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GREENLAND.

English antiquarians are pursuing interesting inquiries relative to the original settlement of Greenland, and the character of its soil and climate. It was supposed originally to have been connected with our continent, but it has been distinctly ascertained that it is separated from the American continent by a wide channel, called Davis' Straits, and extends beyond 78 degrees of latitude. The most extraordinary fact about Greenland is the wonderful change of climate it has undergone. Barren soils have been reclaimed by immigration and industry, and cold climates changed into warmer latitudes by clearing the woods and letting in the rays of the sun; but we have no instance on record of settlements oiginally in warm climates and fruitful soils, becoming, in centuries, cold, and barren — and yet such has been the case with Greenland. The country, although now consisting of little else than barren rocks, mountains covered with snow and ice, and valleys filled with glaciers,— although its coast, now lined with floes of ice, and chequered with icebergs of immense size, was once easily accessible, and its soil was fruitful, and well repaid the cultivator of the earth. This country was discovered by the Scandinavians towards the close of the tenth century, and a settlement was effected on the eastern coast in the year 982, by a company of adventurers from Iceland, under the command of Eric the Red. Emigrants flocked thither from Iceland and Norway, and the germs of European enterprise and civilization appeared on different parts of the coast. A colony was established in Greenland, and it bade fair to go on and prosper. That the climate must have been mild and the soil fruitful, we gather from the fact that in 1400 there were not less than 190 villages, 12 parishes and 2 monasteries, and for 400 years there was constant and profitable mercantile intercourse with the Danish provinces and Europe, but in 1406 every thing changed — a wall, or ice barrier, arose along the whole line of coast, and no landing could be effected, and up to the seventeenth century, the whole approach to the country was blocked by insurmountable barriers of ice — vegetation was destroyed, and all vestiges of its former inhabitants

are gone — parts of houses, churches, &c., remain, but the inhabitants have all perished by cold. One of our contemporaries, in referring to the gloomy subject, says: — "It would require no very vivid imagination to imagine the appalling sense of destruction, which bleached the features and chilled the hearts of those unhappy colonists when they began to realize their forlorn condition; when the cold rapidly increasing, and their harbors became permanently blocked with icebergs, and the genial rays of the sun were obscured by fogs — when the winters became for the first time, intensely rigid, cheerless and dreary — when the summers were also cold, and the soil unproductive — when the mountains were no longer crowned with forests, but covered with snow and ice throughout the year, and the valleys filled with glaciers — when the wonted inhabitants of the woods and the waters were destroyed or exiled by the severity of the weather, and their places perhaps supplied by monsters of a huge and affrightful character.—*The New York Sun, March 8th*, 1845.

A solution of the mystery of the extraordinary changes of climate, in which the people of Greenland flourished in one period, and became extinct in another, is found in the revolutions of the magnetic poles and lines of no variation and maximum declination. These poles and lines perform a revolution round the earth in 666 years, and produce and mark the lines of the greatest cold, while the lines of maximum declination, 90 degrees east of these lines, in the different hemispheres, mark the lines of the greatest heat in the different latitudes.

The line of no variation, which is now 37 minutes west of Pittsburgh, passed over London in 1657, and over the meridian of the City Hall, New York, in 1791. The line of maximum declination, which is now 90° 37' *west* of Pittsburgh, passed over the meridian of that city in 1623, and the one which is now 90° 37' *east* of Pittsburgh, passed over London in 1820. These lines are therefore moving from east to west, and the heat increasing on the east, and decreasing on the west side of the line of no variation.

The cold is consequently increasing in Europe, and the heat increasing in this country, east of Pittsburgh, and from a line drawn on the 1st of January, 1845, from a point 3 degrees, 34 minutes, 55 seconds east of St. Augustine, Fa., in latitude 29 degrees 48 minutes, 30 seconds north, and longitude 77 degrees, 54 minutes, 37 seconds west; to a point 7 minutes and 51 seconds east of Ashtabula, on lake Erie, in latitude 41 degrees 52 minutes north, and longitude 80 degrees 47 minutes 57 seconds west of London.

These lines are at an angle of 6 degrees, 27 minutes, 33 seconds with the terrestrial meridians, and the line of maximum declination which passed over London in 1820, is now, or was on the 1st of January, 1845,

10 degrees, 52 minutes, 55 seconds west of that meridian, on that parallel of latitude. Its longitude in the arctic circle; (latitude 66 degrees, 32 minutes, 27 seconds); which passes through the southern part of Greenland, was at the same time, 14 degrees, 47 minutes, 7 seconds west. In latitude 70 degrees, 15 degrees, 30 minutes, 30 seconds; and in latitude 80 degrees, 18 degrees, 18 minutes, 57 seconds west. On drawing a line on a globe through these latitudes and longitudes, it will be found to pass through the eastern and middle part of Greenland, where the mean heat, in that country, is now at its maximum, and the following table will show the position of the lines of maximum declination in every 333 years from the commencement of the Christian era to the year 2178, or during the time the sun is passing through one sign of the Zodiac, and also the situation of the magnetic pole and lines of no variation in every 333 years of the intermediate periods.—⋊ represents the pole and line of no variation, and =⋊ the pole and line of maximum declinations.

Christian Era,		0	Obliq. Eclip. 23° 45′		
		$16\frac{1}{2}$	—⋊	180°	West.
		$166\frac{1}{2}$			
333	=	183	=	90°	East.
		$166\frac{1}{2}$			
	—	$349\frac{1}{2}$	—⋊		
		$166\frac{1}{2}$			
333	=	516	=⋊	90°	
		$166\frac{1}{2}$			
	—	$681\frac{1}{2}$	—⋊	180°	W.
		$166\frac{1}{2}$			
333	=	848	=⋊	90°	E.
		$166\frac{1}{2}$			
	—	$1013\frac{1}{2}$	—⋊		
				——	1073
		$166\frac{1}{2}$			
333	=	1180	—⋊	90°	W.
		$166\frac{1}{2}$			
	—	$1345\frac{1}{2}$	—⋊		
				——	1406
		$166\frac{1}{2}$			
333	=	1512	=	90°	E.
		$166\frac{1}{2}$			
	—	$1678\frac{1}{2}$	—⋊		
				——	1739
		$166\frac{1}{2}$			
333	=	1845	=⋊	90°	W.
		$166\frac{1}{2}$			
	—	$2011\frac{1}{2}$	—⋊	180°	W.
		$166\frac{1}{2}$			
333	=	2178	=⋊	90°	E.

It appears from the above table, that in the year 1013 1-2, the magnetic pole in the arctic circle was in the same longitude as the line of maximum declination is in at the present period, and the cold was at its maximum in that latitude. This was 28 years after the first settlement of Greenland by Eric the Red.

It also appears that from the year 1073, when the climate may have become mild and the soil fruitful, to the year 1406, when the whole coast was closed by ice barriers, was 333 years. From 1406 to 1739 was 333 years, when the ice barriers gave way, and the climate again became mild, and the soil began to be fruitful. The first period, it will be seen from the positions of the pole and line of maximum declination, was that of heat, in which the colony flourished, and the second that of cold, in which it perished.

The historical evidence relative to the maratime enterprises, and voyages of discovery made by the northmen, at periods correspoding to those of the maximum and minimum temperature of this region from this cause, is highly interesting and corroborative. Thus we find that in the year 1000, but 13 1-2 years prior to the arrival of the pole in the longitude of Greenland, 14 degrees 47 minutes west, Lief Ericson, son of Eric the Red, commenced a voyage of discovery to the south, and landed at various places on the eastern shores of this continent, to which he gave the names of Hallu-land, Maryland, and Vinland, supposed to be respectively Newfoundland, Nova Scotia, and the coast of New England, whence he returned with timber and grapes. Two years subsequently, in 1002, Thorwold, brother of Lief, made a voyage to Vinland, or Vineland, and was killed by the Indians, together with eight of his crew. The survivors lingered until the year 1004, in the vain hope of effecting a settlement, but were so harassed by the natives as to be induced to return to Greenland in the Spring of the ensuing year. In the course of the next six or eight years, several other expeditions were attempted, and appear to have been rendered abortive from the same cause. A long interval in the prosecution of this enterprise seems to have then ensued, and it is not until the year 1347, or more than 333 years from the date of the first recorded expedition, that we find it again resumed. At this period, however, the cold had again become exceedingly severe, from the arrival of the magnetic pole on the same meridian, although 180 degrees of longitude distant, and on the opposite point of the arctic circle to the one which it had occupied 333 years previous. This return of cold probably furnished the strong impulse of necessity for the new expedition in search of the more genial climate, of which record and tradition had preserved memorials; for the cold had become so intense, and the ice had

so formidably accumulated, by the year 1406, as to create an insurmountable barrier of icebergs along the whole coast, gradually destroy the inhabitants, and leave their 190 villages desolate. The coast thus remained ice-bound, and the country inacessible to explorers, until the year 1739, or about 50 years after the magnetic pole had again passed that meridian on its westerly quadrature of revolution. It was then that the desolation of the country, and the melancholy relics of its former prosperity were discovered, and a new colony established. In the present year, 1845, the descendents of these new colonists are enjoying the most genial climate of which their latitude admits, the pole being distant 90 degrees to the west, and the line of maximum declination in their midst. Their next cold period will be in the year 2011 1-2, when the pole will be 180 degrees west, coincident with their meridian of longitude as it was in 1345 1-2, but the cold will be less intense than it was in 1678 1-2, when its effects were so destructive and exterminating, because it will then be more distant from them in latitude, by the whole diameter of the arctic circle, or 46 degrees 56 minutes; and this truly awful and intolerable epoch of maximum cold will not return to them until the year 2344 1-2, or 666 years from the year 1678 1-2, when the pole will again be present, in all its horrors.

Similar changes of climate occur in all other latitudes in the same periods, although in a milder and less remarkable degree, in proportion as countries approach the equator. In the year 1780, so memorable for the intensity of its winter, the magnetic pole was on the meridian of the city of New York, and being also on the proximate side of the arctic circle, the cold was greater than it had been for the previous 666 years, or than it will be again for the same period to come. The whole bay of New York was frozen over, so as not only to be traversed by sleighs, but to admit of heavy cannon being taken on the ice, down through the Narrows, and across the lower bay to the shore of New Jersey. Since that time the average temper of our winters has been growing milder, and will continue to do so until the year 1967 1-2, when the magnetic needle in this city will have acquired its maximum westerly declination, or, in other words, when the line of maximum declination will be on this meridian. In the meantime, though very temporarily, our Springs may be rendered fickle and chilly in temperature, by the breaking up of the ice, on the northeast coast of Europe, where that line is present on its course to the westward, and by the consequent passage of large fields of ice off our coast, on their way to the southward. Since this line, however, like the line of minimum declination, or no variation, crosses the terrestrial meridians at an angle of 6 degrees 28 minutes, (nearly), it

follows, that countries situated in more southern latitudes, will receive their periodical meliorations and deteriorations of temperatuee later than those in higher latitudes; and consequently, the winters will be increasing in severity, in Florida, Louisiana, Alabama, and all other regions which have now an easterly declination of the needle, while they are diminishing in severity in this and higher latitudes of this continent where the declination is increasing westerly.

In short, the temperature of all countries and climates is absolutely subservient to the following law, however it may have been overlooked by meteorologists and previous writers on the subject — viz: Where the declination of the magnetic needle is increasing, the average cold is decreasing; and where the declination is decreasing, the average cold is increasing. In briefer terms, the average temperature increases and decreases with the declination of the magnetic needle.

In Europe, where the westerly declination is decreasing, the cold of winter, as we learn from the unanimous report of the foreign journals, is sensibly increasing, and it will continue to do so, until the eastern half of the great circle of no variation, now in the East Indies, and 9 degrees west of Pekin, shall arrive in Europe, and the declination there is diminished to Zero, preparatory to its becoming easterly.—*New York Director.*

CHEMICAL ACTION.

If, when two different substances are mixed together, they have no tendency to unite, and their constituent principles remain unchanged, they are said to have no affinity for each other, and their union is mechanical; but when the properties of either or both become changed, the mixture is chemical, or, in other words, they are said to have been chemically combined in consequence of an attraction or affinity that exists between them.

Ex. 1. *Chalk and Water unite mechanically.*— Put some pounded chalk in a glass of water; stir it up, and it will soon settle unchanged at the bottom of the glass again, the mixture being mechanical.

Ex. 2. *Chalk and Vinegar unite chemically.*— Instead of the glass of water, substitute a glass of vinegar, and immediately the chalk is put in it they will unite together, and form a chemical compound, different in its nature from either the chalk or vinegar used.

Ex. 3. *Oil and Water a mechanical mixture.*— Mix together oil and water in a phial; however much these may be shaken together, the action is merely mechanical, as will be seen by their soon separating — the oil resting upon the top of the water, as at first.

Ex. 4. *Soap a chemical compound.*—Add to the oil and water a little pearl-ash or potass; shake the phial as before, and the three will unite chemically, forming soap.

Ex. 5. *The Phial of the Four Elements*, as it is called, is an example of mechanical action. It is made thus:—Take a phial, about six or seven inches long, and about one-quarter of an inch in diameter: in this phial put, first, iron or copper filings; secondly, chalk or whitening; next, water; and, lastly, naphtha. These being of different densities, and having no chemical affinity for each other, will soon settle as at first, however much the vessel may be shaken.

Ex. 6. *Chemical union of Four Bodies.*—Instead of the naphtha, pour gently into the phial nitric acid. It will be seen to unite chemically with the metal, the chalk, and the water, making the whole a bluish homogeneous mass.

ITS DEGREE AND DURATION.

The degree of chemical action exercised by bodies upon each other is exceedingly varied, and so, also, is the time requisite for that action to take place. In some instances, many days, or even weeks and years, pass away before its effects become visible. In the spontaneous decay of animals and vegetables, the disintegration of rocks, the oxydation of iron, and still more so of lead and copper, by contact with the air, all of which are chemical processes, show the slow and gradual progress of chemical action; while the varied effects of effervescence, combustion and explosion illustrate how suddenly chemical action sometimes proceeds. The effect produced is often but little removed from a mere mechanical operation, and the change of properties inconsiderable: thus it is in solutions and decoctions. At other times, it is impossible to recognize the components in the compound produced from them. Bodies have often an affinity for each other in one state, though not in another; frequently the admixture of a third body is requisite to promote their union. In most instances, increase of temperature greatly aids chemical action; even light is frequently productive of the same effect, and in all cases it is absolutely necessary that each body should be in a state of minute division. Thus two solids combine with difficulty; a solid and fluid more easily, and two fluids with yet greater facility.

Ex. 7. *Slow action of the Atmosphere upon Iron.*—Let a piece of brightened iron lay exposed to the weather; if wet it will be soon rusted, if dry, some considerable time will elapse before this takes place.

Ex. 8. *Gradual absorption of Water by Lime.*—Quick lime exposed to the air becomes gradually slaked or chemically united with water, by depriving the atmosphere of any moisture which may be suspended in it.

Ex. 9. *Gradual change caused by Fermentation.*—Mix a pound of raw sugar with a gallon of water; in a few days a fermentation will ensue, which will change the whole into vinegar.

Ex. 10. *Chemical effect of Light.*—Wash a piece of paper over with a strong solution of nitrate of silver; dry it in the dark, and when dry expose it to the sun's light: though colorless before, it will now soon become black. The effect will be much more rapid if the paper be first dipped in very weak salt and water; it will then be photogenic paper, and a picture may be made by placing a dried plant, feather, bit of lace, &c., upon it previous to its exposure to the light.

Ex. 11. *Rapid chemical action shown by Effervescence.*—Add to a glass of sour beer, vinegar, or lemon juice a little carbonate of soda; effervescence immediately ensues, and the acidity of the liquid is destroyed.

Ex. 12. *Rapid chemical action shown by Combustion.*—Let fall into the flame of a candle some filings of iron or zinc; they will immediately burn, throwing out most beautiful scintillations.

Ex. 13. *Rapid chemical action shown by Explosion.*—Place a crystal of nitrate of ammonia in a fire shovel over the fire; when it has arrived at a heat sufficient for melting lead, it will, in the act of decomposition, explode with considerable violence.

Ex. 14. *Intense action shown by solution.*—Put some filings of copper or tin in a glass, and pour upon them a little nitric acid, when a rapid dissolving of the tin will take place, on account of the affinity between it and the acid, a nitrate of tin being formed.

Ex. 15.—*Combustion of Nitrate of Copper.*—Wrap up small crystals of nitrate of copper in tin foil; while dry no chemical union takes place, but moisten them with water, and soon the whole bursts into flame.

Ex. 16.—*Formation of Sulphuret of Iron.*—Hold a roll of sulphur to a bar of cold iron, they remain without uniting; but bring the iron bar to a red heat, and apply the sulphur as before; it will now unite with the iron, rendering it extremely brittle, while a considerable portion of light and heat will be extricated, the iron being changed into the sulphuret.

Ex. 17. *Formation of Glass.*—Mix together sand and potass; while cold no change is apparent, but heat them with the flame of a candle, urged with a blow-pipe, or else in the fire, and they will unite and form glass.

Ex. 18.—*Brilliant Combustion of Chlorate of Potass.*—Shake together some pieces of sulphur and chrystals of chlorate of potass—no action takes place; pound them in a mortar, and a loud snapping noise, attended by a flash of light, will announce their union. [*Caution.*—This should be tried in very small quantities.]

Ex. 19.—Mix together loaf sugar and chlorate of potass; of themselves they do not chemically combine, but touch them with a drop of sulphuric acid, and a most vivid combustion will ensue.

Ex. 20. *Extemporaneous Soda Water.*—Mix together half a tea-spoonful each of the dry powders of carbonate of soda and tartaric acid; in this state they have no chemical affinity for each other, but dissolve each previously in water, and the union of the two solutions will be attended by violent ebullition; in fact, the mixture is the well-known saline draught, or soda water.

ITS EFFECT.

Chemical action alters not merely the nature of bodies, but very frequently their form also, as may be seen by many of the preceding experiments: thus, solids are sometimes formed from gases and from liquids; liquids from solids and gases; and gases themselves are invariably produced from either one or other of these distinct classes. It is productive, also, in many instances, of great alterations of temperature, of volume and specific gravity, of color, and of taste.

Ex. 21. *Two Gases form a Solid.*—Brush the inside of a tumbler with a feather dipped in hydrochloric acid, and another with liquid ammonia; if now one tumbler be inverted over the other, the two invisible gases which are emitted unite and form an opaque solid, which is the chloride of ammonia or sal ammoniac. It will appear in the glasses as white fumes.

Ex. 22. *Two Liquids form a solid.*—Put into a glass a few spoonfuls of a saturated solution of chloride of lime, (muriate of lime,) and add to it gradually, drop by drop, sulphuric acid. If these two liquids be stirred together with a glass rod, they become converted into an opaque, white and almost solid mass.

Ex. 23. *Two Solids form a Liquid.*—Put into a mortar two drachms of sulphate of soda and two drachms of nitrate of ammonia. These substances, when rubbed together, will gradually become fluid.

Ex. 24. *Two liquids vaporized by mixture.*—Pour upon some strong spirits of wine an equal quantity of fuming nitrous acid; the chemical action will be so energetic that the whole will be dissipated into vapor.

Ex. 25. *Two Gases form a Liquid.*—Mix together chlorine and carburetted hydrogen gases. They will unite, and form an oily looking liquid.

Ex. 26.—*Two Gases form a Liquid.*—Mix together oxygen and hydrogen gases, in the proportion of two parts of the latter to one of oxygen, in a bladder; blow a soap bubble with the mixed gases, and when risen away from the bladder set fire to it, and the chemical union of

the contained gases will be attended with a loud report, and water formed.

Ex. 27. *Two Gases unite, and still remain gaseous.*—Mix together equ quantities of chlorine gas and hydrogen gas. They will, when subjec to light, unite and form another gas, the chloric or muriatic acid gas; may be collected in a liquid state by placing a little water in the ves holding the two gases.

Ex. 28. *A Gas formed from a Solid.*—Subject a piece of marble t red heat in the fire, and carbonic acid will be given off in abundance, marble being changed at the same time into quick lime.

Ex. 29.—Fill the bowl of a common tobacco-pipe with coal dust, co it with sand or clay, and place it in the fire; when hot, carburet hydrogen will be evolved, and may be lighted at the end of the stem the pipe.

CURIOUS CASE OF MESMERIC DETECTION OF CRIME

LYNN, MASS., May 28, 1845

Mr. Editor:—Thinking that you, and perhaps your readers, might interested in a specimen of what may be said on the possibility of dete ing rogues through the power of Mesmerism, or Animal Magnetism have concluded to give a brief account of a case that has recently pass under my notice. It may exceed your belief, I am confident that it w your explanation, as it does mine—meaning the process by which given result has been reached; but, incredulous as it may appear, I b to say that the circumstances which I relate are bona fide facts, and c be proved to be such, should truth or virtue require, in any court justice.

One of my nearest neighbors, a man of unquestionable veracity, Tuesday of last week, in opening one of the money drawers in t counters of his store, discovered that some money had been taken from evidently by a stealthy hand, since he had been to it to make char —which I believe was in the time of an hour. The exact amount th had been taken he could not tell, though he knew it could not be larg and as to the individual by whom it had been taken, he could form reasonable or satisfactory conjecture. His thoughts first recurred to clerk, he being a boy that had been with him but a few days, and knowing what power temptation might have over him; though he h

seen so much to encourage confidence in his honesty, that he could not believe him to be the rogue. Who it could be, of those who had been about the store during the day, or of the suspicious characters in the neighborhood, he could not imagine or satisfy himself. After waiting a day or two, without fixing upon any one as the probable criminal, and having heard of the wonderful revelations asserted to have been made by Mr. and Mrs. C., in a neighboring street, through the power of Mesmerism, to gratify his curiosity in the shape of seeing what might be said on the subject by a person in the mesmeric state, taking along with him his clerk, he called on them for the purpose. Merely stating that he should like to have an experiment in clairvoyance, without telling them his motive or business, and they having had no means of knowing the circumstances in regard to the loss of money from his store, Mr. C. put his wife into the mesmeric sleep, and proceeded to ask her such questions as Mr. P., the applicant, might propose, without being in communication with her. The first question related to the discovery and location of his store. She soon found it, describing it without and within, to his entire satisfaction. The inquiry was next put, whether he had lost any thing from his store within a few days. After a strong, and somewhat protracted mental effort, she answered, "Yes, some money from a little drawer in the inside of a counter." In a free and earnest manner she went on to relate the particulars as they appeared to her; stating that, in the absence of Mr. P. from the store, and as the clerk stepped down into the cellar with a bare-footed boy to get some butter in a covered tin pail, (which the clerk well remembered), a lad, apparently about fourteen years of age, entered the store, reached over the counter, pulled out the drawer, and took from it four dollars in two bills, one a three dollar bill, the other a one, which he hastily stuffed into his pocket, and then, instead of making off in a hurry, put on a composed air, and, as the clerk came up from the cellar, made as if he had just come into the store, in a very loitering, lazy, careless manner, and at last leisurely passed out of the store with the boy that had got the butter. She then described the boy, including his size, looks, hair, &c., with great particularity; also, his parentage, habits and business; and, in tracing him from the store, followed him down to the corner of the next street, where she described him as going into a grocery, and giving two cents for an orange, &c. &c. The clerk at once remembered that a boy answering exactly to her description had frequently been in the store, and that he saw him, apparently coming into the store, as he came from the cellar, at the time mentioned; and he recognized as true of him what she had said concerning his parents and habits.

On returning from the examination, Mr. P. and his clerk though matter might repay a little further attention. They accordingly k look-out for the fellow that had been so particularly, and, as they tho on reflection, so correctly described. Before the week closed, he his appearance at the store. Mr. P. taking him one side, and speaki him in a friendly tone and manner, told him that he wanted that m that he took from his drawer the other day, (intending to carry impression that he knew him to be the rogue.) At first, he d having taken the money; but when Mr. P. told him that a perso Nahant street, (having in his eye Mrs. C.), saw him enter the store, the money, put it into his pocket, and when he went out, pass down certain grocery, where he bought an orange giving two cents for i lost his power of denial, and, in owning it, confessed that all the cir stances relating to the number and size of the bills, &c., were just as had been described by the mesmerized subject; and, after expre regret and sorrow, and saying that he had paid away the money promised to go to work, earn it, and restore it to him.

Such are the facts in the case, and I have them from the original responsible sources. I submit them to the public, expecting them t questioned and perhaps ridiculed, but knowing, at the same time, they can be supported by the most unquestionable of human testim I have been particular to inquire whether either Mr. or Mrs. C. had knowledge of the boy in question before the time of the examination, if they had, whether they had any suspicion of him as a bad boy; a learnt that, up to that time, they were ignorant that any such boy liv town. Leaving every one to form his own opinion in the case, an make his own comments, I here leave the subject.

Yours, believing in the progress of human discovery and knowled

[*N. Y Tribune.*] M.

NEW AND VALUABLE USE OF MAGNETISM.—Dr. Wright, of Pittsbu has made an application of magnetism to locomotives, which, if succe in practice, will be of great importance. It is well known, says Pittsburgh Gazette, that locomotives of enormous weight are used our railroads, made so not for the strength nor power, but solely fo purpose of procuring that degree of adhesion to the rail without w attraction up hill cannot be accomplished. Dr. Wright purposes to e this adhesion by simply, at will, as the occasion may demand, conver by means of galvanism, the periphery of the driving wheel into a po ful magnet.

Its application is very simple, and it is calculated that it will give each wheel an adhesive force of two thousand pounds additional to what it has fom its weight. And as this adhesion is effected without any addition of weight, it follows, of course, that a given force applied in propulsion will be more efficient, as there will be less weight to be moved, and the tendency of having weight to run down hill instead of up will not have, in so great a degree, to be overcome by mere force of steam.

DR. KOCH'S DISCOVERY OF THE HYDRARGOS.

In January, 1845, I started for Alabama, where I began my researches at Claiborne, Monroe County, on the Alabama river. Here I discovered ten different beds of deposits, resting in a waving or rolling position one over the other, and forming, in this manner, a bluff of two hundred feet, in perpendicular height, above the level of the Alabama river, known by the name of the Claiborne bluff; each separate bed containing objects of the highest interest to the geologist, as well as the close observer, and each answering as a record of those ancient revolutions of our globe, during which millions of lives were almost momentarily destroyed, to make room for new ones to appear upon the stage of action, to flourish for a longer or shorter period, until, in some sudden and unexpected moment, they meet with the fate of their predecessors, and their remains formed a new bed of fossils, which at last were unanimously upheaved out of a deep sea, whose waves had been rolling over them for unknown ages.

It would lead me here too far to give a description of all the various strata. For this reason I will at once, in my description, leave Claiborne, and cross the Alabama river into Clark and Washington counties, which, to a geologist, contain some of the most interesting regions in the known world, and afford fully the same satisfaction as the Wældon formation of England, from which the celebrated Mantel brought to light so many monstrous reptiles which, ages ago, were the terror of the existing animal creation. Great is the interest with which a geological eye looks at those regions of England, and wonderful are the creatures with which we are thus made acquainted. But a new scene has opened itself in America, which, until now, remained in almost entire obscurity. A new comet, as it were, has burst upon us, shedding its refulgent light upon the geologist of the present day, and dispelling the clouds and darkness that before surrounded us.

Claiborne, which was visited some years ago by Mr. Conrad, was considered by him, to use his own expression, in a geological point of view, as a classic ground; but the section of country commencing in the vicinity of Clarkville in Clark county, extending into Washington county, and from thence into the State of Mississippi as far as I have been capable of exploring it, exhibits not only the same variety of oceanic estuary and land shells which we find at Claiborne, but also a variety of shells hitherto entirely unknown, and if we go higher up in the order of creation, we find Claiborne almost destitute of such; whereas, soon after we cross the river from Claiborne the scene changes, and we begin to discover the remains of vertebral creatures — in a greater number and variety as we approach Clarkville. A large portion of the surface of Alabama is termed Prairie, yet it differs materially from those large and fertile Prairies of Missouri and Illinois. That which in South Alabama is termed a Prairie is generally a rocky, hilly, and broken spot of land, which has more or less fertile portions, of a black, brown, or white soil, which belong to the same geological epoch to which a certain yellow limestone is classed, which it partly overlays, and which, in larger or smaller fragments, is mingled with it, and sometimes contains broken portions of iron ore and volcanic substances. Geologically speaking, this layer forms the upper, secondary, and the lower tertiary beds which I lately described in my Geological Report of South Alabama. The most characteristic fossil of it is, *clypeaster geometricus*, which occurs here in a high state of preservation. This strata is generally overlaying or resting on one containing a great number and variety of marine fossils, once the inhabitants of a deep ocean, which, after their death, formed for a long period their watery grave, until they, during the still progressive creation, were upheaved upon the dry land, and in the place of those extinct creatures appeared live ones of quite different forms, whose numerous remains we find now deposited in the above mentioned Prairies of Alabama. They consist of a variety of shells, corals, echini, &c., as also a large number and variety of shark's teeth and vertebræ, mingling with the remainns of saurier. But the most interesting and conspicuous are, the remains of the Hydrargos Sillimanii, the most gigantic of reptiles ever known, and which, we can well imagine, reigned a most tyrannical, cruel, and incorrigible monarch over an extensive estuary, whose full extent is at present unknown. At the time when Clark and Washington counties were first settled, single vertebræ of the forementioned maritime monster were discovered in various of the rocky prairies, but as the new settlers had no idea of their scientific value, they were destroyed by them in different ways. Some of them were even used for domestic purposes; for instance,

I have seen several of them lying in fireplaces to answer in the place of andirons to keep the wood from the ashes, thus giving a sufficient draft of air. I was informed that they stood exposure to the fire so well, that some of them had been used for three successive years for the above purpose, and they were only destroyed by persons carelessly throwing large logs of wood on them with great force.

A planter of Mississippi, who was not acquainted with the fire-proof quality of these vertebræ endeavored to burn some of them into lime, but, to his great surprise and disappointment, they came out of the lime-kiln in the same state in which he put them in. Unfortunately, he had broken them into pieces before he had committed them to the fire, therefore they became a total loss to science. One of them, however, met with a little better fate, being used for a door step at a planter's house near Clarkville, where it had for years been trampled upon, but still bids defiance to the ravages of time, and thus gained their admiration; another was used for a purpose that few persons would think it for, viz., a pillow. Notwithstanding I had been accustomed to see these splendid relics of the antedeluvian world burned and trampled upon, which sight not unfrequently awakened in me feelings of melancholy regret, yet I was somewhat amused while, in company with a planter of Clark county, I entered the log cabin of one of his slaves, where I could not refrain from a hearty laugh at observing one of Afric's blackest sons stretching out comfortably on his humble cot, his curly head resting securely upon the half of a vertebræ of one of these most horrid monsters.

These vertebræ were also used for architectural purposes. For instance, one of them I dug up from under the ruins of an old chimney, where it had answered the purpose, for many years, of a corner stone, until at last the chimney yielded to time, and its falling ruins buried the relic, which, like the bird Phœnix, re-appeared unhurt and as fresh as ever, when taken out of the mouldering ruins, and now forms a part of my valuable collection. Another of them was, by the ingenuity of man, buried in the earth for running the hinges of a garden gate on its articulating surface. I am convinced, that if some enterprising geologist or comparative anatomist, provided with means, had explored those regions of Alabama eight or ten years previous, he would have been capable of securing many treasures of this kind which are now destroyed, and irrevocably lost to science forever.

With melancholy feelings I made this observation, and had almost given up in despair the hope of securing at least one nearly perfect skeleton of those wonderful beings of science, but I was agreeably disappointed by the discovery of the monstrous Hydrargos in a small prairie situated near

Sintabogue, or, as it is called by the Indians, Snake river, which prairie had been only one year in cultivation, during which time some of the vertebræ were exposed; this led me to the discovery of the rest of the skeleton, which will now add a new proof to confirm the observations made by recent researches, that this vast country bears a corresponding resemblance, in point of massive animal remains, to the sublime and enlarged magnificence which characterize the natural features of its surface and soil. This relic is, without exception, the largest of all fossil skeletons found in the old or new world; its length being upwards of one hundred and fourteen feet, without estimating any space for the cartilage between the bones, and must, when alive, have measured over one hundred and thirty feet, and its circumference probably exceeded twenty-four feet, reminding us most strikingly of the various statements made by persons in regard to having seen large serpents in different parts of the ocean, which were known by the name of Sea Serpents.

N. Y. Beacon.

A Sound Mind a Rare Thing.—"I once saw," says Mr. Cecil, "this subject forcibly illustrated. A watchmaker told me that a gentleman had put an exquisite watch into his hands that went irregularly. It was a perfect piece of work as ever was made. He took it to pieces and put it together again twenty times. No manner of defect was to be discovered, and yet the watch went intolerably. At last it struck him, that possibly the balance-wheel might have been near a magnet. On applying a needle to it, he found his suspicion true. The steel works in the other parts of the watch went as well as possible with a new wheel. If the soundest mind be magnetized by any predilection, it must act irregularly."

Wonders of Electricity.—The Hartford Courant says, that on the 20th ultimo, Mr. Fowler, of Mansfield, took to bed at Nottingham, and in the morning was found apparently dead from poison. The usual remedies were applied without effect, when electricity was resorted to. At the first application of the conducting wire to the chest of the patient, he rose gradually, but fell back again. At the second shock he rose up, crying out "Oh," and then fell back again; but at the third shock he started up, crying out, "Oh God!" and sat upright with ease. In a short time afterwards he asked for something to drink, and tea and coffee were administered to him. In three-quarters of an hour he dressed himself, and appeared almost entirely recovered. He had purchased two ounces of laudanum, and had taken the whole of it in two doses.

The "Hartford Courant" had better try it again.

MEDICAL CASES.

CLAIRVOYANT EXAMINATION OF A PATIENT.—*Disease:*—*Overcharge of blood to the heart*, in consequence of which this organ is very much enlarged—Lungs quite contracted—the air cells being very nearly closed, producing great difficulty of breathing. Liver quite torpid, and the nervous system very much deranged, but sympathetically arising from the diseased state of the vital organs. The phrenic nerve is, however, very irritable, occasionally throwing the patient into spasmodic convulsions. The tenth and lumber vertebræ in quite a deranged condition; but the principal difficulty is the enlargement of the heart (*Hypertrophy*) —never saw any thing like it before. Here the mesmerizee, or *clairvoyant*, became sick, and requested that the examination should be discontinued for the present. The somnambulist being thrown into the *clairvoyant* state the next morning, in my office, some three hundred yards distant from the patient's room, he continued the examination by giving the cause of the disease and the remedies, as follows:—Cause; severe cold from wearing thin shoes, which settled in the vital organs, after which followed improper medical treatment, creating greater irritation and derangement, involving the whole constitution of the patient, which has now settled down in a chronic form, leaving the system relaxed, prostrated, and almost irrecoverably debilitated. This disease will be very difficult to remove, and will require three months, with rigid care and close adherence to the following prescription:—First, bathe her feet well in hot water, made quite caustic with sal-soda. Take one gill of blood from each foot once a week for four weeks; this will serve materially to equalize the circulation. Her feet should be bathed every morning and evening in this ley water, as hot as will be agreeable, but no blood should be taken only as before directed. At the expiration of four weeks, her feet need not be bathed only in the evenings. She should take two of the diaphoretic powders every day for one month, one at ten o'clock and the other at eleven, A. M. A strengthening plaster should be placed over the lumber vertebræ. Her spinal column should be well bathed with the *magnetic* liniment every evening, for several weeks. Sweet spirits of nitre, and spirits of mint, combined in equal parts, may be taken in half tea-spoonful doses, when great difficulty of breathing is felt; the dose may be increased as necessity requires. This patient should be mesmerized for three months. Every day for one month, every other day the second month, and every third day the last

month. This will serve materially to allay the irritability of the nervous system, and to give permanent relief. The mesmeric manipulations should be made from the head to the feet, and continued forty minutes each sitting. A great deal depends on her being regularly mesmerized. After the expiration of one month, when the bleeding operations are over, she should take two of the Hepatic pills every evening. This should be strictly observed for four or five weeks. The patient must not expect to be hastily restored to health, but by rigidly adhering to these prescriptions and directions, she will recover so as to remain in reasonable health, by being very careful to keep her feet warm and dry. She must be equally careful not to take any severe exercise which would produce fatigue, as any thing of this kind would serve to bring back the disease. Regular and moderate exercise should be taken as soon as the patient's health is sufficiently recovered to permit it.

This examination was made on the 25th of last March, by Mr. Dill, a very lucid and correct somnambulist. I was careful to treat the patient in exact accordance with the directions. This patient had come from a distance to be treated by the leading physicians of our city, several of whom tried their medical skill, to the full extent, for six months or more, but finally pronounced her case hopeless, and, so far as they were concerned, consigned her to the grave — another memorial of mortality quietly cut off in strict accordance with the *books*. One of these physicians, or scientific destroyers, conscientiously, *no doubt*, took his leave of her, after making the following speech: — "I have given you calomel and corrosive sublimate sufficient to change the disease in forty patients!!!" When first called upon to see this patient, she was spasmodically convulsed, and had been in this condition for some time. Her case exhibited every symptom, truly, except those which were desirable or favorable to recovery. In addition to this, the patient was suffering the most excruciating agony from Neuralgia in the face. This was removed in two or three days by mesmerism, and with which the patient has not been plagued since. Under this treatment the patient gradually recovered until we considered her sufficiently improved to return to her friends in the country. Although the patient's health is yet somewhat delicate, still it is gradually improving, and, with care, will undoubtedly continue, until she may become as healthy as she ever was; and even now she is able to walk, ride, sew, &c., performing most of the employments of females, to a reasonable extent, without fatigue. It is due to the Duodynamic system to say, that, after we obtained the magneto-electrical machine, and applied it in this case, the patient recovered more rapidly, and seemed to gain more permanent relief, in one month, than

she had in two months previously. There can be no possible doubt, in respect to the powerful remedial agency of this machine, in all cases — (we speak from experience). I have used it with the most signal success in the most obstinate chronic cases of rheumatism which have ever fallen under my observation, as well as scrofula, and also diseases of the eye, throat, &c. Those cases of which we made mention in our last number, are improving finely, and will undoubtedly be restored to health, by the use of this machine, after their condition had become so hopeless as to bid defiance to any good effect by medicine alone thrown into the stomach.

We have had the opportunity of trying its remedial powers upon another patient, whose case was certainly a very hopeless one. He had been treated by eight or ten different physicians, who had given him up, and pronounced him incurable. This patient's disease was pronounced by his attending physicians to be chronic rheumatism; but the clairvoyant, who examined him, pronounced his disease to be an inflammatory state of the tissues of the arteries, retarding the circulation of the blood, and which was caused by cold settling in this delicate membrane. This was no doubt correct; for the flesh was wasting away very fast, and the skin had become very tight, showing evident derangement in the circulation. The fingers and toes were very much drawn and disfigured. The whole nervous system was, to a great extent, paralized. The patient, when he first placed himself under our charge, had no power to raise his legs, move his toes, nor open his hands; in short, he had to be lifted and handled like an infant, having no power in his muscular system to help himself. This gentleman has now been under our care some three weeks, and he has improved so far as to have complete power over his muscular system; moving his legs in any position he sees proper; moves his toes, opens his hands, and uses them with considerable facility; and, with a little assistance, walks from his bed to a chair, and from the chair to the bed, suffering no pain whatever; and, before this publication reaches our readers, we have no doubt but that this patient will be sufficiently improved to return home with safety.

We have another remarkable case, which we feel in duty bound to lay before our readers, especially the medical portion, and those who are so unfortunate as to be afflicted with those obstinate diseases which baffle the ordinary practice, and bid defiance to the potency of drugs and their compounds. This is a complicated case of *Phthisis Pulmonalis*, of long standing. The patient is a female, of probably twenty years of age, whose health has been very delicate for six or seven years. The menstrual discharges had never been regular, and the liver and lungs had

become so seriously deranged, that life was ebbing, and, without prompt relief, the patient would soon have passed into a premature grave. Both sides had wasted away very much, and the skin, over the part thus affected, had become tight. We have succeeded in thoroughly mesmerizing this patient, and, when mesmerized, she becomes very lucid, and prescribes for herself. In accordance with her own prescriptions, we mesmerize her morning and evening, and let her sleep from one to four hours, as she may direct, applying the magneto-electrical machine some ten minutes each time before mesmerizing. She prescribes but little medicine, observing that she has taken too much medicine, and that the use of the machine, and mesmerism, will restore her much sooner, and more effectually, without the use of medicine. This patient is improving very rapidly, under this treatment. The skin has become loose over the decayed region, and the sides are distending themselves to their natural form.

The Duodynamic system of practice is certainly very successful in every grade of disease in which we have applied it. It bids fair to revolutionize the practise of medicine, and supersede the uncertain and dangerous method of throwing noxious and poisonous drugs into the stomach. This old *astrological* system of practice, like many more of the *foibles* of the day, will gradually recede before the overpowering truths progressively developing themselves in the arts and sciences. This is an age of improvement, which stoops not to the idiot, nor bends to the bigot; neither does it wait for the sluggard.

NEUROLOGY.

Dr. Buchanan, of Louisville, Kentucky, is now visiting St. Louis, and agreeably interesting our citizens with the theory and practice of his favorite science, Neurology. He will most certainly remain with us a sufficient time to make a thorough development of the principles upon which this highly exciting subject is based. Nothing can be more exciting and interesting to the human mind than to have its own wonderful powers displayed by artificial means, or by the natural stimuli of nature artificially applied. This science proves man to be a beautiful, but complex, machine, composed of a multiplicity of organs so perfectly connected with each other as to produce a unity of action; and, like most other machines, one wheel, or organ, may be partially deranged

without destroying the action of the whole, and which may be repaired, or excited into healthy action, Neurologically. In other words, the brain is the motive, or mental power, which governs and controls the vital and physical organs; each organ of the body being governed and controled by a particular part of the brain. Hence, we perceive that any organ of the body may be aroused and brought into action by exciting the corresponding portion, or organ of the brain, or nervous substance by which it is governed; and, *vice versa*, any organ of the brain may be excited into action, and its functions manifested by the agency of Neurology, through the corresponding organ of the body. The human body, although composed of an almost innumerable number of individual organs, still presents a unity of action, they being so intimately connected in their operations as to bid defiance to the ingenuity of man in determining where the functions of the one ceases and the other commences. They may be compared to the positive and negative *forces* of the Galvanic Battery, which may possess any amount of power, but unless the opposite, or antagonist, poles be connected by some connecting medium, no effect would be produced. So of this human machine, if the conducting medium between the brain and the organs of the body be severed, the mind may *will*, but its mandates will not be obeyed. If the nerves of motion which connect the brain with the right arm were severed, the mind might desire to raise that arm, but its desires could not be accomplished, for the reason, that the mind could not convey its desires to the muscles, for the want of a conducting medium between the mind and the arm. There may be ever so much will, or power of mind, but without the medium by means of which that *will*, or mental power, can come in contact with the organs of the body, no action would take place. This medium existing, we perceive the unity of action among the whole, and, consequently, the possibility of effecting one by acting on the other. This discovery was made by Dr. Buchanan, beautifully corroborating the science of Phrenology and Mesmerism, and is destined to shed more light on human physiology, health, and disease, than any other discovery by which medical science has been enriched. The advantages of this science in all cases of derangement, mentally or physically, renders it the most desirable to physicians of any thing yet brought within their reach. Those physicians who neglect to give this subject a portion of their attention, will prove recreant to their duty, to medical science, and the welfare of their patients.

We should have been pleased to have treated this subject at greater length, but the want of room compels us to be brief, the greater portion of this number being already in type.

PHRENOLOGY.

Phrenology is now sufficiently known to be spoken of as a scier
Mind. Abstract metaphysical phantasies are no longer regarded a
source of human judgment. That dark age question is settled, or le
behind in the onward progression of the human mind towards pe
tion. Memory, perception understanding, will, choice, &c.; —
affections are discovered to be more able images of science, refe
to organic and structural developement. Man seems often willing
many things that he cannot effect, by reason of his organization.
would be a poet, a painter, or a mathematician. What hinders him
is not organized for those employments. Could Newton have be
poet like Thompson, Beattie, or Burns, much less like Byron
Shakspeare? Could Watts, Arkwright, or Fulton, have displayed ta
like Paganini, or Ole Bull? Or sung the advantages of the steam-en
in verses of musical cadence and melody? No; each individual i
original; his own organization imparts to him, and constitutes in
his own peculiar modification, which can never be rigidly the same
or in any two of the great family of mankind. The books we read—
company we keep—the hours of labor and of rest which we observ
the aliments and elements which we use for our nourishment, as we
their quantity as their quality—as also the temperament which
obtained from our parents being verified and modified to infinity, acco
for the various dispositions, affinities, affections, attractions, loves, hatr
crimes, and virtues, that form the immense, entire general characte
the brotherhood of man. Vain and futile are the objections of those
wish to promulgate the opinion, that every science is destructive
Religion. The phrenologist entertains much higher sentiments conc
ing the great and almighty Author of all things, than to suppose f
moment that ignorance, which is so often the fruitful source of crime
misery, can be either the terms or foundation of his eternal salvat
The phrenologist cannot, if he would, impose on any person in
profession, because he is passed from the word to the thing immediate
and surely it cannot be seriously maintained by any Christian, that
works of God can counteract, or be opposed to, the word of God.
there be any such persons, they ought immediately to be passed un
the scientific inspection of some medical scholar, that the locality of t
disease may be discovered, and, by humane trainings and teachings, t
might be brought into a higher or more rational state of mind.

phrenologist has no secrets, nor makes any mysteries of his profession, but is perfectly willing to explain, even to the minutia, so far as he has progressed. The phrenologist uses no subtle arguments, nor far-fetched evidences, nor doubtful testimony, but has as many evidences of the fixed and unchangeable truths of his science as there are human heads in the world; none being without its own peculiar organization, descriptive and declaratory of *truth*. The phrenologist never shrinks from a fair, full, unequivocal investigation, and is at all times ready to give a rational, consistent, scholar-like, and christian-like answer to any and every rightly and fairly propounded question. The phrenologist will, in the darkest room, — a cavern, if it be desired — lay his finger upon the very place, the identical spot on the human skull, living or dead, and pronounce instantly whether the person be mild or harsh, courageous or timid, and a hundred other qualities, or modes of living. The phrenologist looks with his mind at the constitutive elements first, then at the organ, and, last of all, at the act, or ultimate expression; he begins from within, and works outwardly, when he forms deliberate judgment. The phrenologist teaches that, while the wants of the physical man from his physical organs are urgent, and relate altogether to sensual pleasure necessary to his state of being, such as food, lodging, and clothing, the intelligent or moral man has, from the nature and tendency of his organs, quite other delights and other objects. The phrenologist is ever prepared to assert, that, so long as man is first of the earth, he will be earthy first; but the moment his nature is reversed, he will be able to act quite otherwise than he does. The phrenologist asserts that ignorance is the bane of humanity, and science its antidote, — that the moral salvation of man is scientific culture, without which, he passes through life in a state of condemnation, an alien and an outcast, as regards social liberty and moral obligation. B.

We have been favored with the "Confessions of a Magnetizer Exposed; in which is shown the folly and falsehood of a recent pamphlet with the above title, by La Roy Sunderland." This is a pamphlet of some forty pages, containing, also, a glance at the philosophy of Pathetism, by the same author, with some critical remarks upon Professor Grimes' work on Etherology. The press of business has so far denied us the privilege of examining its contents; consequently, we are not prepared to judge of the motive of throwing this work into circulation, nor of the theoretical and practical utility of its contents.

MAGNANIMITY OF A DOG.

In the month of August last, a boy of about 11 years of age, the son of one of our citizens, was visiting in the country. As he was crossing a field, a dog pursued him as an intruder upon his master's premises, and the boy, being alarmed, ran for some distance, the dog chasing and barking fiercely. At length, as the dog was within a few feet of him, the boy stumbled and fell down a bank and broke his leg. The poor fellow was of course terribly alarmed, the dog still barking at him as he lay helpless at his feet. But the instant the dog perceived that the child was hurt, he returned to his master's house, and by his voice and actions convinced the family that something was wrong. Finally, after having tried in vain to quiet the dog, they followed him till they found the child crying for help, but at such a distance from any house that he could never have made himself heard. Had it not been for the dog, his enemy! the boy would have fainted there, or would have attempted to crawl away, in which case he would doubtless have destroyed his limbs.

The remarkable features in this case are, that the disposition of the dog was so suddenly changed. We often read of dogs making several efforts to save the lives of their masters, or children to whom they are attached, but this is the only instance we have ever met with, where a brute exercised what may be called, without irreverence, "the Christian principle" of kindness to a fallen enemy. In this respect, the dog was much *more of a man* than many in this world who walk upright.—*N. Observer.*

POETRY.

Think for thyself—to thee is given,
For thine own use, a soul;
What more have others, that to them
Thou shouldst yield up control?
Think for thyself—be sure thy thought
Is firmly fix'd, and right;
Then like the pearl unto the rock,
Cling fast with all thy might.
Think for thyself—one good idea,
But known to be thine own,
Is better than to filter through
An host from others thrown.