

**SAMBRE AND MEUSE  
RAILWAY, CENTRAL  
LINE. MEMOIR**

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Sambre and Meuse Railway, Central Line. Memoir by Aug. de Laveleye

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**AUG. DE LA VELEYE**

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SAMBRE AND MEUSE RAILWAY.

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MEMOIR

BY AUG. DELAVELEYE,

CIVIL ENGINEER.

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## SAMBRE AND MEUSE RAILWAY.

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It is in no degree my intention to blame the labours of the Engineers who projected the lines preceding that of Mr. Taylor, although this latter appears to me to be the preferable. Regard must be had to the time and circumstances in which each was laid out.

The project of constructing a Railway in the country situated between the rivers Sambre and Meuse, for the transport of ponderous matters, had its rise at a period somewhat remote. The first idea of it is due to Mr. Depuydt and his partners, who made their surveys in 1834. At this epoch, regular and very gentle gradients were considered as of the highest importance, and, in order to obtain them, it was deemed advisable, however otherwise inconvenient, to make long circuits and prolongations of the way. Since this epoch, experience, and particularly the improvements which have been made in locomotives, have greatly modified opinions; and this ideal perfection of the line, to which engineers had attached so high a value, has lost a great part of its illusion. At present, the preference is given to the most direct lines, when they remain within the limit of the gradient, which experience has shown can be used without danger; and this limit is extended every day.

The line of Mr. Depuydt and partners, created under the empire of these ideas, has been thrown too far to the westward, in order to take the advantage of the valley of the *Eaux-d'Heure*, which offered the possibility of establishing gentle gradients during a part of its course, but which has the fault of leaving at a distance from the line the centre

of the iron-ore district and the metallurgic establishments, which are there formed.

This line had begun to be formed when particular circumstances caused it to be abandoned; but a Railway in the Sambre and Meuse promises so great advantages to the country, that the idea of constructing it has always been preserved.

The Belgian government directed the Engineer *Magis* to verify the preceding line, and if need were, to improve it, but not to substitute for it another line.

His mission had specially for its object to investigate if the Government could without danger grant a *minimum* of interest to the capitalists who should devote their funds to this enterprise.

Messrs. Cubit and Sopwith found a line already laid out; they had only to examine if it would be serviceable to the capitalists who should embark in it. These distinguished Engineers had no authority to enquire, and ought not to have enquired if it were possible to find a better line.

In consequence of the reports of these Engineers, a company has been formed for the execution of this line, under the guarantee of a *minimum* of interest by Government.

The Chamber is about to discuss the principle of this guarantee.

Mr. Taylor, impressed with other ideas, sought out a line, which, although containing greater gradients, would be, according to him, more useful to the country, without injuring the capitalists, who would consecrate their funds to it. The object of this Memoir is to examine how far he has succeeded.

We shall make no mention of other lines which have been proposed at former periods, and particularly that of *Mr. Splingart*; not that we think them without merit, but because as those lines are not to be examined by the legislature, it would be to enter unnecessarily into superfluous details.

It will be sufficient to compare the line by the valley of



the *Eaux-d'Heure*, which is formed on the notions heretofore entertained, with the new propositions submitted by Mr. Taylor.

The different lines of Railway in the Sambre and Meuse country originate from the view of forwarding the national interests, in promoting the manufacture of iron, by bringing together, or near each other, the combustible and the ore, at present disjoined, and separated at a distance by the expense of burdensome transport, in such a manner as to paralyse the extension of this industry.

This first and principal object must not be lost out of view;—it is what should principally serve to decide on the relative merit of different competing lines.

The exportation of coal to France is equally of the highest importance, and ought also to be the ground on which the advantages of rival projects should be estimated.

The other branches of trade which are to be served, are important without doubt, but are less so than those we have indicated. Besides, they are common to all the projects, and cannot, in consequence, exercise any marked influence for the adoption of one preferably to another.

This object which we have announced is besides perfectly established, in a very important Report which the Inspector *De Moor* has just published by the order of Government. He there says, p. xvii.:—

“ The industry of coal, and that of iron, these two  
 “ powerful elements of national prosperity, will owe to it  
 “ (the Railway), the one, a considerable extension in the  
 “ production; the other, the benefit of a much more eco-  
 “ nomical manufacture, in consequence of the reduction in  
 “ price of the primary matters, the ore, the coal, and the  
 “ wood charcoal; this economy, joined to that which will  
 “ be realised on the transport of the cast and malleable  
 “ iron, towards the interior of the country or towards  
 “ France, can alone offer to the metallurgic establishments  
 “ the means of striving with advantage against a formid-  
 “ able rivalry, and of emerging from the state of suffering

“ to which this industry has been reduced for several years.

“ Such results constitute, in the end, a large increase of the capital of national wealth, exhibited by a corresponding increase in the revenue.”

At the end of the memoir of the inspector *De Moor*, is to be found printed the report of the Engineer, *Magis*, charged by the government with the examination comparatively of the different projects presented. He also points out the importance of the direction of the Railway, in these words, p. iii.

“ To promote the interests of the metallurgic establishments in the neighbourhood of *Charleroi*, the system of communication should, at the same time, be directed by the shortest way, towards the mines of strong iron ore, which the centre of the country between the Sambre and Meuse contains, in order to allow the proprietors of the blast furnaces of the Sambre to reduce the price of the transport of the ore, and consequently, that of the manufacture of their cast iron, to a degree that would enable them to oppose successfully, in the home market, the rivalry which there exists between their products and those of England, which latter carry their competition even as far as the centre of our manufacture, since, at *Charleroi* itself, English cast iron is used in several foundries.”

Further, in the same Report, Mr. *Magis*, who has studied conscientiously the different lines which have been presented, decides for that by the valley of the *Eaux-d'Heure*, for want of a better, but not without pointing out all the inconveniencies of it. The following are his words, p. viii.

“ Does the project of *Depuydt* and partners completely satisfy all the wants of the country between the Sambre and Meuse? We are far from thinking so; in fact, on casting our eyes on the map, it is at once seen that the point of departure of the principal artery directed by the valley of the *Heure*, is too far removed to the west, from the central point of the establishments for the manufac-

"ture of iron of the Sambre, which may be taken to be  
 "at Charleroi, and that its general direction is equally too  
 "remote towards the west, from the centre of the country  
 "between the Sambre and Meuse, which contains, in the  
 "neighbourhood of *Fraire* and *Morialmé*, the mines of  
 "strong iron ore, the transport of which towards the estab-  
 "lishments of the Sambre, ought to be particularly encou-  
 "raged. The project of the two branches towards *Fraire*  
 "and *Morialmé* has, for object, to remedy specially this  
 "imperfection of the principal trunk; but has this object  
 "been attained in the same degree for all the establish-  
 "ments of the Sambre?—Undoubtedly not; for the group  
 "at *Marchiennes-au-Pont* alone profits by the adoption of  
 "the principal direction, to the disadvantage of the estab-  
 "lishments to the east of Charleroi, and particularly of  
 "those of *Couillet*, *Chatelineau*, and *Acoz*, which, notwith-  
 "standing, are situated nearer the mines. Are we then to  
 "sacrifice to the first group, this last, the more important  
 "of the two? Would it not be to abdicate the principle,  
 "which has presided over all projects of Railways, for the  
 "country between the Sambre and Meuse, that of restoring  
 "to each locality the advantages to which it had a right  
 "by its topographical position?"

Mr. Magis is so struck with the imperfection of the  
 Line by the valley of the *Heure*, that he even proposes as  
 a remedy the execution of one of the branches of the line  
 projected by *Splingart*, that is, to make two railways in-  
 stead of one.

In order to facilitate reasoning, and the comparison  
 which we shall draw with the line of Mr. Taylor, we shall  
 call the line by the valley of the *Heure*, the *Western Line*.

After having thus exposed the faults of the project pre-  
 sented by the Society of the *Western Line*, Mr. Magis  
 does not characterize with less lucidity the conditions  
 which a suitable project ought to fulfil.

"It is then to the search after the principal trunk of the  
 "system, capable of satisfying all these wants, that the  
 "surveys have been directed; now, the central position of