

is chilled in contact with the iron, and being cold it is made heavier and descends to the floor, and then taking up the bodily heat and breath of the men drives this up to the centre, and then this chilled and deoxidized air either soon descends or is taken away by a draught through the vents to a certain extent. The iron, you may say, is really like a suction pump for the heat in the place.

22. Apparently one must be very careful about sleeping in a galvanized-iron building?—That is my experience; and I have known the strongest of men inclined to take colds and pneumonia, and seen many strong and full-blooded men go off with pneumonia under conditions that a weaker person has withstood.

23. A timber building roofed with shingle or covered with wood would be preferable?—Far preferable, and could, moreover, be obtained in the country. Timber cut of a certain length at the mill for the walls could be supplied in the country, and the interstices of the walls covered with small battens, so that it was made perfectly draught-proof; the nailing-work could be done even by the soldiers themselves, or rough carpenters or common labourers. I was surprised to hear Dr. Frengley talk in the manner he did with regard to corrugated iron, because it is just a matter of the A B C of physical science that certain substances act as radiators of heat—absorb and emit heat with definite coefficient—in the same way as copper and other metals conduct or resist the transmission of electricity.

24. Is not the question of fire also to be considered when you put up a number of contiguous buildings?—It would have to be considered, certainly.

25. Galvanized iron is less likely to ignite from sparks than wood?—Certainly; but the dangers from fire are less than the loss of life we have suffered at the camp. I have also had experience of unlined galvanized-iron churches, and after they have been lined the disagreeable effects of extreme heat and cold have disappeared. As to what Dr. Frengley said in regard to my not having had experience with consumptives, I am not a medical man, but I have taken a great deal of interest in and studied this matter in years gone by, because it is one that concerns climate and the health of the people. I have visited sanatoria and read several books upon the subject, and the hutments as I have seen them illustrated have not been of the character seen at Trentham. Usually they have been more on the open-air system than these—one side has been open so that there were no draughts created in any way, except perhaps suction draught by a passing current of air.

26. You would not put fifty people in a room in a sanatorium?—No, only one or two at the most.

27. If you have a large number of people in a room—anything from twenty to thirty or forty—must you not have some draught set up or some continuous circulation of pure air ensured?—Of course; but this is quite a different thing. It would be very much healthier to sleep in a lean-to or anything of that character than in a room where conduction currents are set up of carbonized air and heat radiated from them as in the hutments out at Trentham. Every sanatoria system I have seen for the outdoor treatment of the sick has been on quite a different plan from these.

28. *Mr. Ferguson.*] Have you been in these huts?—Yes, I inspected them in course of construction, and have looked at them since.

29. Have you been in them since construction?—Yes; but only when the doors have been open and the men's clothes and things were lying on the floor.

30. Are you aware that along two sides of the hut at the level of the eaves there is a continuous opening?—Yes.

31. Are you satisfied that the area through which air can blow in or blow out, or both, is sufficient to keep the volume of air continually changing inside the building?—Not in calm weather, but it would be excessive in stormy weather.

32. Sufficient in moderate weather?—It would be a matter of calculation, for a man is supposed to require 3,000 cubic feet of air every hour, and it would be a simple matter of calculation how much would be supplied with a certain current of air.

33. Still, in moderate weather or in stormy weather the volume of air inside would be displaced and would be continually moving?—Yes.

34. A condition could approximate closely to the condition in an open shed?—Yes.

35. Assuming that the condition is approximate to that of an open shed?—Yes.

36. If the temperature is practically the same inside and out, how does it come about there is a reduction in temperature?—Is there reduction in temperature?

37. I understand you complain there is a reduction in temperature owing to the galvanized iron?—Yes, with men inside.

38. But if the circulation of air from outside carries into the hutment the same temperature as outside, how can there be condensation?—The loss would be from the heat of the men's bodies and through the iron itself.

39. There would be no more loss of heat from the men's bodies than if lying in the open air?—More loss.

40. Why more loss?—More, I say, because there is the radiation and cooling surface for the air that comes in contact with the iron.

41. And if it radiates, it radiates because of the hot air. If the temperature in a room is the same as outside by reason of ventilation I cannot see where there is condensation?—But it would not be the same; there would be the heat from the men's bodies to disturb the equilibrium of temperature.

42. Is radiation any greater in a man's body lying in the open air or lying inside a room well ventilated?—I see what you mean; but that is not an open shed.

43. Well, is it not so nearly approximate to an open shed that it practically is one. Dr. Frengley maintains that he has designed this as an open shed, with only sufficient closing to