THE ANTIPATHIES OF GREAT PEOPLE.

A writer in *Land and Water*, through an infliction, was confined much to his house, and found great delight in being surrounded by domestic pets. Some of his friends took a great aversion to many of these, and could not be quieted until they were removed. This seemed so strange to him that he resolved to look up the literature on the subject. In a work on the "Affections and Imaginations of the Mind," M. Chevraux, a celebrated French writer, gives the following interesting facts: "How exceedingly whimsical some antipathies appear! I have known people faint upon smelling the delicious fragrance of a rose, and yet experience pleasure in smelling a jonquil or a hyacinth. A certain governor of one of the frontier towns could not bear the sight of fish-spawn, and a lady whom I knew went into convulsions on seeing a craw-fish. Erasmus, who was a native of Rotterdam, had so great an aversion to fish that he could not even smell it without being in a fever. If we may credit Ambrose Pare, a man of some celebrity, he says that he could never sit at a table where eels were served up without fainting. Joseph Scaliger never drank milk. Carden could not bear eggs. Julius Cæsar Scaliger had an antipathy to cresses; Uladistas Jagellon, a Polish king, hated apples; and when Du Chesne, secretary to Francis the First, smelt them, they occasioned his nose to bleed. Henry the Third could not remain in a room where there was a cat; the same aversion was observed in Marshal Shomberg, Governor of Languedoc. The Emperor Ferdinand introduced a gentleman to the Cardinal de Lorraine at Inspruck, whose fear of cats was so powerful that when he heard them mew at a distance blood spurted from his nose. M. de Laucre says that he knew a gentleman whose fear of the hedgehog was excessive, and who believed that that animal had actually been preying upon his entrails for more than two years."

He also relates another story equally singular of a gentleman whose bravery none disputed, but who was so nervous when a mouse appeared that he could not take out his sword to destroy it. M. Vaughneim, the king's huntsman in Hanover, fainted whenever he saw a roasted pig. The philosopher Chrysippas hated bows so much that when he was saluted he fell down. There are persons who cannot tolerate the sight of spiders, and there are those who eat them for amusement. A friend of mine, a gentleman, brave as the best, fainted when vaccinated a few months ago. He could not account for it, he said, as of course there was no pain, neither did he feel any repugnance.

How to Keep Cool.—On going once into the Medical Museum in Edinburg, on a summer's day, we felt chilly, and on looking at the thermometer we found it at 68, while out of doors it was oppressively warm. Sixty-eight degrees in summer there, is quite cool enough for a sitting apartment; but if you go into a room of that temperature in mid-winter, a feeling of suffocation, of oppressiveness, comes over you. The noon of a day whose morning is 68 will give over 90 in the sun. If on getting up in the morning, every window and door of "a dozen" are thrown open and thus remain until about sun up, and are then closed, shutters and all, it will be nearly night before the thermometer is materially raised, and persons coming into our office, often exclaim, "how delightfully cool your office is, how do you manage it." If we close our doors in mid-winter to keep the warmth in, may we not do the same thing in summer to keep it out?—*Journal of Health.*

Phosphorescence.—A tube of "Canton's phosphorus," or sulphide of calcium, prepared more than a century ago, is found to be still capable of phosphorescence. As it is to this substance that the phosphorescent properties of the new luminous paints are due, the durability of the latter seem to be thus assured.

EVENTFUL HISTORY OF A REMARKABLE RAILROAD.

Mr. Coleman Sellers, Jr., M. E., recently read a paper before the Engineers' Club of Philadelphia, on the history of the construction of the Mexico and Vera Cruz railroad, and illustrated his remarks with numerous photographs and maps obtained during a recent trip to the country of the Montezumas. As early as 1837, the project was broached; and from that time until it was finally opened in 1873, by Pres. Lerdo, the road suffered an alternation of successes and defeats. During its progress, 40 different presidents and one emperor governed our unfortunate neighbor, and each government had, in turn, to be won over to the plans of the friends of this enterprise, and that in spite of a powerful opposition from various classes of the community. Not only were these difficulties surmounted, but those offered by the climate and the natural obstacles of the route were likewise overcome. At length after years of labor and the expenditure of millions of money, the road is now an established success, and is to-day one of the grandest specimens of engineering the world can show. The road is 260 miles long; is laid with steel rails; is thoroughly equipped with engines and rolling stock; has fine iron bridges; substantial stone stations, and all tunnels, masonry, etc., are of the best character. The grades and curves are numerous and excessive. The highest point of the road is 8,200 ft. above the sea. It ascends 6,500 ft. in 60 miles, and in one case climbs 2,000 ft. in 15 miles. The City of Mexico itself is 7,60) ft. above the level of the sea, or nearly one and a half times as high as Mt. Washington. The road was built principally by English capital, but is granted a concession by the Mexican government, which, however, is now much in arrears. All the foreign commerce of the most thickly settled parts of the republic pass over the road, and the proper development of the country under a stable government would enable the road to do an enormous business. The state of the country is shown by the fact that each train carries a guard of 30 soldiers of the Mexican regular army.—*Engineering and Mining Journal.*

Glycerine in Diphtheria.—According to *Medicin Zeitung*, of Vienna, Prof. Clar's success with the use of glycerine in diphtheria admits of no doubt. He first prescribes a gentle aperient, either in the form of a manna draft, or of a few grains of calomel, which last he holds to be a powerful antiphlogistic remedy, and when properly used, of great value. Coincidentally he directs cold compresses or cloths to the neck and head, or even to the chest, carefully renovated according to the elevation or depression of the temperature, cold or iced water being at the same time given as a drink, and then commences at once the use of iron-glycerine, which consists of two ounces of anhydrous glycerine and 20 drops of the liquor sesqui-chloride of iron. Of this mixture, half a teaspoonful is given every half hour throughout the day and night. As soon as the symptoms appear to be mitigated, the quantity is diminished to a teaspoonful every second hour, and in the intermediate period, a mixture composed of glycerine two ounces, borax two grains, is similarly given by a teaspoonful at a time. The iron-glycerine is progressively given at longer periods, and is gradually replaced by the borax-glycerine.

From reliable sources of information it is estimated that the immigration from Europe to the United States this year will approximate, if it does not exceed, 400,000 in number of persons, making by far the greatest immigration the country has ever had in a single year. The immigration is largely composed of families who come with means to acquire small farms where cheap lands are to be obtained; and nearly all start directly for the West and Southwest after landing. It is estimated that these immigrants will bring not less than $25,000,000 of actual money with them into the country this season.

WHY THE NEEDLE POINTS IN A NORTHERLY DIRECTION.

Prof. Patterson, Superintendent of the United States Coast Survey, writes as follows in answer to an inquiry by a gentleman as to the reason why the needle points in a northerly direction:

Dear Sir:—Your note is duly received, and in answer I beg to state that the reason why the needle points in the northerly direction is that the earth in itself is a magnet, attracting the magnetic needle as the ordinary magnets do; and the earth is a magnet as the result of certain cosmical facts; much affected by the action of the sun. These laws have periodicities, all of which have not as yet been determined.

The inherent and ultimate reason of the existence of any fact in nature, as gravity, light, heat, etc., is not known further than that it is in harmony with all facts in nature. Even an earthquake is in perfect harmony with, and the direct resultant of the action of forces acting under general laws.

A condensed explanation in regard to the needle pointing to the northward and southward is as follows: The magnetic poles of the earth do not coincide with the geographical poles. The axis of rotation makes an angle of about 23°, with a line joining the former.

The northern magnetic pole is at present near the Arctic circle, on the meridian of Omaha. Hence the needle does not everywhere point to the astronomical north, and is constantly variable within certain limits. At San Francisco it points about 17° to the east of north, and at Calais, Maine, as much to the west.

At the northern magnetic pole a balanced needle points with its north end downwards in a plumb line. At San Francisco it dips about 63°, and at the southern magnetic pole the south end points directly down.

The action of the earth upon a magnetic needle at its surface is of about the same force as that of a hard steel magnet, 40 inches long, strongly magnetized, at a distance of one foot.

The foregoing is the accepted explanation of the fact that the needle points to the northward and southward. Of course no ultimate reason can be given for this natural fact any more than for any other observed fact in the nature.

C. T. Patterson,
Supt. U. S. Coast Survey.

Distribution of Atmospheric Pressure.—L. T. de Bort calls attention to the fact that in two columns of air, which have the same pressure at the surface of the ground, if the temperatures are different the decrease of pressure in the higher levels is slower in the warmer column. Hence results a tendency of the air to pass from the warmer to the colder column, accompanied by a falling barometer in the former and a rising barometer in the latter. The effects of difference of temperature being generally opposite to those of barometer pressure, the transfer of air may be effected in the upper atmosphere, even when the pressure is lower at the bottom of the column. The ocean currents, in winter, augment the energy of the atmospheric disturbances by increasing the opposition which already exists between the continental and oceanic temperatures.—*Comptes Rendus.*

New Method of Refining Iron.—It is reported that Mr. Krupp, of Essen fame, has obtained a patent for refining pig by means of iron oxide. The action takes place in a cupola lined with basic bricks in graphite. By this method, it is claimed, the greater part of the silicon, sulphur and phosphorus are removed, without at all interfering with the carbon.

A Light Locomotive.—H. K. Porter & Co., of New York, have completed a locomotive which is said to be the lightest ever made for actual service. The cylinders are but six inches in diameter. It is to haul ore, on a 20-inch track, from the mines of Friendenstraw & Co., of Arizona. Its capacity on a level track is 150 tons.