

line for public traffic (which took place in September, 1830), the directors were enabled to report to their shareholders that "a new and extensive system of intercommunication, highly important to the interests of the mercantile community, and so extraordinary and complete in its character as to form an era in the progress of national improvements, and a striking epoch in the advance of mechanical science," had been inaugurated.

This statement has been, as we all know, abundantly verified in the course of the half century which succeeded the event in question.

The vast capability of railways for the transport of merchandize as well as of passengers was then foreshadowed, and the assertion fortified by a reference to what was then considered an extraordinary performance, viz., that of "a new and powerful locomotive engine, the 'Samson,' made by Messrs. Robert Stephenson, which conveyed a load of 107 tons of merchandize from Liverpool to Manchester, at an average speed of 12 miles per hour, having been assisted in the ascent of the Rainhill incline plane ( $1\frac{1}{2}$  mile of 1 in 90) by three other engines." The experiment, as the Report goes on to state, exhibiting "a practical answer to the confident, but ignorant assertion, that railways are not calculated for the conveyance of heavy goods."

Scarcely, however, could it then have been foreseen that within the period of the next fifty years the railway and the locomotive would constitute the most important and nearly universal system of inland transport throughout the civilized world.

Until the opening of the Grand Junction Railway in 1837, and of the partial opening of the London and Birmingham Railway during the same year, and its final completion in the autumn of 1838—undertakings commenced shortly after the success of the Liverpool and Manchester Railway had been well established—no Great Trunk lines existed, and only a few short local lines, some of them being branches from, or dependencies of, the Liverpool and Manchester Railway.

Meantime engineers and deputations, from Canada, from the United States of America, from France and other continental States, flocked to England to study the working of the new system. Amongst these was Monsieur de Pambour (afterwards Comte de Pambour), an officer of the French Government. He, with the permission of the directors of the Liverpool and Manchester line, spent many weeks in investigating all the details of its working, and in recording the performances of its locomotives.

The work which he afterwards published (in 1836), entitled "On