SANITARY NOTES FOR RECRUITS.

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VENTILATION, DRINKING WATER, &C.

PART III.

Ventilation.—No matter how large a room may be and how few the occupants of that room, after a period of more or less duration, according to the number of people in the room, the air will become foul and unhealthy unless provision be made for a fresh supply of air from outside, and different modes of ventilation, with a view to keeping up a constant supply, have been devised; one mode being known as the artificial, the other as the natural; the latter form should always be in vogue whenever possible. In barrack-rooms, such as you are accustomed to in England, it is easy enough to keep up the supply of fresh air by merely opening windows, which should always be done from the top and arranged so as to avoid draughts, which can generally be effected by attending to the direction of the wind. Having provided for a constant supply of fresh air from without, it is of equal importance to provide for the escape of the impure air from within.

Use of Ventilators.—It has been found that the expired air, or that which has already been, as it were, used up by breathing, being lighter ascends, so that in a room like this with a fairly lofty ceiling, the bad air collects high up overhead, and therefore we find the outlet ventilators situated, as a rule, at the top, and opening into the chimney flue when possible, as the draught, which is constant in all chimneys, speedily carries off all impurities by means of a kind of suction, so that the balance of inlet fresh and outlet impure air has to be maintained in all properly ventilated buildings. As regards the amount necessary for each individual, it is computed that an opening of at least 22 square inches is necessary both ways.

Dangers of Overcrowding.—We have only to compare the amount of mortality from lung disease or consumption in the old days of overcrowded barrack-rooms with the present, to be convinced of the great importance of the free circulation of fresh air in our barrack-rooms, for, in comparing the numbers per 1,000 men who died from consumption in the years 1830-36 with the years from
1871-76, we find the number of deaths reduced to less than half
in the latter; no doubt this extraordinary diminution is directly
attributable to the increased amount of cubic space as compared with
formerly. You must, therefore, accustom yourselves to the free
entry and exit of air in the barrack-rooms, at the same time availing
yourselves of exercise in the open air when possible, which, in
my opinion, is one great advantage in the life of a soldier, for
which reason, too, it is easily understood why men in camp are always
so much more healthy than when comfortably housed in barrack

**Advantages of Outdoor Life.**—For similar reasons by all means
cultivate outdoor games of all sorts during your leisure hours, and
you will find yourselves healthier and happier men, for nothing that
this world can give can make up for loss of this inestimable blessing,
which you should endeavour by every means in your power to
preserve.

**PART IV.**

**Drinking Water.**—The question of drinking water next claims
attention, the paramount importance of which in the maintenance of
health is no less than that of the purity of the air we breathe, or the
food we eat, and in estimating the all-powerful effects of drinking
water for good or evil we have only to enumerate the diseases
resulting from a contaminated or polluted source of supply. With
regard to the different kinds of water used for drinking purposes, the
wholesomeness or reverse might roughly be judged in the following
order, and firstly in this consideration, it is thought that rain water,
if properly collected and stored, is about the purest of any, inasmuch
as the only impurity it could contain is that gathered from the air
in its descent; but with reference to improperly stored rain water,
where tanks are subject to pollution or the means of storing becomes
insanitary from any cause, such must be looked upon with suspicion.
Secondly comes really good spring water, and that obtained from deep
wells, if derived from a chalk or gravel soil, is best. Then, again,
the water found on the surface of richly-cultivated lands is often
dangerous; and although river water may be made fairly pure by
filtering, still, inasmuch as most rivers contain sewage and other
impurities of animal origin, it is generally considered unsafe; while
shallow well water is often the most dangerous of all, as impurities
of all sorts can so easily find their way thereto from the surface.

**Characteristics of Good Drinking Water.**—In appearance good
quality water should be clear, free from odour, taste, or turbidity,
and moderately soft; if sparkling when poured out all the better,
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showing, as it does, satisfactory aeration. When the water supply is deficient the effect on the population is very marked, the death-rate always rising in consequence, and owing to the sewers being insufficiently cleared and the air poisoned therefrom, various diseases become frequent, such as diarrhoea, indigestion, enteric fever, and sometimes dysentery, whilst it is a well-known fact that the specific poison of cholera can also be conveyed in this way.

Effects of Impure Water Supply.—Similarly various kinds of taenia, or worms, and even leeches, can gain access into the stomach through the water consumed; it is therefore highly important that you should exercise great care in filling your water bottles, and after all is said and done there is no safer method known for purifying water than that of simple boiling, which should always be done when practicable. For the reasons stated you should never on the line of march or elsewhere “go to the rear” in the vicinity of rivers or wells, but follow the system to which you are accustomed here of covering over with dry earth, a sanitary measure established since the time of Moses, and instinctively followed by many wild animals. You should never make light of an attack of diarrhoea—especially abroad—as such may, and often is, the forerunner of typhoid fever, dysentery and cholera.

Importance of Wearing a Flannel Belt.—A fruitful cause of diarrhoea, too, abroad, is very often the sudden change from a hot day to an equally cold night, than which nothing is more trying to the internal organs, and it is for this reason that the wearing of a cholera belt or kummerbund, made of flannel, becomes so necessary, for by this means an equal temperature or heat of the body is kept up and the danger of sudden chills avoided.

Causes of Heat Apoplexy.—On proceeding to India you will need to use something more than ordinary precautions, and then the peculiar power of the sun has to be remembered. It is important, therefore, to bear in mind the need of proper protection for the head, as obtained by the special kind of helmet worn; and the man who fancies he can go about in a forage cap with impunity will soon find out his mistake. The character of the food, too, as sold in the bazaars should be considered, and all indigestible and unwholesome fruits carefully avoided. Nor does it do to fill yourselves with beer before “turning in” in such a climate, for by doing so it is not unlikely that your sleep would end in never awaking, this being a common cause of sunstroke or heat apoplexy, the very worst cases of which are apt to occur at night under the circumstances just mentioned.
Necessity for Temperance.—There you will need to be temperate both in morals and habits if you are to escape being invalided home with a constitution shattered, and thrown once more on your own resources, with perhaps the capability to earn a livelihood gone, very often, indeed, the result of one night's debauch. It is when you are in the beginning of your career that you should give attention to these all-important matters, and ask yourselves the question, when all is said and done, "Whether after all the game is worth the candle?"