

Whether any perfumed lady would be disconcerted at learning the sources of her perfumes, each lady must decide for herself; but it seems that Mr. De la Rue and Doctor Hoffman, in their capacities as jurors of the Great Exhibition, have made terrible havoc among the perfumery. They have found that many of the scents said to be procured from flowers and fruits, are really produced from anything but flowery sources; the perfumers are chemists enough to know that similar odours may be often produced from dissimilar substances, and if the half-crown bottle of perfume really has the required odour, the perfumer does not expect to be asked what kind of odour was emitted by the substance whence the perfume was obtained. Now, Doctor Lyon Playfair, in his summary of the jury investigation above alluded to, broadly tells us that these primary odours are often most unbearable. "A peculiarly fetid oil, termed fusel oil, is formed in making brandy and whiskey; this fusel oil, distilled with sulphuric acid and acetate of potash, gives the oil a pear. The oil of apples is made from the same fusel oil, by distillation with sulphuric acid and bichromate of potash. The oil of pine-apples is obtained from a product of the action of putrid cheese on sugar, or by making a soap with butter, and distilling it with alcohol and sulphuric acid; and is now largely employed in England in making pine-apple ale. Oil of grapes and oil of cognac, used to impart the flavour of French cognac to British brandy, are little less than fusel oil. The artificial oil of bitter almonds, now so largely employed in perfuming soap and for flavouring confectionary, is prepared by the action of nitric acid on the fetid oils of gas-tar. Many a fair forehead is damped with *eau de mille-fleurs*, without knowing that its essential ingredient is derived from the drainage of cowhouses. In all such cases as these, the chemical science involved is, really, of a high order, and the perfume produced is a bona-fide perfume, not one whit less sterling than if produced from fruits and flowers. The only question is one of commercial honesty, in giving a name no longer applicable, and charging too highly for a cheaply produced scent. This mode of saving a penny is chemically right, but commercially wrong.

The French make a large quantity of sugar from beet-root; and in the processes of manufacture there remains behind a thick, black, unctuous molasses, containing much sugar, but from other causes impregnated with a nauseous taste and a most disagreeable smell. Men will not eat it, but pigs will; and so to the pigs it has gone, until E. Dubranfant showed (as he has lately done,) that this molasses is something better than pig's meat. He dissolves, and decomposes, and washes, and clarifies, until he ends by producing a kind of *eau sucrée*, a beautiful clear and colourless syrup or sugar-liquid, containing nearly the whole of the saccharine principle from the offensive and almost valueless molasses.

How can we make one kind of paint or liquid produce many different colours, and this with an amount of material almost beneath the power of man to weigh or measure? Mr. De la Rue has solved this question by the production of his beautiful iridescent and opalescent paper. Both mechanically and optically, the production of these papers is strikingly interesting. Water is poured into a flat vessel; and, when quite tranquil, a very minute quantity of spirit varnish is sprinkled upon the surface: this, by a species of attraction between the two liquids, spreads out on all sides, and covers the whole surface in a film of exquisite thinness. A sheet of paper or a card-board, or any other article, is then dipped fairly into the water, and raised gently with that surface uppermost which is to receive the coloured adornment; it lifts up the film of varnish from off the surface of the water, and this film becomes deposited on the paper itself. The paper is held in an inclined position, to allow the water to drain off from beneath the film; and the varnish then remains permanent on the surface of the paper. Now, the paper thus coated with

colourless varnish exhibits the prismatic tints with exquisite clearness; the film of varnish is so extremely thin—so far beneath anything that could be laid on with a brush or pencil—that it reflects light on the same principle as the soap-bubble, exhibiting differences of colour on account of minute differences in the thickness of the film at different parts; and not only so, but the self-same spot exhibits different tints according to the angle at which we view it. It is a lovely material, and lovely things may be produced from it. We cannot speak of it as producing something out of nothing; but it is a means of producing a beautiful result with a marvellously small expenditure of materials.

The clinkers, ashes, or cinders, which remain in furnaces after metallurgic operations have been completed, may appear to be among the most useless of all useless things. Not so, however. If they contain any metal, there are men who will ferret it out by some means or other. Not many years since, the ashes of the coke used in brass-furnaces were sent away as rubbish; but shrewd people have detected a good deal of volatilised copper mixed up therewith; and the brass-makers can now find a market for their ashes as an inferior kind of copper ore. It needs hardly to be stated that all sorts of filings and raspings, cuttings and clippings, borings and turnings, and odds and ends in the real metallic form, are not available for re-melting, whatever the metal may be—all is grist that comes to this mill. If the metal be a cheap one, it will not pay to extricate a stray percentage from ashes and clinkers; but, if it be one of the more costly metals, not only are all scraps and ashes and skimmings preserved, but particles are sought for in a way that may well astonish those to whom the subject is new. Take gold as an example. There are Jew dealers and Christian dealers also, who sedulously wait upon gilders and jewellers at intervals, to buy up everything (be it what it may) which has gold in or upon it. Old and useless gilt frames are bought; they are burnt, and the ashes so treated as to yield up all their gold. The fragments, and dust of gold, which arise during gilding, are bought and refined. The leather cushion which the gilder uses is bought when too old for use, for the sake of the gold particles which insinuate themselves into odd nooks and corners. The old leather apron of a jeweller is bought; it is a rich prize, for in spite of its dirty look, it possesses very auriferous attractions. The sweepings of the floor of a jeweller's workshop are bought; and there is probably no broom, the use of which is stipulated for with more strictness than that with which such a floor is swept. In short, there are in this world (and at no time so much as at the present) a set of very useful people, who may be designated manufacturing scavengers: they clear away refuse which would else encumber the ground and they put money into the pockets both of buyers and sellers; they do effectually create a something out of a commercial nothing.

How to save a penny by using dairy drainage, and slaughter-house drainage, and house drainage, and street drainage, and stable drainage, and old bones, and old rags, and spent tan, and flax steep-water—how to create value by using such refuse as manure for fields and gardens—is one of the great questions of the day, which no one who takes up a newspaper can fail to find elucidated in some form or other. Chemistry is here the grand economiser. Chemistry is indeed Nature's housewife, making the best of everything. "The clippings of the travelling tinker," as Dr. Playfair well says in one of his lectures, "are mixed with the parings of horses' hoofs from the smithy, or the cast-off woollen garments of the inhabitants of a sister isle, and soon afterwards, in the form of dyes of brightest blue, grace the dress of courtly dames. The main ingredient of the ink with which I now write was possibly once part of the broken hoop of an old beer barrel. The bones of dead animals yield the chief constituent of lucifer matches. The dregs of port wine—carefully rejected by the port wine drinker in decanting his favourite