

DISCUSSION.

Mr. Norman Selfe said he thought he might fairly say it was seldom members had the pleasure of listening to a more interesting paper than the one the author had favored them with that evening. It was not only of interest to the engineers assembled in the room, but it was of interest to the world at large; because anything that so vitally concerned the progress of Australia was a subject of interest to the whole civilized world. For himself he could only express the hope that the thoughts to which Mr. Walker had given rise with regard to the Pacific cable would soon be realised;—indeed he thought that it would be a very appropriate climax to the celebrations which were shortly to take place in England, if we could connect the cable running only through British possessions throughout. He felt particularly interested in the rise of telegraphy in this country, and it was only recently he had a walking-stick made from the first telegraph post erected in N.S.W. After hearing Mr. Walker's paper that stick would have for him an additional interest. He did not think he need now say more as the paper would be in print and they would then be able to peruse it at leisure. He would, however be interested to know how records were kept in the case of the instruments which were operated without tapes?

Mr. Erskine said it must be a surprise to many members to learn that such progress had taken place, at all events it was so to him. There was one point that rather eased his mind; that although at first they were so far behind some of the other colonies in telegraphic matters, yet they had caught them up and passed them. He hoped that in the matter of electric lighting they may be able to do the same. At present, however, they were a very long way behind Victoria, and even Tasmania, in this respect. Mr.

Walker's paper, he felt sure, would make very interesting reading.

Mr. Kingsbury thought that Mr. Walker in his paper had overlooked the great difference which existed in Australia and America, as compared with England and Continental countries, as regards long distance telegraphy. Australians had so much greater difficulty to contend with in the management of their instruments, and also in getting instruments to do the work. On this account he thought, Australians were in a better position than Englishmen or Continentals to ascertain the style of apparatus most suitable for use in long-distance telegraphy.

Mr. Fitzmaurice said there were one or two matters he would like to touch on. In view of the fact that the paper which they had just listened to was, from a statistical standpoint, invaluable to the Association, to the Colony, and to Australasia in general, he would suggest that, instead of waiting for its publication in the ordinary course as a part of the Proceedings, it should be printed in pamphlet form and circulated among members and also if necessary to the adjoining colonies—in fact, to anyone who wished to apply for them. Many members, and many engineers in the Colony, and gentlemen not connected with the engineering profession, would no doubt be very pleased to receive a copy of Mr. Walker's paper, who would not care to purchase their volume with a lot of matter foreign to the subject; but who would willingly buy this paper by itself. In this way it would soon pay for the expense of printing. As there was not likely to be much discussion on the paper, he would like to prepare a series of characteristic cards showing the different phases of the history of electric telegraphy in the different colonies. He thought this might be an interesting supplement to Mr. Walker's paper. With regard to the Pacific cable, he was sure they all trusted that Mr. Walker's wishes in that respect would be consummated in a very short time.

From a military point of view to the British nation, such a cable would be invaluable, because, by it they would be in touch with all English countries and be independent of any foreign line at present in use. Mr. Walker had not touched on the future. In that he was wise, for it is very hard to say what the next ten or twenty years would bring forth. There had been so much development in telegraphy within the past few years that it would be a very foolish man who would doubt any probable development in the future.

Mr. Cruickshank said that, as far as he could judge, when the history of Australia was written they would have no occasion to collect information regarding Australasian telegraphs. It would all be found ready in Mr. Walker's paper; and he thought that was about the highest compliment they could pay him. Mr. Walker must have exercised an immense amount of patience, and gone to a great deal of trouble in giving, not only a concise, but a very detailed history of Australasian telegraphic development. Mr. Fitzmaurice had complimented Mr. Walker upon his wisdom in not saying anything about the future. This reminded him that he had received a letter from America in which was a newspaper cutting which set forth that a Professor Hughes had claimed to have succeeded in generating electricity direct from the coal without any heat, and that in future we would not require any engines, boilers or anything else. From his discussion he certainly appeared to have proved that he could get currents of electricity direct from the coal, and his object is to prevent the generation of heat, and to produce the electricity direct from the coal by chemical action. This all may seem very ridiculous to talk about, but yet the wisdom of saying nothing about what may or may not be done in the future by electricity is evident. He might just say, with regard to the printing of Mr. Walker's paper, that he thought it a good idea, but would suggest that it be left in the hands of the Council. It would have to be printed

anyway, and when the annual volume was being prepared, it could then be run off in pamphlet form, thus avoiding the necessity of having the type specially set up.

Mr. Walker, in reply, said that he feared that he had made his paper too long, but he found great difficulty in cutting it down. As he had first written it, it covered 150 pages; then he cut it down to 100; then to 80, and again to 50. He found that even that made it too bulky; but he could not cut shorter. He had endeavoured to make it as interesting as possible, and if he had succeeded in doing so he was pleased. There were one or two comments to which he would like to refer. Mr. Kingsbury, for instance, appeared to be under the impression that people coming from England here do not understand long-distance work; but he would point out to Mr. Kingsbury that the difficulty of working long circuits is nothing. There was no comparison between working an instrument here and at home. In this country they had the great advantage of a dry atmosphere, whereas in England the atmospheric conditions were not favorable. There was another matter he would like to refer to—that was the future. Mr. Fitzmaurice had said he very wisely had not dwelt on the future. He thought that any man who attempted to prognosticate anything in reference to the future must be a very problematical man, because they all know that the future was very problematical to everybody, and the cleverest man on the face of the earth could not forecast what would happen in the next few years—especially in scientific matters. The march of science had been so great that they need not be surprised at anything. For example, take the Atlantic cables. The first cable laid was a failure; but now there were thirteen cables laid across the Atlantic. Who could have predicted such a thing 50 or 60 years ago? In view of all this he thought they should content themselves with taking things up-to-date, and not bother trying to peer into the future.