Channel Tunnel After a Hundred Years of Talk

Plans for Railway Tubes Between England and France Are Maturing Now That the Two Countries Have Reached a Decision

From London to Baghdad—The Inter-Continental Railway Which Will Be Made Possible After the Building of the Tunnel Under the British Channel

LONDON, March 25—It was suggested to the First Napoleon by a French engineer named Mathieu, and shortly after the Peace of Amiens the Emperor proposed it to the then British Ambassador in Paris, saying: "This is one of the great things we should do together." The Ambassador's reply is not on record; but it has taken England more than a hundred years to look upon the proposal with favor, and even yet it is not altogether certain that British public opinion is quite satisfied with the "Chunnel" to Baghdad.

One of the advocates of the tunnel is Sir Laurence Kilmuir, who long stood the opponents of the scheme in good stead. For three years the bills have been heard, and now and again have been defeated. This is largely due to the efforts of the railway companies, which have always been opposed to the plan. The Bill has now reached the Committee stage in the House of Commons, where it is expected to be passed without much difficulty.

However, the building of a Channel tunnel will still mark a new and important stage of world progress; and from an engineering point of view it will be of great rank high among the feats accomplished by human skill and labor.

As in the case of many other schemes which appeal to the imagination, the conception of a Channel tunnel is a dream. It is suggested to the First Napoleon by a French engineer named Mathieu, and shortly after the Peace of Amiens the Emperor proposed it to the then British Ambassador in Paris, saying: "This is one of the great things we should do together." The Ambassador's reply is not on record; but it has taken England more than a hundred years to look upon the proposal with favor, and even yet it is not altogether certain that British public opinion is quite satisfied with the "Chunnel" to Baghdad. 

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man of the House of Commons Tunnel Committee, but by ill-luck was not in the House when Mr. Law made his announcement. Sir Arthur states that the engineering plans are so far advanced that work could be begun at once. Two plans have been drawn up by the engineers of the Southeastern & Chatham Railway, in conjunction with Government officials on this side, and by the Northern of France Railway and the French Government on the French side.

When the plan was first considered some years ago it was thought possible to start the tunnel on the British side comparatively near the coast in the neighborhood of Dover, but a big cliff fell between Folkestone and Dover since then has compelled the choice of a new starting point much further inland. It is thought advisable to give its exact location until the necessary land has been acquired. It lies to the northwest of Dover, and a new branch railway line, probably from Ashford, will have to be built to bring the trains to the mouth.

A site for the other entrance on the French side has also been secured some way from the coast, which, there, as on the English shore, consists of cliffs, and additional French railway construction will also be necessary.

The total length of the tunnel, including the approaches on both sides of the strait, will be thirty-two miles of which rather more than twenty-one and a half miles will be under the sea. The first work was done on the tunnel in 1874, when a French company sunk an experimental shaft in France. In 1881 the Southeastern Railway Company's Chairman, Sir E. Watkin, obtained an act permitting him to sink a shaft on the English side. A boring was driven for 2,015 yards toward the Channel, when in 1882 the construction was stopped by the Government. Since then the scheme has been in abeyance, but in 1915 the Government called for reports from naval and military authorities with a view to permitting the construction if they were favorable. Then the war came and nothing more could be done.

Present plans provide for the building of two tunnels, each 18 feet in diameter, connected by cross galleries at intervals of 200 yards. The lines would be worked by electricity, as in the case of the Simplon Tunnel, which is twelve and a half miles long, and is at present the longest.

The maximum depth of water on the route is 180 feet, and a cover of chalk 100 feet thick would be left undisturbed above the crown of the tunnel to provide against any danger from an enemy or the sea, so that the tunnel would descend to a level of about 280 feet below the sea's surface.

Iron tubes will be built up as the tunnel advances, precisely as in the London "tubes." Owing to the extraordinary advance in the art of tunneling in recent years the work could be done quickly, and it is estimated that the tunnel itself could be completed in five or five and a half years.

Sir Francis Fox is mentioned as the engineer who may have charge of the work on the British section of the tunnel. He is a great tunneling expert, and acted as special adviser for the Swiss Government in the boring of the Simplon.

Trains will be run direct from London to Paris in less than six hours, and these could, if required, travel at a "headway" or interval of not more than five to ten minutes. Doubtless in course of time more than two pairs of rails will be required to deal with the enormous volume of traffic which must inevitably develop in each direction. So soon as trains can pass under the Channel they will be able to traverse France, Belgium, Holland, Spain, Italy, Germany, Austria-Hungary, and Turkey as far as Constantinople without any difficulty as to gauge or minimum structures.

The Orient Express connection formerly left London at 9 A.M., an inconvenient hour for many; but so soon as the Channel Tunnel is an accomplished fact it could be arranged to leave at noon and still depart from Paris at the usual hour. It would pass through Germany and Austria-Hungary to Bucharest, or through Bulgaria to Constantinople. A quarter of an hour later a train would leave Charing Cross as the Nord express for Brussels, Berlin, and Königsberg to Petrograd, and for Warsaw, Minsk, and Moscow, where it would correspond with the Siberian Railway express to the Far East and provide communication also with the watering places in the Southern Crimea. At a further intervals of a quarter of an hour the Rome express would leave for Paris—the Riviera, Rome, via Turin and Milan, and Brindisi, followed by the Sud express to Paris, Bordeaux, Madrid, Algeria on the one hand, or to Lisbon on the other. Communication would be provided not only with Belgium, Holland, and Denmark, but also with Finland, Sweden, and Norway via Torne.

Before the war it was estimated that the tunnel would cost £16,000,000. In increased price of labor, plant, and so forth would now probably carry the cost to £20,000,000—some estimates say £25,000,000.

Sir Ernest Moir of S. Pearson & Son, Ltd., who built New York’s East River tunnels which connect Manhattan with Long Island, said in an interview: "In building the East River tunnels it was necessary to bore through hard rock covered with immense glacial boulders overlaid with quicksand. In case of the Blackwall tunnel, the bore was run close under the gravel bed of the river and a blanket of London clay, which is impervious to water, was laid between the gravel and the tunnel. I have found that migration of water in the tunnel, seen the gravel swayed to and fro by the river.

"In the Channel the sea is not the difficulty; the risk lies in the geological aspect. The first layer under the Channel is white chalk, and beneath this is a belt of gray chalk some 300 feet in depth. The question arises whether or not this gray chalk is impervious to water, for through it engines will travel; the tunnel will have to be bored. If it is impervious the tunneling will be easy compared with the East River tunnels."