

conceived that linen rags were capable of producing *more than their own weight* of sugar, by the simple agency of one of the cheapest and most abundant acids? *—that dry bones could be a magazine of nutriment, capable of preservation for years, and ready to yield up their sustenance in the form best adapted to the support of life, on the application of that powerful agent, steam, which enters so largely into all our processes, or of an acid at once cheap and durable? †—that sawdust itself is susceptible of conversion into a substance bearing no remote analogy to bread; and though certainly less palatable than that of flour, yet no way disagreeable, and both wholesome and digestible, as well as highly nutritive? ‡ What economy, in all processes where chemical agents are employed, is introduced by the exact knowledge of the proportions in which natural elements unite, and their mutual powers of displacing each other! What perfection in all the arts where fire is employed, either in its more violent applications (as, for instance, in the smelting of metals by the introduction of well adapted fluxes, whereby we obtain the whole produce of the ore in its purest state), or in its milder forms, as in sugar-refining (the whole modern practice of which depends on a curious and delicate remark of a late eminent scientific chemist on the nice adjustment of temperature at which the crystallization of syrup takes place); and a thousand other arts which it would be tedious to enumerate!

(60.) Armed with such powers and resources, it is no wonder if the enterprise of man should lead him to form and execute projects which, to one uninformed of their grounds, would seem altogether disproportionate. Were they to have been proposed at once, we should, no doubt, have rejected them as such: but developed, as they have been, in the slow succession of ages, they have only

* Bracconot. *Annales de Chimie*, vol. xii. p. 184.

† D'Arcet. *Annales de l'Industrie*. Février, 1829.

‡ See Dr. Prout's account of the experiments of professor Autenrieth of Tubingen. *Phil. Trans.* 1827, p. 381. This discovery, which renders famine next to *impossible*, deserves a higher degree of celebrity than it has obtained.