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THE CURE OF DIPHTHERIA.

an antidote to the poison of diphtheria, by which the per-the strata contains sulphate of iron, it is reduced to sulphide, centage of deaths is reduced to less than one in fifty. Statis-commonly known as iron pyrites or false gold. The reduc tics show that the percentage of recoveries in cases treated tion is effected by the carbon of the plant abstracting the under the usual practice is about thirteen, or eighty-seven oxygen from the sulphate. The resulting carbonic acid out of a hundred sufferers succumb to the fell disease.

Chapman, in 1859, lost several cases, and became distrustful for it finds its way to the surface through some crevice, or by all rules, to try it in diphtheria. To his surprise, several of and pass through a similar round of changes afresh. In his patients recovered. He then tried quinia, and found it many cases the action of the carbonic acid changes a metallic acted well, but not so quickly. At last he settled on a com- ore from an insoluble to a soluble compound, thus reducing bination of the two, alcohol and quinia, and with these the ancient crystalline rocks. The metals carried away by remedies, he claims that diphtheria is more amenable to streams were deposited along their beds, and valuable beds treatment than many common diseases. In an epidemic, of ore were formed. such as diphtheria, all are affected by the morbific agent; but a few only yield to it. Mature, vigorous persons have larger portion of carbonic acid. This has been gradually vitality enough to resist the disease. Children and weakly absorbed into the earth, until the amount stored in the earth adults are its usual subjects. Dr. Chapman considers that is estimated at 6,620 times as much as there is in the atmosthere is, almost always, super-added a local and direct exphere, although the latter contains 1,250,000,000,000 tons of citing cause, such as defective exercise, improper diet, dark carbon. All animal carbon is derived from the atmosphere. rooms, damp houses, imperfect ventilation, and poisonous Say a tiger dines off a cow, the carbon and nitrogen of her emanations from decomposing filth in privies, cesspools, fiesh have been obtained from vegetation, which in turn exsewer pipes, etc. To such agencies the strongest constitu-!tracted them from the air; so that we have a kind of physiotion will soon succumb. The blood being deteriorated, its logical "House that Jack built," "This is the Tiger that ate crasis is impaired and its vitality lowered; and then the the Cow that devoured the Grass that absorbed the Carbon," sympathetic nerves, failing to receive due stimulus, waver in their efforts to carry on the animal functions.

"All local treatment," he says, "is worse than useless. It exhausts the nerve force and induces greater injection of the blood vessels, thus favoring the exudation.

"Alcohol neutralizes the diphtheritic poison, sets free the nerves of animal life, subdues the fever and infiammation, destroys the pabulum that sustains the membrane, cuts prey upon each other, would of course become extinct. The short the disease, conquers its sequelæ, and shields other result would be a completely barren and desolate planet, members of the family from an attack. Upon the subsidence of the fever, as is usually the case in from twentyfour to thirty-six hours, a purulent secretion begins to loosen the membrane, and soon, thereafter, to detach it in flaky. ragged fragments. This process may take place, and recovery be possible, even when the larynx and trachea are impli-sulphates, and sometimes alums are formed. cated. The membrane is seldom renewed, when this secre tion is maintained by a steady use of the remedy. Alcohol is as antagonistic to diphtheria as belladonna to opium, or quinia to malaria. Like any other antidote, it must be given the oxides, and the oxygen replaces the carbonic acid of carpromptly at the outset, or otherwise its potency will be lessened, perhaps lost altogether.

ordinary effects. Enough may be given to cause profound Mr. Hardman says in conclusion, "it will be seen what an intoxication in health, and yet there exists no signs of excitement or odor in the breath."

ganglionic nervous system, and thus enables the organism to right itself and resume its function.

cases in which this treatment was successful. He states space. We should have—but, last and worst of all, there that, in his long experience, he only knew of one case where would be no "we." Life would be impossible, and the a drunkard had diphtheria. He generally gives the alcohol in the form of whiskey.

The gaseous envelope which surrounds our globe plays a space—cold, void, and airless. very considerable part in the chemical changes ever going on in rock formations, whether actually at the surface—as in what is called the "weathering of rocks"--or in the less; below the surface. In a late number of the Quarterly Jourhaustive paper on "The Atmosphere Considered in its Geological Relations," from which we extract the following in teresting facts:

Perfectly pure water has a very appreciable solvent effect on rocks, which is immensely augmented when it is chemically charged with carbonic acid, oxygen, nitric acid, and bers of other callings. No better examples demonstrating other matters derived directly or indirectly from the atmosphere. But while on the one hand the influence of the at- found than in the careers of Mrs. Sarah Josepha Hale and mosphere disintegrates and destroys rock masses, on the Mr. L. A. Godey. Mrs. Hale states that she began the editother it is mighty in building them up. Without the small ing of the Ladies' Magazine, in 1827—fifty years ago—nine percentage of carbonic acid contained in the air there could | years later that periodical was consolidated with the Lady's coral reef of the present day, must owe their being indi- itself phenomenal, more so when it be considered that a rectly to the carbonic acid of former atmospheres. A drop mosphere, falls on a rock containing lime in some form, dissolves the time as bicarbonate, carries it down to the ocean, an immense mass of limestone rock.

cal matters as the almost infinitesimal trace of carbonic acid that she of late years has been writing for a third generation present. The amount ranges from 3 to 10 volumes in 10,000 of readers. The same is true of Mr. Godey, although he is a animals; combustion of fuel and vegetable decay.

sorption of carbonic acid by a plant is very interesting. The carbon is assimilated by the plant, and it dies and be comes thus a part of a coal bed or lies embedded in sedi-

ment of some kind. Decomposition sets in; and if there be Dr. E. N. Chapman, of Brooklyn, N. Y., has discovered a reducible compound near it, chemical changes result. If either is taken up by percolating water and penetrates Diphtheria first appeared in this country in 1858. Dr. farther into the heart of the rock, effecting new changes, of the regular methods. He had been using alcohol in the aid of a mineral spring, and once more mingles with the cure of ship fever, and he determined, though contrary to the atmosphere, to be perhaps again absorbed by vegetation

The atmosphere in the carboniferous age contained a much

Any considerable difference in the volume of carbonic acid must result in diminution of animal life. Very little above the ordinary standard carbonic acid in air becomes a deadly poison to all warm-blooded animals. If diminished vegetable life would languish, graminivorous animals would die of starvation, and finally the carnivora, being obliged to perhaps in some degree resembling the moon.

Oxygen is the next in importance as a geological agent. Percolating in rocks, dissolved in rain water, it quickly reacts on all oxidizable substances. Carbonates and protosalts are converted to peroxides; sulphides are changed into

Carbon and oxygen are thus antagonistic in their action on rocks and minerals, and are thus keeping up a circulation between the earth and the air. The carbon always reduces bonates with the same inveteracy.

The ammonia existing in the air is absorbed by plants, "Alcohol does not act as a stimulant, nor induce any of its and by their decomposition forms nitrates. "And now," all-powerful agent the atmosphere we breathe is. Without its aid we should know never a stratified formation, and Quinia is an efficient alloy to alcohol. It energizes the would simply form a ball of truly primitive rock. We should have no coal, no metalliferous deposits, no rivers or seas, and no rain--consequently no denudation by rain and Dr. Chapman sustains his position by citing numerous rivers—for the vapor of waters could not ascend into empty earth would finally degenerate into a pale-faced moon." That this is probably her mission cannot be denied; and probably before Saturn and Jupiter have cooled down to a THE GEOLOGICAL RELATIONS OF THE ATMOSPHERE. habitable temperature, the senescent earth will roll through

VENERABLE JOURNALISTS.

In the December issue of Godey's Lady's Book appear the apparent, but perhaps more powerful, action carried on valedictories of both the editor and the publisher of that magazine, which with the beginning of the new year is to nal of Science, Edward T. Hardman, F.C.S., has a very ex press into other hands. Much has been written and said about the exhaustive nature of the journalist's profession, and the general deduction has been made that as a rule literary people are neither long-lived nor are they able to withstand the mental labor incumbent upon them, over any very extended periods of years, comparison being had with memthe contrary of the commonly accepted opinion could be be no vegetation, and there would be none of the coal beds | Book, of which Mrs. Hale assumed the editorship, the active which form such important members of our rock formations. | duties of which she has subsequently continuously per-The immense masses of limestone found everywhere, and the | formed. A half century of steady journalistic labor is in woman has accomplished the task and it becomes still more of rain water absorbs a trace of carbonic acid from the at- remarkable when we are told that it has been done not early, but late in life, Mrs. Hale now having attained the venerable age of 90 years. Certainly no one would imagine and finally gives it up to become part of the skeleton of a that the editor of the sprightly periodical before us, a jour coral or mollusc, which in its turn may form a portion of nal which pre-eminently deals with fashion and art, and isaddressed especially to the young, is the same editor who The bulk of the atmosphere is made up of oxygen and wrote in the same brilliant way and made up the same innitrogen, but these do not take so active shares in geologi- teresting papers for our grandmothers, but the fact remains volumes of air. The principal sources of increase are, mere youth as compared with Mrs. Hale, being but seventy volcanic and other subterranean exhalations; respiration of three years of age. He began literary work when but fifteen years old, and hence his journalistic life has extended The series of rock-metamorphisms due to the simple ab- over fifty-eight years, during all but the first ten of which he has uninterruptedly published the Lady's Book.

Both of these venerable members of the press-and with the exception of William Cullen Bryant, we can recall