

sense that their structure is exceedingly accommodating. I suppose the whole length to be about 120ft.

3077. That is, the whole length of the building? Then, you have ceased to consider No. 7 ward alone?—It is necessary to break into the other wards in answering the question as to length of ward, number of beds, expense of nursing, &c. I take the whole length of the three upper wards—two large wards and tower ward—to be about 120ft., and the width about 25ft. The Hospital was originally built for an exhibition, and the rooms opened into one another by large open archways—in fact, they were all one, and have since been subdivided, by erecting thin brick partitions in the archways. If these were taken down you would have a large hospital ward of typical size, or, if only one were taken down, there would be a medium sized and a small ward.

3078. The plan you suggest would make one ward of the typical size?—Yes; the length, width, and height would all be well-proportioned and satisfactory for a large ward. In the Lariboisiere Hospital, in Paris, the wards, including closet-space, are longer. In the Herbert Military Hospital, which may be taken as a type of a good and fairly modern hospital, the wards are, I think, about 120ft. long, including closets. The ward I have suggested would provide accommodation, if properly ventilated, for a maximum of about twenty-seven patients.

3079. With proper ventilation?—Yes; twelve patients for each of the main wards and three for the tower ward are what I consider to be the maximum numbers of patients that should be placed in the wards. Any number from twenty to thirty-two per ward is considered satisfactory for economical considerations, because one night-nurse can attend to as many as thirty-two ordinary patients.

3080. *Mr. Solomon.*] We have been told in the first place that there should not be anything like what exists here—a blank wall and these windows: do you agree with that opinion?—I think it is a bad arrangement.

3081. Has such a wall as that any effect on the wards?—Yes; but some of the outer windows could be provided with double glass, and there is no reason why windows should not be placed in the blank wall at intervals. It would be a very easy thing to do.

3082. Do you think that you can get efficient ventilation in these wards, situate as they are adjacent to a central hall?—Certainly I do.

3083. How can that be done without structural alteration?—I think that probably the simplest and most efficient plan would be to put a large central shaft in the middle of the hall, with a fire at the bottom, and ventilate the wards into that by means of extraction-pipes or shafts led from each ward.

3084. *The Chairman.*] Your proposal would require air to come from the central hall?—No; it is a question of extraction; you extract the air by means of a large central shaft, the air supplied to the fire being received directly and solely from the wards.

3085. Your plan requires the central hall to be used as an extraction chamber?—A shaft would have to go through it from the basement—a shaft such as is used for the House of Lords and the House of Commons at Home, for the New Free Library in Edinburgh, and many other recent buildings of large size. The fire at the bottom of the stack would serve also for heating a boiler connected with a system of hot-water pipes traversing all the wards. It is impossible in winter to ventilate efficiently without adequate provision for heating. One ordinary open fireplace has practically no effect in a Hospital of 20,000ft. capacity.

3086. *Mr. Solomon.*] Do you approve of the composition of the walls, the floors, and the ceilings in the Dunedin Hospital?—Please take them one at a time.

3087. Well, we will take the walls of No. 7 ward?—I think that the walls are of brick, simply covered with whitening or lime, and in some parts possibly with cement. I do not consider white-washed brick a satisfactory substance; it is not smooth enough; it is too irregular, and, moreover, the brick and mortar are too absorbent.

3088. *Mr. White.*] I think that the walls are sized also?—That is rather objectionable, because it is organic.

3089. *Mr. Solomon.*] What about the floors?—I think they are exceedingly unsatisfactory. I do not know that I have ever seen such bad floors in any other Hospital. The material which has been used is one of the worst kinds of wood for such a purpose, because it is very soft and open-grained, and tears up into long threads when you wash it. The boards are too wide, and in many places not closely enough joined.

3090. What about the ceilings?—While speaking on the subject of floors, I ought perhaps to say that, in my opinion, the wards should be entirely refloored throughout.

3091. *The Chairman.*] You say that before No. 7 ward is used again it should be entirely refloored throughout?—Yes; kauri flooring would be perfectly satisfactory, especially if polished with bees-wax, or by ironing solid paraffin into it [specimen shown].

3092. *Mr. Solomon.*] As to the ceilings, are they satisfactory or do they require amendment?—They are made of lath and plaster, but I do not know that there is any special objection to them. They might with advantage be rendered smoother and less pervious.

3093. Are the walls and flooring pervious?—No doubt the air can pass through them.

3094. *The Chairman.*] Would germs pass through?—They might.

3095. Would there be any danger in that?—There might possibly be.

3096. *Mr. Solomon.*] Do you think the flooring, as you found it in No. 7 ward, favourable or unfavourable to the collection of possible germs?—The floor is washed, not varnished or polished, which is highly unsatisfactory; the cracks get filled up with filth, and this must be a perfect nest for micro-organisms.

3097. *The Chairman.*] Did you see any oilcloth or examine it?—I did not.

3098. *Mr. Solomon.*] I think that you stated that these places would be perfect nests for micro-organisms?—It must be so, as the floors are frequently washed; further, the frequent washings are injurious to patients, owing to the coldness and dampness which result.