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ENGINEERING IN YORKSHIRE AND LANCASHIRE

IN the north-east corner of England, to which special reference was made in two preceding articles, one of the facts most forcibly impressed on the observant visitor is, as has been said, the almost exclusive predominance of industries of which the material is mineral. When we pass to the West Riding of Yorkshire and the adjoining county of Lancashire we are at once presented with a different arrangement of the industrial fabric. In some places indeed—notably Sheffield (with which it is proposed to deal in a subsequent article) at one end and Furness at the other end of the great industrial territory in question—the field is practically monopolized by trades connected with the treatment of iron and steel and other metallic substances. But for the most part, the great engineering and machine-making industries of Lancashire and the West Riding are carried on in close proximity to the manufacture of cotton and woollens. This combination, or rather interlacing, of industries has many important bearings upon the conditions of the average skilled workman's household, and to these some reference must be made at a later date. For the moment it is interesting to consider these seats of vastly-varied production from the consumer's point of view. Could it be supposed that by some mighty ebullition of unsuspected volcanic forces the valleys of the Irwell and of the Aire, whose pollution was so grimly immortalized by Kingsley, were to be involved in ruin as complete as that which overwhelmed the pink and white terraces in New Zealand, the tragedy of it would, no doubt, excite widespread horror and numerous subscriptions. But besides all the sympathy, effective or otherwise, which such an event would call forth, it would be felt in the most direct and practical manner through every department and grade of human civilization. The present article is not the place in which to dwell on the many-sided ramifications of a disaster which would at once cripple, if not paralyze, the fashionable dressmaker of Paris and New York and dry up the supply of decorative decencies to the natives of the various *Hinterlands* of Western Africa. But wherever the industrial arts most flourish or are struggling with the greatest vigour to establish themselves, there it is not too much to say that the odds are 100 to 1 that you will find the best workers of the old and the new world obtaining all or much of the best of their mechanical equipment from Lancashire or the West Riding. One of the most unmistakable symptoms of material progress, as well as one of the surest means of advancing it, is facility of locomotion, and there are few regions on the frontiers of civilization to which a Leeds or Manchester man can travel without finding locomotive engines stamped with names which are to him as household words. Take any of the tropical or sub-tropical territories of Asia or Africa within which British officers, or merchants, or planters are extending the effective range of England's civilizing mission, and there will be found products of the forges and foundries of South Lancashire and West Yorkshire. For several years past these locomotives have been steaming within sight of the Straits of Malacca. By their strength the inevitable cruelties of the long portorage to Uganda will be abolished, and the now isolated British representative there will be brought into easy touch with the Empire as a whole and the Foreign Office in particular. They snort defiance to the tsetse fly, and will soon place Fort Salisbury and Rhodesia in direct steam communication with London. Their services are requisitioned for the working of railway extensions in many parts of India. They are summoned by the popular Australian Governments to give their vital help to the effective utilization of the colonial lands, a Manchester firm, for example, having been conspicuously associated of late years with the provision of engines capable of wrestling easily with the severe gradients of the New South Wales main lines. From the same English districts come