

reference to aniline dyes taken from the Manchester Guardian of a late date. A perusal of the article will bring home to readers this fact that if King Coal is great in Peace, he is also wonderful in War:—

Mr. Milton S. Sharp, presiding at the annual meeting of the Bradford Dyers' Association, said that the establishment of the synthetic dye industry in this country was vital to our national safety. Dyes and high explosives were very closely correlated. Benzol, toluol, carbolic acid, sulphuric and nitric acids were the raw materials from which dyes and high explosives alike were made, and it would indeed be a tragedy if they failed to learn the lesson the war had taught—namely, that ability to produce unlimited quantities of those articles was one of the first essentials of any hope of success in warfare. The complete, self-contained, and independent manufacture of aniline dyes within the United Kingdom was essential to the commercial and martial protection of the State.

The raw materials from which aniline dyes are made being the same as are used in the manufacture of high explosives, picture to yourselves (the Chairman continued) the enormous advantage Germany had by reason of her huge, highly-organized and ably administered colour-works, producing all the raw materials required for the making of high explosives, and able immediately to divert much of their colour-making plant to their manufacture. What was our position? Why, exactly the same as our position in regard to the army. We had to improvise an army. We had also to improvise our production of high explosives. We have done both, and to a degree which our enemies will find to their cost and sorrow before very long.

The country will probably never know how much it owes to the High Explosive Department of the Ministry of Munitions presided over by Lord Moulton, and officered by a body of strikingly able and energetic men, to whose commanding force it is due that the danger from a shortage of high explosives has been so effectively met.

What I desire to urge with all the force of which I am capable is that we must never again jeopardise our national safety by the risk of shortage of high explosives, and that, whatever it involves, we must establish the aniline dye industry in this country. Until we do this we shall always be at a great disadvantage as compared with Germany. I am confident if public opinion could once understand the situation it would be practically unanimous in demanding the most thoroughgoing and drastic action, quite regardless of cost.

On my last journey to Germany, just before the outbreak of war, I visited all the large colour works, and it will bring home to you what terrible instruments such works are for enabling the German Government to carry out its policy of frightfulness when I tell you that one company alone, then employing about 10,000 men chiefly in the manufacture of aniline dyes, today, I am credibly informed, are employing about 14,000 men almost entirely on the manufacture of high explosives. Only those with some knowledge can realise the facility with which a color works can be converted into a high explosive factory. Another works visited at that time employed about 9,000 men in the manufacture of aniline colours and pharmaceuticals. I have information to which I attach entire credence that today

those works are engaged almost solely in making T. N. T. and picric acid for the German Government.

During the course of the same journey I gathered that 75 per cent. of the collieries in Germany had coke ovens installed. When it is realised how vitally important the distillation of coal in coke ovens is in relation to the manufacture of aniline dyes and high explosives, it will be seen how this alone gave Germany an enormous advantage over us in the early stages of the war, as the by-products from the coke ovens are amongst the most important materials for making colours and explosives, whereas in Great Britain at the outbreak of the war only some 25 per cent. of our collieries had coke ovens installed.

I was also told that three of the principal German colour-making concerns, who pool their products, had shortly before increased their capital by £2,250,000 for the purpose of erecting a works for the production of ammonia from the air. At that time they estimated they would produce 130,000 tons of ammonia per year; it has since been stated that this production has been increased to 200,000, and is now being converted into nitric acid. The raising of so much capital for such a purpose is noteworthy even on the surface; but it is even more striking in the light of our now certain knowledge as to the preparations of Germany for war. It is impossible to avoid the conviction that the use of such a plant in the event of war was duly taken into consideration. It has been said that the supply of high explosives to the German army would by this time have ceased had it not been for that plant. It is quite possible that the stocks of nitrate of soda would now have been exhausted, and without nitric acid no high explosives can be made.

How can the establishment of colour and chemical works be accomplished here? No one with any knowledge would venture the opinion that it can be attained through British Dyes, Limited, alone. I wish to speak with great respect and the deepest gratitude for what that company has done. Faced with a tremendous task, made incomparably more difficult by the prior claim of explosives upon the raw material, it has done really splendidly. The want of raw materials has hampered the efforts also of all the British, Swiss, and French makers. When such difficulties disappear, I am sure British Dyes, Limited, would not claim that they alone will have the power to free us from German domination in this, the greatest "key" industry—a key not only to export business aggregating £200,000,000 a year and to the employment of some 2,000,000 people, but, what is of far greater moment, also to the national safety. Indeed, I make bold to say there are few things which this terrible war has made more clear than that both from the economic and national defence standpoints there is no question of greater urgency than the rapid establishment of the aniline dye industry in this country. It certainly calls for further and immediate action by the Government and Parliament.

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### ***• Rubs by Rambler. •***

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Looking over the British Weekly I came across the following by Dr. Jowett. It struck my fancy, and, as its reference may be said to be on the price of liberty," a subject claiming much attention these