

40. Of the two lines—by Banjoewangi to Java, and the direct line from the North-west Cape to The Conference. Batavia, which do you think would possess the greatest advantages for good working?—So little is known of the ocean bed between the north-west coast of Australia and the westerly point of Java that I could hardly tell you.

41. I suppose you are aware that the heavy currents on the north-west coast only extend a certain distance from the land, and do not come within the direct line. That would be an advantage, as the cable would be less liable to injury?—There would not be much fear of injury to the cable, when it was once laid; on a soft bottom it would be comparatively free from danger.

42. Is there a soft bottom between Port Darwin and Banjoewangie?—It is some distance from it. You have the same coral reef bank, then you get into deep water, which lasts until you approach Banjoewangie, when the water shallows again.

43. I see it is said here (referring to papers), "With regard to the duration of cables no actual experience exists, nor indeed will it be found uniform, as it must depend upon the surroundings in each individual case. In the experience of the cable between Singapore and Australia, passing as it does through shallow and warm seas teeming with animal life, and judging from the experience we have had of the damage to which our present cable is exposed to attack from insects, it is considered fair to estimate the duration of a cable in these seas at about fifteen years." I merely quote that to ask if you can give any opinion as to whether the conditions of the cable would be better if it were laid farther to the westward, away from the coral line reef, which, I am given to understand, is destructive to it?—From the appearance of the sea farther to the westward, I should say the water was deeper and quieter.

44. I have been informed that the water is much deeper and altogether free from coral reefs. Well, the route from Batavia to North-West Cape would be better for the cable, as it would last longer lying in deep water and on a soft bottom?—Yes.

45. *Mr. Stuart.*] That is, if the water is deeper; but you know nothing of it?—No.

46. *Mr. Griffith.*] Supposing you proceeded to lay down a duplicate line from Banjoewangie to Port Darwin, how far would that line be from the present cable?—About twenty miles south of the present cable.

47. Would that be a sufficient distance to enable you to distinguish between the two lines in case of repairs being necessary?—Yes, I think I am safe in saying it would be quite sufficient. There are four cables across the Atlantic joining the same points.

48. Would there not be danger, if there were two lines laid down on the same route, of taking up a sound cable instead of a broken one?—No, the lines would be too far apart for that. No such danger is apprehended in connection with these Atlantic cables all belonging to one company. There are also two between Malta and Alexandria, two in the Red Sea, besides a duplicate now being laid between Aden and Bombay.

49. Your Company depend upon cables all the way from Australia to London, do they not?—Yes, except across Java and India.

50. Supposing one of your cables broke, you have only a single line from Singapore to England?—From Bombay to England the line belongs to the Eastern Telegraph Company, who work amicably with us, and the lines are double from Aden to England; the double line is not quite finished from Bombay to Aden.

51. But in the event of interruption is there any other route?—Yes, the Indo-European lines are available.

52. *Mr. McLean.*] If your line fail, will they send a message for you by arrangement?—Yes.

53. Then you have to depend upon other companies?—Yes, companies with which we have a mutual working arrangement.

54. *Mr. Fraser.*] I understood you then to say that the Eastern Extension Company works co-operatively with the Eastern Company?—Yes.

55. And that the Eastern Company work entirely with cables which go from Plymouth, Alexandria, Aden, and Bombay?—Yes.

56. And that this Company's cables have been duplicated between Aden and England, and are being doubled between Aden and Bombay?—Yes.

57. So that when this line is completed there will be a complete double communication from Singapore to England by cable?—Yes, when a line projected from Penang to Rangoon is laid.

58. If it is carried out?—Yes.

59. Then the chances of a complete stoppage are very remote?—Yes.

60. And supposing a line were brought from Singapore to the North-West Cape, that would of course effect a communication with the same system of telegraph lines, and there would be two distinct lines of communication right through?—Right through from Australia to Europe.

61. *Mr. Griffith.*] Are submarine cables liable to interruption from other causes than by abrasion by rocks?—Yes, from a small flexible insect, known as teredo, which is said to bore into the gutta-percha.

62. Are they liable to disturbing influences from electric causes—from thunderstorms?—No.

63. Or from volcanic influences?—No, from nothing of the sort, as far as my experience goes.

64. Has volcanic action in the vicinity of a cable ever been known to affect it?—Not that I am aware of.

65. *Mr. Stuart.*] Are you a practical telegraphist?—Yes.

66. I mean specially in respect to construction?—Yes, I have been engaged in the construction of the Atlantic cable. I was for some years in the service of the Construction Company who made the Atlantic and all the eastern cables, and afterwards was engaged in similar work for the Eastern Company. My position here is that of Superintendent in charge of the New Zealand section of the Eastern Extension Company's cable.

67. *Mr. Ramsay.*] Another route has been mentioned in Melbourne and submitted to the Chamber of Commerce there—from West Australia to the Mauritius; have you considered that route?—Yes;