

keep out the rain and weather. You say it is not an open shed because its sides are of galvanized iron?—Even if there was no person in the shed, and wind or air was passing on and through that shed, heat would pass from the air in the room to the iron, and then into space from the iron. Again, if it were inhabited by men their bodies would give off a certain amount of heat. The temperature of the body of a man in health is fixed at about 98 degrees Fahrenheit. For instance, a room 12 ft. square at 45 degrees Fahrenheit inhabited by one person reaches 48 degrees in two hours—it gains 3 degrees; and if the room were of unlined iron that heat would not be gained, but passed through the radiation of the walls and then into space. Another question Dr. Frengley referred to was, if the air is of the same temperature on both sides, would there be any condensation?

44. That is the same question I am asking?—There would not be any condensation; but the condensation in every case in the Trentham hutments will prove what I say—the vapour from the men's breath condenses on the cold iron at night.

45. Do you know of your own knowledge there has been condensation?—I did not stay out there. I know of my own knowledge that it must be so when there is a frost outside.

46. You are assuming the facts coincide with your theory: do you know practically that the facts do coincide with your theory?—I have had no practical tests there, but I took it from others, and they have had far more ice in their jugs than at other places.

47. I do not know that there are any jugs in the place?—That is what I am informed—in the officers' huts.

48. *Mr. Gray.*] You were not instructed by any authority or person to make an inspection of the camp, were you?—No.

49. You had no personal experience of these hutments—never been in them at night?—No.

50. And never seen them in occupation?—No; the men were in the field.

51. You have had no experience of the hutments in Ladysmith?—No.

52. Never been inside them?—No.

53. And your experience is confined to some buildings in the backblocks of Australia and unlined churches in New Zealand?—And unlined sheds in South Africa.

54. What sort of sheds?—By the railway-side, where I had to sleep—galvanized-iron sheds.

55. Were they ventilated like these buildings?—There was too much ventilation.

56. How were they ventilated?—With openings in the top—in the roof.

57. There are openings and caves extending along the walls of these huts: they were not like that?—It was not so deliberate as at Trentham.

58. Were those you speak of floored?—Some were and some were not. I slept on the floor, and the cold descended.

59. You might have thought it did?—I know it did.

60. *The Chairman.*] The man in the Australian backblocks does not provide any system of ventilation, does he, in addition to what may get through the crevices and cracks?—No.

61. As to the churches you spoke of, was any attention paid to the ventilation of them, or was it left to the natural conditions of their construction?—More or less to the natural conditions of the structure.

62. Then it may be that the evil effects would follow from the effects of the ventilation in the backblocks' room or galvanized-iron church?—By excess.

63. By want of proper ventilation?—No; fresh air would be a corrective.

64. I can understand draughts coming in from crevices, but here you have a condition where there is a continuous current. There is a great difference between those two conditions?—Yes, there is certainly a great difference.

65. *Mr. Gray.*] There is a strong prejudice held by some people against fresh air?—Especially in cold weather.

66. And even in warm weather?—Yes.

67. Does the backblocks settler who lives in an iron building pay much attention to ventilation?—In Australia they are very much open-air people.

68. Does a man who lives in an iron shed pay much attention to ventilation?—They mostly have too much ventilation, but they would suffer more from the evil effects of the radiation if they closed it all up. The oxygenized air that would be coming in would save them from the evil effects that people try to ward off by closing the ventilators.

69. Can you then say, having had no experience with these hutments, that they are not sufficiently ventilated?—No, I would not say so. I have not had experience of them, and I wanted to get absolute determination of the relative temperatures of the tents and hutments.

70. You have not had any experience of these hutments?—I have not slept in them at Trentham.

71. Are you a particularly strong man?—I am strong enough in that way, but know I would easily get inflammation of the lungs.

72. Have you ever suffered from chest-complaint?—Yes.

73. I suppose you know enough of this matter to know that time was the great factor here—they wished to get the huts up as quickly as possible?—Yes.

74. It goes without saying that the construction of the huts of wood would take longer than iron—you would have to get a sufficient supply of good dry timber?—I do not think there would have been very great delay, and it would still have averted the greater danger if we had made less haste. It is a case of "more haste and less speed."

75. I gather from what you say that you regard iron as an unsuitable material for huts to be made of?—Absolutely.

76. You prefer wood?—Very much; it is a non-conductor.