

than to be slaves to strong drink and games of chance, than to feast on dead carcases, and slay, with the view of robbing, their own relations.

Into the controversy whether or no Shakspeare wrote his plays and whether they were not rather written by Bacon* Mr. Thomas D. King has flung himself with great earnestness, taking the side of Shakspeare against Bacon. He goes over the evidence, which will be familiar to most Shakspearean students and to all into whose hands Mr. Holmes' book on the Authorship of Shakspeare has fallen. He also contends that there is a difference in nature between the philosophical and poetic mind. To those who would wish to go over a large, but we must add, rather barren controversy put in a small compass, this book would not be the less pleasant or useful guide because it is made up so largely of quotation.

The Progress of Science.

A SERIES of very interesting experiments has been lately carried on in Germany, with a view to ascertaining the nutritive value of animal food when administered to our domestic Herbivora.† The material selected was fish-guano, which is produced by drying and reducing to powder a Norwegian species of cod. This is admirably adapted for the purpose, for, being inodorous, it is readily eaten by sheep. Chemically, it is composed of about ten per cent. nitrogen, and 33 per cent. mineral constituents, the bulk of which is calcium phosphate (bone-earth). One cwt. of this fish-guano costs 15 shillings in Leipzig. The conclusions arrived at from the experiments are the following:—1st, that the nitrogenous constituents of the food are easily digested and absorbed; 2nd, that a diet composed of vegetable substances poor in nitrogen (*e. g.*, straw and turnips), with an admixture of the fish-guano, is more advantageous, because more easily digested, than a mass of nitrogenous vegetable material such as meadow-hay; 3rd. The mineral constituents of the food are at first absorbed in some degree, but the power of digesting them decreases, so that finally they pass off from the body little changed in their amount; 4th. This is a material advantage, as the yard manure is thus enriched with phosphoric acid.

Some recent experiments of M. Berthelot* are of immense interest from a biological point of view. Plants were formerly assumed to derive all the nitrogen in their composition from the soil, chiefly in the form of nitric acid and salts of ammonia. It is only within the last few years that it has been definitely established† that certain plants use living animal matter as a source of nitrogenous food: and now a third source, *viz.*, the atmospheric nitrogen, which, it has always been taught, plants cannot absorb, is indicated by M.

* *Bacon vs. Shakspeare*.—A plea for the Defendant. By THOMAS D. KING. Montreal: Lovell, 1875

; Chem. Cent. Blatt. Nos. 47, 48, 49.

Chem. Cent. Blatt. No. 44.

Compt. Rend. V. 82. 1357.

† Darwin. Insectivorous Plants.