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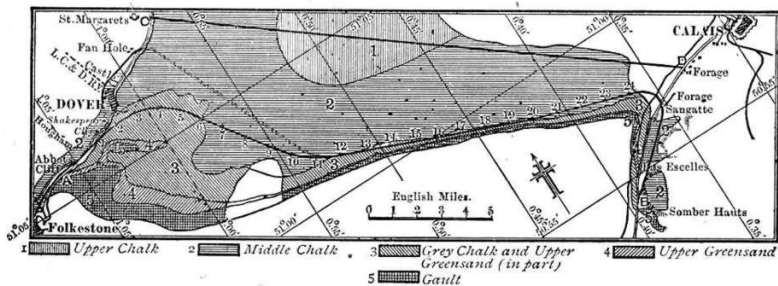
THE CHANNEL TUNNEL.

By Professor BOYD DAWKINS, F.R.S., M.A., &c.

[Addressed to the Members, in the Memorial Hall, Friday, March 13, 1891, at 7-30 p.m.]

ON the Channel Tunnel question a great deal may be said from almost every point of view. When you consider the bearing of the question on geography, it seems by no means undesirable that it should be treated of before this Society.

SKETCH-MAP OF CHANNEL FROM DOVER TO CALAIS.



You know very well that commerce and the knowledge of geography went hand in hand, and this question is not merely a commercial or military question, but is essentially a geographical question. The lecturer proceeded to describe the development of the "silver streak." In geological history the period was not remote when England was absolutely a part of the Continent. It was only in the Pleistocene age that the North Sea and the Atlantic met at the Straits of Dover. The insularity of Britain had, of course, had a very great effect on the national character, and, as it seems not altogether a good effect. One way in which our insularity had worked upon us had been our isolation from contact with the Continent. This had made us particularly British, and more

or less Philistine, in our views; we were shut off from other men, and were more or less in the position of Pharisees, looking on ourselves as better than other men. At the same time, it was an undoubted fact that the insularity of this country had been a great bulwark, and had relieved us from being obliged to maintain a large standing army, as on the Continent. In his opinion, our insularity was a serious barrier to trade. As time went on, and the necessities of rapid intercommunication grew more and more—with the development of steam and of telephonic and electric communications—the insularity of this country would be felt in greater measure. From that point of view it was of the utmost possible importance that we should bring ourselves into contact with the Continent as quickly as possible. Then came the question—How can it be done? In his opinion, it could be done without affecting anything that is good in our insular position one whit. It is really absurd to be told by this writer and that distinguished general that if there were a tunnel the country might be exposed to all the horrors of a standing army like that of France or Germany. It is ridiculous to imagine that a hole a few feet in diameter is to be compared with such a frontier as that which exists between France and Germany. Consider what is now taking place in France, Germany, Italy, and Switzerland. Pains are being taken to pierce the barriers which separate these nations from each other, yet, as far as he knew, there is not a word heard on any side of danger to the countries concerned. It was an eminent German general who declared that the idea of an invasion through a tunnel was absolutely absurd. Professor Dawkins referred to some Channel Tunnel schemes which were promoted before the present one. The first scheme was started in the days when Napoleon was First Consul, and in 1854 and 1868 the idea was revived. There had also been proposals to place a tube across the Channel and to build a bridge across, though to some people that seemed hopeless from a navigation point of view. The lecturer next showed that the formation of the rocks was very favourable to the construction of the tunnel. Both on the part of French and English engineers a great deal of trouble had been taken in examining the strata, and there was no possible doubt that the grey, impervious rock was splendidly suited to the purpose. The English Government had not always been against the scheme. A convention was written out, and the French Government signed it; the English Government agreed, but did not sign. Referring again to the strata, the lecturer said the inclination of the rocks was exceedingly gentle. It was something like 1 in 72 on the English side, while on the French side it was in some places as high as 1 in 42. This fact was greatly in favour of the engineers. The slope of the rock was exceedingly small, and the material was most excellent for the

purpose. The argument that Providence ordained this country to be an island, and that it should not be connected with the Continent by a tunnel, altogether fell to the ground, because, as they would see, Providence had arranged the rocks in such a way as to make them most admirably adapted for the construction of a tunnel. Dealing next with the engineering question, the lecturer showed that the grey chalk, through which the tunnel is proposed to be cut, is like a very hard cheese, perfectly easy to cut, and fitted to stand well. The boring which had taken place showed that, notwithstanding the faults which undoubtedly existed, the tunnel could be made without risk of water rushing in and wrecking the works. The machine that had been used in the boring was driven by compressed air, by the use of which compressed air all difficulties with regard to ventilation might be at once dismissed. Professor Dawkins was perfectly familiar with the atmosphere in the tunnel, and could testify that it is far purer than the atmosphere of most drawing-rooms with which he was acquainted. Not merely the ventilation but the temperature could be efficiently regulated. Referring, in conclusion, to the commercial aspect of the matter, the lecturer spoke of the isolated position this country at present occupies in relation to the trade of the world, and predicted that if we did not do something to prevent our being cut off from the main current of commerce on the Continent, we should beyond all doubt lose a very large part of our commercial supremacy. That danger could only be overcome by a tunnel such as was suggested in the scheme now before the country. It was no mere question for the soldier or the literary man to discuss. It was a question which concerned every commercial man in this country. The military opinion against the tunnel at the present time was not an undivided opinion. There were certainly as good soldiers in favour of the scheme as there were against it. But he thought it was not to soldiers that we should go to ask whether this enterprise would or would not be good for the nation. Their business is to defend the nation, to act the part of protectors for the nation. If the commercial benefits which would arise from the enterprise are as great as it has been demonstrated they are, then the enterprise ought to be carried out, provided there were no counter-balancing military facts to be weighed against it. In his opinion, no such military facts have been alleged which are of the slightest value.

NOTE.—The question of a south-eastern coalfield is very important, and as it would appear that the borings have discovered valuable and workable seams, the value of the work done in connection with this question cannot be over-estimated. (See address on the subject to the Royal Institution of Great Britain, delivered June 6, 1890, Professor Boyd Dawkins in the chair.)