

during upwards of twenty years, Justus Liebig has unquestionably shed upon his all-important theme a flood of light, as copious and brilliant to the full as that which it successively received, in former days, from the luminous minds of Lavoisier and Davy. Indeed, of the affiliation of his labors to those of his immediate predecessor, Liebig himself, in the dedication of his work to the British Association, speaks with becoming humility and justifiable pride:—

“I have endeavored,” he says, “to follow the path marked out by Sir Humphrey Davy, who based his conclusions only on that which was capable of examination and proof. This is the path of true philosophical inquiry which promises to lead us to truth, the proper object of our research.”

Of Liebig's views, and of the rapid and profound revolution of opinion they brought about, occasion will arise to speak in a subsequent page. Meanwhile, it may suffice to remark that, amongst other things, they completely overthrew the conceptions previously entertained as to the nature and operation of manures.

[Here referring again to the history of patent manures in England, the author remarks, that, as a result of the newly-awakened interest in the subject of scientific agriculture, no less than ninety-six patents for manures were registered between 1850 and 1855; and he estimates that the whole number of such patents registered from 1842 to 1862 was at least 200.]

This long series of inventions comprises plans and processes for turning to account, as manure, almost all the known forms of animal waste and ejecta: such as, for example, the night-soil and sewage of towns; the rags of woollen, silken, and leathern clothing; the débris of manufactures in which horn, bone, hides, bristles, gut, and other organic and nitrogenous materials are used; the spent animal or bone charcoal of the sugar refineries, and other phosphatic residua; the ammoniacal liquors of gas-works; the alkaline wash-waters of soap, dye, bleach, and many other factories;—in a word, several hundred forms of residua,—nitrogenous, phosphatic, and alkaline,—formerly cast away as worthless rubbish.

These, the respective patentees propose to subject to various processes, mechanical, physical, and chemical: such as, for example, in the case of liquors, to concentration by boiling down, or precipitation by chemical agency; in the case of solid residua, of crushing, grinding, or other process of comminution; or to chemical disintegration by powerful solvents, acid or alkaline according