Making the most of our COAL

THE last word as to what can be extracted from coal has still to be said by the chemists. A ton of coal which goes through the processes of gas manufacture yields to-day:—8,400,000 heat units in the form of gas, 9 cwt. of coke and a quantity of other useful by-products. A ton of coal which goes through the processes of electricity generation at a modern power station yields to-day:—6,000,000 heat units in the form of electricity and 224 lbs. of ashes.

Among the by-products won by the chemists from coal at a gas works are, benzol motor spirit, moth balls and carbolic acid. Carbolic acid is not only a strong disinfectant, but is also the base of various varnishes, lacquers — some of which are used as finishes for the body work and steering wheel of motor cars — and synthetic resins, from which things like umbrella handles, buttons and buckles are made. Creosote is another by-product.

Most important of all is coal tar, which is used of course, for making non-skid roads. It is also the base of hundreds of medicines, scents and antiseptics. Lysol, oil of winter green and aspirin, are among the better known members of the tar family. Nearly every flower scent and lots of artificial perfumes can be made up from a tar base, as well as many flavourings like vanilla, thyme, violet, almond and cinnamon. Substitutes for sugar, such as saxin and the saccharine which was used so much during the war are derived from tar. Dyes, too, in almost every possible colour come from the gas works.

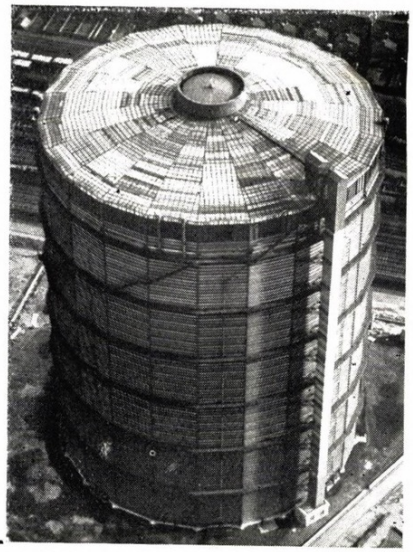
The number of different things that can be made from tar alone has been calculated at well over two thousand, and the chemist still goes on discovering new possibilities.

Another of the by-products of gas-making is sulphate of ammonia. This is used as a fertiliser for all kinds of crops. When it is treated with other chemicals, it produces familiar things like baking powder, smelling salts and household ammonia. Part of the ammonia is sold to makers of artificial silk.

The carbon, which collects on the inside of the gas ovens where the coal is cooked, is another by-product. When it is an inch thick it is chipped off. This makes oil paints, lead for pencils, the arcs for electric arc lamps and the carbon brushes for dynamos and electric motors.

Even the dust from the flues of the ovens is put to a good use. This is part of the make-up of an anti-rust paint and the liquid metal polish that keeps so many door knockers bright and sparkling. Nor are the ashes from the furnaces wasted. These are sold in big quantities for laying hard tennis courts and for road making.

As we pointed out at the beginning, the last word as to what can be got out of coal has still to be said by the chemists. They are always busy at the gas works.



How many Sunday dinners will this much gas cook? Well there are 5 million cubic feet in this huge gasholder—enough for a quarter of a million families.

THE GAS LIGHT & COKE COMPANY—*never lets London down*