

## SCIENTIFIC MUSEUM.

## Chloride of Soda.

The chloride of soda is one of the best disinfectants, if not the very best, in the world. It is, however, especially adapted for disinfecting soiled clothes, or those which have been employed in rooms of sick persons, because it can be employed in the water for washing them. It can also be employed for washing the human body, and for this purpose it is extensively used as a toilet liquid. The way to make it is known to but very few, and it is therefore sold by our druggists at a very high price. It is generally labelled with the name of a French manufacturer, and sold as a French product; we have seen a dollar charged for a quart bottle of it, and fifty cents is a very common price. We will inform our readers how to make it for six cents the quart at the very utmost limit:—Take one pound of good chlorate of lime, which can be bought at any of the druggists, (when it is damp it is a sign that it is not good, it should be perfectly dry), put this lime in a close vessel containing a gallon of cold rain water, and stir it well, taking care to break all the lumps; it should then be covered and left to settle all night, and the clear poured off next morning; the sediment may be thrown away. Then take and dissolve a pound of the common crystals of soda, in warm water, and pour this solution into the clear liquid, stirring all up well; it then becomes quite milky, when it should be covered up with a cloth to prevent the escape of the gas. In six hours the clear may be poured off, and bottled up tight for use; this is the chloride of soda, and it will be found to be as good as that for which people have to pay half a dollar for a quart. The soda precipitates the lime in the water, which falls as a very fine sediment; the clear liquor must be very carefully poured off, as the sediment is easily disturbed. Half a teacupfull can be put into a wash basin along with the water, for a person to wash himself with; it makes the water fine and soft, and washes beautifully with any kind of soap.

## Lapis Lazuli in Calico Printing.

Lapis Lazuli, long celebrated for its beautiful blue, almost ranked among the precious stones, and was sold at a price which put it quite out of the reach of the calico printer. But chemists, ascertaining its composition by analysis, soon learned how to make it by synthesis. Artificial ultramarine is now manufactured at three or four shillings per pound. But when it was made how was it to be fastened on cloth? From its insolubility, its fixation was a real difficulty. Chemists suggested that the ultramarine might be mixed with albumen, which being coagulated by heat, would retain the color on the cloth to which it was applied. Whole barrels of the dried white of eggs are now to be seen at calico print-works. Yet this is an expensive process. Could common cheese not be substituted for the white of eggs? Cheese is soluble in ammonia, and the ultramarine being mixed with the solution, is retained by the cheese, when the ammonia evaporates. A few years ago a Scotch chemist took out a patent in England for fastening this beautiful blue by a substance made from buttermilk, and sold under the name of lactarine.

## Dandelion Coffee.

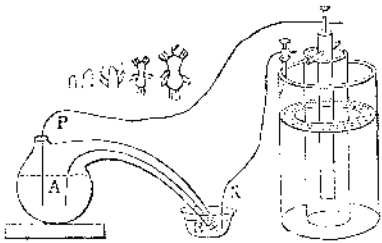
Gather the roots of dandelions in the Fall of the year, wash them well, taking care not to rub off the skin, dry them on boards in the sun, and then they will keep for years. When wanted for use, they are cut up in pieces about the size of coffee beans, and browned exactly like coffee, and they are then ground and used like it. If mixed along with coffee, at the rate of two-thirds coffee to one of dandelion root,—a very good and healthy beverage is thus made.

## Another Medal for Colt.

Col. Colt has received a silver medal from the Institution of Civil Engineers, in England, for a paper read before that body, on revolving fire-arms. The paper of Col. Colt was a very able one, it went into the history and improvements on revolving fire-arms in a most thorough manner.

## Development of Insect Life.

In our last number, page 295, we published an extract from the letter of Mr. Ogden, the American Consul at Liverpool, which appeared in the National Intelligencer, and made a few remarks expressing a disbelief in the conclusions therein stated. We here present a diagram of the apparatus as described, with the addition of a small battery.



A is a tubulated retort filled with soluble glass; and B is a dish of mercury, in which the neck of the retort is plunged; P is the positive platina wire, attached to the battery and dipping into the soluble glass in the retort; N is the negative wire connected with the battery, and forming a galvanic circuit with the positive wire by the mercury, and the wire in the retort.

It is stated in the letter that some notice is taken of Mr. Crosse's experiments in the "Vestiges of Creation," it also states that Mr. Crosse laughs at the idea of creating life, "he only promoted its development by accidentally bringing together the mysterious causes."

The discovery is not such a novel one after all; but the pretence of not assuming to create, and at the same time asserting that thus and so life was created by Mr. Crosse, is not candid, for the assumption of having created it is clearly put forth. It is stated that after this retort was kept in connection with the battery for some time, a small portion of a gelatinous substance was seen formed on the positive wire at its bottom then the appearance of life was manifested, and through its different stages it came forth in about 150 days, a full developed insect, the "Acarus Crossei," now known as "a distinct species."

The development theory is put forth in the "Vestiges of Creation," and the basis of it is, that all organisms are developments, not special creations: that like the *Acarus Crossei*, when certain substances in this chance way are brought together under peculiar influences, a new and complete species is produced—which—to use the proper term for the result—must be the work of chance. This theory received its death blow from Hugh Miller in his "Footprints of the Creator," and in that work we find a complete confutation of this very development experiment of Mr. Crosse, now put forth as a fixed fact by the respectable American Consul at Liverpool, F. B. Ogden, Esq.

On pages 256-7, in the "Footprints of the Creator," we find the editor, stone mason, smashing the *Acarus Crossei*, with his hammer, into a thousand fragments. He says, "to use almost the words of Cuvier, 'we know of no other power in nature capable of re-uniting previously separated molecules,' than the electric or the chemical. To these agents, accordingly, all the asserters of the development hypothesis, have had recourse, for at least the origination of life. Air, water, earth existing as a saline mucus, and an active persistent electricity, are the creative ingredients of Oken. The author of the 'Vestiges' is rather less explicit on the subject; he simply refers to the fact that the 'basis of all vegetable and animal substances consists of nucleated cells, that is, of cells having granules within them,' and states that globules of a resembling character, 'can be produced in albumen by electricity,'—and that though albumen itself has not yet been produced by artificial means—the only step in the process of creation which is wanting, it is yet known to be a chemical composition, the mode of whose production may 'be any day discovered in the laboratory.' Further, he adopts as part of the foundation of his hypothesis, the pseudo-experiment of Mr. Weekes, who holds that out of certain saline preparations acted on by electricity, he can produce certain living animalculæ of the mite family—the vital and organized out of the inorganic and the dead.

In all such cases, electricity, or rather, according to Oken, galvanism, is regarded as the vitalizing principle. Organism, says the German, is galvanism residing in a thoroughly homogenous mass. A galvanic pile pounded into atoms must become alive. In this manner, nature brings forth organic bodies. I have even heard it seriously asked, whether electricity be not God! Alas, could such a god, limited in its capacity of action, like those 'gods of the plains,' in which the old Syrian trusted, have wrought, in the character of Creator, with a variety of result so endless, that in no geologic period has repetition taken place? In all that purports to be experiment on the development side of the question, we see nothing else, save repetition. The *Acarus Crossei* is not a new species, but the repetition of an old one, which has been long known as the *Acarus Horridus*, a little bristle-covered creature of the mite family, that harbors in damp corners among the debris of out-houses, and the dust and dirt of neglected workshops and laboratories. Nay, even a change in the chemical portion of the experiment, by which he believed the creature to be produced, failed to secure variety. A powerful electric current had been sent in the first instance, through a solution of silicate of potash, and, after a time, the *Acarus Horridus* crawled out of the fluid. The current was then sent through a solution of nitrate of copper, and after a due space, the *Acarus Horridus* again crept out. A solution of ferrocyanate of potash was next subjected to the current, and yet again, and in greater numbers than on the two former occasions, there appeared, as in virtue, it would seem, of its extraordinary aptency, to be the same ever-recurring *Acarus Horridus*. How, or in what form, the little creature should have been introduced into the several experiments, it is not the part of those who question their legitimacy to explain; it is enough for us to know, that individuals of the family, to which the *Acarus* belongs, are so remarkable for their powers of life, even in their fully developed state, as to resist, for a time, the application of boiling water, and to live long in alcohol. We know, further, that the germs of the lower animals are greatly more tenacious of vitality than the animals themselves; and that they may exist in their state of embryonism, in the most unthought-of and elusive forms, nay—as the recent discoveries regarding alterations of generation have exclusively shown—that the germ which produced the parent may be wholly, unlike the germ that produces its offspring, and yet identical with that which produced the parent's parent."

Here then, it is asserted that no new, but a well known insect is produced. If it were true that a new insect was produced in this experiment, by varying it, another new insect would be produced, and if a new insect were not produced the development theory would fall to the ground; this it has done.

Mr. Miller refers to the Amphis when he speaks of "the germ which produced the parent being unlike the germ which produces the offspring." The amphis or plant louse is a peculiar insect; in the fall the female lays her eggs, after which the races for a time become extinct; in the spring the eggs are hatched, the females being wingless, and they produce their kind alive (not by eggs) for generation after generation for twenty generations without males. These things are mysterious, but there is never a new species developed—each race is after its kind.

Prof. Schultz, of Berlin, a few years ago, first boiled vegetable and animal infusions, so as to destroy all germs of organic life and expel all the atmosphere; he then attached an apparatus in such a manner that whatever air entered afterwards must pass through sulphuric acid, or a solution of potash. The result was that no infusoria or vegetable forms appeared during two months, but in the same infusion placed in the open air, and exposed to the same light and heat as that enclosed in the glass vessel, numerous animalculæ and fungi appeared in a day or two.

Other able authorities, such as Prof. Hitchcock, might be quoted, but enough has been said to show the development theory, or rather the experiments of Mr. Crosse to be a great mistake.

Four vessels have sailed from New York since the 9th of June, for Australia, carrying 636 emigrants to the newly discovered gold country.

## LITERARY NOTICES.

**THE MICROSCOPIST**—This is an excellent work by J. H. Wythes, M.D., and sold by Lindsay & Blakiston, of Philadelphia. The work teaches the use and philosophy of the microscope, an instrument which reveals to us a world in a drop of water. A knowledge of the microscope should form a part of every man's education, for there can be no question of its importance. As an instructive amusement, we have derived much pleasure from examinations of insects by this instrument, and we sincerely recommend to the young of both sexes to seek pleasure in such studies.

**MEN OF THE TIME**: or, Sketches of living notables, Authors, Statesmen, Divines, Engineers, Politicians, Warriors, etc.—This valuable collection of cotemporary biographies forms a book of over five hundred pages, and supplies a vacancy which has long been felt by every person interested in the living great men of the day. We perceive that it is not an easy task to compile such a vast collection and in a reliable form. This may, in a measure, account for the absence of such a publication. The biographies are, so far as we can judge personally, carefully and judiciously prepared—it is impossible, however, that some misconceptions should not arise, but if there be errors they do not appear from among those known to ourselves. The publisher has put forth the book in good style and within the reach of every one. J. S. Redfield, publisher, Clinton Hall, New York.

**LITTELL'S LIVING AGE**—No. 433 of this best of all foreign reprints, and undoubtedly, as a magazine, the best and most useful literary work published in our country, contains 13 articles on the most important subjects. There is one on the Life and Writings of Dr. Chalmers, which is worth the whole price of the number. It is for sale by Dewitt & Davenport, this city.

"The American Phrenological Journal" and the "Water Cure Journal," are both sterling, able, and interesting monthly publications, conducted by Messrs. Fowler & Wells, 131 Nassau street, N. Y. Terms \$1 per annum each. We recommend them to our readers as excellent periodicals.

"Prairie Scout," a new novel of Western life, abounding in thrilling adventure and stirring events—we have perused it with interesting horror.—Dewitt & Davenport publishers, New York. Price 50 cents.

"Mervyn Clitheroe," by M. Harrison Ainsworth, is just published by H. Long & Brother, 43 Ann st., N. Y. The author is a good story teller, and is well known to a host of novel readers. The work before us is stamped with genius. Price 50 cents.

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