

that deprived of this body and robbed of its senses, this soul will be able to live, to enjoy, to suffer, be sensitive of enjoyment or of rigorous torments. Upon such a tissue of conjectural absurdities the wonderful opinion of the immortality of the soul is built.

If I ask what ground we have for supposing that the soul is immortal, they reply, it is because man by his nature desires to be immortal, or to live for ever. But I rejoin, if you desire anything very much, is it sufficient to conclude that this desire will be fulfilled? By what strange logic do they decide that a thing can not fail to happen because they ardently desire it to happen? Man's childish desires of the imagination, are they the measure of reality? Impious people, you say, deprived of the flattering hopes of another life, desire to be annihilated. Well, have they not just as much right to conclude by this desire that they will be annihilated, as you to conclude that you will exist forever because you desire it?

Man dies entirely. Nothing is more evident to him who is not delirious. The human body, after death, is but a mass, incapable of producing any movements the union of which constitutes life. We no longer see circulation, respiration, digestion, speech or reflection. It is claimed then that the soul has separated itself from the body. But to say that this soul, which is unknown, is the principle of life, is saying nothing, unless that an unknown force is the invisible principle of imperceptible movements. Nothing is more natural and more simple than to believe that the dead man lives no more, nothing more absurd than to believe that the dead man is still living.

We ridicule the simplicity of some nations whose fashion is to bury provisions with the dead—under the idea that this food might be useful and necessary to them in another life. Is it more ridiculous or more absurd to believe that men will eat after death than to imagine that they will think; that they will have agreeable or disagreeable ideas; that they will enjoy; that they will suffer; that they will be conscious of sorrow or joy when the organs which produce sensations or ideas are dissolved and reduced to dust? To claim that the souls of men will be happy or unhappy after the death of the body, is to pretend that man will be able to see without eyes, to hear without ears, to taste without a palate, to smell without a nose, and to feel without hands and without skin. Nations who believe themselves very rational, adopt, nevertheless, such ideas.

The dogma of the immortality of the soul assumes that the soul is a simple substance, a spirit; but I

will always ask, what is a spirit? It is, you say, a substance deprived of expansion, incorruptible, and which has nothing in common with matter. But if this is true, how came your soul into existence? how did it grow? how did it strengthen? how weaken itself, get out of order, and grow old with your body? In reply to all these questions, you say that they are mysteries; but if they are mysteries, you understand nothing about them. If you do not understand anything about them, how can you positively affirm anything about them? In order to believe or to affirm anything, it is necessary at least to know what that consists of which we believe and which we affirm. To believe in the existence of your immaterial soul, is to say that you are persuaded of the existence of a thing of which it is impossible for you to form any true idea; it is to believe in words without attaching any sense to them; to affirm that the thing is as you claim, is the highest folly or assumption.—[Superstition in All Ages.

### Cremation.

BY DR. SAMUEL KNEELAND.

The four principal ways of disposing of the dead have been: first, mummification; second, burning; third, interment; fourth, aerial exposure. Of the first, practiced chiefly by the ancient Egyptians, and of the fourth, practiced by many savage tribes, I need say nothing at this time.

In most nations, savage and civilized, from time immemorial, it has been the custom to inter the bodies of the dead in the ground or to seal them up more or less tightly in tombs. Though these may answer all sanitary purposes, and fulfill all the sacred obligations of the living to the departed, in scattered populations, they are attended with danger, always increasing in populous communities.

This danger has practically been recognized by the fact that cemeteries have generally been placed without the limits of thickly populated districts. When persons, dead from infectious diseases, are buried in graves, they leave behind them to the public, as residuary legatees, a fearful amount of danger; and faithfully and impartially is the deadly legacy divided among all dwelling within a circle of one to three thousand feet of such graves. Earth will, to a certain extent, deodorize, but cannot destroy or impede the escape of minute poisonous germs.

The danger from this source has never been fully appreciated by the public, entirely ignorant of the process of decomposition, and the products thereof. Of course the decay of the body committed to the grave depends as to rapidity entire-

ly on the soil and temperature. In the Arctic regions decomposition is imperceptibly slow; in dry, torrid sands dessication takes the place of putrefaction, and a kind of natural mummification takes place. In low, damp, or wet soils, in temperate zones, decay may be complete in one to one and one-half years, giving off deleterious gases for that length of time, with perhaps the seeds of contagious diseases. In dry, high, and airy soils the process is much slower and less dangerous.

What is decomposition of the human body? What are its products? What its dangers?

An English writer has defined the human body, chemically, as 45 pounds of carbon and nitrogen dissolved in 5½ pailfuls of water. Oxygen, though the principal of life, is also the great destroyer; the moment life ceases, our carbon by its agency is converted into carbonic acid, which escapes into the air, or is taken up by the roots of plants, according to the mode of sepulture; our oxygen combines with some of the hydrogen of decomposition, forming ammonia, which escapes in a similar way; the water, which forms about two-thirds of our weight, escapes by evaporation. We are resolved, therefore into gases, and the only dust which is left behind is the four or five pounds of lime salts which constitute our bones. Nature provides sufficient animate and inanimate agents for the removal of decaying animal substances in the air, on the ground, or just beneath its surface, and the more speedy in the hot and damp climates, where the results of decomposition are the most deleterious, provided man in his folly does not interfere with her processes. Man by his mode of interring human bodies, contrives to prolong as much as possible the decay of his deceased brethren, thereby increasing to the utmost the possibility of poisoning the water in the neighborhood of living beings. Air and surface burial permit free access to the myriads of minute living creatures whose office it is to convert into their own harmless substance the bodies of dead animals and men.

In the grave of six feet or more in depth, light and air are in great measure excluded, and there is no access to the insects from whose eggs emerge the grubs or worms, from whose jaws popular belief expects rapid and total destruction of the body. The truth is that the devouring worm is a myth as much without foundation as the "dust" into which we are supposed to be resolved, and the results of decomposition are horrible enough without adding any imaginary sensational accessories.

The modern process of cremation is performed as follows: The crematory at Washington, Pa., is a brick

structure, one story high, thirty feet long, twenty-five wide, divided into two rooms, a reception room twenty feet square, including walls, and a furnace room twenty feet by ten feet, including walls. Cremation is performed in a clay retort, such as is used in the manufacture of illuminating gas, but of a somewhat different shape, heated to a red heat before the body is introduced, which work requires about twenty-four hours. The body is placed in an iron crib made in the shape of a coffin, with small round rods, with feet three or four inches long to keep it up off the bottom of the retort. These feet are inserted into a flat strip of iron two inches wide and a quarter inch thick, turned up at the ends so that the crib with the body will slide into the retort easily. In addition to the ordinary burial garments, the body is covered with a cloth wet with a saturated solution of sulphate of aluminum (common alum), which, even when burned, retains its form and prevents any part of the corpse from being seen until the bony skeleton begins to crumble down. During the cremation there is no odor or smoke from the consuming body, as the furnace is a self-consumer of smoke and other vaporable matter. The time required to complete the operation is about two hours, but improvements in the process will doubtless shorten the time. A very small portion of the remains is ashes, but the mass is in the form of calcined bones in small fragments, very white, odorless, deprived of animal matter, and may be preserved any length of time without change.

This building, with its appliances, cost about \$1500. A plainer one, equally efficient, could now, at the reduced cost of labor and materials, be built for \$1000. An impression prevails that this crematory was erected for public accommodation, and that the owner of it follows cremation as a business for fees. This is a mistake. It was built for the use of the present owner and friends in the vicinity who concur with him in this reform. No fees have ever been charged nor ever will be while in his possession.

A not unimportant item in this process is the great diminution in the expense of funerals. The average expenditure for each body buried is \$100, the average cost for cremation is \$20; the aggregate saving in the United States from the adoption of this system would annually amount to millions of dollars. The expense of cremation is less than that of an ordinary burial case.

Cremation is certainly not barbarous, for it never entered, never could enter, into the heads of a barbarous people. It is not burning; there is no pile of wood or other combustibles, no visible flame, no