

stitution of the consumptive, it appears to me, are too commonly overlooked. It is very well known that healthy, vigorous persons are sometimes injuriously affected by a change of climate. Hence we can never be certain that benefit received will fully compensate for any detrimental effects the altered conditions may produce upon the organism. Parkes writes: "How soon the body when it has become accustomed by length of residence for successive generations to one climate, can accommodate itself to, or bear the conditions of, the climate of another widely different place, is a question which can only be answered when the influences of climate are better known. The hypothesis of 'acclimatization' implies that there is at first an injurious effect produced, and then an accommodation of the body to the new conditions. Probably we do not know sufficiently the physiological conditions of the body, under different circumstances." The effects on the human body of a change to a great elevation, when not made gradually, are remarkable and sometimes alarming.

(3) Is a change to a warm or an elevated climate in the treatment of consumption necessary? In my opinion, based on a somewhat limited experience, yet a good deal of observation and study, it is very rarely necessary, although a change of locality, as from a heavy, damp soil to a dryer perhaps more elevated one, or from an urban to a rural, is frequently desirable and essential. In certain advanced, incurable cases, doubtless life may be rendered more comfortable and perhaps prolonged, by residence in a warm, equable, and, in laryngeal cases, humid climate. And again, in a very few cases, such, for example, as that of a young man in a pretubercular condition, or in the early stage of the disease, who, indifferent about his health, will not attend properly to the practice of lung gymnastics, and

who has the means, and no objection, to go from home, a change to an elevated region, where the rarefied atmosphere with its small bulk percentage of oxygen will *compel* him to exercise a kind of lung gymnastics, may be advisable.

Time and science, theory and practice, have at length taught us that what the consumptive needs, first of all,—indeed, last of all, and always,—is *more pure air*, or, to be more definite, more oxygen, and this element in its best, most vitalizing condition, for it evidently has several conditions. This need, this essential, cannot be best supplied by a warm atmosphere nor by a rarefied or thin atmosphere.

The consumptive, whether from heredity or habit, is an imperfect breather. In the development of the soil for the tubercle bacillus an imperfect respiratory function plays the chief part. In the development of the soil for tubercular phthisis, all other causes are remote, and contribute to this one—an imperfect respiratory function. The air cells or air chambers of the lungs, and the blood and tissues of the body, have become clogged with the debris or products of imperfect tissue metabolism from want of oxygen; while it seems not improbable that in the decomposition of the accumulated waste, not only are inorganic substances formed which constitute food for the bacilli, but also possibly organic toxins, which transform non-virulent saprophytic bacilli into virulent pathogenic infections; an analogue of which we find in respect to a like transformation in the bacillus coli communis, from the toxins of faecal matter. In the rarefied air of high mountains, with perhaps, too, the climbing, there is great and forced expansion of the lung membrane,—the subject is compelled to actually gasp widely for breath, expanding the lungs to their utmost, the whole function of breathing is aroused, the air chambers of the remotest recesses of the apex are opened