

Scientific American

NEW-YORK, APRIL 3, 1852.

The Known and Unknown.

Great though man is, intellectually, still all the knowledge which he possesses is as vanity, compared to the great mysterious unknown—that which he does not know. He makes the lightning his messenger, and sends words of hope, love, or fear to distant places on its fiery wings. He takes iron from the mine and wood from the forest; of the one he makes his steed, and the other his driver, and away he roars on the iron track faster than the eagle cleaves the air. He throws his iron bridge over the sea; and his iron cords span the yawning chasm, where Niagara's waters run dark and deep. The ocean billows are smoothed by the wheels of his steamships; he pierces through the Alps with the chisel and drill; he makes his pathway beneath great rivers, and walks dry-shod beneath the keels of huge ships. All this he does, and much more, by the force of his splendid mind—that constructive faculty implanted in him by his great Creator. But great though man is intellectually, and vast though the powers of his mind are, to comprehend and plan; extensive as is his knowledge of things in earth, water, air, and sky, still all this but teaches him that he knows nothing in comparison with that which is far beyond his ken.

The astronomer hath constructed his telescope six feet in diameter, and with it he seeth clearly five hundred times farther than he can with his naked eye; with it he hath made many discoveries in the starry heavens, for he can tell the height of the mountains and the depths of terrific craters in the moon; he hath counted other systems beside our own solar corner of the universe; but these things only impress more strongly upon his mind the simple fact, "he is but a babe in knowledge." He sees double, triple, and quadruple stars; one red, another blue, one crowned with revolving rings, and another oscillating like a pendulum; and viewing these immensities, the conclusion is forced upon his mind, that this earth, in the universe of worlds, is like a cork on the great ocean, and himself like a butterfly which dances in the sunbeam.

It may be acknowledged that man can know but little of those immensities which are so far removed from the sphere in which he dwells, but it is different with those things which are brought under his strict observation. There is some force in this remark, still the knowledge which man has accumulated in all the generations of his existence, forms but a small mound in comparison with the unknown. No machine hath yet been built which can cleave the air like the swallow, or dwell continually amid the storms of the ocean like the "petrel." No steam or other engine ever constructed, can give out such an amount of power every day, with three pounds of fuel, as the human machine, which, in a full grown man, consumes only three pounds of food. In apparently very simple things we know comparatively little. Who can detect that influence in a bank note which carries disease and death from an infected person to another, hundreds of miles distant. Plagues and fearful diseases are carried on the wings of the wind, but no chemist, by the most refined analysis, has been able to detect the subtle destroyer, which tells man "he dwells in a cottage of clay and is crushed before the moth."

We enter the flowery garden, and one sense tells us there are substances floating in the atmosphere which have been cast off by the rustling rose and geranium, to give pleasure to the mind; but those substances cannot be seen by the eye, heard by the ear, or felt by the hands; they are too fine for the scale of the chemist—his weights and measures are yet far too coarse to weigh an atom or circumscribe its dimensions; and here may lie some of those secrets which, for want of a better term, chemists give the name of "isomeric compounds." In the organic cell of the loftiest and lowliest known existences, there is a world beyond the search of the most powerful microscope that has yet been constructed. If there is an overpowering sense of man's ignorance, derived from an examination

of the immensities of the universe, as strong a sense of our ignorance is derived from the contemplation of a single molecule of matter,—the universe of a drop of water—a single organic cell.

It is not to be supposed, however, that because many things are now hidden and secret to us, they will always remain so. There is a limit to the mental grasp of man—beyond it he cannot go, but the world is full of wonders yet to be discovered—nature hath already revealed many of her secrets, and she will tell us many more. The qualities of a great and good discoverer and inventor, are, a good judgment,—common sense—reflection, industry, observation, and arrangement. Newton was pre-eminently distinguished for those qualities; and by the falling of an apple, his observing mind took up that which, to all others had, since the world began, excited no curious emotion, and it led to the discovery of that law which binds the sweet influences of the Pleiades, guides the planets in their courses in the stellar heavens, and which, as hath been well observed by an eloquent astronomer,—“conveys the thrill of the thrush's song to the remotest star in the universe.” Every man, then, who has the least ambition to extend the borders of our knowledge—and oh what a field there is before us still,—should observe, reflect, arrange, and gather up facts,—for science is but a collection of well-arranged facts.

A Few Words for Farmers.

As we have always a practical object in view in our disquisitions, we now wish to direct the attention of our farmers, for a few moments, to the subject of agriculture. The great discoveries yet to be made in agriculture will be the result of strong good sense, close observation, and study of natural phenomena. One very eminent chemist (Liebig), who has devoted nearly his whole attention to agricultural chemistry, has changed his opinions more than once on certain questions relating to agriculture, especially fertilizing substances. Although chemistry is of vast importance to the farmer, a most excellent chemist would make but a very poor farmer if he did not pay attention to more than the mere chemistry of his business. A plant, for example, is analyzed, and is found to be composed of silicon, potash, carbon, lime, and nitrogen; one says, "I shall make my fertilizers of such a compound;" he does so, and fails to obtain satisfactory results; why? Because he has not been a profitable observer of nature's operations. The human body is composed of nitrogen, carbon, water, phosphorus, lime, silicon, and some other substances; carbon, nitrogen, the phosphate of lime, but especially water, are the principal substances of which it is composed, and carbon and water form the greatest portion of its nourishment, as the carbon is the main substance of that low combustion which keeps up the heat of the body: yet who would be so foolish as to prescribe anthracite coal, phosphorus, lime, and nitre for his daily food? No one. We cannot tell why it is that man must plow, sow, and reap grain, and why he must slay the ox for his food, when the same substances of which his body is composed, can be dug from the dust beneath his feet; we only know that such is the fact. The grain of wheat requires sunshine, moisture, and the blanket of mother earth, to make it germinate, grow up, and come forth again in the golden harvest to gladden the heart of man. These operations of nature to produce certain results we are acquainted with, and have learned the facts by observation. All the knowledge of the farmer must be obtained by experience and careful observation. His business is a practical one; not that of a dreamer or speculator; his eyes must be open to see and his hands always ready to do—never afraid to try an experiment, and never too hasty to adopt a theory without experiment. Experiment alone can determine the value of fertilizers, and the best mode of farming—such as the best modes of applying fertilizers—to the times, soil, and seasons most suitable to do so. It is our opinion that every farmer should have a few acres of his farm set off for model experimental agriculture; and this period of the year, we believe, is the proper time to commence such a system, hence our present remarks.

The Hair.

Since the custom of wearing long hair and beards has been adopted by so many of our people, during the past two years, and since the Seer Davis has had revelations on the subject from the Spirit World, it may not be uninteresting to take a look backwards to other days. Among the early christians the custom of wearing long hair among men was denounced, and yet, strange to say, the Roman painters, in all the pictures of the Savior, depict him with long waving ringlets. In very ancient times long hair was a mark of beauty among men, as we read, in the case of Absalom, the son of Israel's Shepherd King. Among the Greeks and Romans the dandies wore long hair, and this trait distinguished the patrician Cohort of Pompey the Great, which was routed so terribly by the short haired veterans of Cæsar at the battle of Pharsalia. All the nations in a savage state—the men—wear long hair. The hair was part of the covering of the ancient Irish, at least this is recorded by the old chroniclers. It was esteemed a peculiar honor among the ancient Gauls to have long hair. Julius Cæsar, after subduing them, made them cut off their hair as a token of submission. The keepers of our State Prisons do the same now to their prisoners; they like to follow in the footsteps of great predecessors. In France it was long a peculiar mark and privilege of kings and princes of the blood to wear long hair artfully dressed and curled. All others were obliged to cut their hair in accordance with their rank and condition. In 1096, the Christian Church passed an edict importing that such as wore long hair should be excluded from coming into the church while living, and not be prayed for when dead.

In Queen Elizabeth's time it was common for the ladies to wear false ringlets of various colors, a mixture of fair, brown, and black. This was certainly a curious custom. In the reign of Charles II, all the dandies wore wigs powdered, and for a long time afterwards, both old and young, men and women, powdered their hair with fine flour. This custom was in vogue during the American Revolution. It was an abominable one certainly. In England all who wore powdered hair had to pay a tax (it may still exist), to government. The ridiculous custom of the English chancellor wearing a wig while on the wool-sack, is a relic of the old times. An engraving of Sir Edward Sugden, the new Lord Chancellor of England, appeared in a late number of the London Illustrated News; he had on his robes of office and his ponderous ugly wig. All the portraits of the leading characters in the Augustan Age of English literature would lead us to believe that such men as Addison, Newton, &c., were perfect Absaloms.

The monarchists, named Cavaliers, in the reign of Charles I, wore long hair; the Puritans wore short hair, and were called whigs. During the time of the United-men in Ireland, the revolutionists wore their hair short, and were named "Croppies." The cut of the hair also distinguished the band of young Parisian Frenchmen who had vowed hostility to Robespierre. At the present day the cut of the hair is followed by every man after his own fashion. It neither indicates rank nor religion, but it oftentimes proclaims the peculiar temperament of the man.

The most difficult question connected with the hair is the different color in different people. The Africans, Hindoos, Chinese, and American Indians are, in respect to their hair, all black. Some are lank, some curled, and some of frizzly quality. Among the nations of Europe there is every variety of color, although some nations are more distinctly uniform than others. What are termed the "Celtic, Scandanavian, and German races," have every variety of color, such as fair, red, and black, but at the present day none of these races are to be found pure, except it may be in a few small spots, such as in Finland, Saxony, and the Highlands of Scotland, and yet in those places, we believe there are mixtures. Among the Anglo-Saxon race there is every variety of color, but the Anglo-Saxon race is not a type, but a mixture of the Angles (Scandanavians), Saxons, Celts, and Romans, and yet of the Celts there are various distinct tribes. It is generally supposed that

the fair and red races are Finnic and Saxon. The Danes were esteemed the red race in olden times, but the custom among some races in the East to color their hair red, at the present day, is an evidence that they are descended from the Finnic race which at one time conquered Egypt, and whose likenesses are portrayed in the old tombs. It is not possible to classify the European nations by the color of the hair, for they are all a hotch-potch of mixtures, although there are great varieties of language among them.

The woolly heads belong exclusively to Africa, but Smith says, in his work on the Human Races, that there is also a woolly-head race in the East Indies.

No person can account for the differences in the hair of different nations; we know that such and such races have such head marks, and we know also, that they are distinct and characteristic, for a mixture of races is sure to produce a corresponding change in the hair.

We presume to state that as no man has the choice of his own hair, when born, he must just take it as it happens to come, and make the best of it, according to circumstances, to suit his fancy, if he can; and if he cannot, to bear it like a philosopher.

Recompense to the Heirs of Woodworth.

We have seen it stated that the heirs of the Woodworth Patent do not receive remuneration for their father's invention. Well, then, whose fault is it? Are the people of the United States to be taxed to support a great overgrown monopoly—keeping up a number of noble families in our land, because the heirs of Woodworth have been so foolish as to sell their rights at a low price? That is a queer way of bringing up arguments for the perpetuation of evils. A number of fortunes will be made out of the Woodworth Patent yet in the four years which it has to run. There can be no doubt of this, we believe. It is not true, either, that the heirs of Woodworth have not been remunerated.

Equinoctial Storms.

At the late meeting of the American Association for the Advancement of Science, which was held in Albany, N. Y., last summer, Prof. Loomis, of this city, read a paper on Equinoctial Storms; the conclusions arrived at were that the common opinion respecting regular storms at the equinoctial seasons, was erroneous, that it was like the vulgar notions of planting potatoes at full moon—and all such nonsense. He had kept a record of the kind of weather which had occurred during these seasons for a number of years, and that was the data for his conclusions. One or two members of the Association corroborated his view, but Dr. Hare, of Philadelphia, expressed a different opinion. He always expected, and always experienced, rough weather during the equinox terms. On sea he had experienced it, and the general opinion, he believed to be correct. The present equinox has been a stormy one, and affords testimony in favor of vulgar opinions about the storms. It is true that on the 22nd of March, last week, we had no rain in New York City, but we had plenty on the 23rd. We have noticed that, what are termed equinox storms, do not take place on the very days (22nd March and September), but generally before that particular time in March, and after it in September. We had a great deal of stormy weather within the past two weeks. On the 17th inst. (St. Patrick's Day) we had a most terrific snow storm,—it was a complete tempest.

Terrible Accident.

Friday last week, a lamentable accident occurred near this city, on the East River, near Hurl Gate. Mons. Maillefert, who has been operating for some time on the rock named the "Frying Pan," intended to make 4 blasts at low water, and had made one; while attempting the second, the accident occurred. Each charge is a cannister of 125 lbs. of powder, and several of these cannisters are taken into a boat, and one at a time is let down upon a rock. When one is let down, M. Maillefert takes the end of the wire which is attached to the cannister and rows off, paying out the wire. When away far enough from danger, he closes the electric circuit of the battery, and the cannister explodes. The cause of the accident was owing to his touching the wrong wire.