

ARTIFICIAL GEMS.

Dr. Percy writes to the London *Times* with regard to Mr. Maclean's alleged discovery: "I agree with Mr. Maskelyne in thinking there is reason to expect that the diamond will some day be artificially produced. But, if so, possibly a very long period will be required to form a crystal of sufficient size and quality to be of any commercial value. Alumina, the substance of sapphire and ruby, has long ago been crystallized, yet to this day no artificial sapphire or ruby worth a farthing has appeared in the market. The balas ruby, or red spinel, was formed about forty years ago by Ebelmen, in small but distinct crystals, of which I have specimens in my collection; yet, so far as I am aware, the natural gem is alone known to jewelers. The conditions under which nature has crystallized carbon in the cubical system must be extraordinarily rare, seeing that a small room would probably suffice to contain all the diamonds that have hitherto been discovered. The possessors of diamonds have not at present any reason to fear that the value of their property will be lowered by the crystallized carbon of the chemical laboratory."

In reply to Mr. Story-Maskelyne's letter on this subject, referred to in last week's *Iron*, Mr. McTear says: "I have just seen Mr. Maskelyne's letter in the *Times*, and am surprised to learn first from it of the negative results Mr. Maskelyne has obtained, while an interview between us, fixed by him for Tuesday, 6th inst., is still pending. The statements in his letter do not prevent me from affirming in the most positive manner that I have been able to produce carbon in the diamond modification. I have been able on the only two occasions I have tried the experiment to burn the small translucent particles in oxygen gas, and I have been able with the greatest ease to scratch deeply both amethyst and topaz with them. As I do not despair of convincing Mr. Maskelyne himself of his being, to say the least of it, premature in his conclusions as to the problem of crystallization of carbon having been successfully solved, and as it has been accomplished by means very similar to those which in the concluding paragraph of his letter he suggests as being possible, I trust the scientific world will suspend their judgment until more ample evidence has been laid before them." At a recent meeting of the Glasgow Philosophical Society, St. John Vincent Day read a communication from Mr. Robert Baxter, of Dundee, regarding the production of artificial diamonds. Mr. Baxter began to experiment in 1876, but did not obtain successful results till April, 1877, when pure crystals of carbon were produced. The crystals then obtained were all lost through careless handling. Mr. Baxter endeavored to procure more, but for several months did not succeed. His crystals had been tested in a manner leaving no doubt about their genuineness. He had tried without success to produce large crystals, but saw no reason to prevent their ultimate production.

MOTIONS OF THE GROUND.—It will be remembered that M. Plantamour directed attention some time since to certain displacements of the bubble in a fixed spirit level, indicating movements of the ground. He has now made a year's observations of these phenomena in a cellar at Secheron, with two spirit levels, one directed north and south, the other east and west. The result is the manifestation of periodic movements of rise and sinking of the ground, which, in a general way, appear to be determined by the exterior temperature. After that the configuration, and, perhaps, also the nature of the ground, probably affect the intensity of the movements.

A new kind of crockery, designed to fill the place of earthenware to some extent, has recently been introduced. It consists of cotton pulp, or felt, glazed with a composition into which dissolved glass largely enters. It is a durable, elastic material, possessing neither the great weight nor brittleness of earthenware; but it has yet to undergo the test of general use.

PAPER HANGING.

Paper-hanging is quite a modern invention, after all; that is, in its Western use. In the East wall-papers had been known from time immemorial; but it was only toward the end of the seventeenth century that they were brought from China, imported into England and Holland along with a multitude of other Indian and Chinese articles. France took hold of the idea and perfected it, and has hitherto produced the best, while Germany and Belgium have given the cheapest papers; but England has lately come to rival France. There is now a vast variety to choose from everywhere; mounting from the rough kitchen fourpenny paper that, put on wrong side out, when its pattern is but slightly stamped, presents a uniform gray surface like something a great deal more expensive, and where the pattern is heavily stamped, presents a damascened gray surface, to those elaborate in art and material, whose use in a single room requires an expenditure of a small fortune.

There are the common satin-faced ones, the gilded, silvered and bronzed grounds, embossed gilt and mica, imitation of silks and tapestries, cretonnes and chintzes, raised and stamped velvets; there are some like delicate muslins embroidered in chain stitch and lined with color, at six dollars a roll and upwards; others like the dark, old, embossed Spanish leathers buttoned to the wall, from nine to twelve dollars a roll, according to present prices; there are the thick, Japanese papers, where the black ground riots in fantastic assemblage of all rich colors, where a gold ground carries birds and butterflies and fans in charming profusion, and those of lighter, less marked and less agreeable characteristics, at about the same price as the leather papers; others yet more expensive, thick and heavy, a finely-glazed porcelain-like representation of tiles of all sorts, for those who will have them in imitation; and in addition there are the frescoed papers, and those for ceilings, for dados and for friezes. It would be hard if out of such a variety one could not get up rooms that would be satisfying to the most demanding sense of the beautiful.

KILLED BY A METEOR.—As David Meisenthaler, the well-known stockman of Whitestone township, was driving his cows to the barn about daylight this morning, he was struck by an aerolite and instantly killed. It appears as if the meteor had come from a direction a little west of south, and fell from an angle of about 60 degrees, for it first passed through a tall maple, cutting the limbs as clean as if it had been a cannon ball, and then struck him apparently on or under the shoulder, passing clean through him obliquely from below the right shoulder to above the left hip, and buried itself about two feet in the soft black ground. The poor man's head and legs were uninjured, but the greater part of his body seems to have been crushed into the earth beneath the terrific aerolite, which is about the size of a common patent bucket, and apparently of a rough round shape. It appears to be formed of what is called iron pyrites.—*Bucyrus (O.) Journal.*

ALUMINUM TELEGRAPH WIRES.—German telegraph engineers have lately been experimenting with aluminum as a material for telegraph wires. This metal can easily be drawn out to a very much finer gauge than is possible with iron, and its conductivity is twice as great as that of iron wire. Its excessive cost has hitherto prevented its use for the purpose indicated, but it is found that an alloy of aluminum and iron can easily be made, which will produce a wire both finer and stronger, and less susceptible to atmospheric changes than iron wire, while it is much superior as a conducting medium.

MAGNITUDE OF LABOR.

There is nothing that has ever attained the vast proportions that labor has acquired. It extends over the entire globe, so far as the operations of man are concerned, and throughout the seemingly unlimited realms of space, under the exertions of the Omnipotent Creator. Leaving out of consideration the wondrous array of stellar systems, and narrowing the view to the work of the human race, the field is still too ample for a detailed narration. It can, even in this scope only, be treated of in generalities. The animals labor, but it is only to the extent of self-preservation. The beaver builds his dam across the running stream; the birds construct their nests in the branches of the trees; the burrowing animals dig into the surface of the earth; and the insects spin their webs or construct their fragile cells—each and all guided by the natural law of permeation of their progeny.

The labors of man extend to a higher and nobler plane. Originating in self-preservation and protection of offspring, they have risen to the more elevated rank of a creative power, which has encompassed the earth and left no spot upon its surface undisturbed by their multifarious results.

In every phase of social life labor holds the sole sustaining influence, deprived of which the fabric of society would meet with annihilation, and man descend to a scale below the beaver and the bird in practical utility. In the advancement of the well-being of the human race, labor has ever been the motive force which has accelerated its progress. It has stimulated the intellect, and conferred aptness upon muscular manipulations. It has given ideas to the brain, and deftness to the hand. Its results have pointed out new methods of attaining them, which have required less muscular action and more brief periods of time, with greatly increased results.

Nothing can be effected without labor; with it, all things can be accomplished. When in operation, it is vitality; when inactive, it becomes inertia and death. It crosses continents in its gigantic strides, steps over oceans and traverses the globe, carrying with it beneficial results, and imparting as it goes, ardent desires for a continuing increase of its blessings.

It points out the track of the seemingly erratic comets; it maps out the path of the sun, moon and stars; it measures the far-distant worlds, and weighs them with positive accuracy. It has constructed instruments by which their constituent forms of matter are made known. It overleaps the confines of the earth, and extends its efforts to the remotest regions of stellar existence.

It razes mountains to the level of the plain, or cuts its passage through miles of their base. It deepens rivers, fills up lakes, makes fertile the desert. Earth is but one of the compartments of its workshop, and in every section of that compartment it demands and compels activity. Its avocations are unlimited, extending from the least to the greatest productions, from the sharpest point of a needle to the massive form of the pyramid; operating upon the formations of bodies almost too fragile to be touched, and working upon others of adamant durability.

It is a magnificent temple of God-like proportions, so vast, so extended that it embraces the whole realm of creation; so perfect in its construction that defects are unknown; so enduring in its material, that it will still exist when earth shall have passed away; so wisely planned that beauty and harmony are presented at every point, and its resultant will be the advanced welfare of man. Omniscience only could have invested labor with its grandeur and greatness, and have stored it so fully with benefits and blessings. Its dome rises to the highest heavens and is lighted by the stars; its walls contain all created matter, and its foundations rest upon unswerving utility. Into this vast hall all must enter and perform their task, which to some will be hard to accomplish, to others, easy of performance. There is no exemption from this duty.—*Mining and Scientific Press.*