

and is beginning to coalesce into mist it acquires a dark brownish-black colour, even by reflected light; and if the globules of vapour have condensed each about a nucleus of solid matter, such as dust or other floating matter of the air, the resulting cloud will be almost black. So the "smoke" of volcanoes is not smoke at all, but mixed vapours—mainly the vapour of water in various stages of condensation and precipitation.

The "ashes" of volcanic eruption are also inconsistently named. The term "ash," by common consent, is applied to the residuum of combustion. The ash of volcanic *ejecta*, however, consists of lava and other molten matter so finely divided that the particles float in the air. I have in my possession several specimens of "volcanic ash"; one from Vesuvius is so coarse that a magnifying power of eighty diameters shows it to consist mainly of the mineral obsidian, or volcanic glass; in another, the particles are so small that a one-sixth objective, magnifying about six hundred diameters, does not with any certainty reveal the character of the material. The more finely divided the "ashes" the further it is carried. In many instances such *detritus* has been carried more than one thousand miles; the substance ejected from Krakatu, in the Strait of Sunda, was carried around the earth.—*The Journal of Education, London.*

"THE TRUE TEACHER, is in sympathy with his pupils. He loves them, is interested in all they do, not only in the school-room but everywhere."—*M. E. Hadley.*

GREAT SOCIAL SYSTEMS.—We must remember how small a proportion the good or evil effected by a single statesman can bear to the good or evil of a great social system.—*Macaulay*;

FREEDOM.

Is true freedom but to break
Fetters for our own dear sake,
And, with leathern hearts, forget
That we owe mankind a debt?
No! true freedom is to share
All the chains our brothers wear
And with heart and hand, to be
Earnest to make others free!

They are slaves who fear to speak
For the fallen and the weak;
They are slaves who will not choose
Hatred, scoffing and abuse,
Rather than in silence shrink
From the truth they needs must think;
They are slaves who dare not be
In the right with two or three.

—*James Russell Lowell.*

CLEANLINESS.—The *Nineteenth Century*, for this month contains an interesting article by Lady Priestley, entitled "The Penalties of Ignorance," and dealing especially with the corruption of food, in larders and elsewhere, by the generation of micro-organisms under certain conditions analogous to those which produce septic poisoning in hospitals. The latter has been conquered by science, and she not unnaturally asks, "Why not the former?" Lady Priestley describes, with much liveliness, visits to larders or store-rooms in which, to the vexation of mistress and maid, "things will not keep." This unfortunate state of things she traces, and rightly, to ignorance of the laws of the world of micro-biological life, and after dwelling on the endless risk and loss which we suffer from this cause, she concludes by quoting a remark of Sir William Jenner to the effect that geography, history, and crochet-work form far too large an item in the curriculum of our Elementary Schools, and the doctrines of life far too small an item.