various forms of disease, such as scurvy and softening of the bones, are the consequence of starving it in this direction. The obvious deduction for us is that to cure such unsound states of body it is as essential to feed it with what it wants as it is to give food to a famished man.—Here we touch upon one of the limits of the application of the homeopathic or any possible therapeutic formula. Diseases arising from insufficient supply of any of the constituents of the frame, cannot be cured by any medicine whatever, and can only be cured by giving in some form or other the required aliment.—This holds true, as was first demonstrated by Boussingault,* for the vegetable kingdom, and upon this fundamental law of nutrition the whole modern system of agriculture is based; and in consequence of the violation of this law, and growing potatoes upon a soil richly manured, arose the potato disease, so eventful in its social and political consequences.†

Let us resume the previous inquiry as to the means by which the body gets its supply of nitrogenous ingredients. The answer will be sufficient if we can trace them into the blood, for the blood is the body in a fluid state; nothing is found in any part of the animal frame which does not exist, in some form or other, in the blood. We must begin with an analysis of this all-important fluid.

The nitrogenous constituents of the blood are:—

1st. *Albumen*, of which, according to Becquerel and Rhodier, there are from 71 to 87 parts in a thousand. Salts of phosphate of lime, of sulphate of potash and soda, and chloride of sodium, are intimately mixed with this albumen, which, according to the formula of Mulder, consists of N^{39} C^{680} O^{220} S^{8} P^{00}.

2nd. *Fibrine*, which differs chemically from albumen, chiefly in containing more oxygen and less sulphur. Mulder's formula for it is N^{88} C^{671} H^{823} O^{221} S^{7} P.—The quantity of fibrine varies from 2·1 to 2·8 parts in a thousand.

3rd. *Caseine*. A substance of a very complicated chemical nature, and found in a very small quantity in the blood.

4th. *Globuline*. A very important constituent, forming the white membrane of the blood globules. It differs in many of its chemical aspects from the albumen, fibrine, and caseine, and according to Le Cann, amounts to 125·6 parts in a a thousand. Mulder's formula for it is N^{94} C^{994} H^{822} S^{6}.

5th. *Hæmatin*, on which the color of the blood globules depends. It amounts to about 2·3 parts in a thousand, and its most interesting feature is its peculiar chemical nature, for it contains neither sulphur nor phosphorus, but consists of N^{3} C^{44} H^{22} Fe. Hence the necessity of iron for the proper nourishment of the body, and especially for the ruddy glow of health produced by the rich red blood.

Such, then, are the nitrogenous constituents of the body, which we must supply it with to preserve life and health, and we shall now consider whence the supply is derived, and in what form, and what changes it has to undergo before it is converted into this liquid flesh and bone.

The supply must come from either the vegetable or animal kingdom, for although we read of tribes who consume as their chief food large quantities of clay, yet it is now a recognized fact, that unless the clay contain animal or vegetable matter in some form, it may be merely as a multitude of those infusoria Ehrenberg describes, it is in itself qua clay, or mountain meal, or any other merely mineral substance, incapable of sustaining life, although for a time it may appease the cravings of hunger.

Let us turn, then, to the vegetable and animal kingdom, and set out with this important observation of Mulder, "that those who feed on flesh, and those who feed on vegetables, partake of the same nutriment; they have both their albumen, the one derived from plants, the other from animals, but for both the albumen is the same."*

It is obvious that the albumen, and

* Rural Economy in its relations with Chemistry, &c., by J. Boussingault.
† See Johnston, op. cit.

* G. J. Mulder en W. Wenckenbach, Natur-en Scheikundig Archief. 1838, s. 128, quoted by Moleschott.