Straits Settlements or Australia (both British colonies). Prudent members of the London Metal Exchange are, of course, perfectly aware that a state of affairs such as at present prevails is quite incompatible with the standing and influence of the London Metal Exchange, and consequently are thinking of means to make a recurrence more difficult. A movement is, therefore, on foot to alter the tin contract in such a way as to admit to the market tin other than Straits and Australian. Due, however, to the conservative ideas of the English, the delivery of other kinds of tin is being made as difficult as possible, and heavy deductions are made for tin of other origin, as compared to that delivered in the past. Consequently in practice the delivery of tin from other sources than hitherto delivered will only come into question when there is again an artificially created shortage of tin for prompt delivery. The new contract will make it more difficult than in the past to effect illimitable corners. The only logical method would be to introduce a contract which entirely does away with the question of origin, and only prescribes a definite quality. The quality can be fixed exactly both mechanically and chemically. (It may be mentioned that there are already in London a number of assayers recognized by the Metal Exchange). Nevertheless, the present proposition of a few London merchants would be an advance upon the past state of affairs, provided some absolutely necessary alterations are made.

According to the present proposals, there will be deliverable in future tin from Banka and Billiton as well as from China and England, with varying deductions according to the purity of the tin. This purity is to be ascertained by an assayer recognized by the Metal Exchange, and his certificate for this and for the other details of quality is to be affixed to each warrant. German tin is the only kind to be excluded. This is all the less explainable, as the production of tin in Germany forms a considerable part of the world's production, and is steadily on the increase. In 1910 the production of tin in Germany amounted to 11,000 tons -that is, about two-thirds of the English production and about 10 per cent. of the world's production. The attempt to exclude German tin from the market can only be put down to some small-minded business reasons and to an unhealthy Chauvinism. It may be expected from the Committee of the London Metal Exchange, whose quotations are taken as the basis for the trade all over the world, that they will not allow themselves to be influenced by such attempts, but, being fully aware of the responsibility of their position in relation to the trade of the whole world, irrespective of nationality, will act up to it. All the incidents of late and the movement depicted above, show, however, how necessary it is to establish on the Continent an institution holding the balance to the London Metal Exchange-let it be in Berlin, Hamburg, or Amsterdam. The manner in which the London Metal Exchange abuses its monopoly can only hasten the creation of a new exchange elsewhere independent of London.

## The By-Product Coking Process and its Future Development\*

By Mr. ERNEST BURY, Skinningrove.

The writer has chosen this title for discussion by reason of his belief that the by-product coking industry has thoroughly justified its inception, and that the time has now come to enquire into the future possi-

bilities of the process. By-product coke ovens cannot be said to have had a very rosy time in our country, and criticism of the industry has been unnecessarily harsh. Since Messrs. Pease & Partners led the way at Crook in 1881, there has until quite recent years been a never ending war against the more economic manufacture of coke. It has been variously alleged that the coke from by-product coke ovens was inferior to the produce of the old bee-hive ovens, and that the recovery of by-products along with the production of a first-class metallurgical coke, was impossible. These statements have, by reason of the big development in the by-product coking industry, proved absolutely untrue. In 1898 the amount of coal carbonized in by-product coke ovens in Great Britain was 1.8 million tons per annum, it is now over 8 million tons. With regard to the unsuitability of by-product coke for furnace use, the writer is of opinion that now nothing more may be said, and the old prejudice may be laughed at.

During the last year the plaint against by-product

industry has taken on a different hue. It is not now a

prices of the principal by-product. Total production Total production Average price per ton of of Sulphate from of Sulphate from Sulphate of all sources. By-Product Coke Ammonia. Ovens. Tons. £ s. d. Tons. Year. 12 9 233,664 1903 ..... 17,435 12 3 245,990 8 1904 ..... 20,848 239.114 12 10 30,732 1905 ..... 1906 ..... 43,677 289,391 12 0 313,281 11 15 8 1907 ..... 53,572 325,228 11 12 0 64,227 1908 11 5 82,886 349,143 1909

Present Price .....

1910 Returns not yet to hand

12 3 2

13 6

question of unsuitability of the coke produce, but this

large amount of by-product development is going to be the ruin of us, and by-products are going to suffer.

This is an unconscious compliment to the industry,

whose coke product was supposed to be unsuitable, but

let us enquire into the grounds for dread. The most important and valuable by-product from coke ovens is

sulphate of ammonia, representing as it does from 1/7

to 3/- net per ton of coal carbonized. The following

figures of yield taken from the Blue Book of the Chief

Inspector of Alkali Works, together with the average

prices, show how little the big development in coke

ovens during the last seven years has affected the

<sup>\*</sup>Paper read before the Cleveland (England) Institution of Engineers.