

ant we may include the mistresses of almost every British and Irish and Scotch household—not even excluding the noble authoresses of recent English cookery books. Yet we would venture to affirm that a thousand cooks or more could be produced out of any quarter of Paris who would return tolerably fair answers to any such set of questions as should test their knowledge of their art, as derived from a few not very recondite principles, and not held as a mere routine of operations to be performed.

The difference in skill spreads as it descends in society, and makes much of the difference between the economy, the comfort, and the health, and with these the general domestic peace and sobriety of the foreign workman and his children, and the thriftless discomfort and squalor that beset the British earner of better wages, in despite of the far finer raw material of food that those who cook for him and them, generally command in our islands.

An excellent illustration of the ill effects that result from cooking without any principles to guide occurs to us, and is within the scope of our own knowledge. The guardians of a provincial workhouse found that, weight for weight, rice was cheaper than oatmeal, and asked him who was called their cook could he not make the workhouse porridge with half of one and half of the other? Nothing was easier he replied, it would be an excellent economy. The unhappy paupers did not like it—but who cares for that; are there not interesting niggers and convertible savages for Exeter Hall and English sympathy to expend themselves upon? So it was rice and meal porridge or starve, which you please, for a time. But ere many weeks, in many a fragile wooden shell, the very old and the very young had gone forth from the house, and diarrhoea and dysentery were a plague within it. The doctor, good easy man, declared it had nothing to do with the excellent food the board had ordered. How should it—was not rice prescribed as the fit food for dysenteric patients? He, however, neither tasted nor looked at the porridge—pauper doctors are not paid for that. A lady, however, of more than common knowledge and intelligence, whose husband was a guardian, came and tasted it. "That," said she, "is the cause of the sickness. Don't you see that the temperature at which, and the time during which, you boil the oatmeal into pulp, is insufficient to cook completely the hard dry rice? The starch cells of the rice are not even half softened; you might as well feed the paupers with sawdust, and the effects upon the intestines would be the same." Rice to be wholesome requires a *moist baking*, at a temperature of from 250 deg. to 300 deg. But the workhouse cook knew nothing about that.

It is not, however, our object to digress further by dilating upon the desperately bad effects that have been and are being with increasing intensity produced amongst our workers for wages, by the almost incredible ignorance—not alone on cooking and other directly applicable domestic subjects, but on all subjects moral and intellectual, on the part of the girls and women that become the wives and the mothers of the future generation of English workmen yet to be. That will demand space

for itself and graver treatment than belongs to what we here alone intend, viz., a mere illustration taken from an almost whimsically low point of view, that even in the commonest of the arts of life our systematised knowledge is less complete than that of our more advanced continental neighbours, and that the means for improving it, even in this lowest aspect, as yet scarce exist among us.

Our object more at large has been to illustrate that, which one might until recently have supposed required neither proof nor illustration, viz., that knowledge is better than ignorance, and that knowledge to be worthy of the name must be systematic and exact, and shall best and most powerfully serve us whatever be its nature, in proportion as it approaches nearer to the throne of science.

"Spontaneous invention, competition, and practical experience" are, it appears, however, the fountains of all industrial knowledge, the true sources of all national improvements in arts, the basis of all national power as derived from these. Woe be to those who darken counsel by words without knowledge; let England on this matter of education for her workers, rudimentary and technical, beware at this juncture whose counsel she follows, nor forget that there be "blind leaders of the blind."

Pray what is "spontaneous invention?" Has it a bit more existence in the universe than "spontaneous generation?" The very phrase is proof of the formless thought. Invention is but the exercise of imagination and judgment upon fore-known facts, themselves discoveries, &c.; the unveiling of nature's "open secrets" (as Carlyle nobly calls them), in search of the means to a wished-for end. Upon what, then, can invention work, but upon the materials that science hath accumulated for it—by what shall its "footsteps and beatings in the dark" (to use Bacon's words) be guided, but by the clue that science bestows?

"Competition" forsooth—that sordid "drudge 'twixt man and man,"—that too, is a more clear and copious fount of improvement than all organised technical education; that is to say, is better than all applied science. Let us probe our memories for a moment, if it be worth while to try, if this be so. Pray how much had competition to do with the creation of the printer's art, with clocks and watches, with Hadley's sextant (the instrumental basis of all oceanic navigation), with the telescope, with gunpowder?

Competition for anything may be as keen as that for food, amongst the mouths of a beleaguered city, but unless it have the facts of science to work upon, and the guidance of sciences by which to rule its work, nothing can come to the competitors however eager and hungry. No manna falls from heaven into the lap of inventor or improver; his assistance comes from quite the opposite quarter, and is powerful and helpful to him in proportion as he looks steadily and thoughtfully to the earth, and learns with exactitude and system its materials, and the forces that rule those that are around him and beneath his feet. If he be wise and sees his aim and longs to accomplish it, all that competition can do, is to stimulate him to acquire more of the light of sciences to teach him the way, to that which no competition in the world can show or even hint at.