By combustion in oxygen gas, it forms the same gas (carbonic acid) as carbon. The oxygen may be separated from this by igniting potassium in it, and the carbon is liberated. Whether the diamond or common charcoal have been employed in the formation of carbonic acid, the residual carbon, after the decomposition of the gas by potassium, is black and opaque. Mr. Hemming (in a late lecture) said that the incredulity of those who consider it impossible that the diamond was only a purer kind of charcoal might, perhaps, be shaken, if he could prove by an experiment that a substance almost as dissimilar in appearance to charcoal, namely, loaf sugar, was really little besides charcoal. A piece of fine white loaf sugar was then dissolved in water, and on adding sulphuric acid to it, the whole mass became instantaneously an opaque black solid substance, which was charcoal.