manage to break away and get over here is greatly improved.

We are of those that think this influx of population will eventually be a benefit to this country, after the proper process of assimilation has been effected; and provided, always, a proper policy on the part of the general Government provides a home market for the increased production, consequent upon the increased number of producers. If, however, these people are to be converted, by a free-trade policy, into consumers of foreign goods, foreign governments may lay aside all fear. The stream of migration will be effectually retarded. Wages will be reduced to the European standard, and the inducement which is now its chief stimulus will be, in a great measure, removed.

We do not share the fear entertained by some, that the mixed population we are acquiring will ultimately prove a disaster. That it may be, at a future time, the cause of dissentions and bickerings, perhaps of more serious troubles, is possible; but the forces are too nearly balanced to produce permanent disruption. There are few nationalities that retain their national peculiarities through more than one or two generations after their arrival in the United States; and the Germans, who, more than all others, do retain them, are a peaceable, order-loving people, governed by the dictates of reason rather than impulse. For the most part, they are educated, industrious, and thrifty citizens, and may well retain their harmless affection for the customs of the Father-Land. The Germans, also, bring with them great mechanical skill, which adds greatly to the resources of the country. Not a few of the most valuable inventions are made by Germans, and many kinds of industry draw largely upon this source for the skilled labor necessary to success.

Other elements of population, which are increasing by immigration, are well adapted to perform the ruder labor necessary to the construction of public works, and to supply the want of agricultural labor created by the recent war. If some of these are likely to prove hard to assimilate into an homogeneous whole, the result will be a quiet but sure extermination. They will share the fate of the native Indian, who, unwilling to accept civilization, has been gradually driven away by its advance.

The great rapidity with which immigrants are coming to this country is important in its bearings upon the great and ever-present labor question, and will render great caution necessary in the action of those who are endeavoring to advance wages and shorten hours of service.

SOMETHING ABOUT EYES.

The eyes have been called "the windows of the soul," an expression more poetical than scientific, unless we accept the belief that all living things, including corporations, have souls, which we are far from doing. We are even inclined to doubt that certain individuals of the *genus homo*—animals, supposed by many to have the exclusive monopoly of souls—really possess any, though they have sharp eyes to the "main chance." But whether a soul looks out of an eye or not, it is physiologically and scientifically an intensely interesting object. Dr. Dick has most justly remarked that "the eye is one of the nicest pieces of mechanism which the human understanding can contemplate."

The ball of the eye consists of three coats, the outer one of which is called the sclerotic coat. This coat is white and opaque, and constitutes what in ordinary parlance is called "the white" of the eye. In front this coat has a circular opening, very much like that in the case of an old-fashioned bull's-eye watch. In this coat is set the cornea, and is continuous with the sclerotic coat, being attached to it at the edge of the circular opening above described. The cornea is as transparent as any substance known to mankind. Inside the cornea is the choroid coat, which immediately surrounds the fluid called the vitreous humor, also a perfectly transparent substance. The choroid coat has a circular opening in front, to which is attached an annular curtain, which has the power of contraction or dilatation to adapt itself to varying intensities of light. This curtain is always colored, and it gives rise to the popular classification of eyes with reference to color, by which they are said to be black, blue, gray, etc. This curtain is opaque, and its contractile power depends upon a set of annular muscular fibers, arranged concentrically around a circular aperture in the middle of the curtain, which aperture is what is called the pupil of the eye. Another set of muscular fibers, arranged transversely to the circular set, pulling in all directions from the center of the pupil enables the latter to become larger when more light is needed for distinct vision. The cornea projects somewhat through the above described opening in the sclerotic coat, making the ball of the eye more convex at that point. Directly underneath it at this point, lies a fluid called the aqueous humor, which is so inclosed by the surrounding tissues that it forms a concavo-convex lens of the form called in optical works a *meniscus*. Directly behind this lens there is another body—the crystalline lens—which is also inclosed in the tissues so as to form a double convex lens, the front surface being less convex than the hindermost one. The mass of the eye ball is filled with the vitreous humor. The optic nerve penetrates the eye-ball on the back side below a point opposite the pupil, and passes obliquely upward, spreading out upon the posterior internal surface of the choroid coat, and forming what is called the retina. The office of the lenses above described is to concentrate the light in a proper manner upon the sensitive retina, from which the impression is transmitted to the brain by means of the optic nerve.

The eye is moved in all directions by means of beautiful muscles attached to the outside of the ball, one of which is an exact counter type of the mechanical element—the rope and pulley. This is the muscle which turns the eye obliquely toward the opposite shoulder, and is always used when we look at an object so placed. It passes through a loop at the top of the socket, and is then attached to the eye ball, when this muscle contracts, the eyeball is rolled inward and forward. This muscle has been considered as one of the most striking evidences of design in creation to be met with in the entire range of natural objects.

Volumes might be written upon the eye and the phenomena of vision, but what we have said will serve as a prelude to some curious facts in regard to eyes of inferior animals as well as those of the human race.

Dr. H. Power, in a recent lecture before the Royal Institution in London, asserted that very few animals are destitute of eyes. The *protozoa* and simplest animal forms seem to have no eyes, and such is the case with the polypi, which throw out arms to catch their food. Animals of the tape-worm class also have no eyes, probably because they live in darkness, and find a plentiful supply of food in the bodies of their patrons. The *radiata*, or star fishes, have only very doubtful organs of vision. Most of the *mollusca* including the oyster and the scallop, have very good organs of vision, and nearly all animals of a higher order than this class are furnished with eyes.

Some sea animals have eyes in their forehead; others have them in the brain. Some have plenty of eyes all along their sides or under their bellies, while others have them on the tips of their tails. The common snail has very good eyes on the tops of its horns, and the dragon-fly has more than 28,000 eyes.

Baer, an eminent German physician and oculist, says that blue eyes are capable of sustaining a much longer and more violent tension than black ones, and that the strength and duration of the sight depend upon the color of the eyes. We do not see any grounds for this statement, and therefore do not give it credence. The same author also remarks that black eyes are more subject to cataracts, which is perhaps the case, although we do not deem it as fully established. According to this writer, not one in twenty possessing black eyes are satisfied with their color. This may be true in Germany but we hardly think it correct for the United States. Our readers will remember that the "Merican frau," who was so extremely fascinating at "Hans Breitmann's Barty" had eyes of "himmel plue," which corroborates the statement of the learned Dr. Baer as to the German preference for eyes of that color.

Lavater esteemed blue eyes as a token of weakness and effeminacy of character, which, considered with reference to Buffon's assertion, that blue and orange-colored eyes are the most predominant, indicates that mankind at large are not to be credited with great strength of character. Buffon also asserts that many eyes supposed to be black are not really so, but if examined with a proper disposition of light will be found to be yellow, deep orange, or brown, which being opposed to the clear whiteness of the sclerotica appears so dark as to be mistaken for black. He further asserts that shades of yellow, orange, blue, and gray are to be found in the same eye; but that where blue is found it is invariably the predominant color. The blue tint is distributed over the iris in radial lines; while the orange is distributed about the pupil in flakes. The blue, however, so far overpowers the orange that such eyes appear entirely blue to ordinary observation. There are some eyes which are almost green, while the eyes of Albinos are either quite red or a bright orange color.

Lavater thought strength and manliness most frequently connected with brown eyes; but when the eyes incline to green, ardor, spirit, and courage were supposed to be indicated. It has been thought by many that dark-colored eyes belong to those most subject to melancholy and choler. Be this as it may, there can be little doubt, that as an index to character the eyes are the most significant feature in the human countenance; but as their expression is liable to rapid and great change as the emotions change, a cursory examination will often mislead.

NEW USES OF ANILINE.

Coal, a substance which we take up with tongs in order not to soil our fingers, is not only concentrated heat and light, but is the producer of the most beautiful coloring substances with which we are acquainted.

It has long been known that the aniline colors extracted from coal are used by the dyer, but it is much less generally known that they are applicable to many other purposes.

Since the year 1862 large quantities of aniline colors have been employed by paper manufacturers for the coloring of their paper pulp, or for the azuring of the surface of the paper after its final manufacture.

Aniline has here replaced ultramarine, metallic oxides, and dye woods. It is introduced in aqueous solution into the pulp or at the period of sizing.

The various kinds of shades for windows, lamps, etc., made to imitate fine porcelain, are colored by aniline. A design is printed on paper by means of an aniline lake, dissolved in a solution of a salt of aniline. This is then laid on damp albuminous paper. The color is taken up and fixed by the albumen, and the whole design is reproduced on the paper in a beautiful manner.

Wafers, sand for drying ink, etc., are colored by means of aniline.

Red and violet writing inks are prepared with salts of rosaniline.

Typographical inks are made by dissolving the colors in alcohol holding a resinous substance in solution, and which are precipitated by the addition of water. The precipitate, when dry, is pulverized and mixed with varnish and with ground barytes, or white zinc. Instead of barytes or zinc, starch colored by aniline may be rubbed into the varnish.

The same aniline colors are utilized for the coloring of hanging papers, aquarelles, photographs, etc. Photographs obtained by this process are very remarkable for their transparency and delicacy of tint.

Refuse of wool, in the shape of dust, colored by aniline, is employed to manufacture the "velvet-coated" papers.

Lakes on wood, with splendid metallic luster, are obtained by steeping the wood in hot concentrated solutions of aniline colors, drying rapidly in a current of heated air, and coating with a transparent varnish of copal dissolved in ether. The same operation applies to the coloring of straw hats, and to the production of artificial leaves.

Beads and false enamels are colored with aniline.

The colored globes used for public illuminations are also stained in the same way. For this purpose they are steeped in a solution of albumen, dried, and thrown into the aniline solution. By this simple process globes are obtained more splendid even than by the use of the solution of gold or Cassius purple.

Artificial stones, mother-of-pearl, and ivory are treated in an identical manner.

Soap, cold cream, pomatum, cosmetic powders, candles, and lucifer matches are colored by aniline.

The aniline blues and violets are at present of great benefit to the micrographer and anatomist for the dyeing of tissues which they color diversely according to the nature of their parts. For this purpose they have advantageously replaced carmine and ammonia, which often corroded and destroyed delicate membranes.

The red, blue, and violet with collodion form the best kind of liquid for the anatomical injection of capillaries and other minute vessels. After being thus injected they may be indefinitely preserved in glycerin.

Aniline colors derived from coal were discovered in 1856, a date which must ever be memorable in the annals of technology.

Accident to Professor Bunsen.

Professor Bunsen, of Heidelberg, recently met with a serious accident. He had received a large quantity of the metals of the platinum group, and was engaged in the preparation of pure rhodium. He had precipitated a large quantity of the finely-divided metal, and had placed it in a water bath to dry. Some one carelessly turned off the water from under the bath, so that when Bunsen went alone into his laboratory at midnight, he found that the heat of the vessel had risen to three hundred degrees Fahrenheit, instead of two hundred and twelve degrees, as it would have stood if water remained in the bath. He approached the vessel, put down his light, and put one finger in, to mark the condition of things. Suddenly there was a fearful explosion; both his eyes were severely burned; both his hands were torn into a mass of open wounds; but he had presence of mind not to drop the platinum capsule containing the rhodium, but put it back upon the furnace before he called for help.

The explosion and the call for assistance were fortunately heard by the servants, and he was immediately carried to his dwelling, which is in the same building with the laboratory. As soon as he had recovered from the unconsciousness following the accident, his first words were: "Let some one scrape up the rhodium from the floor, and save it."

It is known that some years ago Bunsen lost the use of one eye by a similar explosion; it was now feared that the remaining eye had been destroyed, but upon closer examination the physician expressed the hope that the injury was not incurable. Upon hearing this, this hero of science exclaimed: "Thank God! I can now ascertain what was the condition of the metal when it blew up."

But the injury to the noble man is very serious, and it will be a long time before he will be able to resume his scientific labors.

At the same time that the above information reaches us, comes also the sad intelligence of the death of the wife of Professor Kirchoff, the colleague of Professor Bunsen, and his associate in the great discoveries of the spectroscope. Men who enrich our knowledge as much as these two have done, are sure of the sympathy of the whole world when sorrow overtakes them.—*Post.*

Steam Road Roller.

A trial of the new steam road roller, purchased by the Central Park Commissioners to be used on the roads under their charge was made June 4th at the corner of 115th street, and 6th Avenue in this city.

The machine was made by Averill and Porter, Rochester, England, and we are informed, weighs about fifteen tuns. It has four rollers, two front, and two back, so placed that the hinder ones cover the ground not rolled by the front oues.

Two of the rollers, perform the office of drivers; being turned by an endless chain and rag wheel; the others are made to turn like the forewheels of a waggon to guide the machine. The engine runs with a quick stroke and is speeded down so that great tractive power is obtained.

The ground on which the machine was exhibited, was of a very friable kind, being composed mostly of a coarse sand. We think its operation would have been still more satisfactory than it was, had the character of the ground been different. As it was, we believe all present were satisfied of the great efficiency of the machine, though we heard some improvements suggested. These were however made too hastily to be perhaps of much value.

We understand that this roller, has been used largely as a traction engine for moving heavy weights in the iron-works of London, and it seems admirably adapted to that purpose.