

**Scientific.**

**CELESTIAL SPACE.**—When astronomers assure us that the diameters of the circles which the planets describe in their perpetual revolutions round the sun, are millions upon millions of miles—how is it possible for the mind to take in an idea of the space or room in which such globes as those of eighty and ninety thousand miles in diameter are running, thirty times more rapidly than a cannon ball, without the slightest interference with others?

Space—without limit! There is no boundary, no barrier, no precipitous termination, but space forever and ever, and there the intellect leaves the pursuit—the brain of man cannot grasp it.

But there is something more perplexing in the belief that interminable space is filled with millions, ay, with countless organized worlds, beyond all human computation, far excelling our own in grandeur of proportions, physical resources, and beauty, so immensely distant that no telescope can ever survey those on the nearest border of that celestial space which they occupy; and yet, still beyond and beyond, so far that the light they send abroad, at the speed of one hundred and ninety millions of miles in one second, may not reach this earth for a hundred millions of years to come, and there again and again are globes infinitely multiplied. Space, then, is a field in which the Almighty display the majesty of His supreme power.

**SCIENTIFIC MEMORANDA.**—Brain-work costs more food than hand-work. According to careful estimates analyses of the excretions, three hours of hard study wear out the body more than a whole day of severe physical labor. Another evidence of the cost of brain-work is obtained from the fact that though the brain is only one-fortieth the weight of the body it receives about one-fifth of all the blood sent by the heart into the system. Brain-workers therefore require a more liberal supply of food, and richer food, than manual laborers.

Every iron rail on a north and south railroad, so far as I have been able to examine, is a perfect magnet, the north end attracting the south pole and the south end the north pole of a magnetic needle. So also in a T rail on a railroad the lower flange attracts the south pole, and the upper flange the north pole of a needle. (Dr. Richard Owen, of Indiana State University.)

The St. Gothard tunnel is now the great engineering project in Europe. The success of the Mt. Cenis tunnel has aroused the fears of Switzerland and Germany regarding the future of the Asiatic trade. In order, therefore, to be on an equal footing in this respect with France, it is proposed to pierce the Alps near the St. Gothard Pass. The estimated cost is \$37,000,000; the tunnel will be twice as long as the Mt. Cenis, and the rocks are much more difficult to manage, but it is thought that with the experience which has been gained in other works, it can be constructed in a much shorter time than was required for the Mt. Cenis tunnel.—*Scribner's for June.*

**EFFECT OF EXTREME COLD ON SNOW.**—Dr. Kane, the Arctic explorer, recorded the very striking and suggestive fact that snow, at a temperature of forty degrees below zero, Fahrenheit, loses much of its anti-frictional quality. He found it almost as difficult to draw sleds upon such snow as upon sand.

**A NEW PLANET.**—Prof. James C. Watson, of Ann Arbor, Michigan, writes to the *Journal of Science* that he discovered a new planet on the night of April 4th, in the constellation Virgo. The planet shines like a star of the eleventh magnitude.

**BLACK SHEEP.**—Abp. Whately once puzzled a number of clever men, in whose company he was, by asking them this question: "How is it that white sheep eat more than black?" Some were aware of the curious fact; others set to work and tried to give learned and long reasons; but all were anxious to know the real cause. After keeping them wondering for some time, he said: "The reason is, there are more of them."

**How an English Farm Laborer Lives.**

The following account of the average home of a Warwickshire farm laborer is from the pen of a special correspondent of the *London News*. As it is copied in the *North British Agriculturist*, it is presumed not to be an overdrawn picture:

"Rising early, I intruded on the family a little before seven, in time for breakfast. I made the eighth at the little table on the flagged floor. There was the father, a bent, careworn man, who yesterday had been to Birmingham about work; the wife, a neat little woman, prematurely old, dressed in a linsey gown, and without a hair or a hook out of its place; and five children, ranging from sixteen to four. The eldest boy earns 3s. driving the horses in a plow; none of the others bring anything in. Two go to school at a penny a week, the two youngest toddle about at home. Our breakfast was dry bread, and a fluid in which a lively imagination might recognize a distant flavor of tea. The wife owned to having put but one spoonful in for the seven, and she was not allowed to amend the record on behalf of the eighth. After breakfast she and I formed a committee of ways and means. I was not so fortunate as Mr. Lowe in being able to elucidate a surplus. I could not see my way at all, and the little woman could not help me with any returns. She cried a little, and said, 'God only knows,' when I asked her, with full and bitter personal cognizance of the perfectly fiendish manner in which children's boots go to pieces long before they have a right to be worn out, how she contrived to keep her family shod. I tried the calculation of making ends meet, all manner of ways, and at last had to give it up in blank bewilderment. There could be no manner of doubt that the man's wages, when his cottage was paid for, were but 12s, and that the only addition was the 3s. earned by the eldest boy. And here was the home before me—the wife meek, neat and trim; the children poorly clad, but neither barefoot nor in rags; and only, as I made a point of personally ascertaining, a few shillings of debt.

"Attached to the cottage is a little plot—a few yards square—of garden ground; but that does not grow butcher's meat, tea or boots. All the assistance received, I was assured, was 3cwt. of coal in winter, and for a short time in the coldest season a quart of soup once a week. Dinner consisted of potatoes fried in some scraps of bacon rind that had been left over from the half-pound (at 6d per pound) that had constituted yesterday's fare. Sometimes the family whose guest I am, dine off a salt herring and potatoes, the herring having obviously to be divided into seven portions. Often the only fare is dry bread; sometimes it consists of *chef d'œuvre* in cookery known as 'tea-kettle broth,' a concoction of hot water with a few greens and herbs, and a 'tag end' or two of bacon. Potatoes cost 4s 6d per eight gallons, so we could not afford to be heavy eaters. In a military prison the dinner diet used to consist of three pounds of potatoes and half a pint of milk per man. We had no milk, and among the eight of us were certainly not the rations of a couple of prisoners. I have not dined an hour, and I feel as hollow as a drum, but I resist any fleshpots that may be accessible, and turn my thoughts longingly towards supper, which is to consist of bread and boiled potatoes, without the fragments of bacon rind, which the children devoured at dinner time."

**IRISH EMIGRATION.**—The intelligent Cork correspondent of the *Boston Pilot* says that the depopulation of Ireland is going on faster than ever. He thinks that about 4,000 of the flower of the population leave the country weekly from the different ports. From Queenstown alone 2,000 a week go. Whole hamlets are left to the old and poor; and agricultural labor is hardy to be had at any price. The considerable cities, Limerick, for instance, are hastening to decay.

**DESTRUCTION OF THE GERMS OF DISEASE.**—As the result of a series of experiments on the destruction of low forms of life of heat, Dr. Grace Calver demonstrates that the germs of disease will withstand a temperature of 300 degrees Fahrenheit. Exposure to such a heat as this injures the fibers of all kind of cloth so seriously that they are unfit for further use. It is therefore evident that the mere agency of heat cannot be depended upon for the destruction of the germs or corpuscles attached to the clothing of persons who have suffered from any contagious disease.

The necessity for a change in opinion regarding the power of chlorine gas to accomplish this purpose is urged in a recent report of the New York Board of Health on the disinfection of clothing and rooms that have been exposed to contamination by small pox. In the report in question carbolic acid is especially recommended for the disinfection of clothing and bedding, and sulphurous acid gas, prepared for burning sulphur, for the disinfection of rooms. The latter substance especially seems to have the power of utterly destroying the germs of small pox, while chlorine frequently fails altogether or only accomplishes the object in an imperfect manner.—*Scribner's for May.*

**MANURE FOR POTATOES.**—An exchange says the following receipt for raising potatoes is worth the price of any paper for one year, to any farmer who is short of manure. It is said to be as good as the best superphosphates of lime, and will certainly not cost half so much. It has been tried two years, and is good on dry land. It says: "Take one cask of lime and slack it with water, and then stir in one bushel of fine salt, and then mix in loam or ashes enough, so that it will not become mortar; it will make about five barrels. Put in half a pint in a hill planting. All manures containing potash are particularly suitable for the potato. Ashes contain more potash than any other natural fertilizer, and should be freely used and carefully saved."

**FRANCE.**—The area of cultivated land in France is 124,000,000 of acres, the number of proprietors being 9,000,000. This subdivision of the land is the consequence of the abolition of the law of primogeniture. The French cling to the smallest patch of soil, as to life; it is the best of all securities, not a little advantageous in these times of change, and recalls the Scotchman's advice to his son on getting married:—"Make sure of the fortune; the wife may change, but the silver, never." Many of these Lilliputian landed proprietors are in a state of indigence, their portion of "free territory" lying on their hands like a white elephant. Then there are chronic lawsuits about making divisions, the expenses of the contests too often exceeding the value of the plots themselves. It is not surprising, then, that the plan of uniting several of the small holdings, submitting them to a common cultivation, sharing alike expenses and profits, is making way. The general wealth of the country will be increased, as a consequence, also.

The largest clock at the English Parliament is the largest one in the world. The four dials of this clock are twenty-two feet in diameter. Every half minute the point of the minute hand moves nearly seven inches. The clock will go eight and a half days, but it only strikes for seven and a half, thus indicating any neglect in winding up. The pendulum is fifteen feet long, the wheels of cast iron, the hour bell is eight feet high and nine feet in diameter, weighing nearly fifteen tons, and the hammer alone weighs more than 400 pounds. This clock strikes the quarter-hours, and by its stroke the short hand reporters in the Parliament chambers regulate their labors. At every stroke a new reporter takes the place of the old one, whilst the first retires to write out the notes he has taken during the previous fifteen minutes.

THERE are two reasons why some people don't mind their own business. One is, they haven't any business, and the second, they have no mind.

If you wish a thing done, go; if no send.

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