

found in great numbers in the sputa. The upper part of one lung as far down as the fourth rib was involved, and yet in four months the bacilli had disappeared; the lung seemed healed, the young man went away apparently cured. This case may, perhaps, be partly explained on the supposition that a catarrhal pneumonia surrounded the tubercular deposit.

Then again we must remember that pulmonary tuberculosis is a mixed disease and not the single process which is seen by experimentally inoculating animals. As Cornet (8) has recently shown, in his paper read at Leipzig, several different forms of pathogenic bacteria are present in the contents of cavities and in the surrounding tissues. We have therefore to deal with a chronic septic condition in addition to the tubercular process.

Then again blood poisoning from the absorption of toxic agents and from imperfect aeration must also be taken into account.

When we have discovered pulmonary tuberculosis in its incipient stage, the general regime should be our first consideration.

If circumstances render it at all possible the patient should at once be placed under the open air treatment. There are several methods whereby this may be accomplished, and we shall discuss them in the following order:

1. High altitude resorts for winter and summer.
2. Special hospitals for the treatment of consumption either on the higher elevations or on lower planes.
3. Southern climates which have a fairly even temperature.
4. The open air treatment as it can be conducted at home.
5. Sea voyage.

The main features of a mountain resort are (low atmospheric pressure). (1) The rarity and purity of the atmosphere. (2) Freedom from winds. (3) Dryness of the air. (4) The great amount of sunshine. On account of the rarity of the atmosphere, greater exertion in breathing is required as well as greater expansion of the lungs. If the patient does not take too much exercise at first, this extra draw upon the lungs seems to have a beneficial effect even in cases of active disease, and is only of disadvantage when there is not sufficient healthy lung remaining to perform the respiratory act with-

out risk of rupturing the air cells and thus producing emphysema. From my observation, I think that patients are not always sufficiently guarded on this point, and take too much exercise at first. The rarity of the air facilitates radiation and permits the transmission of the sun's rays without intercepting them. In the winter snow does not melt so rapidly and the air is consequently drier. At the same time the heat of the sun is so great that patients can comfortably sit or lie for hours in the open air in mid-winter, so long as there is no wind. The radiating thermometer at Davos will show 100° to 110° in the sun when it is ten degrees below freezing in the shade.

1. The purity of the air on the mountains is well known. Scarcely a single microbe could be found in a cubic metre of air at the summit of Mount Blanc. This is a matter of great importance to consumptive patients. Foreign particles, whether germs or of inorganic character, increase the irritation in the bronchi. I was told by a gentleman at one of the health resorts of Europe, who had a very extensive experience in the examination of sputa, that he has examined the expectoration of a patient taken early in the morning, and found no carbon particles, and that after the patient had taken a two hours' walk the doctor found particles of carbon imbedded in the mucus. All such foreign bodies, although they may not pass further than the bronchi, lessen the resisting power of the cells. Again the septic processes already spoken of must be set up by germs introduced from without.

2. The stillness of the air which is observed in sheltered mountain resorts is of great advantage, as on account of it patients can remain out of doors at a temperature which they could not endure if there was wind. It is noticed at Davos, as well as other places, that the occasional presence of wind completely changes the surrounding conditions.

3. The dryness of the air seems to exert a favourable influence. This, however, is not essential, for, as Dr. Osler asks, why should such good results be obtained at those resorts on the south coast of England? It is, however, generally admitted that, other things being equal, a dry air is more favourable than that containing moisture. The apparent discrepancy of views on this subject of the effect of dry and moist air, has not yet been explained, at least to my satisfaction. The great