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WEALTH FROM WASTE.

Under this caption the Glasgow Herald has a long and interesting article showing the value of the by-products of many things which, in the past, were looked upon as worthless. We select from it the following:—

The essential flavouring substance of the vanilla bean, known to chemists as vanillin, as well as other essences, is manufactured out of coal tar and the oil of cloves. Coal tar, of course, is one of the most valuable and wonderful of all waste products, and it would be almost impossible to compute the added wealth with which it has enriched the human race.

Antipyrin, one of the most valuable medicines in nervous diseases, is one of the products of tar. For the production of dye-stuffs, too, coal tar has become almost indispensable, and to most people it still remains a mystery how all the most delicate hues of the rainbow can be produced from such an oily, dirty substance.

Sweetness is just about the last thing one would associate with coal tar, yet it is a fact that from this despised product—which at one time was so great a nuisance to the gas companies that they actually paid for permission to drain it into the common sewer, as the simplest way to getting rid of it—is obtained saccharin, a substance three hundred times sweeter than sugar.

Slag—the refuse of mines and furnaces—was for long regarded as useless. Now it is treated in a variety of ways, and converted into a number of useful things, such as paving-stones, slag-glass, and slag-sand. Slag bricks is one of its chief uses at present, and for these there is a considerable demand. Mortar for building purposes is another method of utilization, simply achieved by grinding the slag-sand with about 6 per cent of slaked lime; artificial stone, moulded into chimney-pieces, window heads and sills, wall-coping, and other ornamental work for builders.

Old iron is the basis of a business whose output is valued annually in hundreds of thousands of pounds. Every piece of old iron wrought, or cast, rusty or clean, can be utilized. The old cast iron is sent to foundries and puddling furnaces, the old wrought iron, bars, sheets, and plates, is sent to the rolling mills. Cast iron sent to foundries is remelted with pig-iron, and begins a new life of usefulness under new forms and shapes. The wrought iron goes to the scrap-piles in rolling-mill yards. There it is sorted and cut to convenient lengths, then made up into "box" piles or faggots, heated to a white heat

in furnaces, and run through the rolls, which first weld the pieces into a solid billet and then reduce the billets to bars.

Soap manufacturers will be interested to know that a striking instance of the important bearing of applied science to industry has recently been furnished at the factory of one of the largest Canadian soap manufacturers. In preparing soap, an immense quantity of various residues accumulate. Some of these can be turned to commercial advantage, such as glycerine, but others have hitherto resisted any profitable application. Among the latter is carbonate of lime, which is produced in large quantities.

In the course of prolonged experiments in the chemical laboratories, searching for some means of utilizing the waste, the above manufacturers succeeded in discovering that it could be profitably employed in the making of Portland cement, and the process being commercially applicable, a large factory as an adjunct to the soap refineries is being erected, capable of turning out over four hundred tons of cement per week.

Mr. Cameron, M. P. P., cannot as yet see why the Dominion Coal company collects the lodge dues for one Union and will not do it for another. This is certainly a case of a blind man not wishing to see. The reason is obvious to everyone who has had any experience of labor matters.

Mr. A. L. Smith, Master of Balliol, speaking at Lincoln, submitted that there could be no adjustment of conflicting industrial interests unless people who were not themselves workmen or employers aroused themselves. After the war there would be a great demand for juvenile labor, but he hoped we should not go back to the old days in that matter. It would be a social disaster if we did. Technical education was not necessarily education at all, but intelligent secondary education might be made to combine the needs of the employer to have his workshop hands properly trained with the needs of the community to have its young citizens educated right up to eighteen.