

is true of infection spread in other ways. The effect which faultily designed and faultily constructed barracks may have in propagating disease becomes at once apparent." It is essential that the bodies should be as far apart as possible when the men are asleep, so that the breath of one man does not get to that of the next. Apparently there was not sufficient means of drying clothes. I went into the Artillery hut, and there were there some blankets and clothes that were very damp indeed. There had been some rain, but I think some drying arrangement should have been provided. That was on the 23rd July. Some of the men did not know that there were any drying arrangements. One man's clothes were very wet indeed; he had been sick, and was going on leave, and he did not know of any place where he could dry his clothes. I understand now that there are some marquees for that purpose. Special drying-places should be provided. When I visited the camp I found the blankets and clothes in the huts damp and cold owing to the lack of means for drying and warming them. This can hardly conduce to healthy conditions, and must seriously impair the resistance to disease or infection of those who use them. "Sanitation in War," by Major P. S. Lelean, R.A.M.C., 1915, Asst. Prof. of Hygiene, R.A.M.Coll.: "Disease-prevention is the essence of effective sanitation. Wet clothing: The fouling of clothing is important, because decomposition of the organic matter which it contains liberates organic vapour, which, although freed from moisture and CO_2 , is still lethal to mice in 45 min. This produce therefore must be noxious to large mammals. When the clothing has been loaded with organic matter by frequent saturations with sweat it is desirable that a change should be provided for night use, and fouling of the air of rooms should be avoided by drying the day-wear elsewhere. This is seldom practicable on active service, but can readily be arranged during training. Provision should be made for drying damp clothing in separate drying-sheds apart from the rooms in which the men live and sleep. Some system of warming which would both warm and dry the huts and clothes (except those wet with sweat or weather, which should be dried separately), and assist the ventilation, would promote and maintain the general health of men. To expose them to dangerous and weakening conditions is not the way to prepare them for the hardships of a campaign. Sleeping on the floor of the huts is neither very comfortable nor healthy. Damp would arise from the wet ground underneath, and the colder air, being the heavier, descends to the floor. Further, any dust would be swept on to the sleepers' faces. It would have been more hygienic to have provided separate mess-rooms between each hut, and where the food-cupboards would also have been placed. "The desirability of keeping a special room set apart for meals is now well recognized, and provided when possible." The ventilation of the huts is faulty except in stormy weather, when they would become too draughty. The principle of eaves ventilation is sound enough when there are outlets in the highest point of the roof or when the ceiling-level is not much above the inlets. The Army Council recommend eaves or ridge ventilation, but the former applies to buildings ceiled at the plate-level or with outlets in the ridge. A system of ventilation which could have been altered according to the weather should have been adopted in preference to the rather crude method now in use. To be efficient the ventilation should be automatic and constant. Fresh-air inlets of sufficient diameter to admit 3,000 cubic feet per hour per head at or near the breathing-line are required, as well as outlets of at least the same diameter placed in the highest point of the ceiling or roof. As the huts are at present arranged it is very difficult to get an adequate supply of fresh air in calm or mild weather, owing to the overhang of the eaves, the sashes being top-lung and opening outwards, the too-close proximity of the other huts, and the open roof, with its exposed collar-ties, &c., which prevent proper perfilation. There is not a constant or sufficient inlet of fresh or outlet of foul air. In calm or mild weather the air must stagnate inside the huts. The exhaled breath of the men ascends to the open roof-space, where it is chilled and descends again to be rebreathed.

5. *Mr. Ferguson.*] You think there should be ridge ventilation?—Undoubtedly. A test made by Mr. Bates for me of the in and out flow of air in the eaves ventilators, and also in the centre of the hut, with a delicate anemometer, resulted in no movement being recorded in the hut, and a very slight intermittent movement at the eaves on the windward and leeward sides, although there was a breeze blowing outside. This proved that the ventilation was not constant, and that the closeness of the adjoining huts affected the currents of air. Mr. Bates has made other observations which will, I think, bear out my contention that these huts are not sufficiently ventilated at all times. The amount of CO_2 found in the air of the huts after occupation also bears out this statement. It is the excessive presence of CO_2 and diminished amount of oxygen which renders air vitiated by respiration so hurtful. The now well-known fact of the great prevalence of phthisis in most of the European armies can scarcely be accounted for in any other way than by supposing the vitiated atmosphere of the barrack-room to have been chiefly at fault, and, as if to clinch the argument, there has been of late years a most decided decline of consumption on certain stations where the only circumstance which has notably changed in the time has been the condition of the air. "Impure air: There is an enormous increase of bacteria in crowded and ill-ventilated rooms." "Cerebro-spinal meningitis: 40 per cent. of the contacts are said to become temporary carriers by a naso-pharyngeal infection which persists for about thirty days" (Lelean on "Sanitation in War"). "Tuberculosis: Habitual breathing of air rendered impure by overcrowding and defective ventilation may act in two ways—indirectly by weakening the resistance of the tissues, and by increasing the chances of infection. Overcrowding and defective ventilation are not convertible terms, but we scarcely meet them apart. Persons breathing air vitiated by respiration become pale, lose their appetite, and decline in muscular strength and spirits. The aeration and nutrition of the blood are interfered with, and the general tone of the system falls below par. Of special diseases pulmonary affections are more common" (Notter and Firth). Colds and influenza are rarely contracted in fresh air. They do, however, frequently follow the breathing of impure air of overcrowded and