

for a hot day may be evolved from a block of ice, weighing from ten to twenty pounds, as centre-piece. Have a tin pan, and place the ice in it. The pan will catch the drippings, while it may be entirely concealed by a judicious arrangement of ferns and smilax. The centre of the block may be hollowed out to contain a candle, fruits or flowers. At large catering establishments they have moulds to make ice in any desired shape. Little saucers of ice are made for oysters. These saucers may be made at home by putting water in a dish, setting a dish over it, filled with ice and salt, add packing sawdust and ice under it. Another way is to fill a dish with water, freeze it, and taking a hot iron or cup, melt the centre into a dish for the oysters.

Ivory-handled knives require special care in washing. The handles should never be allowed to go into the dishpan. Hold the handles in clean, dry left hand, while the right hand washes the blades. Spots can be removed and polished surfaces restored to ivory handles by powdered pumice stone and water.

EMMA PADDOCK TELFORD.

### SCIENTIFIC MISCELLANY.

Carbon monoxide, or carbonic oxide, is the most dangerous of all the gases given off from coal fires, as it is a true poison, and, instead of destroying life by suffocation or exclusion of oxygen, it has a direct action on the blood, apparently altering the character of the red corpuscles. It—and not carbon dioxide or carbonic acid—causes the headaches and sense of oppression some times experienced in coal-heated rooms, so small a proportion as 0.5 per cent in the air occasionally giving rise to alarming symptoms. But a late paper to the Paris Academy of Sciences suggests that there may be risks from furnace heating yet unknown, as in only one case out of ten of mysterious accident attributable to emanations from heated iron pipes was carbonic oxide found to the extent of 0.04 per cent. The delicacy of the means of testing was shown by experiments with an iron stove kept at a dull red heat, the presence of 0.015 per cent of carbonic oxide in the air being demonstrated.

The increased cost of deep mining, according to Mr. B. N. Brough, is not serious where the output is considerable. Only two mines—shafts in the Lake Superior districts reaching 4900 and 4450 feet respectively—have yet been sunk below 4000 feet; but four mines in Germany, two in Belgium and one in Austria Hungary range between 3500 and 4000 feet in depth. The deepest British mine—the Pendleton, near Manchester—is 3474 feet deep; the deepest in Scotland—the Niddrie, at Porto Bello—is 2110. Steel cables hoist loads of six tons at the rate of a mile in a minute and a half at the deep mines of Calumet, and in England the speed has reached 57 miles an hour.

A late mysterious explosion in a colliery in South Wales appears quite certainly to have resulted from a spark caused by a heavy fall of the gritty sandstone roof.

Aluminium, in plates a quarter of an inch thick, has proven a very durable roofing material in Berlin.

As mystifying as life itself is the latent vitality of seeds. M. C. de Candolle

describes experiments tending to show that the seeds lead a retarded life for a brief period, after which their protoplasm becomes wholly inert, though unchanged in composition and internal chemical structure, and thus remains for years—possibly for centuries—ready to spring into activity under suitable moisture, temperature and aeration. The germinating power of peas and beans was retained even after exposure for four days to a cold of 32° below zero Fahrenheit, a temperature at which ordinary chemical reactions no longer take place. This power is destroyed by carbonic acid, although it is not lost in a vacuum, protoplasm in latent life seeming to resemble certain mixtures—such as explosive mixtures—in which certain substances, it unchanged by surrounding substances, may rest in contact until the conditions favor their combination. This state of chemical and vital inertia may continue for a very long time, as, while the growth of mummy wheat is undoubtedly a deception, seeds known to have been 150 years old have germinated. Various observations seem to prove that seeds may lie dormant in the ground for great periods, one notable instance being that of an unknown plant, discovered at Laurium in 1875 in a position indicating that its seed was buried under scoria by ancient miners at least 1500 years ago, while Professor Peters of Gottingen has recently produced numerous plants from earth removed at different depths in plantless forest soil. Such facts caused Alphonse de Candolle to suggest soundings beneath the snows of the Alps, his idea being that we might recover from the buried soil surviving germs of the vegetation that existed before the glacial period.

The geological fault of the Jordan-Arabah Valley has a length of 270 miles or more from the Gulf of Akaba to the base of Hermon, and is undoubtedly much longer. Another great line of fracture is now reported from southern Afghanistan, where Captain A. H. McMahon has traced a remarkable trench for 120 miles in a north-north east and south-south west direction, finding it to be clearly a fault line.

A case of periodical hiccough lasting several months in a man of 42 has been traced by a Norwegian physician to a tumor at the base of the tongue.

The oft-repeated suggestion that music be employed as a curative agent in hospitals gives interest to a recent investigation by A. Binet and J. Courtier, who have studied the effects of musical sounds upon the respiration, heart and capillary circulation of a well known composer. Major chords and especially discords quickened inspiration, while minor chords tended to retard it. All melodies—grave or gay—quickened the respiration and increased the action of the heart, lively tunes having most effect. Single notes or chords, entirely unassociated with emotional ideas, quickened the heart's action in a less degree than melodies, the greatest acceleration being produced by operatic or familiar pieces. The capillary circulation was usually slightly diminished by musical sounds, lively airs having greater influence than sad melodies.

The common belief that high barometer or anticyclonic conditions in winter are likely to be accompanied by unusual cold is refuted by Mr. W. H. Dines, who always expects a frost in England to break up when the barometer gets

much above 30.00 inches. He has tested this theory by tabulating the height of the barometer for the cold periods of 1842 to 1890. Out of 74 frosts in these 50 years, he found that 15 only had a pressure exceeding 30.20 inches, and these were cold waves of short duration. In 33, or less than half, the pressure exceeded 30.00 inches. In 21 the pressure was below 29.80 inches and these included nearly every cold period remarkable for its length or severity.

A remarkable adulteration of saffron has been discovered by a German microscopist, who has found barium sulphate within the cells, and concludes that the drug was first soaked in a solution of a barium salt and then in a sulphate solution. Barium sulphate was thus precipitated within the substance of the drug as well as on the surface, rendering detection difficult.

Of 107 meteors observed in England during the last ten years, Mr. W. F. Denning finds the greatest height to have been 126 miles average height at first appearance, 73.6 miles, and at disappearance, 45.3; average length of path, 62.1 miles; and velocity per second, 26.9 miles. Of 100 Meteors whose paths are given by Professor G. von Neissl, the average height when first seen was 91 Miles; while one, which was observed from Servia to France over a patch of 1770 miles, was seen from the extraordinary height of 483 miles to that of 115 miles.

### THE EUROPEAN MISSION.

(Millennial Star, May 13.)

Arrival—The following named Elders from Zion arrived in Liverpool May 10, 1897, per American line steamer *Peasano*: For the Swiss and German mission—Wallace B. Mathis, St. George. For the Scandinavian mission—James N. Sorenson, Andrew H. Larson, Washington; Fred J. Helander, N. F. Swander, Gunnarson. For the British Mission—Anna W. Williams, Charles S. Green, Hyrum; Walter J. Knell, Philo, Hector A. M. Quenne, St. George. For the Netherlands mission—Gerard J. B. Aerts, Oudeu.

The following named Elders from Zion arrived in Liverpool, per American line steamship *Belgians*, May 12, 1897: For the British mission—Andrew L. Cole, C. W. Nibley Jr., Logan; George J. Harbott, Huber Ott; George W. Palmer, Farmington; Augustus Z. Marsden, George Palce, Wilford Robinson, Charles I. Snowey, Beaver; John W. West, Thomas C. White, David Everett, Salt Lake City; Stephen Patrick, Bonanza; John Houston, Panguitch; George W. Bauer, Kayville; William Pender, South Cottonwood. For the Scandinavian mission—Albert Peterson, Carl O. Johnson, Murray; Peter S. Olson, Mink Creek, Utah; Carl G. Johnson, Sandy, New Jersey, Brigham City; John W. Lawson, South Cottonwood; Carl A. Augustson, Murray. For the Swiss and German mission—Henry E. Bowman, Kaysville; Conrad Miller, Salt Lake City; Joseph W. Connel, Farmington. For the Netherlands mission—Joseph H. Gau Jr., Bonanza. With the company were Elder C. W. Nibley and wife, who are on a visit. Their son, C. W. Nibley Jr. has just filled a mission of over two years.