

The analogy is not altogether unsuitable; for the suburban train usually makes many stops, and the "radio" system many repetitions and retransmissions, whilst with the advent of the cable-relay retransmissions were obviated in cable telegraphy. Repetitions are seldom necessary over the line, but they are sufficiently constant in the radio systems of to-day to render it a comparatively slow-working affair. Thus, whilst a modern Atlantic cable is operated at a speed of a hundred words a minute, the same range is worked on the radio system at some twenty words a minute as a maximum, which is brought down to about seven words a minute when repetitions are taken into account.

A further unfortunate feature about radio-telegraphy is its sensitiveness to surrounding conditions—atmospheric and otherwise. Hence there are often long periods during the twenty-four hours when no messages can be got through, and these sometimes occur at the busiest hours of the day, just as they may come at the very time when the system is particularly in request for enabling the Admiralty authorities to direct the movements of our fleet. Again, an untuned radio system, like that on the Eiffel Tower, is capable of completely demoralizing all other radio-telegraphy that is proceeding within, say, a range of 1,000 miles.

I should, perhaps, explain that in these remarks I am, of course, speaking of things as they are to-day in regard to both systems; and it would not do to assume that cable telegraphy is going to stand still—it has never done so—any more than "wireless."

Since the Marconi system first emerged, some 90,000 nautical miles of cable have been made and laid, at a cost of about £9,000,000. Business people have a knack of finding out the facts in a practical way before embarking on any enterprise; and our wide-awake American cousins would scarcely have troubled themselves about absorbing cables if radio-telegraphy would serve their purpose. Neither should we hear so many outcries for reduced cable rates if radio-telegraphy was up to the required standard. Does all this look like the cable becoming defunct and moribund? Does it even suggest cable telegraphy being a "dying industry"? That might, however, appear to be the position if we were to judge from the recently decided heavy outlay in radio-telegraphy; yet it is certainly not borne out by the policy of the German and French Governments. Neither of these has allowed enterprise in wireless telegraphy to in any way check their still greater enterprise in cable-communication not only with their respective colonies, but with foreign countries, in order to be independent of British cable systems.

Work that should be done.

Let us assume that the Home Government and the Colonial Governments will now join forces to establish by some means a really Imperial transatlantic link. This, as I have already indicated, will require to be supplemented with an independent land-line across the heart of Canada for uniting with the Pacific Cable. It is to be hoped, too, that the Canadian Government will make provision for an extensive land-line system throughout Canada in order to bring the Imperial system into touch with all parts of the Dominion. If such provision were made we should be independent of existing systems associated with vested interests that closely entrench their preserves, and are more or less bound up with American corporations.

If a new cable be laid, or if more than one be laid, the routes I should favour are indicated in my recent paper to the Royal Colonial Institute ["United Empire," August and September, 1911], a few copies of which, together with a map, are on the table here. The map [not printed] shows certain alternative routes (some on an extreme northerly course) to meet the happy event of more than one line being determined on, whilst it also indicates proposed positions for "wireless" stations forming part of an auxiliary service. Halifax should, in my opinion, be the main Canadian terminus for the transatlantic cable system, whence a branch connecting with New York might also be provided, such as could be cut adrift if desired at any time.

The Imperial Atlantic link here indicated would meet at Halifax the cable system that reaches to the British West Indies, *via* Bermuda.* If, further, a connecting-link between the last-named system and Bathurst (west coast of Africa) were effected, and also a cable laid between the latter and Gibraltar, telegraphic communication between the Mother-country and the Cape would then be entirely independent of foreign soil (which it is not at present), whilst also being free locally from possible interruption at the hands of the French fleet.

I venture to think that any plan for bringing the Mother-country, Canada, the British West Indies, and South Africa into direct communication with one another and with this city (the heart of the Empire) will command a considerable interest for you in connection with the subject I have been dealing with.

Our present Prime Minister has more than once expressed his warm adhesion to the principle of cable-communication as a method of cementing the various units of the Empire, and as serving to develop inter-Imperial trade. The whole scheme might be put into being very easily if it were recognized as a suitable subject for including in the navy estimates. If only for strategic reasons, what could be more natural and consistent? The cost of the more essential features in the project would be actually less than that of a Dreadnought, over which we do not hesitate for one moment, and which would often be of little value if not in telegraphic touch with headquarters. It should never be forgotten that the most complete, reliable, and speedy communicating-links available form an eminently important feature in Imperial defence. In the course of a paper on "The Influence of Submarine Cables upon Military and Naval Supremacy," Lieutenant G. O. Squier,

* It was recognized at a recent Royal Commission on the Trade Relations between Canada and the West Indies, that cable-communication should be established between Bermuda and Barbados, with extensions to Trinidad and Demerara, in order to meet the present objection to these British colonies being at present in telegraphic communication with Jamaica, Bermuda, and Halifax only by means of cables landing on foreign territory. Nothing has, however, been done to follow up these official recommendations.