

to the sensitive zones of the spine. Massage is also a valuable aid to the successful treatment.

EARTH WORMS AND THE SPREAD OF DISEASE.

Pasteur, in the course of his well known investigations into the nature of certain infectious diseases, discovered that the germs of disease may be set free upon the surface of the earth through the agency of worms. He demonstrated that sheep feeding in inclosures where animals dead from charbon had been buried might contract the same deadly disease. The cause of this infection he traced to the agency of earth worms, that burrowing about the decaying carcasses swallowed the charbon microbion and conveyed it in their bodies to the surface, there to be voided and thus allowed to become distributed over the pasture.

Charles Darwin has just issued a brochure, "The formation of vegetable mould through the action of worms," which proves these creatures, hitherto regarded as so insignificant, to be as mighty in aggregated works as the coral builders. Darwin, after his usual patient and thorough method, has studied the habits and structure of the common earth worm and arrived at conclusions as novel as they are astonishing.

It is estimated that in garden soil there are to be found 53,767 earth worms to the acre; in old pasture land long untilled, about half that number. These worms, during a large part of the year in countries of temperate climate, are actively at work burrowing through the soil in every direction, taking the earth into their alimentary canal, partly as the most expeditious mode of removing it, but in the case of the humus swallowed for the purpose of extracting the contained organic matter upon which they feed. The swallowed earth passes through their intestines and is voided mainly upon the surface about the mouths of the burrows. Darwin states that "in

many parts of England a weight of *more than ten tons of dry earth* annually passes through their bodies and is brought to the surface *in each acre* of land; so that the whole superficial bed of vegetable mould passes through their bodies in the course of every few years" (page 350). It will be evident that such activity must effect in the course of time great changes in the configuration of the earth's surface, as ton after ton of soil in a very finely divided state is thus spread out and exposed to the wind and rain. The minute particles of rock often swallowed are subjected to trituration in the gizzard of the worm, and are acted upon as well by acids; they are thereby still further reduced and fitted for the formation of fertile soil. As worms burrow readily to the depth of three to four feet, and sometimes deeper even in solid subsoil, bodies buried are easily reached by them in the search for food. They devour greedily flesh and fat.

Imagination will picture the mischief done by these subterranean workers as they draw from the depths load after load pregnant with germs of the most virulent disorders, scattering them broadcast under the sun and wind to fill our atmosphere with pestilential dust, deadly to man and beast. The gloomy mind of Poe would add another figure to that terrible chant, *The Conqueror Worm*. While picturing the ghastly carnival, as generation after generation of men fall to him at last a prey, we should be made to see the same loathsome thing laboring in darkness and in stealth, sucking from the grave the fatal poison to open it out again into the upper air, charging the breath of life with pestilence, that fresh multitudes may perish and its banquets be unstinted.

These discoveries of Pasteur and Darwin irresistibly compel us to look to cremation as the proper method of disposing of the bodies of those dead of acutely infectious disease. Mere interment of bodies charged with countless myriads of microscopic germs, each capable of propagating a deadly virus, and

certain to be speedily committed to the atmosphere again—this procedure is repugnant to reason.

Cremation, or some similarly thorough mode of disposing of infectious bodies, must be adopted before sanitation can be considered as upon a substantial basis. T.

PRIZE ESSAYS.—The Kentucky State Medical Society has offered a prize of fifty dollars for the best essay embodying the results of original experimental research, or original clinical observation on the nature, mode of propagation, pathology and treatment of scarlatina. Competition is open to members of the society alone, and essays must be submitted to the chairman of the committee, Dr. D. S. Reynolds, before March 15th, 1882. The committee may reject any or all essays presented. If an award is made the successful essay is to be read to the society on the morning of the second day of the annual meeting, after which the chairman will open the sealed envelope containing the name of the successful competitor, announce the author, and award the prize.—*Louisville Medical News*, Nov. 17, 1881.

JOURNALISTIC CHANGES.—*The Journal of Nervous and Mental Disease* hitherto owned and edited by Dr. J. S. Jewell, Professor of Nervous and Mental Diseases in the Chicago Medical College, on the first of January passed into the hands of Dr. Wm. J. Morton of New York. The journal has been published in New York during the last year by G. P. Putnam's Sons. The editorial work also will now be done in the metropolis. The change was brought about by the reason that Dr. Jewell found his health and strength insufficient to permit his giving the necessary labor and attention to editorial work in addition to the demands of increasing professional care. He still continues upon the editorial staff as an associate editor. To those who are familiar with this journal in the past it is sufficient to say that it will be kept up to the very high standard attained by the former editor and proprietor. We wish Dr. Morton all success in the conduct of this excellent journal.