

13in. here?—I could not say for that. The only thing I could say is that if the building was going down in the centre here it would be apt to contract.

958. If there was a bulge on the north wall would that account for it?—It would not account for the bottom, because the bottom would require to bulge too. This would be a rigid line.

959. If it is proved in evidence that that wall has never been moved—it stands right?—Then I cannot see how this would move. It must move the same distance in front as what it does at the back.

960. If there was a bulge in the ambulatory-floor, would that account any way for it?—Yes, it would show at the doorway here, at the north end; it would contract that door. That door would be the weakest part.

961. But you have not answered my original question. My question was this: If I were to tell you that these two slips have both occurred, what would you say would cause both of them?—The only way it could arise would be from pressure behind acting upon this outside wall—the outer wall of the north wing.

962. *The Chairman.*] Have you anything further to add in answer to that question?—The only thing I could account for that would be the pressure from behind the end of the north wall—the outside wall. The pressure coming from the outer side would act here, this being an open space only filled up with a doorway. It is possible for the pressure from behind to so act as to contract the whole of the outer wall of the north wing. Or it may act in another way: this may have thrust in the outer wall, and contracted the north wall so the cracks would show in the inner angles of the north wall; and that would have a tendency then, at least, to show the difference between the 16in. at the west end and the 13½in. at the east end.

963. *Mr. Lawson.*] I will try to put it in another way. Supposing a line drawn through this ambulatory in the centre shows that originally the whole was in one line from end to end, and that by measurement now it was proved that this opening of the ambulatory-doorway at the north end was 16½in. nearer that line, what would you say caused that?

*Mr. Blair:* I do not know that I can object to this, but it has not been proved that the line was straight.

964. *Mr. Lawson.*] I am supposing. Supposing there was a straight line throughout the building, and that both sides measured equally to it, and that it was proved now that this angle at the north-west end of the ambulatory was 16½in. nearer that axis-line, what would cause that?—Movement of the whole building; because the building must move to get this line 16½in. further to the east.

965. Would you for a moment imagine that ½in. of settlement in the ambulatory might cause that?—I do not see that the ½in. has anything to do with the straight line through the building at all. It has nothing to do with it. This ½in. of sinkage would have no effect upon this 16½in.

966. You know something about the nature of the ground up there, do you not?—I have seen the ground, passing up on the railway.

967. Do you know anything about the nature of the ground at Seacliff itself?—Well, I believe it is a sort of slipping formation.

968. Have you any personal knowledge of it?—Nothing further than what I have seen coming down on the railway, and from reading Dr. Hector's report on the site some years ago.

969. Do you know of any instances of hills slipping at all?—Oh, yes!

970. Could you tell us of any?—You have Constitution Street, and Heriot Row, Pitt Street, Queen Street, and Albany Street, all at the north end of the city.

971. What is the consequence usually to brick houses on such formation?—They both crack and move forward.

972. In a somewhat erratic way, do they not?—Yes.

973. The cracks are not, as a rule, all in one direction?—Oh, no! they are all twisting.

974. In fact, you could tell, looking at a building, that it was caused by something like that?—Yes, you could very easily tell that. One part of the building remains sometimes, and the other parts move. Generally you can tell.

975. Assuming that there was a slip there, would that explain the nature of these cracks?—I should certainly think so.

976. You think it would be much more likely that it would explain the nature of these cracks as they appear on the drawing than the settlement of ½in. in the ambulatory?—I do not think the settlement of ½in. in the ambulatory would show such cracks at all, because all these cracks cannot be local.

977. *The Chairman.*] In your evidence you stated—I think we were talking about the back wall of the ambulatory—that the concrete in the foundation was strong enough to carry the superincumbent weight, in your opinion?—Yes.

978. Well, I will ask you whether you do not think that that depends just as much upon the nature of the foundation beneath the wall as upon the wall itself?—If the concrete is upon a rigid bottom it is sufficient to carry the superstructure.

979. Do you not think it depends just as much upon the nature of the ground beneath the concrete wall as upon the wall itself as to whether it stands or not?—Oh, yes!

980. Because you mention that the strength of the wall is sufficient to carry the superincumbent weight, ignorant of the foundation beneath?—I did not take the clay into consideration at all. I assumed the foundation was sufficient to carry the concrete.

981. You also stated that the earth pressing against the back wall of the ambulatory, in your opinion, caused the motion?—Yes.

982. In that case would you not suppose that the back wall would be pushed close up to the other two in front?—It depends upon how this part—

983. You stated that, in your opinion, the pressure of the earth at the back of this west-